

## **FACTORS AFFECTING DEMAND FOR MONEY: EVIDENCE FROM SRI LANKA**

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### **INTRODUCTION**

Demand for money is essential in macroeconomic studies, especially when implementing monetary policy. A stable money demand ensures money supply management such that price stability, exchange rate stability, and economic growth are achieved within an economy under the equilibrium assumption of money markets. Further, increasing trade liberalization, capital market globalization, adopting flexible exchange rate regimes, innovation, and technological advancements are the reasons for determining money demand (Zehra et al., 2020). Demand for money is a well-known concept in the academic field since it is one of the crucial variables primarily concerned with formulating the monetary policy framework. Monetary policymakers pay great attention to the demand for money as its stability and sound management make monetary policy more effective, and it can positively impact the economy itself.

Many academic debates have argued the determinants of money demand for many years. Friedman's contributions to the quantity theory of money are known as an interpretation of money demand by the classical economist. According to Friedman (1994), investors can hold their wealth in different forms of money, such as bonds, equity shares, and commodities. Moreover, he emphasizes that the demand for money depends on the rates of return of the assets and upon income. In the quantity theory of money, Fisher (1911) argued that the demand for money is a function of income. The liquidity preference theory of Keynes (1936) mentioned that people demand money for transactional, precautionary, and speculative motives in his liquidity preference theory of money demand. Further, he states that money demand depends on income and interest rates. People hold money as part of their portfolio of assets since money has a different combination of risk and return than other assets, as mentioned in the Portfolio theories of money demand. Inventory theories suggest that money demand for transactional motives has a positive relationship with income and a negative relationship with the nominal interest rate earned on alternative assets.

Several empirical studies examine the factors affecting money demand on a global scale. Zehra et al. (2020) found a long-run relationship between money demand and its determinants in Pakistan. Results of the NRDL model show a negative relationship between money demand and inflation in the short and long run. Real income indicates a positive effect on M1 and a negative effect on M2. Wald test confirms the asymmetric relation on the real effective exchange rate in the long run with M2. In contrast, the study observes a linear, symmetrical relation in the short run. Mahmood and Alkhateeb (2018) examined the money demand function of Saudi Arabia. The results suggest that income and inflation positively and negatively affect money demand, respectively. Further, the study reveals that a genuine appreciation of the US dollar has a positive effect and a real depreciation has a negative effect

on the money demand. Farazmand et al. (2016) investigated the influence of money demand among MENA (the Middle East/North Africa) countries. The study shows that inflation negatively and significantly affects money demand. In addition, exchange rate and income negatively and positively affect money demand, respectively.

As mentioned above, previous studies have considered the factors affecting the demand for money globally. However, there is a dearth of similar studies in the Sri Lankan context. This motivates me to fill this gap through an empirical study. Therefore, the main objective of this study is to investigate the factors affecting the demand for money in Sri Lanka. This study's findings would help policymakers adopt appropriate strategies and policies regarding monetary aggregates in Sri Lanka.

## METHODOLOGY

This study covers the annual data of Sri Lanka from 1980 to 2021. The data of broad money demand (M2), consumer price index (CPI), an exchange rate (ER), gross domestic product (GDP), and interest rate (IR) were collected from annual reports of the Central Bank of Sri Lanka. All variables, except IR, are transformed into a natural logarithm in the analysis. ADF and PP unit root tests were adopted to test the stationarity property of the data series. Akaike Information Criterion (AIC) is applied to determine the optimal lag length of the series. The empirical model was formulated based on the literature as given below:

$$LM2_t = \beta_0 + LCPI_t + LER_t + LGDP_t + LIR_t + U_t$$

The Autoregressive Distributed Lag (ARDL) Bounds testing procedure was employed to determine whether there is co-integration and the long-run relationship between variables. Error correction version of the ARDL model was adopted to examine the short-run relationship between variables and long-run adjustment. In addition, diagnostic tests were conducted to check whether the results were robust. A cumulative Sum (CUSUM) test was conducted to check the stability of the model.

## RESULTS AND DISCUSSION

According to the results of ADF and PP unit root tests, IR is stationary at a level while other model variables are stationary at the first difference. Thus, the analysis was performed with the ARDL model. Akaike Information Criteria (AIC) advocated using the ARDL (3, 0, 0, 0, 3) model for the analysis. As a prerequisite for accurate estimations, diagnostic tests were employed, and the results are given in Table 1.

Table 1 Results of Diagnostic Tests

Test	Probability
Normality (Jarque – Bera Test)	0.7501
Serial Correlation (BG LM Test )	0.0889
Omitted Variables (Ramsey RESET Test)	0.2300
Heteroskedasticity (BPG Test)	0.2478

Results of the diagnostic tests confirm that residuals are distributed normally, residuals are not serially correlated, there is no specification error in the estimated model, and the disturbance term in the equation is homoscedastic.

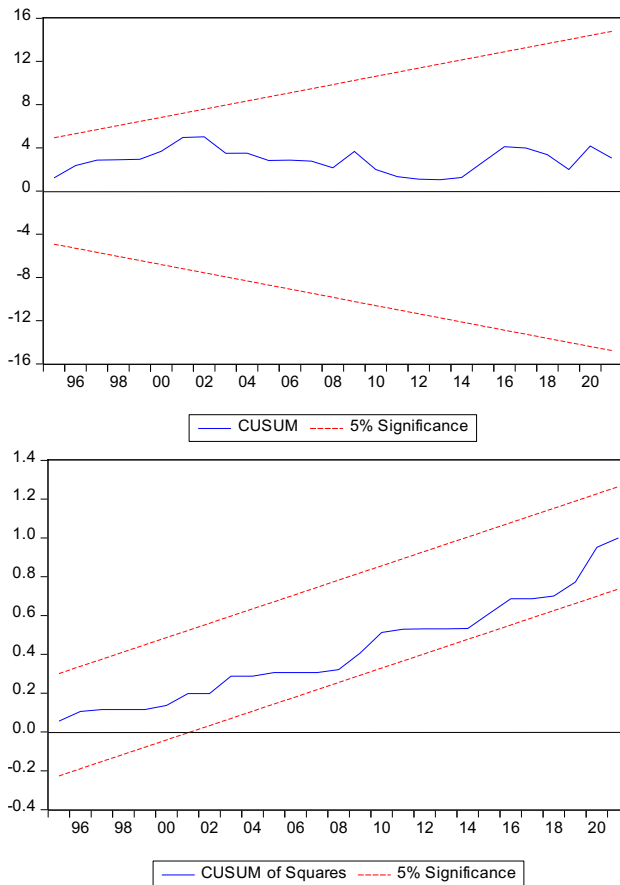


Figure 1 CUSUM and CUSUM Squared

Recursive estimates of the CUSUM plot (See Figure 1) lie within the upper and lower critical bounds at a 5% significance level. It ensures the stability of parameters. As the next step of estimation, the result of the Bounds test in Table 2 shows that F – statistics is 8.28. This exceeds the critical value of the upper bound of 4.57 and ensures the presence of the long-run relationship.

Table 2 Result of Bounds Test

Bounds Test	95% Level of Confidence		90% Level of Confidence	
	I(0) Bound	I(1) Bound	I(0) Bound	I(1) Bound
F-Statistics	3.47	4.57	3.03	4.06

According to Table 3 Panel A, ER negatively and significantly affects M2 in the long run, similar to the current study of Mahmood and Alkhateeb (2018). This implies that increasing ER causes M2 to decline in Sri Lanka. Meanwhile, ER predominantly affects M2 in the long

run. When ER increases by 1 percent, the M2 decreases by 0.2759 percent, holding others fixed. Whereas IR is the following variable that negatively and significantly affects the M2 in the long run as expected per the quantity theory of money. When IR increases by 1 percent, the M2 decreases by 0.0005 percent, holding others fixed. Further, CPI and GDP do not significantly impact M2 in the long run.

Table 3 Long run and short run Results

Panel A: Long run Coefficient Estimates					
	LCPI	LER	LGDP	IR	
	-0.0623	-0.2759**	0.0333	-0.0113*	
	(0.6765)	0.0264	(0.7939)	(0.0000)	
Panel B: Short run Coefficient Estimates					
Dependent Variable: LM2					
Lag order	⊗LM2	⊗LCPI	⊗LER	⊗LGDP	⊗IR
0		0.0041	-0.1574	0.0273	-0.0005
		(0.9812)	(0.2798)	(0.8518)	(0.8892)
1	0.6593**				-0.0062*
	(0.0346)				(0.0233)
2	-0.0169				-0.0077*
	(0.9280)				(0.0049)
3	-0.0169				-0.0088*
	(0.1369)				(0.0071)
ECT(-1) = -0.7540 (0.0357)					

Note: probability values are given in parenthesis. \*, \*\*, \*\*\* show significant at 1%, 5% and 10% level respectively.

The results of the short-run dynamic and long-run adjustment coefficient are presented in Panel B. Accordingly, lagged value of M2 positively and significantly affects the M2 in the short run. Moreover, lagged values of IR have a negative and significant impact on M2 in the short run at a 5% significance level. However, ECT (-1) carries an expected negative sign, which is highly significant, indicating that there should be an adjustment toward a steady-state line in the long run, one period after the exogenous shock. Nearly 75.4 % of disequilibrium in the M2 is corrected by every year.

## CONCLUSIONS AND IMPLICATIONS

The main objective of this study was to investigate the factors affecting money demand in Sri Lanka. The time series data for 1980 – 2021 are used to achieve this objective. The selected ARDL model passes the entire diagnostic test and the stability test. The result of the ARDL Bounds test implies that there exists a co-integrating relationship between the variables. ER and IR negatively affect M2 in the long run. Further, the study found that CPI and GDP do not significantly impact M2 in the long run. Further, lagged value of M2 positively and

significantly affect the M2 in the short run. Moreover, lagged values of IR have a negative and significant impact on M2 in the short run. As a policy recommendation, the study suggests that the Sri Lankan government should focus more on exchange and interest rates when implementing monetary policies. Further, the policies that help control interest rates and exchange rate depreciation will give more advantages to managing money demand in Sri Lanka.

**Keywords:** ARDL bounds testing approach, co-integration, demand for money

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