



## Macroeconomic Variables and Stock Market Performance in Sri Lanka: An Ardl Bound Testing Approach

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### Abstract

The aim of the study is to examine the impact of macroeconomic variables on stock market performance in Sri Lanka. This study uses yearly data collected from the annual report of the Central Bank of Sri Lanka for the period from 1990 to 2019. Macroeconomic variables used in this study are interest rate, inflation rate, real exchange rate, and money supply while All Share Price Index (ASPI) is used to measure the stock market performance. Inflation rate and interest rate are found stationary at zero levels while exchange rate, money supply and stock market performance are found stationary at levels one in the Augmented Dickey-Fuller (ADF) test. No serial correlation is found among variables by employing Breusch-Godfrey LM Test. The Auto-Regressive Distributed Lag (ARDL) boundtest is used to test the long-run and short-run relationships between variables. The empirical result reveals that there is a negative and significant impact of interest rate and inflation rate on stock market performance while exchange rate and money supply do not hold any significant impact on stock market performance in the long-run. Further, it is found that there is a negative and significant impact of interest rate on stock market performance in the short run.

**Keywords:** ARDL Bound Test, ASPI, Macroeconomic Variables, Stock Market Performance

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### Introduction

The stock advertise is one of the components of the money related advertise. It is the put where proprietorship of investible resources can be bought and sold by financial specialists. A proficient stock advertise is considered crucial to financial improvement since it permits companies to rapidly get to capital from the open by expanding liquidity within the showcase. A stock advertise in a nation is working for mobilizing national and worldwide capital between different parties. It leads to the development of businesses and commerce in a specific nation. The wellbeing of a stock showcase is one of the major pointers of the financial position of such a nation since, in the event that an economy is developing, the yield will too be expanding, and most firms ought to be experiencing expanded benefit. It'll make the company offers more alluring and they can grant higher profits to shareholders. A long period of financial growth will tend to advantage offers.

There's as it was one share showcase in Sri Lanka named Colombo Stock Trade (CSE), which gives a stage to financial specialists for buying and offering offers. The execution of all companies recorded on the CSE in Sri Lanka is measured with the Colombo ASPI, which is considered a major stock market index and a capitalization-weighted list. The Colombo All-Share Record features a base esteem of 100 in 1985. The execution stock advertise was declined within the to begin with quarter of 2020 due to the declaration of a widespread pronounced by the World Wellbeing Organisation (WHO). In any case, the world beating execution of the ASPI has been recognized as reliable with essential levels of exchanging action recorded within the Sri Lankan stock showcase in 2021.

There are many factors influencing stock market performance in a country such as company internal factors (management quality, divided policy, nature, size, financial position, etc) and external factors (political, economic, technological, geographical, demographical, etc). Most of the prior studies (Allahawiah and Al-Amro, 2012; Thuy, 2018; Utami et al., 2015) found that macroeconomic variables had a higher impact on stock market performance than other factors. Therefore, several studies done in various countries analyzed the relationship between macroeconomic variables and stock market performance (Emenyi and Effiong, 2020; Sahoo et al., 2020; Kalam, 2020; Utomo et al., 2019; Khan and Khan, 2018; Chandrashekar et al., 2018; Ullah et al., 2017; Robert, 2016, Laichena and Obwogi, 2015; Mohapatra and Rath, 2015; Hunjra et al., 2014). In addition, plenty of research has been done in Sri Lanka to examine the impact of macroeconomic variables on stock market performance (Badullahewage, 2015; Hemamala and Jameel, 2016; Lakmali and Madhusanka, 2015; Menike, 2006; Morawakage, 2013; Nanayakkara and Darshi, 2015;

Nijam et al., 2015; Perera, 2015; Rathnayaka and Seneviratna, 2017; Shafana, 2014; Wickremasinghe, 2011). However, the results from each study were not a consensus as the period of study, statistical techniques used for analysis, variables were chosen for study were different from one another. There is a need for conducting research from time to time for measuring how the volatility of macroeconomic variables influences the performance of the stock market in a country. Therefore, it was decided to execute the study with the major aim of examining the impact of macroeconomic variables on stock market performance in Sri Lanka. In order to test the hypotheses of the study, time series analysis is employed as it is a study with time-series data. Investors and policymakers are considered as major parties to whom findings of this study will give capable knowledge to predict stock market performance with the changes of macroeconomic factors and to forecast and develop regulations and policies respectively.

In the subsequent section, the theoretical and empirical literature is reviewed, followed by methodology consisting of model specification and data collection. Consequently, the results are revealed together with discussions. Finally, it is concluded with implications and future recommendations.

## **Literature Review**

There are a few theories, which support predicting the relationship between macroeconomic variables and stock market performance. Arbitrage pricing theory (Ross, 1976) says that stocks can be valued by creating a relationship between monetary policy variables and stock market return. Further, it says that the stock price can be changed with the investment decision made by investors which are affected by fundamental macroeconomic variables. Individual security return (CAPM) and its extension aggregate stock market framework are used in this theory for determining stock return (Ross, 1976).

Arbitrary walk hypothesis (Burton, 1973) uncovers that the accessibility of modern data can impact the security holding conduct of speculators. In this manner, it takes after productive capital advertise theories, which contend that stock costs are irregular and no one can be profited from beneficial theory within the stock advertise. Arbitrary stocks are unforeseen or unusual occasions that can influence the stock advertise either emphatically or contrarily (Moore, 1962; Fama, 1965). The proficient showcase hypothesis (Fama, 1970) clarifies that all the speculators are mindful of important modern data almost the changes in macroeconomic components, which influence the current stock prices and consequently, there's no opportunity for speculators to win unpredictable benefits in such markets (Fama, 1970).

In arrange to analyze existing speculations that demonstrate a solid relationship between macroeconomic factors and stock showcase execution, significant investigate was carried out by a few analysts in different nations. Bhuiyan and Chowdhury (2020) expecting to analyze how certain macroeconomic factors impact different sectors of the stock advertise in an unexpected way within the US and Canada. Cointegration and Vector Blunder Rectification Models were utilized utilizing month to month information over the 2000â€“2018 period. They found that there was a negative impact of cash supply on stock records whereas the intrigued rate impacts contrarily within the US. Be that as it may, they might not discover any clear interface between macroeconomic factors and stock advertise records in Canada.

Olomu (2015) inspected the affect of macroeconomic factors on the UK stock advertise utilizing month to month time arrangement information from January 1995 to December 2014. The long-run and short-run harmony connections were decided by the Vector Blunder Adjustment demonstrate. It was found that the customer cost record and trade rate uncovered a positive relationship with the FTSE100 Record over the long run, while the mechanical generation file, cash supply and intrigued rate appeared negative long-run connections with the FTSE100 File. The Vector Mistake Adjustment Demonstrate within the brief run proposed that trade rate and mechanical generation record reestablish balance as they both veer off within the brief run but alter to balance within the long run. Bi-directional causality between the shopper cost record and mechanical generation file and unidirectional causality between FTSE100 and trade rate, FTSE100 and mechanical generation record, cash supply, and intrigued rate, intrigued rate and mechanical generation record, trade rate and cash supply, cash supply and mechanical generation list, trade rate and mechanical generation list were found in Granger causality test. Demir (2018) conducted a ponder to analyze the impacts of a few unmistakable macroeconomic variables on the Turkish Stock Advertise list, BIST-100. The discoveries produced from the quarterly information by utilizing the ARDL Bounds Test uncovered that financial development, the relative esteem of the household money, portfolio ventures and outside coordinate ventures raise the stock advertise list whereas intrigued rate and unrefined oil costs adversely influence it.

Kalam (2020) found a positive and noteworthy effect of expansion on the stock showcase in Malaysia. The analyst contended that the reason behind the positive impact is the back of the government on the industry advancement and pushing the destitution towards the divider by making modern work. The intrigued rate had a negative and noteworthy effect on the stock advertise whereas net residential item adversely and essentially impacted it. Chen et al., (2019) examined the impacts of macroeconomic factors on the stock showcase in China by utilizing Granger causality tests, motivation reaction capacities, and change deteriorations. The comes about of the consider uncovered that yield development and swelling had no factually critical effect on stock returns. Besides, the stock returns did not react to changes in financial arrangement factors such as cash supply and short-term interbred advertised rate. This infers that financial approach does not apply critical impacts on stock returns. They concluded them ponder by expressing that the execution of the China stock market did not reflect macroeconomic essentials.

Additionally, various considers were tired Sri Lanka to discover the effect of macroeconomic factors on stock showcase execution by numerous researchers in different periods. Rathnayaka and Seneviratna (2017) inspected the relationship between stock showcase records and macroeconomic components in Sri Lanka amid the period from January 2009 to December 2016 utilizing month to month information. It was found that there were no unit root issues in all factors in them to begin with contrasts by utilizing the ADF test measurement and Phillips-Perron test measurement.

Nanayakkara and Darshi (2015) carried out a ponder to examine the effect of macroeconomic factors on ASPI utilizing extricated information for the period from 2004 to 2014. They found that intrigued rate, trade rate, swelling rate and the financial shortfall had a negative affect whereas GDP and treasury charge intrigued rate had a positive effect on ASPI. It encourages uncovered that GDP was the foremost noteworthy variable in influencing stock advertise execution in Sri Lanka. In this investigate, the stationary status of the factors was not tried and time arrangement investigation was not utilized. Jayasundara et al. (2019) found that there was a negative relationship between intrigued rate and ASPI and trade rate and genuine GDP development had a positive relationship with ASPI in Sri Lanka utilizing information for the period from 2006 to 2016. It was uncovered by the conventional slightest square strategy. Badullahewage (2015) analyzed the effect of macroeconomic variables on the stock advertise execution in Sri Lanka utilizing relapse examination with information from 1999 to 2005. Results of the study revealed that an upward movement in the factors like interest rate, exchange rate, and GDP lead to a better performance of ASPI. However, the inflation rate should be as much minimum as possible to have a better performance in the stock market.

Jahfer and Irfan (2014) examined the commitment of macroeconomic factors in stock showcase execution. All factors were found as stationary at to begin with contrasts within the ADF test. The Johansen test demonstrated that there's a long-run harmony relationship between the factors and there's at slightest one cointegration equitation for ASPI. Advance found that the comes about of Vector Blunder Adjustment (VEC) show said short-run relationship of ASPI was found with cash showcase rate and cash supply. Nijam et al., (2015), planning to explore the connections between the All Share Cost File of the Colombo stock trade with the information collected from 1980 to 2012. Conventional Slighest Square (OLS) was utilized to appraise the parameters of the relapse demonstrate, by applying straight, linear-log, log-log, and log- linear information change for choosing the suitable show fitting the information. No serial relationship issue was found in Durbin-Watson insights. It was watched that the stock showcase record essentially and emphatically relates to GDP, trade rate and intrigued rate whereas it is adversely related to swelling proxied by the discount cost record of Sri Lanka. Morawakage (2013) found the same relationship between trade rate and ASPI in Sri Lanka for 11 a long time starting from 2000. In differentiate, Menike (2006) and Joseph (2013) uncovered a negative relationship between trade rate and stock advertise execution in Sri Lanka. In any case, no noteworthy relationship was found between trade rate and ASPI within the considers done by Perera (2015) and Wickramasinghe (2011) in Sri Lanka.

Besides, Menike (2006) and Hemamala (2016) found a negative relationship between swelling and stock advertise execution in Sri Lanka whereas Safana (2012) uncovered a positive relationship of expansion with ASPI. Be that as it may, Nijam et al.,(2015), Perera (2015), Wickramasinghe (2011) and Lakmali and Madhusanka (2015) contended that there was no relationship between expansion and stock advertise execution in Sri Lanka. Menike (2006) and Perera (2015) contended that there was a positive relationship between cash supply and stock showcase execution. Menike (2006) and Amarasinghe (2015) expressed that there was a negative relationship between intrigued rate and ASPI in Sri Lanka.

Agreeing to the writing looked into, indeed in spite of the fact that numerous researchers attempted to explore the conduct of stock advertise execution measured with ASPI with the changes of macroeconomic factors, there's a ought to proceed comparable inquire about from time to time since diverse comes about were uncovered in different periods. Therefore, this ponder points to fill the hole which was found within the earlier considers. Most of the ponders carried out in Sri Lanka (Menike, 2006; Perera, 2015; Lakmali

and Madhusanka, 2015) utilized numerous relapse investigation to test the speculation instead of utilizing time arrangement investigation without considering stationary among factors utilized in specific considers. Jayasundara et al. (2019) found mixed levels stationary of variables at levels zero and one. In any case, they have employed as it were Conventional Slightest Square analysis for presenting their result rather than utilizing the ARDL bounds test. Assist, speculators within the stock showcase ought to make an speculation choice based on the current situation. Hence, it is required to motivate them with the display slant of macroeconomic factors and its relationship with stock advertise execution in Sri Lanka with the significant factual examination.

## Methods

### Data Collection

The current study focuses primarily on time series data. The annual reports of the Central Bank of Sri Lanka from 1990 to 2019 were the primary data sources for this analysis. For each of the variables, the study used 30 annual observations. Variables and their measurements are given in Table 1.

**Table 1**  
**Variables and Measurements**

Variables	Measurements
Stock Market Performance (LSMP)	Log of All Share Price Index
Real Exchange Rate (LEXC)	Log of the real exchange rate (rupees against the dollar)
Interest Rate (LINT)	Log of Average weighted prime lending rate/Interest rate
Inflation (LINF)	Log of Consumer's price index
Money Supply (LMS)	Log of Money Supply in real terms

The dependent variable in this analysis was stock market performance, which was determined by the ASPI, while the independent variables were real exchange rate, interest rate, inflation, and money supply. Thus, this study intends to investigate the impact of selected macroeconomic variables on stock market performance in Sri Lanka.

### Model Specification

The long-run relationship is estimated using the following ARDL model specified as:

$$Ln \cdot Y_t = \varphi_0 + \beta_1 \cdot Ln Y \cdot t - 1 + \beta_2 \cdot Ln X_1 \cdot t - 1 + \beta_3 \cdot Ln X_2 \cdot t - 1 + \beta_4 \cdot Ln X_3 \cdot t - 1 + \beta_5 \cdot Ln X_4 \cdot t - 1 + \mu_t \quad (1)$$

The short-run dynamic relationship is estimated using error correction model (ECM) specified as:

$$\Delta \cdot Ln Y \cdot t = \varphi_0 + \sum_{n=1}^p \varphi_1 \cdot \Delta \cdot Ln Y \cdot t - i + \sum_{n=0}^p \varphi_2 \cdot \Delta \cdot Ln X_1 \cdot t - i$$



$$\begin{aligned}
& + \sum_{n=0}^p \varphi 3. \Delta. LnX2. t - i + \sum_{n=0}^p \varphi 4. \Delta. LnX3. t - i \\
& + \sum_{n=0}^p \varphi 5. \Delta. LnX4. t - i + \delta ecm. t - 1 + \mu t
\end{aligned}$$

Where, Y: refers to Stock market performance; X1: refers to Real exchange rate; X2: refers to the interest rate; X3: refers to inflation; X4: refers to Money supply;  $\mu t$ : white noise;  $\varphi 0$ : the constant term;  $\beta 1$ - $\beta 5$ : long-run elasticity (coefficients of the explanatory variables);  $\varphi 1$ -  $\varphi 5$ : short-run elasticity (coefficients of the first-differenced explanatory variables);  $ecm.t-1$ : error correction term lagged for one period;  $\Delta$ : first difference operator;  $\delta$ : speed of adjustment;  $p$ : lag length;  $Ln$ : natural logarithm.

ADF test was employed to examine the stationary status of the data. According to the unit root results presented in Table 2, interest rate and inflation were considered as stationary at zero levels since the P- value of these two variables were less than 0.05. On the other hand, as per the results of the unit root, stock market performance, exchange rate and money supply were not stationary at zero levels.

**Table 2**  
**Unit Root Analysis of Variables**

Variables	Zero Level		1 <sup>st</sup> Level		Conclusion
	t statistics	Prob.	t statistics	Prob.	
Stock Market Performance (LSMP)	-2.0141	0.5695	-4.1598	0.0149	I(1)
Exchange Rate (EXC)	-1.4286	0.8305	-4.7157	0.0040	I(1)
Interest Rate (LINT)	-4.5193	0.0064			I(0)
Inflation Rate (LINF)	-4.6438	0.0046			I(0)
Broad Money (LMS)	-0.9186	0.9396	-7.2938	0.0000	I(1)

Source: Survey Data, 2021.

Thus, it was conducted by considering the first level difference and then it was considered as stationary as they have consisted with 5% level of significance at level one.

### Selection of Lags

Following the verification of the stationary status of the data, the analysis used VAR lag order selection to determine the optimal lag duration. According to the results illustrated in table 3, the optimum lag period in this analysis was determined to be three lags based on AIC, SC and HQ.

**Table 3**  
**VAR Lag Order Selection Criteria**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	88.60724	NA	1.41e-09	-6.193129	-5.953159	-6.121773
1	199.0483	171.7972	2.60e-12	-12.52210	-11.08228	-12.09396
2	233.1061	40.36478	1.65e-12	-13.19304	-10.55338	-12.40813
3	285.7185	42.86936*	4.04e-13*	-15.23841*	-11.39889*	-14.09672*

*Endogenous variables: LASPI, LEXC, LINF, LINT, LMS*

*\* Indicates lag order selected by the criterion*

*LR: Sequential modified LR test statistic (each test at 5% level) ; FPE: Final prediction error; AIC: Akaike information criterion; SC: Schwarz information criterion; HQ: Hannan-Quinn information criterion*

*Null hypothesis: No serial correlation at up to 3 lags*

## Diagnostic Tests

The Breusch-Godfrey Serial Correlation LM Test was used to check for the existence of serial correlation, which was not found in the model. Table 4 summarizes the findings.

**Table 4**

### Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.647716	Prob. F(3,10)	0.6020
Obs*R-squared	4.392895	Prob. Chi-Square(3)	0.2220

No serial correlation at 5% level

## ADRL Bounds Test

The ARDL Bounds Test was used to test long-run relationship in model 1, since three variables had stationary status at zero levels and two variables had stationary at level one. The finding in Table 5 shows that the variables have a long-term relationship since the F- statistic value is greater than the upper bound at all levels of significance.

**Table 5**

### Bounds F-test for long run relationships

Lag	F = 6.0708** Critical bounds (k = 4)
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Significance	I(0) Bound	I(1) Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

The null hypothesis states that no long-run relationship exists, while the alternative hypothesis states that a co-integrating relationship exists. It is worth noting that the F- statistic is 6.0708, which is higher than any of the upper bounds at the 1%, 2.5%, 5%, and 10% significance stages. As a result, the null hypothesis was rejected and the alternative hypothesis was accepted. As a result, it was determined that there is a long- run relationship between independent variables and the dependent variable in this study.

### Autoregressive Distributed Lag Model

The ARDL test was used because three variables showed stationary at zero level and the other two variables showed stationary at the first difference (Nkoro and Uko, 2016). Table 6 displays the results of the ARDL test.

The long-run relationship between macroeconomic variables and stock market performance was examined using the ARDL test and the results of the ARDL test was presented in table 6. As per the results presented in table 7, the model was significant ( $F= 66.9144$ ,  $p = 0.000$ ). Among the macroeconomic variables considered in this study, the exchange rate ( $p > 0.05$ ) and money supply ( $p > 0.05$ ) have not shown any significant impact on stock market performance, which is consistent with the results of the studies done by Perera (2015) and Wickramasinghe (2011) regarding exchange rate and Joseph (2013) regarding money supply and ASPI. Inflation ( $p < 0.05$ ) and interest rate ( $p < 0.05$ ) have shown a significant negative impact on stock market performance, which is consistent with findings revealed by Menike (2006), Joseph (2013) and Hemamala (2016) regarding inflation and ASPI. Moreover, it is congruent with Menike (2006) and Amarasinghe (2015) regarding the interest rate and ASPI.

**Table 6**

**Autoregressive Distributed Lag Estimates. ARDL (3, 3, 0, 3, 0) selected**

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LASPI(-1)	0.993371	0.190473	5.215300	0.0002
LASPI(-2)	-0.088375	0.222545	-0.397113	0.6977
LASPI(-3)	-0.317115	0.170261	-1.862525	0.0853
LEXC	0.814870	1.113057	0.732101	0.4771
LEXC(-1)	-3.051610	1.497779	-2.037423	0.0625
LEXC(-2)	-2.220106	1.595150	-1.391786	0.1873
LEXC(-3)	4.568965	1.355546	3.370573	0.0050
LMS	-0.488152	0.474827	-1.028063	0.3227
LINT	-1.227702	0.229897	-5.340229	0.0001
LINT(-1)	0.781913	0.278051	2.812118	0.0147
LINT(-2)	0.059657	0.272544	0.218888	0.8301
LINT(-3)	-0.632705	0.224619	-2.816793	0.0146
LINF	-0.321099	0.106781	-3.007084	0.0101



Survey Data, The long- parameters ARDL displayed As per the when the	C	3.476448	1.127498	3.083330	0.0087	Source: 2021.  run of the model are in Table 7. results, interest
	R-squared	0.985276	Mean dependent var		3.309476	
	Adjusted R-squared	0.970551	S.D. dependent var		0.437828	
	S.E. of regression	0.075134	Akaike info criterion		-2.032932	
	Sum squared resid	0.073387	Schwarz criterion		-1.361017	
	Log likelihood	41.44458	Hannan-Quinn criter.		-1.833137	
	F-statistic	66.91447	Durbin-Watson stat		1.463781	
	Prob(F-statistic)	0.000000				

\*Note: p-values and any subsequent tests do not account for model selection.

rate and inflation are relevant to stock market development, the estimates indicate a significant causal impact guided from interest rate and inflation to stock market performance at a 5% level of significance. The exchange rate and money supply have not shown any significant causal impact on stock market performance.

**Table 7**

**ARDL estimates of the long-run relationship**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEXC	0.272055	0.560814	0.485107	0.6357
LMS	-1.184493	1.324453	-0.894326	0.3874
LINT	-2.472195	1.114421	-2.218366	0.0450
LINF	-0.779142	0.264540	-2.945274	0.0114

$$EC = LASPI - (0.2721*LEXC - 1.1845*LMS - 2.4722*LINT - 0.7791LINF)$$

The results of the short-run dynamic relationship associated with the long-run relationship were obtained from the ARDL-ECM equation (Ahmed and Delin, 2019) and the results are presented in Table 8.

**Table 8**

**ARDL short-run estimate and error correction model (ECM)**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.476448	0.545010	6.378692	0.0000
D(LASPI(-1))	0.405490	0.148650	2.727825	0.0173
D(LASPI(-2))	0.317115	0.136155	2.329071	0.0366
D(LEXCHANGE)	0.814870	0.880680	0.925273	0.3717
D(LEXCHANGE(-1))	-2.348859	0.838202	-2.802257	0.0150
D(LEXCHANGE(-2))	-4.568965	0.912262	-5.008390	0.0002
D(LINTER)	-1.227702	0.160455	-7.651365	0.0000
D(LINTER(-1))	0.573048	0.192713	2.973586	0.0108
D(LINTER(-2))	0.632705	0.166985	3.788996	0.0023
CointEq(-1)*	-0.412119	0.065412	-6.300343	0.0000
R-squared	0.833345	Mean dependent var		0.037238
Adjusted R-squared	0.745116	S.D. dependent var		0.130141
S.E. of regression	0.065703	Akaike info criterion		-2.329228
Sum squared resid	0.073387	Schwarz criterion		-1.849289
Log likelihood	41.44458	Hannan-Quinn criter.		-2.186517
F-statistic	9.445256	Durbin-Watson stat		1.463781

Prob(F-statistic)	0.000048
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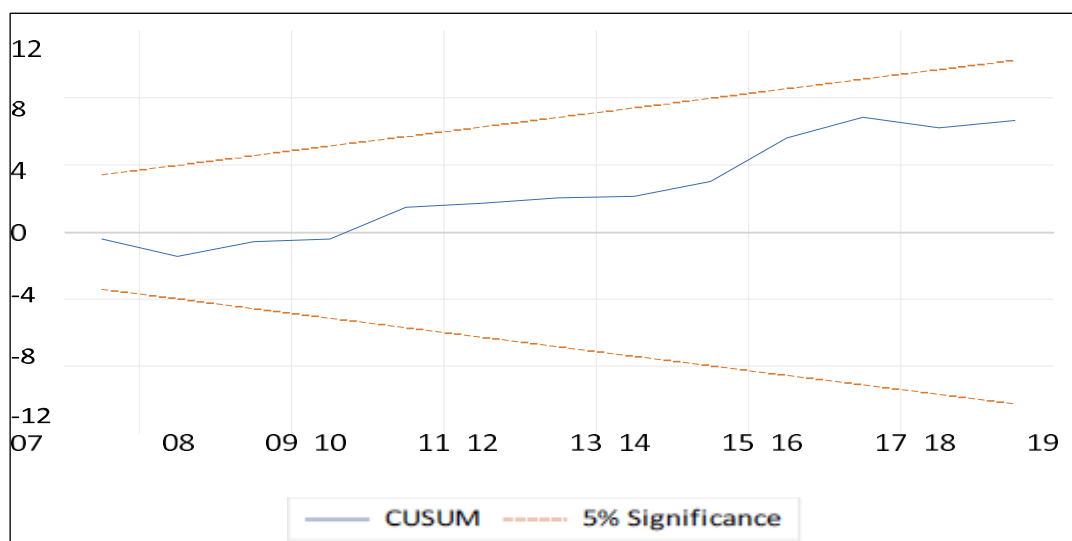
*\*p-value incompatible with t-Bounds distribution. Source: Survey Data, 2021.*

ECT is statistically significant with negative signs, as shown in table 8. However, the primary goal of ECM is to determine how quickly some deviation from long-run equilibrium can be corrected. In the case of the Sri Lankan stock market equation, the value of ECT (- 0.4121) shows that each year about 41% of the difference between the real and equilibrium value of stock market result is corrected.

Finally, the cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) are used to examine the stability of long-run coefficients in conjunction with short-run dynamics. The critical bound of 5% significance is plotted against the CUSUM and CUSUMSQ statistics. Thus, figures 1 and 2 which show the graphical representations of CUSUM and CUSUMSQ statistics indicate that the parameters' stability remained within their critical bounds of parameter stability.

**Figure 1**

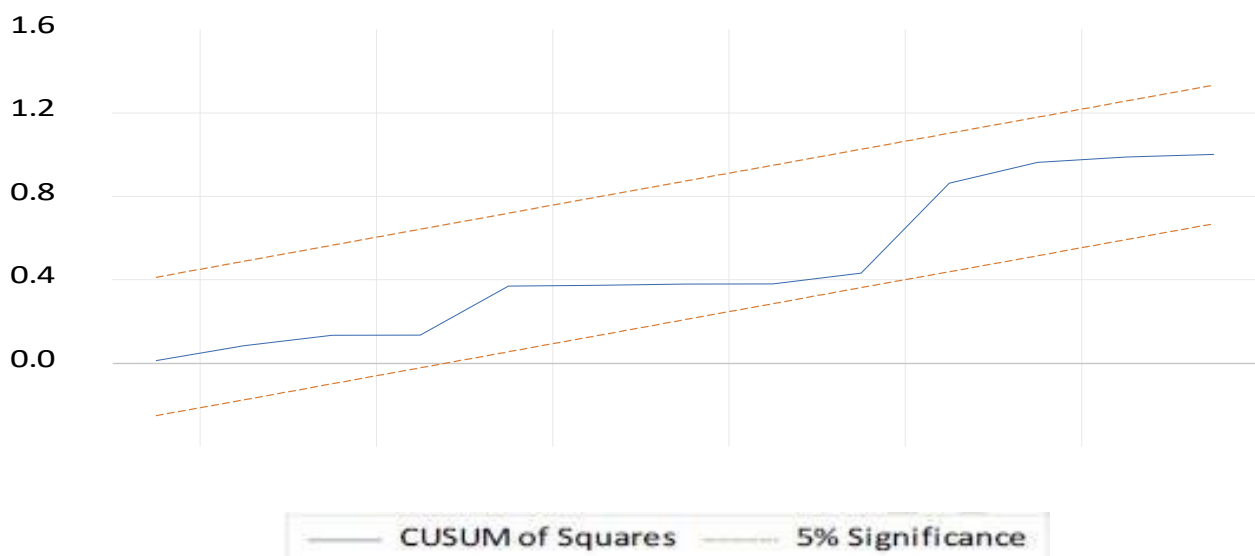
**Cumulative Sum (CUSUM) Statistics**



The co-integration tests showed that the variables in this study are co-integrated from order (i.e.,  $I(0)$  and  $I(1)$ ), indicating that an ARDL technique was suitable for the analysis. The stock market performance in Sri Lanka is co-integrated with relative money supply, according to empirical findings based on the ARDL Model. The Schwarz Bayesian Criterion was used to choose the best ARDL (3, 3, 0, 3, 0) specification. In terms of short-term analysis, the study shows that approximately 41% of the variation in stock market performance in Sri Lanka is resolved within a year.

**Figure 2**

**Cumulative Sum of Squares (CUSUMSQ) Statistics**



## Conclusion

Using annual data from 1990 to 2019, the current study investigated the effect of macroeconomic variables on stock market performance in Sri Lanka. The main goal of the study was to figure out how macroeconomic factors affect the stock market performance. The output of the stock market was calculated using the All Share Price Index, and macroeconomic variables such as interest rate, inflation, real exchange rate, and money supply were chosen. The data was analyzed using the ARDL bounds test method, after all the variables were converted to log form. The ADF test was used to ensure that the data was stationary. The results of the study revealed that the interest rate and inflation have a negative effect on the stock market performance. Therefore, the monetary policy of the country should be modified by regulatory bodies for maintaining inflation rate and interest rate at a lower level in order to increase the confidence of national and international investors. Furthermore, the exchange rate and money supply have no significant relationship with the stock market performance. However, the interest rate has a negative and substantial effect on the stock market growth.

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