



THE IMPACT OF INFLATION RATE ON THE TRADE BALANCE IN SIERRA LEONE

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ABSTRACT

The determination of this research work is to delve into the effect of inflation rate and its implications for trade balance in Sierra Leone between 1990 – 2020. The short-run dynamics of the variables in question and the pattern of their long-run relationships were examined by applying the Johansson Estimation Technique, in order to investigate the long run and short run impact of inflation rate on trade balance on yearly data. Other methodology used to analyze the result were short run error correction model, unit root test, regression, cointegration and diagnostic test. The evaluation exhorts that a change in exchange rate leads to a change in inflation; and that both exchange rate and inflation wield significant effect on trade balance in the long run.

The study sheds light on the relationship among real exchange rate, inflation and the trade balance in the context of a small developing economy like Sierra Leone. It highlights that an improvement in the trade balance requires more than an appropriate exchange rate policy and underscores the importance of other policies in strengthening the external sector of the economy.

Key words; Exchange rate, economic growth, inflation, policies, trade balance

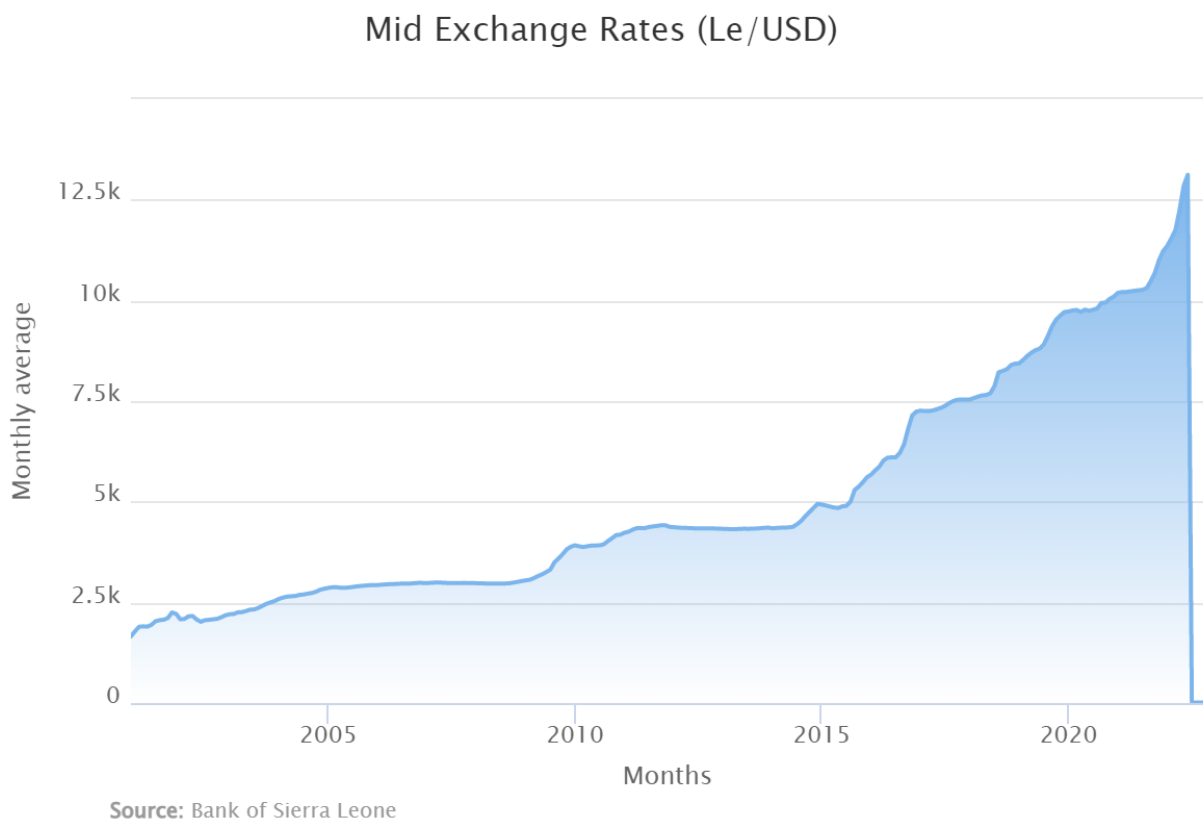
INTRODUCTION

An important indicator of macroeconomic performance is the balance between import and export. In any given year, it would be the matter of utmost good fortune if what a nation wished to export exactly matched with what it wants to import so that a trade balance would exactly be achieved. It is possible that a particular period, a nation will have a favourable trade balance or an unfavorable trade balance. However, when trade balance is favourable, that is exporting more than they are importing, the result would be that there will be an increase in foreign exchange. Furthermore, an unfavourable trade balance means that importation is more than exportation. Hence, the result would be that there will be a decrease in foreign exchange. Some citizens of Sierra Leone will also be persuaded that the Sierra Leonean goods are not worth value for money and will not buy the home-based goods instead the foreign imports. The spillover effect is that inflation rate will increase and exchange rate will also increase (Korsu, 2014).

It seems to be an almost permanent feature of the economy that prices should be rising. This has not always been the case: there have been fairly long periods of price stability interspersed with sharp inflationary burst. Since 1990 Sierra Leone has been experiencing a rather prolonged inflationary burst. It is the tendency for prices to rise ahead of incomes a situation referred to as 'inflation'. Inflation is such that "too much money chasing too few goods'. (Ibid) Economic theory posits that inflation will deteriorate a nation's trade balance. However, there are two schools of thought with divergent explanations of how this come about. The Monetarist Approach and the Keynesian Approach. According to the proponents of the monetarist approach, inflation in a country, from the 16th century, the prices that swept Europe and Africa in that period attributed to the influx of gold from South America to Africa. Under the more recent gold standard a trade balance surplus would attract gold, increase the supply of money and set up inflationary forces leading eventually to a trade deficit (Suziki, 2007). The economy of Sierra Leone is primarily agro based as the agricultural sector employs about 60% of the country's population and also contributes about 50% to

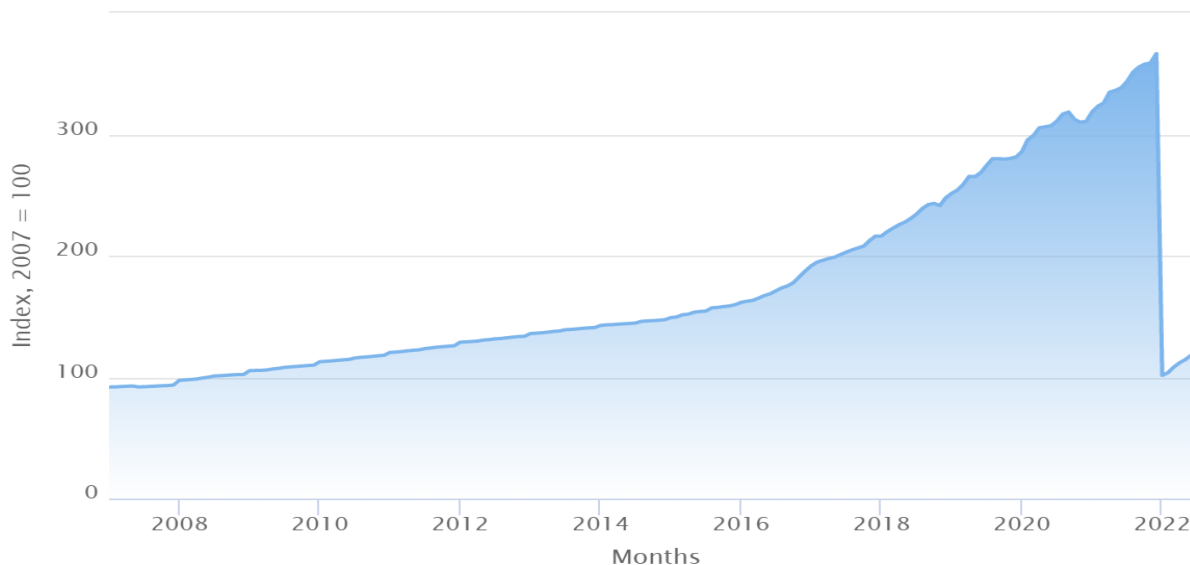
the country's GDP. The industry and service sectors are under-developed and together they employ about 40% of the country's population.

The industrial sector contributes about 23.5% to GDP while the services sector contributes about 25.6% to GDP, (see Bank of Sierra Leone (BS/L) publications). At the present the country's monetary policies are directed towards the maintenance of a low and stable inflation rate. There is a strong correlation between exchange rate and inflation rate. That is an increase in exchange rate will lead to an increase in inflation rate. Over the years exchange rate has been increasing. But the exchange rate reaches an all-time high in November at Le18.16/\$1. The figure below shows the Consumer Price Index (CPI) comprises of thirteen (13) items and all of these components contribute to the change in inflation rate. From the figure below the CPI has been increasing steadily from 2007 to 2020. But in 2022 it skyrocketed to an all-time high at 30%. This will affect price of goods and other economic activities.



The figure below, it is clear that Sierra Leone imports more than it can exports. Between 2012 to 2014 there was an iron ore boom and the similarity can be seen from the figure, the value of export and value of import. But within a short period, Sierra Leone was faced with two exogenous shocks that threaten our very existence into a humanitarian crisis. These exogenous shocks were fall in the price of iron ore and the Ebola scourge. However, it is worthy to note that Sierra Leone main exports are agricultural products and mineral resources. While Sierra Leone main imports are machineries, technology, essential commodities like rice, cement, salt and others.

1 Consumer Price Index (CPI), all items



Source: Statistics Sierra Leone

STATEMENT OF THE PROBLEM

Inflation is a sustainable decrease in value of the purchasing power of an economy's monetary unit for an increase in price over a period of time. The multiplier effect of the Covid 19 surge is the uncontrollable increase in the inflation rate and it is having a negative effect on trade balance. Inflation is currently and has been for a decade or more threatened to be one of the contentious macroeconomic problems for most countries of the World especially developing countries like Sierra Leone. It is important to note that higher levels of inflation do not generate higher output growth. This will have a negative effect on exchange rate. Trade imbalance will lead to a situation where in people do not move freely and easily from one country to another for work purpose. Also, capital and entrepreneurs can move more easily than labor. What happens instead is that if one country is buying more from others than it is selling, it will find it difficult for its imports. Reserves of foreign currency will fall, and if the imbalance persists, the country with a deficit will have to introduce measures to eliminate it. The country with a surplus on the other hand, will simply accumulate foreign currency reserves. Developing countries facing trade balance problems due to contractionary financial policies; a decrease in the terms of trade (i.e. export and import), price distortions, and higher debt servicing haven often resorted in increasing the trade balance deficit. The aim of such a policy is to promote export-oriented growth by liberalizing their markets (Saleh, 2003).

RESEARCH QUESTIONS

1. What is the effect of inflation on the trade balance in Sierra Leone?
2. What are the determinants of trade balance in Sierra Leone?
3. How trade balance can affect exchange rate?

OBJECTIVE OF THE STUDY

1. To determine the effect of inflation on the trade balance of Sierra Leone.
2. To examine the determinants of trade balance of Sierra Leone

3. To ascertain how trade balance can affect exchange rate

JUSTIFICATION

Inflation and trade balance fluctuations are considered undesirable for Sierra Leone that is aiming to be a middle-income country in the next ten years. High inflation rate creates social and economic burdens on the populace. Policy makers are concerned about the potential social tensions and the large and haphazard income and wealth redistribution that unanticipated inflation produces. Therefore, identifying the causes of inflation and formulating macroeconomic policies to control it is crucial for developing economies like Sierra Leone. Korsu (2014) posited that the control of inflation has been central to both monetary and fiscal policy makers. An understanding of the link between inflation and trade balance will help policy makers in finding solution to target inflation and maintain stable exchange rate, which will positively contribute to economic growth and development. Given the above, the study established an analysis of these policies towards achieving the trade balance and provides suggestions or prescription for policy formulation and implementation that will help lower inflation rate in Sierra Leone.

SCOPE OF THE STUDY

The empirical analysis will use annual data spanning from 1980 to 2020. This span is taken because it is sufficient to answer the research questions. The span is limited to inflation and trade balance including the exchange rate mechanism in Sierra Leone. Also, included is an investigation of the empirical determinants of the trade balance of Sierra Leone. Statistical data used in this study are obtained from secondary sources. These include data from the World Bank publications such as: World Tables, World Development Indicators, Statistics Sierra Leone and Bank of Sierra Leone Bulletin.

LITERATURE REVIEW

THEORETICAL REVIEW

The monetarists, trace their origin to the Quantity Theory of Money, which describes how changes in prices to changes in money supply lead to inflation and a ripple effect on exchange rate. The Quantity Theory of Money states that: "The Central Bank, which controls the money supply, has ultimate control over the rate of inflation. If the Central Bank keeps the money supply stable, the price level will be stable. If the Central Bank increases the money supply rapidly the price level will rise rapidly" (Mankiw, 2003). An increase in aggregate demand is influenced almost entirely by the amount of money in the economy (money supply). Their main argument is that inflation is caused by the amount of money in the economy and hence the spending power of the population exceeding the capacity of the country to produce goods and services will lead to an increase in inflation rate. They also argue that policies that result in increased money supply, such as attempts to stimulate the national income of a country, will have short-term effect on real output but generate inflation. However, increased money supply will lead to increase in spending through the transmission mechanism and will always create a situation where aggregate demand for goods and services exceeds the aggregate supply resulting in demand-pull inflation. (Mankiw, 2003).

In general, the structuralist theory of inflation does deny the significance of the expansion of money supply as the prime cause of inflation, but consider money supply as an endogenous factor where determination of its level is not a policy element in trying to control inflation in the presence of structural rigidities in developing economies (Aghevli, 1978).

Marshall and Lerner in their study of devaluation and trade balance, postulated what is known as the Marshall Lerner Condition. This condition describes the response of exports and imports to changes in the exchange rate. According to the Marshall -Lerner Condition, in order for a reduction in the exchange rate to result in an improvement in the trade balance, the combine effects of a rise in exports and fall in imports must be large enough to offset the adverse effects of the fall in the terms of trade (TOT). In terms of elasticities, Marshall - Lerner Condition states that for devaluation to improve a country's trade balance, the sum of the elasticities of the country's exports and imports must exceed unity. Further, the consequences of globalization, like the increase of the market share of multinationals and the international merging of stock exchanges decreases the relevance of trade balances of countries according to some sources. The effects of trade imbalances on employment are controversial. A trade surplus may appear to be a good thing but may not always be so. It is possible for the terms of trade to be lower than before if there is an improvement in the balance of trade (e.g. if an export increase came about by lowering prices). In addition, country with a surplus may come to rely on foreign demand for its industry, which may be problematic once the foreign demand dries up.

EMPIRICAL REVIEW

A number of studies have sought to examine the link between inflation and trade balance in developing economies. However, most of these studies have emphasized either the issue of inflation or trade balance on economic growth or on different measures of economic activity. The rate of inflation and the trade balance in operation are found to be closely related in some of the studies. Darrat (2000) examined that the empirical results regarding the inflationary effect of trade balance in cross-country and individual country studies have been diverse. Laryea and Sumalia (2001) in the case of Tanzania found that in the short run, output and monetary factors are the most important determinants of inflation, but in the long run the parallel exchange rate also plays a key role through trade in goods mainly in the informal sector. They also concluded that monetary factors are overwhelmingly responsible for Tanzania's inflation history. Longinus (2004) examined fifty-three (53) developing economies between 1964 and 1998 and identified variables, which include among others the price of oil, money growth and exchange rate movements. Exchange rate movement or money growth accounts for two-thirds of the variance in inflation in both short and long horizons. These were also more significant in countries with floating exchange rate regimes than those with fixed exchange regimes. Bawumia (2002) finds in an econometric study of recent Ghanaian experience that in the long run inflation is positively related to the money supply and the exchange rate, while it is negatively related to income. Chubber et al (1990) explained how changes in the exchange rate could affect inflation by directly raising the price of imports, and indirectly by altering inflation expectations. Thus, the pass-through of depreciation could be much larger than the share of imported goods as the consumption basket would suggest. Moreover, inflation expectation can also affect the exchange rate. Tegene (1991) in his empirical study of "How to cure the trade balance?" finds that devaluation have a strong impact on the trade deficit than the budget deficit. Using yearly or monthly data, devaluation have an effect that lasts 25 months. It also explains almost 19% of consumer price inflation.

Sowa et al (1991) uses econometric techniques to study " Inflation Trends and Control in Ghana" and he found out that trade balance will improve the following devaluation through an increase in exports and a collapse in imports. From the above, it is clear that empirical studies have established that increases in the rate of inflation will deteriorate the trade balance. Thus, understanding of the

long-run relationship between inflation and trade balance is important for policy formulation and implementation in developing countries.

METHODOLOGY

MODEL SPECIFICATION

In this study, the empirical model used is dictated by the typical formulation postulated by economic theory. The major difference between this work and others is the inclusion of money supply and government spending in the Sierra Leone context. The functional form of the model is specified as indicated below:

$$TB = f(\text{Inf}, \text{RGDP}, \text{REER}, \text{MS}, \text{GS}) \text{-----}(1)$$

Where:

TB = Trade Balance,

Inf = Inflation,

RGDP = Real Gross Domestic Product,

REER = Real Effective Exchange Rate,

MS = Money Supply, and

GS = Government Spending

The model is further specified as follows:

$$TB = \alpha_0 + \alpha_1 \text{Inf}_t + \alpha_2 \text{RGDP}_t + \alpha_3 \text{REER}_t + \alpha_4 \text{MS}_t + \alpha_5 \text{GS} + \emptyset D + \mu \text{-----} (2)$$

The model above will further be expressed in a log-linear model and coefficients interpreted as elasticities

$$\ln TB = \alpha_0 + \alpha_1 \ln \text{Inf}_t + \alpha_2 \ln \text{RGDP}_t + \alpha_3 \ln \text{REER}_t + \alpha_4 \ln \text{MS}_t + \alpha_5 \ln \text{GS} + \emptyset D + \mu \text{-----} (3)$$

ESTIMATION TECHNIQUES

The model which will be estimated using the Johansson Estimation Technique, in order to investigate the long run and short run impact of inflation on trade balance, which is consistent with the objective. The use of the Johansson Estimation Technique stems from the fact that it is suitable for large sample sizes and when most or all of the variables are integrated at order one, I(1).

TIME SERIES ISSUES

A time series is said to be stationary if its mean, variance and auto-covariance are independent of time. This study will use the unit root test, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to determine the stationarity of the variables. These tests are similar except that they differ with respect to the way they correct for autocorrelation in the residuals.

Johansen Cointegration Test

This technique will help us to determine whether there is a long run relationship between trade balance, inflation and the independent variables in Sierra Leone. This study uses both the Trace and Maximum-Eigen tests statistics.

Determination of Lags

To select the appropriate model for the model, the study uses the Schwarz Bayesian Criterion (SBC), Akaike Information Criterion (AIC), Final Prediction Error (FPE) and Hannan Quinn Information Criterion (HQIC).

Diagnostic Test

In order to check for the reliability of the estimation, different diagnostic tests will be implemented on the estimation model where the R^2 is maximized and the RSS is minimized, i.e. the model with the optimal level of external debt. The LM test will be used to check for autocorrelation, while the normality test will be carried out by the Jarque-Bera (JB) test.

RESULTS

DESCRIPTIVE STATISTICS AND CORRELATION ANALYSIS

The mean value for Real GDP is 21.1%, which is the highest value, whilst government spending has the lowest mean value of 4.38%. Furthermore, the result shows that money supply, inflation and real effective exchange rate have kurtosis values greater than three (>3). This shows that the variables have leptokurtic distribution, implying that they have higher peak (thin bell) and taller tails than a normal distribution. On the other hand, trade balance, Real GDP, and government spending are considered to have a platykurtic distribution, given that they have kurtosis value less than three (<3), indicating that the peak of the curve of frequency distribution is comparatively flatter than the normal distribution. Furthermore, the pair wise correlation matrix is presented in the lower segment of Table 1. The result shows a positive relationship between two of the independent variables (RGDP and LGS) and trade balance. However, a negative relationship is established between trade balance and the remaining variables (MS, Inf, and REER).

Table 1: Descriptive Statistics and Correlation Matrix

Variables	LTB	LINF	LRGDP	LGS	LMS	LREER
Mean	3.55019	3.12967	21.00193	24.58387	3.29537	5.00942
Maximum	4.31921	5.20943	22.33573	28.68533	4.481879	6.332537
Minimum	2.560158	0.00000	20.01029	18.31643	0.964242	4.514735
Std. Dev	0.456107	1.048511	0.642942	3.303807	0.715051	0.497145
Kurtosis	2.608924	3.732984	2.326364	0.129070	4.456973	3.844808
Observation	37	37	37	37	37	37
Correlation Matrix						
LTB	1.000					
LINF	-0.14937	1.0000				
LRGDP	0.583207	-0.52833	1.000			
LGS	0.182061	-0.62724	0.61564	1.000		
LMS	-0.08882	0.446408	-0.33498	-0.25765	1.000	
LREER	-0.07597	0.406639	-0.29801	-0.83943	0.15192	1.000

Table 2: Results of Unit Root Test

Variables	Augmented Dickey-Fuller		Philips-Perron		Order of Integration
	Levels	1 st difference	Levels	1 st difference	
LTB	-1.983	-6.604	-1.972	-6.944	I(1)
LINF	-2.534	-8.579	-2.534	-9.796	I(1)
LRGDP	-0.381	-5.179	-0.247	-5.649	I(1)
LGS	-2.826	-2.676	-2.791	-5.668	I(1)
LMS	-3.258	-12.370	-4.565	-11.922	I(0)
LREER	-1.977	-4.926	-1.570	-4.904	I(1)

The result of the unit root test suggests that all the variables are integrated of order one, i.e. I(1) except money supply which is integrated of order zero, i.e. I(0). Specifically, the results indicate that, LTB, INF, LRGDP, and LGS are non-stationary in levels. However, when these variables were differenced once and subjected to the unit root test, both the ADF and Phillip-Perron tests reveal that the variables are stationary in their first difference at the conventional level of significance. On the other hand, the ADF and Phillip-Perron tests result that money supply is stationary in level. In conclusion, it is evident from both the ADF test and the Philips-Perron test that the variables are integrated of order zero I (0) and one I (1), respectively.

Co-integration test analysis

It is evident from the unit root roots presented in Table 2 that all the variables are non-stationary in levels, but became stationary in their first difference. Thus, against this background, the study proceeds to conduct cointegration test, to determine whether a long run relationship exists. This study employs the Johansen cointegration test, which is found to be more superior to the Engel Granger test. The Johansen cointegration test presents two results- the trace statistics and maximum Eigen values. The trace and maximum eigenvalue tests provide the basis for rejecting the null hypothesis that there are zero cointegrating vectors. The results of the cointegration test are presented in Table 3 and Table 4, respectively.

Table 3: Unrestricted Co-integration Rank Test Result (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.915133	185.1536	95.75366	0.0000
At most 1	0.844393	101.2867	69.81889	0.0000
At most 2	0.395445	38.03236	47.85613	0.3006
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: E-views 12 output

Table 4: Unrestricted Co-integration Rank Test Result (Maximum Eigen value)

Hypothesized No. of CE(s)	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.915133	83.86687	95.75366	
At most 1*	0.844393	63.25437	69.81889	
At most 2	0.395445	17.11093	47.85613	
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: E-views output

The results from both the trace statistics and maximum Eigen value indicate the existence of cointegration, that is, a long run relationship exists among the variables. Specifically, the result from the trace test indicates that there is two cointegrating equations. However, the Maximum Eigen Value also confirms that there are two cointegrating equations. The presence of cointegration among the variables suggests the existence of a long run relationship among the variables. The study therefore estimates both the long run and short run models.

LONG RUN REGRESSION RESULT (LINEAR MODEL)

The long run regression result is presented in Table 5. The result shows that inflation, real GDP, real exchange rate, government spending and dummy variables are the main determinants of trade balance in Sierra Leone. The result indicates that a one percentage increase in inflation will improve the trade balance by 0.76 percent. The possible explanation is that, as external debt exceeds a certain level it becomes difficult for the government to service its debt interest payment leading to debt crowding out of public investment.

Because the government cannot invest into productive sectors of the economy, this leads to decline in economic growth. The study also found out that real exchange rate positively impacts trade balance in the long run. A percent increase in real effective exchange rate leads to a 1.28 percentage increase in the trade balance. The literature suggests that depreciation will boost export through an increased competitiveness of the domestic goods against foreign goods. Depreciation of a currency will cause local goods to be cheaper abroad and this will increase their demand leading to an increase in exports thereby improving the trade balance. Furthermore, the result also reveals that increase in government spending will boost the trade balance. Thus, a one-percent increase in investment will increase real GDP by 0.23 percent. Thus, increase in government spending on capital goods that will boost economic activities, as a result it will increase the domestic productivity and increase export and the trade balance.

Table 5: Long Run Regression Result- Linear Model (Dependent variable- Trade Balance)

Variable	Coefficient	Standard error	t-statistics
C	-10.20958	0.00000	0.00000
LINF	0.766666	0.07968	-9.62214
LGDP	-0.470228	0.15058	3.12270
LREER	1.288934	0.14403	-8.94888
LMS	0.739927	0.10144	-7.29407
LGS	0.461622	0.04825	-9.56670
DUMMY	1.129821	0.16383	-6.89613

SHORT RUN ERROR CORRECTION MODEL (LINEAR MODEL)

The result of the short run error correction model is presented in Table 6. The result shows that inflation has a negative and significant impact on the trade balance. This result is however not consistent with the long run result. A possible explanation for this is that a decrease in domestic prices makes the domestic goods cheaper. This leads to an increase in the export of domestic goods and thereby boosts the trade balance. The result also shows that an increase in government spending leads to a deterioration of the trade balance in the short run. This may be as a result of the government purchasing more imported goods into the country. An increase in government spending by one percentage point will decrease the trade balance by 0.42 percent. The result also shows that the error correction term is negative and statistically significant at the one percent level, with a coefficient of 0.41. This shows that approximately 41% of any disequilibrium will be corrected within a year. This shows high speed of adjustment. The diagnostic analysis shows that the R-square is 0.71. This shows that 71% of the variation in economic growth is accounted for by the independent variables. Also, the Durbin-Watson statistics (1.97) illustrates the absence of auto correlation, whilst the F-Statistics shows the overall goodness of fit of the model.

Table 6: Short Run Error Correction Model (Linear Model) Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LINF(-1))	-0.305630	0.07395	-4.13289	0.0001
D(LINF(-2))	-0.128010	0.06608	-1.93710	0.0549
L(LGS(-1))	-0.424585	0.23413	-1.81347	0.0720
L(LGS(-2))	-0.609063	0.20729	-2.93815	0.0039
D(LGDP(-1))	0.207085	0.31638	0.65453	0.5139
ECM(-1)	-0.400564	0.08878	-4.51188	0.00000
R-squared	0.705760	Mean dependent var	-0.009334	
Adjusted R-squared	0.460560	S.D dependent var	0.815719	
S.E.of regression	0.217523			
Prob(F-statistic)	0.021345			
Durbin Watson stat	1.977290			

DIAGNOSTIC TESTS

Diagnostic test was performed for the results obtained. The summary result is presented in Table 7. The results as shown in Table 7, indicate that its fail to reject the null hypothesis for all the test and it can be said the residuals are normally distributed, there is no serial correlation and data are homoscedastic.

Table 7: Diagnostic Test Result

Test	t-statistics	p-value	Conclusion
Normality test (JB test)	2.752	0.4991	Residuals are normally distributed
Serial Correlation (LM test)	0.367703	0.6952	No serial correlation
Heteroscedasticity Test (ARCH test)	16.776	0.3105	No heteroscedasticity

CONCLUSION AND RECOMMENDATION

Conclusion

Given the growing inflationary pressure in Sierra Leone and persistent budget deficit, often financed largely by monetization though fiscal behavior in terms of seigniorage creation reduced following the start of adjustment in 1992, the paper has sought to investigate the quantitative effects of budget deficit on inflation in Sierra Leone. Tests for unit root were carried out and the results reveal that all the variables are stationary. The estimated model of inflation shows that,

inflation was determined negatively by real GDP growth and positively by money supply growth and exchange rate depreciation. Specifically, money supply growth has to be between 10.4% and 20.7% in 2015. The unstable effect on exchange rate is affecting the inflation rate and prices of goods and services. These have a spillover effects on economic development. For the revaluation of the Sierra Leone currency, we need to boost local production and drastically reduce the importation of goods and services especially essential commodities such as rice, salt, cement and others. From the analysis above, there is a strong relationship between inflation rate and exchange rate. That is an increase in exchange rate will lead to an increase in inflation rate. And this invariably will affect trade balance and economic growth.

Recommendations

Based on the results of the study, the following recommendations are useful to policy makers in Sierra Leone. In the interest of low inflation rate, the conduct of monetary policy in Sierra Leone should be done by making forecast for the nominal exchange rate, growth of real GDP, and a target for inflation rate such that the required target for money supply (M2) is obtained from a simulation process from a structural model of inflation. The instruments of monetary policy can then be applied to hit the intermediate target, which is broad money (M2). The actual growth rate of money supply from these ranges should depend on the expected growth of real GDP and exchange rate depreciation. The conduct of monetary and fiscal policies in accordance with the observed limits for broad money growth and fiscal deficit, as a percentage of GDP, should be through a coordination between the monetary and fiscal authorities such that fiscal and monetary authorities play the 'chicken game' by these rules and the fiscal operations do not renege on the rules since such a default would make it incentive compatible for the monetary authorities to accommodate the fiscal authorities to a suboptimal degree. This is more important given the fact that there are other macroeconomic objectives of policy makers, including sustained and inclusive economic growth, while the central bank has low inflation objective among its primary goals. To the extent that real GDP has negative impact on inflation in Sierra Leone, it is important that the authorities pay attention to supply-side policies that increase the output of the economy in an effort to reduce the rate of inflation, thus strengthening the credibility of the central bank. These include continued effort on building the health, education, transport, communication, electricity, water, and justice sectors of the economy, as well as private sector growth support policies. As depreciation of the nominal exchange rate leads to higher inflation in Sierra Leone, it is important for the country to increase investment in the tradeable goods sector in order to increase export earnings of Sierra Leone, which has favourable impact on exchange rate stabilization. This also includes policies that enable Sierra Leone to have the maximum foreign exchange earnings from mining sector activities.

REFERENCE

- Aghevli B.B., and Khan M.S. (1978). Government Deficits and the Inflationary Process in Developing CIME Staff Papers Vol. 25 No. 3 pp 383-415.
- Bank of Sierra Leone Bulletin Various Issues.
- Bawumia M. (2002). Monetary Growth, Exchange Rates and Inflation in Ghana. *Western African Journal of Monetary and Economic Integration*. Second Half, 2002.

- Chubber. A and Shiffik N. (1990). Exchange Rate Reform, Parallel Market and Inflation in Africa; The Case of Ghana. *World Bank Pre-working Paper 1990*.
- Darrat, A.F. (2000). “Are budget deficits inflationary? A reconsideration of the evidence”. *Applied Economics*, 7(10): 633-36.
- David Begg, Stanley Fischer and Rudiger Dornbusch (1994). *Economics fourth Edition*. pp 490-496
- Davies V. A. B., (2006). *Sierra Leone's Economic Growth Performance*.
- Government of Sierra Leone. 2013. *The Agenda for Prosperity: Road to Middle Income Status. Sierra Leone's Third Generation Poverty Reduction Strategy Paper (2013-2018)*.
- Korsu R. D. (2014) *The Inflationary Effects of Fiscal Deficit in Sierra Leone: A Simulation Approach*. African Economic Research Consortium.
- Layen, S. A. and Sumalia, U. R. (2001). *Determinants of Inflation in Tanzania. CMI Working paper*.
- Longinus Rutasitara, (2004). *Exchange Rate Regimes and Inflation in Tanzania. AERC Research Paper 138*.
- Ministry of Finance, *Budget Statement, Various Issues*.
- Mankiw N. G. (2003). *Macroeconomics fifth Edition*.
- Saleh, A.S. (2003). “The budget deficit and economic performance: A Survey”. *Economic Working Paper Series No. WP 03-12*. University of Wollongong.
- Sowa N. K and Kwakye J. K. (1991). *Inflation Trends and Control in Ghana*. Presented at the AERC Meeting, Nairobi 26th-30th May.
- Suzuki, M., (2007). *Development Policy and Strategy in Sierra Leone. Publish by MODEP, USL and JICA Ghana*.
- Tegene A., (1991). *The Monetarist Explanation of Inflation: The Experience of Six African Countries. Journal of Economic Studies*. Vol. 16, No. 1, pp 5-18.