BALANCE OF PAYMENTS ADJUSTMENT: THE WEST AFRICAN MONETARY ZONE EXPERIENCE

Patricia A. Adamu and Osi C. Itsede

Abstract
This paper examines the monetary approach to the balance of payments for the WAMZ countries during the period 1975–2008. It examines whether excess money supply played a role as a disturbance using panel data estimation technique involving both the within-country and cross-country effects. The empirical results suggest that money played a significant role in determining the balance of payments, a result that validate the monetary approach to the balance of payment for the WAMZ countries. The strong negative relationship and link between domestic credit and net foreign asset is established. Interest rate and GDP growth were also found to have significant impact on the balance of payment in the WAMZ. The policy conclusion is that, the balance of payments disequilibrium can be corrected through appropriate financial programming, monetary targeting and the implementation of prudent fiscal policy.

JEL Classification: C33; E51; F46

Key Words: Balance of Payment, Monetary approach, Panel estimation technique, WAMZ countries,

The recent literature on the monetary approach to the balance of payment is especially important for the policy analysis in small open economies like the West African Monetary zone (WAMZ) countries. The rebirth of the view that the balance of payment (BOP) is a monetary phenomenon has led to an avalanche of new literature. The literature identifies three major theories of balance of payments adjustments, including the elasticities, absorption approaches (both associated with Keynesian theory), and the monetary approach. The elasticities approach emphasizes the role of the relative prices (or exchange rate) in balance of payments adjustments by considering imports and exports as being dependent on relative prices (through the exchange rate). The absorption approach emphasizes the role of income (or expenditure) in balance of payments adjustments by considering the change in expenditure relative to income.

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The member states of the WAMZ include: The Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone.
resulting from a change in exports and/or imports. In the monetary approach, on the other hand, the focus of attention is on the balance of payments (or the money account) with full employment.

The monetary approach to the BOP postulates a negative correlation between the rate of expansion of domestic credit and the rate of change of foreign reserves. The monetary approach to the BOP identifies the BOP as a ‘monetary phenomenon’ (Frenkel and Johnson 1976). Johnson (1976) argues that a causal relationship runs from changes in domestic credit to changes in net foreign assets—that is, imbalances in the domestic monetary sector lead to imbalances in a country’s balance of payments, represented by the change in net foreign assets (Blejer 1979).

Disequilibrium in the balance of payments may be temporary or fundamental. In West African countries, as in most developing countries, temporary disequilibrium is caused by random variations in trade, seasonal fluctuations, and the effects of unfavourable weather on agricultural production, which tend to be self-equilibrating within a short time. But fundamental disequilibrium is a chronic deficit or surplus, which is a persistent and prolonged payments imbalance, and thus requires policy measures to correct, (Hallwood and MacDonald, 1996).

The MABP regards money as a stock, and argues that money stock can be changed through international reserve flows. It states that a fixed exchange rate system could work without having to resort to devaluation, provided a country has a sound monetary policy; thus, devaluation will only occur as a result of a failure of monetary policy. This argument stems from the fact that disequilibrium in the balance of payments is a temporary situation that will be corrected if the “money market is in equilibrium” (Du Plessis et al., 1998:255). MABP is based on Walras’s Law which assumes that the increase in demand of goods and services, bonds, securities and money are to be zero. Excess money demand can be controlled by sale of domestic goods and services or by securities in foreign market. Similarly, glut money supply can be cut by purchasing of foreign goods and services or by investment in abroad resulting reserve outflow. The balance of payments is in equilibrium when the sum of reserve inflow equals. The disequilibrium of balance of payments is automatically adjusted if the monetary authorities do not generate money by a policy of sterilization (creating new domestic credit). (Md. Abdus Salam:1995).

With the exception of Nigeria, the current account position in the other countries of the WAMZ have been in deficit, since the mid-1970’s, arising mainly from the persistent deterioration in the trade account, which has provoked many questions on potential causes of this imbalance. For instance Ghana’s current account deteriorated from a surplus of 0.7 percent of GDP in 1980, to a deficit of 3.8 percent of GDP in 1990 and further deteriorated to a deficit of 24.7 percent of GDP in 2008. In a similar vein, Sierra
Leone’s current account significantly decline from a deficit of 15.0 percent of GDP in 1980 to a deficit of 10.7 percent of GDP in 1990, but the deficit position slightly worsen to 11.2 percent of GDP in 2008. Gambia on the other hand incurred huge deficit of 36.1 percent of GDP in 1980, but the country recorded a current account surplus of 7.4 percent of GDP in 1990. In 2008, the country’s current account deficit amounted to 17.3 percent of GDP. Nigeria’s current account has been in surplus for the greater part of the review period, increasing from a surplus of 8.1 percent of GDP in 1980 to 17.5 percent in 1990 and further increases to a surplus of 22.0 percent of GDP in 2008.

The prevalence of persistent current account deficit for the WAMZ countries is a cause of concern because like many other Regional Economic Communities (REC), the WAMZ countries, are about to form a monetary union, and maintain an equilibrium in their external balance is highly relevant. Maintaining a healthy and stable balance-of-payments, would promote trade and hence propel rapid economic growth in the WAMZ region. The literature suggests that current account deficits coupled with inadequate foreign exchange reserves are inimical to a sustainable balance of payments. Therefore, the management and sustenance of balance-of-payments equilibrium is of great importance for the WAMZ countries to pursue. Several factors account for the persistent balance-of-payments disequilibrium including: poor export performance, huge service account deficits, external debt amortization, low inflow of foreign direct investment, misappropriation of external funding support to the countries, excessive domestic monetary and credit expansion, large fiscal deficits, price distortions and a deterioration in the terms of trade, see IMF (1977), Ogiogio (1996), and Obioma (1998).

The main objective of this study is to empirically examine the MABP in the WAMZ countries. Specifically, the study tests whether excess money supply played a significant role in the BOP disequilibrium in the WAMZ. The study also sets out to establish whether there is a significant relationship between domestic credit and international reserves. It also seeks to identify the determinants of BOP adjustment in the WAMZ countries. Despite the plethora of literature on the subject, the authors are not aware of any study on the MABP in the WAMZ countries. Following the introduction, rest of the paper is structured as follows: the section two reviews the relevant literature, including the theoretical and empirical on MABP, and also discusses alternative approaches to the BOP. Section three is pre-occupied with the methodology, including the specification of the model. Section four contains the econometric analyses and discussion of empirical results, while section five provides the conclusion and policy implications arising from the study.
LITERATURE REVIEW

A nation’s balance of payments is a system that accounts for flows of income, expenditures as well as the flow of financial assets. It consists of a number of different accounts, mainly three accounts: the current account, the private capital account and the official settlements balance. The overall balance of payments is the sum of credits and debits in these three accounts and the statistical discrepancy. The balance of payments is in equilibrium when the sum of the debits and credits in the current account and capital account equal to zero, so that the official settlements balance is zero. If the official settlements balance is positive or negative, the balance of payments is not in equilibrium or disequilibrium. A positive official settlements balance reflects a balance of payments deficit and a negative official settlements balance reflects a balance of payments surplus. Different adjustment mechanisms to such disequilibria in a country’s balance of payments have been identified (see e.g. Du Plessis et al., 1998:235), including the following: monetary approach, the elasticity approach, and the absorption approach.

Monetary Approach to Balance of Payment

The MABP, which regards the balance of payments as a “monetary phenomenon”, expresses the relationship between a country’s balance of payments and its money supply (Chacholiades, 1990:463). MABP shows that the overall balance of payments (measured by international reserves) is influenced by imbalances prevailing in the money market. Under a system of fixed exchange rates excess money supply induces increased expenditure, hence increased domestic demand for foreign goods and services. The high domestic demand needs to be financed by running down foreign exchange reserves, thereby worsening the balance of payments. The outflow of foreign exchange reserves reduces money supply until it is equal to money demand, thereby restoring monetary equilibrium and halting an outflow of foreign exchange reserves. An excess demand for money leads to an opposite adjustment, which in turn induces foreign exchange reserves inflow, and hence causes a BOP surplus. This triggers domestic monetary expansion and eventually a restored balance of payments equilibrium position.

The formal MABP model includes money supply and money demand functions and an equilibrium condition. The model consists of the following set of equations:

\[ M^e = (R+D) \]  
\[ M^d = f(Y, P, I) \]  
\[ M^e = M^d \]

Where \( M^e \) = Money supply, \( M^d \) = Money demand, \( R \) = foreign reserve (NFA), \( D \) = domestic credit (NDA), \( Y \) = real domestic income, \( P \) = price level, \( M \) = money market equilibrium
Equation 1 shows that money supply is determined by the availability of international reserves and the level of domestic credit created by the country's monetary reserves, while Equation 2 sets out the real demand for money as a function of real income, the inflation rate and the interest rate. The monetary theory states that there is a positive relationship between money demand and income ($\frac{\partial M^d}{\partial Y} > 0$) and, money demand and the price level ($\frac{\partial M^d}{\partial P} > 0$), and a negative relationship between money held and the interest rate ($\frac{\partial M^d}{\partial I} < 0$). Equation 8 is the equilibrium condition in the money market.

By combining Equations 1, 2 and 3, and making reserves as the dependent variable, the reserve flow equation can be written as follows, with the variables expressed in percentage changes:

$$\Delta R = \Delta[f(Y, P, I)] - \Delta D$$

Equation 4 is the fundamental monetary approach to balance of payments equation. It shows that foreign reserves (BOP) represent the deviation in growth of money demand from the growth of domestic credit with the monetary consequences of the balance of payments bringing the money market into equilibrium. The international reserves equalize the changes in domestic credit and the coefficient of $\Delta D$ is recognized as an offset coefficient. It shows the extent to which changes in domestic credit are offset by changes in international reserves, and the coefficient assumes a negative sign for MABP in the reserve flow equation (Dhliwayo, 1996).

**Elasticity Approach**

The elasticity approach, which has been associated with Robinson (1937), places its emphasis on the effects of exchange rate changes on the exports and imports of a country and, hence, on the trade account balance, whilst ignoring all other variables such as income. The elasticity approach applies the Marshall-Lerner condition, which states that the sum of the elasticities of demand for imports and exports must be greater than unity in absolute terms for a devaluation to improve the balance of payments (Du Plessis et al., 1998).

The logic behind this condition is as follows. Suppose the elasticity of demand for exports is zero. In this case exports in domestic currency are the same as before devaluation. If the sum of the elasticities is greater than one, the elasticity of demand for imports must be greater than one, so that the value of imports falls. With no fall in the value of exports and a fall in the value of imports, the balance of payments improves.
Now, suppose the demand for imports has zero elasticity. The value of imports will rise by the full percentage of devaluation. If the elasticity of demand for exports is greater than unity, the value of exports will expand by more than the percentage of devaluation. Therefore, the balance of payments will improve. If each element of the elasticity of demand is less than unity, but the sum is greater than unity, the balance of payments will improve because expansion of exports in domestic currency will exceed the value of imports.

**Absorption Approach**

The absorption approach was first presented by Alexander (1952). He sought to look at the balance of trade from the point of view of national income accounting. It is useful in pointing out that an improvement in the balance of trade calls for an increase in production relative to absorption. The absorption approach intends to show how devaluation might change the relationship between expenditures or between absorption and income – in both nominal and real terms. It is worth noting that great emphasis is laid on the current account balance. This approach contends that the devaluation of a currency would lead to an increase in inflationary prices, which would in turn revoke the initial effect of an increase in prices.

The starting point of the absorption approach is the national income identity:

\[
Y = C + I + G + X - M \tag{5}
\]

Where \( Y \) = national income; \( C \) = private consumption of goods and services purchased at home and from abroad; \( I \) = total investment, by firms as well as by government; \( G \) = government expenditure on goods and services; \( X \) = exports of goods and services; and \( M \) = imports of goods and services.

Combining \( C + I + G \) expenditure terms into a single term, \( A \), representing domestic absorption (i.e., total domestic expenditure) and \( X - M \) terms into \( B \), net exports/trade balance, we get:

\[
Y = A + B \tag{6}
\]

Equation 6 states that national income equals absorption plus the trade balance, or alternatively

\[
B = Y - A \tag{7}
\]

Equation 7 states that the trade balance is equal to the difference between domestic income and total absorption. Equation (7) is the fundamental equation of the absorption
approach. It implies that, if total absorption (expenditure) exceeds income (production), then imports will exceed exports, resulting in a balance of payments deficit. If the opposite occurs, i.e. where income exceeds absorption, then the balance of payments will be in surplus. A balance of payments deficit can, therefore, only be corrected if the level of absorption changes relative to the level of income (Du Plessis et al., 1998:251).

The empirical literature is replete with studies on the monetary approach to balance of payment. Mixed results were obtained from the different studies on the MABP. Obioma (1998) used data for 1960-1993 to test the validity of monetary approach to the balance-of-payments adjustment for Nigeria under fixed and flexible exchange regimes. He found that an increase in domestic credit or money stock leads to external reserves outflow or adverse balance of payments during the fixed exchange rate regime. But in the flexible exchange rate era, an increase in domestic credit brings about exchange rate depreciation. Using data for 1960-1995, Jimoh (1990) also found that the monetary approach is relevant in analyzing balance-of-payments adjustments in Nigeria.

Dhliwayo (1996) used data for the period 1980-1991 to investigate the MABP in Zimbabwe. His findings indicate a one-to-one negative relationship between domestic credit and the flow of international reserves. The empirical results validate the MABP in Zimbabwe. The implication of such result is that money played a significant role in the determination of deficits in the balance of payments. In a related development, Coppin (1994:83) carried out a study for Barbados to test the validity of the MABP. It was evident from his results that the “degree of openness of an economy” played a particularly important role in determining international reserves. He found strong evidence in support of the MABP in Barbados. Specifically, the result revealed that expansionary fiscal policy played a vital role over monetary factors in determining international reserves. Furthermore, Aghevli and Khan (1977) performed an empirical test on the MABP for 39 developing countries and found highly significant results, maintaining that the mechanisms underlying the MABP held strongly for these countries.

Lachman (1975) conducted a study to test the validity of the MABP for South Africa. His results found strong evidence in favour of the MABP, and concluded that monetary authorities would definitely be able to predict the extent to which increases in money supply would augment imports. Leon (1988), also examined the applicability of the MABP in Jamaican. He used the reserve-flow and sterilization equations using both single and simultaneous equations. The results found strong evidence in favour of the reserve-flow equation, and that the MABP’s predictions were not rejected. The results also revealed that monetary authorities were in fact sterilising reserves in Jamaica. Watson (1990), also conducted a study on Trinidad and Tobago in assessing the MABP, using data for the period 1965–1985. The results did not find any support in favour of the MABP, indicating that balance of payment problems in Trinidad and Tobago is not a monetary policy issue.
In summary, there is convincing evidence that the MABP in fact is an important concept in the literature and an unresolved issue. While some studies found evidence of the MABP (see Lachman (1975), Dhliwayo (1996)), others including Watson (1990), did not find any support in favour of the MABP. Most parts of the empirical literature were based on the ‘reserve-flow equation’, where a country’s international reserves, or the rates of change in reserves, are regarded as the dependent variable. On the other hand, the independent variables vary in the different studies. They can include domestic income, prices, the interest rate, government expenditure, money multiplier, money stock, the exchange rate, and demand for nominal and real money balances. Thus, given the conflicting evidence in the literature and the prevalence of the BOP deficit in the WAMZ countries, it is necessary to undertake an empirical study in order to validate the MABP.

**METHODOLOGY**

The methodology for the study is based on the MABP. The theoretical analysis of the monetary approach comes from the writings of Mundell (1968), Johnson (1975, 1976, 1977), Mussa (1974), Krueger (1969) and Dornbush (1973), even though the arguments for the relationship between the foreign sector and the domestic sector of an economy through the working of the monetary sector can be traced to Hume’s (1752) price specie flow mechanism. The monetary approach views imbalances in the balance of payments in terms of imbalances between the demand for and supply of money stock. The MABP postulates that the overall balance of payments, measured by the change in the level of international reserves, is influenced by imbalances prevailing in the money market.

**Model Specification**

The model aims to show whether monetary variables are central to determining the balance of payments in the WAMZ countries. In order to test this role, the study will employ the standard model of the MABP (see, for instance, Dalamagas, 1990; Kamas, 1986; Kannan, 1989; and Sohrab, 1985), using panel data series. Taking advantage of the nature of this data set, we identify and differentiate within-country and cross-country effects. Whereas the former emphasize the balance of payment response to over-time changes in a given country, the latter consider how the differences in balance of payment deficits across countries are driven by their respective characteristics.

**Within-country and Cross-country Effects**

We estimate the within-country effects with a model that controls for country-specific factors. This model allows us to de-emphasize the cross-sectional variation of the data in favor of its time-series counterpart. In this sense, our method is akin to the common
fixed-effects estimator (Mundlak 1978, Anderson and Hsiao 1982). The MABP regression equation for the within-effects model is given by

\[
NFA_{it} = \alpha_1 NFA_{it-1} + \alpha_2 X_{it} + \eta_{it} + \mu_{it}
\]  

(8)

Where \( NFA_{it} \) is net foreign asset (which is the combination of foreign reserves and gold) of country \( i \) in period \( t \), \( X_{it} \) is a set of economic determinants of the balance of payments, which includes log of gross domestic product (LGDP), inflation rate (INF), interest rate (INT) and log of domestic credit (LDC) which is defined as the summation of net claims on private and public sector by monetary market, \( \eta \) represent country-specific factor and \( \mu \) is an error term that contains country and time specific fixed effects:

\[
\mu_{it} = \mu_i + \varepsilon_{it} + V_{it}, \quad \text{where } V_{it} \sim i.i.d(0, \sigma_i^2)
\]

In addition, MABP regression equation for the estimation of cross-country effects is given by,

\[
NFA_{it} = \alpha_1 NFA_{it-1} + \alpha_2 X_{it} + \varepsilon_{it}
\]  

(9)

Estimation procedure

We use the Generalized Method of Moments (GMM) estimation technique developed for dynamic panel data that were introduced by Holtz-Eakin et al (1990), Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1997). GMM accounts for unobserved country-specific effects, allows for the inclusion of lagged dependent variables as regressors and controls for endogeneity of all the explanatory variables that may be due to the correlation of these country specific effects and the right hand side regressors\(^{13}\). Our models of within-country and cross-country effects are dynamic (i.e., the set of explanatory variable includes a lag of the dependent variable) and include some explanatory variables that are potentially jointly endogenous (in the sense of being correlated with the error term). In addition, the model of within-country effects presents an unobserved country-specific factor, which is correlated with the explanatory variables.

\(^{13}\) An additional advantage of the GMM estimator is that by differencing it helps to ensure that all the regressors are stationary
We estimate in a system that combines the regression in differences with the regression in levels.

The consistency of the GMM estimator depends on whether lagged values of the explanatory variables are valid instruments in the balance of payment regression. We address this issue by considering two specification tests suggested by Arellano and Bond (1991) and Arellano and Bover (1995). The first is a Sargan test of over-identifying restrictions, which tests the overall validity of the instruments by analyzing the sample analog of the moment conditions used in the estimation process. Failure to reject the null hypothesis gives support to the model. The second test examines the hypothesis that the error term is not serially correlated. Given that the cross-country effects model must not control for country specific factors, estimation is performed with a levels specification for both the regression equation and the instrumental variables.

**Data Sources**

Annual time series data covering the period 1975-2008 are utilized to test the monetary approach to balance of payments in the WAMZ countries. The data were obtained from the IMF's International Financial Statistics (various issues), West African Monetary institute (WAMI) data base, and World Development Indicators CD Rom 2010. Net foreign assets (NFA) are the sum of international reserves and gold. The log of domestic credit (LDC) is the sum of net claims on government and claims on the private sector by the monetary sector. The log of GDP (LGDP) is used for the level of domestic income. The log of inflation (proxy by the change in consumer price index) represents the price level (INF). The interest rate (INT) is proxy by the lending rate. All variables are expressed in logarithms.

**DISCUSSION OF EMPIRICAL RESULTS**

**Within-Country Effects**

We now present the estimation results of the within-country effects regarding the relationship between the current account deficit and its domestic and international determinants. In this analysis, we use three estimation methods, GMM system estimator, fixed-effects OLS and the differenced GMM. However, our preferred estimation method is the GMM system estimator. The other two alternative estimators have their particular shortcomings. Thus, the fixed-effects OLS estimator eliminates the country-specific effect but does not account for the joint endogeneity of the explanatory variables. The differences GMM estimator accounts for both joint endogeneity and country-specific factors but eliminates valuable information and uses weak instruments. Table 1 reports
the MABP regressions using alternative estimators on the sample of the WAMZ countries and employing the core specification.

The estimated coefficients in Equation 8 have the expected signs and sensible magnitudes on the basis of the monetary approach to balance of payments theory. This approach predicts that an increase in domestic credit will cause an opposite and equal change in the balance of payment.

It is evident from Table 1 that the estimated coefficients have the expected signs and sensible magnitudes on the basis of the monetary approach to balance of payments theory. In all the three regression results, the findings indicate that the log of GDP had a positive effect on the change in net foreign assets. The implication is that, a country’s income plays a significant role for its net foreign assets. In addition, the results also showed that the estimated coefficient on the change in domestic credit is found to be statistically significant at the 1 per cent level and consistent with the MABP. A negative relationship between domestic credit and net foreign asset was established for all the three models, which implies that an increase in domestic credit worsens the balance of payment, a result consistent with theoretical explanations. Similar result was obtained by Umer et al (2010) in the case of Pakistan.

<table>
<thead>
<tr>
<th>Table 1: Within Country Effects (Various Estimation Techniques) Dependent variable: Net domestic asset.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Model Estimation Technique Instruments</td>
</tr>
<tr>
<td>Constant</td>
</tr>
<tr>
<td>LGDP</td>
</tr>
<tr>
<td>Inflation</td>
</tr>
<tr>
<td>Interest rate</td>
</tr>
<tr>
<td>Domestic Credit</td>
</tr>
<tr>
<td>Specification Test (p-values)</td>
</tr>
<tr>
<td>(a) Sargan test</td>
</tr>
<tr>
<td>(b) Serial correlation</td>
</tr>
<tr>
<td>First order</td>
</tr>
<tr>
<td>Second order</td>
</tr>
<tr>
<td>Third order</td>
</tr>
</tbody>
</table>

Note: t-statistics are in parenthesis
Furthermore, it is evident from Table 1 that, interest rate plays a significant role in a country’s balance of payment as shown by the coefficients on interest rates for the three equations which is statistically significant at the conventional level. The result indicates a negative relationship between interest rate and net foreign asset, implying that increase in interest rates worsens the balance of payment. This result is not at variant with the findings of Dhliwayo (1996), who also found a negative relationship between interest rate and reserves for Zimbabwe. It is also consistent with the findings of Adamu (2004). However, although inflation had the correct sign, the coefficient is statistically insignificant even at the conventional level. The result showed that inflation is not a strong determinant of the balance of payment position in the WAMZ countries.

The test of over-identifying restrictions (i.e. Sargan test) can not reject the null hypothesis that the instruments are uncorrelated with the error term. Moreover, serial correlation tests do not reject the hypothesis that the differenced error term is not second- or third-order serially correlated (while rejecting that it is not first-order serially correlated).

**Cross-Country Effects**

Table 2 shows the results related to the estimation of cross-country effects. As expected, the results of the cross-country effects are not at variant with those obtained from the within-country effect. The result showed that log of GDP has a positive and highly significant coefficient, consistent with the within-country result. Interest rate and domestic credit had negative impact on net foreign assets with statistically significant coefficients, consistent with the MABP proposition. However, the inflation variable is found to be insignificant. Similar result was obtained in the within-country effect.
Table 2: Cross- Country Effects
Dependent variable: Net domestic asset

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>COEFFICIENTS</th>
</tr>
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<tbody>
<tr>
<td>CONSTANT</td>
<td>0.4684</td>
</tr>
<tr>
<td></td>
<td>(4.4051)</td>
</tr>
<tr>
<td>LGDP</td>
<td>0.2042</td>
</tr>
<tr>
<td></td>
<td>(2.4410)</td>
</tr>
<tr>
<td>INFLATION</td>
<td>0.0417</td>
</tr>
<tr>
<td></td>
<td>(0.4652)</td>
</tr>
<tr>
<td>INTEREST RATE</td>
<td>-0.6590</td>
</tr>
<tr>
<td></td>
<td>(-4.0336)</td>
</tr>
<tr>
<td>DOMESTIC CREDIT</td>
<td>-0.8042</td>
</tr>
<tr>
<td></td>
<td>(-6.2144)</td>
</tr>
</tbody>
</table>

**Specification Test (P-value)**

(a) Sargan test  
0.232

(b) Serial Correlation

<table>
<thead>
<tr>
<th>Order</th>
<th>P-value</th>
</tr>
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<tbody>
<tr>
<td>First</td>
<td>0.436</td>
</tr>
<tr>
<td>Second</td>
<td>0.470</td>
</tr>
<tr>
<td>Third</td>
<td>0.620</td>
</tr>
</tbody>
</table>

*Note: t-statistics are in parenthesis*
CONCLUSION

The main aim of this paper was to determine the dynamics of balance of payments adjustment in the countries of the West African Monetary Zone (WAMZ). Specifically, the study seeks to examine the MABP theory and its implication for the WAMZ countries. This entails estimating a net foreign asset equation and testing if the estimated partial coefficient of changes in domestic credit with respect to net foreign asset is not significantly different from minus one. If the condition is satisfied, the inference is that the money plays a role in the determination of balance of payments deficits. The empirical results confirm that money has played a significant role in the determination of deficits in the balance of payments. Thus, the findings from both the within-country and cross-country effects suggest that the monetary approach to the WAMZ countries balance of payments is indeed applicable. Specifically, the findings indicate that both interest rate and domestic credit had negative relationship with net foreign asset with statistically significant coefficients. In addition, the result established a positive relationship between log of GDP and net foreign asset with statistically significant coefficients.

A major policy implication of this study is that the monetary approach to the balance of payments holds in the WAMZ countries studied, since growth in domestic credit is an important determinant of their balance of payments position. Therefore, a tight rein on domestic credit creation is a necessary condition for maintaining stability in the balance of payments over time. Thus, monetary authorities should pay special attention to domestic credit creation when controlling the country’s balance of payments. It is important that the country achieves sufficient economic growth through money demand to correct the balance of payments deficit. Authorities of the WAMZ countries should also look at the increased budget deficit, which is mostly financed through borrowing from the central bank. The expansion in the fiscal deficit caused the increases in domestic credit.

Another policy implication is the need to manage domestic liquidity wisely in view of the tremendous pressure on the balance of payments of excess money. A determined effort to mobilize resources through private saving and the implementation of a prudent fiscal policy through efficient collection of tax revenues, rationalization of government expenditure towards growth enhancing and poverty reduction programmes will also enable the government to pursue its development programs without having to rely on the monetization of its budget deficit.
REFERENCES


