

**The Relation between Excess Domestic
Liquidity and Balance of Payments
Disequilibrium: Evidence from Egypt**

Ahmed Fathi El-khadrawi

Economic department, Faculty of Commerce, Damietta University, Egypt

The Relation between Excess Domestic Liquidity and Balance of Payments Disequilibrium: Evidence from Egypt

Ahmed Fathi El-khadrawi

Economic department, Faculty of Commerce, Damietta University, Egypt

Abstract

This paper tests the monetary approach to Egypt's balance of payments during the period 1980 to 2012. It examines whether excess domestic supply played a role as a disturbance. The empirical results suggest that money played a significant role in determining the balance of payments. The one-to-one negative relationship and strong link between domestic credit and the flow of international reserves is established. The results confirm that balance of payment in Egypt is a purely monetary phenomenon. The monetary authority in the country should seriously monitor budget deficit because this also cause domestic credit increase. The policy conclusion is that, given a stable demand for money function, balance of payments disequilibrium can be corrected through appropriate financial programming and monetary targeting.

Key Words: Balance of Payment, International Reserves, Monetary Approach

1. Introduction

Egypt like many developing countries in the world today is currently experiencing an overall balance of payments deficit, which has provoked many questions on potential causes of this imbalance. This is a cause of concern because Egypt, like any other country, aims to maintain a stable equilibrium in the balance of payments (BOP) as one of the core objectives of macroeconomic policy.

It is generally agreed among policy makers that a major cause of the external imbalance was adverse developments in the international economy that were outside the control of the Egyptian authorities. Such developments included sharp changes in terms of trade, sharp increases in oil prices, servicing of external debt, increased protectionism and recession in western industrial countries. There is, however, agreement on the extent to which the external imbalance was caused by the policies of growth followed, persistent budget deficit, low levels of domestic savings, the growth in domestic credit and the consequent over-valuation of the exchange rate.

In general, it is no disagreement about this vision of the causes of the imbalance in the Egyptian BOP. However, in accordance with the monetary approach the factors mentioned above does not lead to a deterioration of the balance of payments only to the extent the country to expand the money supply at rates that exceed the growth of the demand for money. In other words, the above factors represent (in the language of mathematics) a necessary condition to the deterioration, but not a sufficient condition, and that the necessary and sufficient condition at the same time, in accordance with the monetary approach, is the presence of excess domestic liquidity.

In light of this, the main aim of this paper is to examine the monetary approach to the balance of payments (MABP), which argues that the BOP is a "monetary phenomenon". Whereas the absorption and elasticities approaches concentrate on the current account balance, the MABP emphasises the overall balance of payments – including the capital account (Coppin, 1994:77). By employing the MABP, the paper intends to offer a basis for understanding the relationship between monetary policy and balance of payments problems in Egypt. The research could also serve as a recommendation to monetary authorities in handling disequilibrium in the balance of payments. A specific objective is to determine whether excess money supply has played a significant role in the disequilibrium of balance of payments in Egypt. In addition, the study also sets out to establish whether there is a significant relationship between domestic credit and international reserves. This paper is divided into eight sections, one consist of the introduction while section two the literature review. Factors causing of monetary imbalances is in section three. The consequences of the MABP are in section four. The role of government sector is in section five. The methodology is in section six. The empirical results and discussion was taken care of in section seven. The final section contains a brief summary and the important conclusions derived from the study.

2. Theoretical literature

Economic studies indicate three approaches to the study of the BOP: the elasticities approach, the absorption approach, and the monetary approach. These three approaches, consistent in being ways of organizing discussion; they tend to raise certain questions and focus attention on certain aspects of economic theory (Rabin, 1979:1233). Since the main aim of this research is to focus attention on relation between excess domestic liquidity and BOP deficit, so the most suitable method of analysis from other approaches is the monetary approach that looks at the balance of payments as a "monetary phenomenon" which determine its changes As much as it exist in the economy from monetary imbalances.

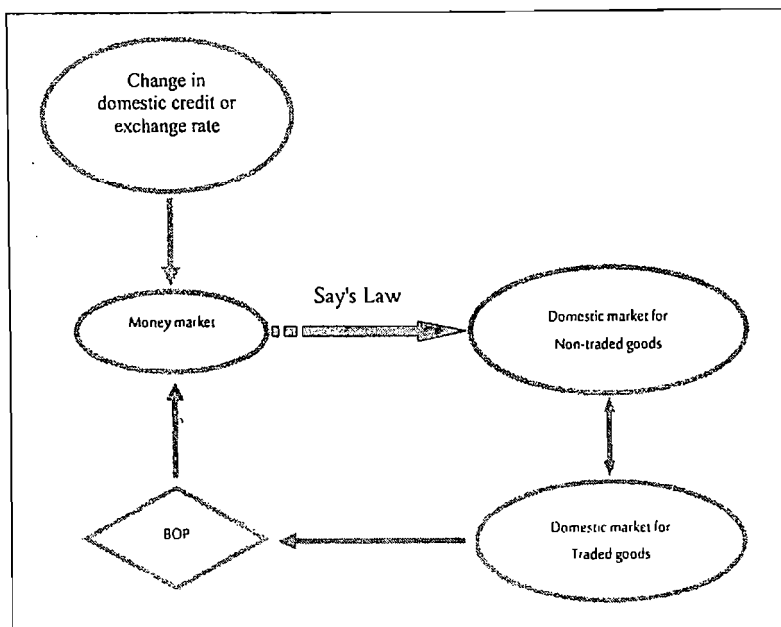
Literature on the fundamental basis of the Monetary Approach to the Balance of Payments (MABP) in a country has been generated by scholars such as Polak (1957), Mundell (1971), Dornbusch (1971, 1973), Frenkel (1971), Johnson (1972, 1975, 1976), Laffer (1969), Mussa (1974), and Krueger (1969). The focus of attention in this approach is the relationship between the imbalance in the domestic exchange market and the imbalance in the domestic market for international goods. The relationship between the two markets is reflected on transactions with the outside world. On the assumption that equilibrium was characteristic dominant on that side of the domestic market, which is handled inside it with goods which do not fall within the scope of the country's exports or imports (non-traded goods), the imbalance in the money market between the demand for money and supply of it will create imbalances in the domestic market for international goods; It is what will appear in the form of either surplus in the money demand or surplus in the money supply, so that surplus in money demand leads to the creation of surplus in the supply of international goods, While the surplus of money supply lead to a surplus in the demand for these commodities. Since these goods within the scope of international exchange, the effects of treating these imbalances will be reflected on the surplus or deficit in the country's BOP through a decrease or increase in the net foreign assets located in the country. As the supply of money in the state is determined by the total of all of the volume of domestic credit and net foreign assets, changes in net foreign assets (which is a measure of the BOP), will reflect any imbalance between the changes in domestic demand for money and the changes in the money supply due to changes in the volume of domestic credit; Thus, the surplus in the money demand, and what consequent of excess supply from international goods, shows itself by net inflow of foreign assets, while The surplus in the money supply and what consequent of excess demand from international goods will shows itself by net outflow from foreign assets. Hence, it is clear to us that the balance of payments, through its effect on the amount of money supply, is the main channel connecting to restore balance to the money market and then the disappearance of the imbalance in the international commodity market, and eventually a restored balance of payments equilibrium position. This means that if there is a chronic deficit, for example, in a balance of payment of a country, it can be explained that in the fact that monetary authorities in that country is continuously expanding in the money

supply at rates not commensurate with the growth rate of the demand for money.

3. Factors causing of monetary imbalances:

From the above it can be said that everything that affects both sides of the demand and supply for money is responsible for the imbalance in the money market. These influences are many, such as: Prices, interest rates, inflationary and deflationary expectations, economic growth, trade policy, fiscal policy, credit policy, wages and incomes policy, and the degree of economic openness. Figure (1) shows two of these effects, the change in the credit volume (which directly affects the money supply), and the change in the exchange rate (which affect money demand through its effect on the general level of prices).

Figure (1)
The relationship between monetary imbalances and balance of payments imbalances



In order to understand how monetary imbalance leads to an imbalance in the commodities market, it should first understand the argument of the French economist Jean-Baptiste Say, which is known as "Say's Law of Markets". According to this law, when an individual produces more than his needs, it does so in order to exchange excess production needs with others. Thus, the amount of goods offered by everyone in the market is equal to his request on other commodities. The classical economists see that the Say's Law applies to the monetary economics as it applies to the real economics. Where the monetary economics also assumes that when an individual produces more than

his needs, he will do so in order to sell the surplus for money and get the surplus production of the others.

The foregoing does not imply that the only causes of BOP disequilibrium are purely monetary in nature. Rather, a nonmonetary disturbance, such as tariffs, quantitative restrictions, exchange controls, export subsidies... etc, can throw the BOP into imbalance, but in so doing, the disturbance must cause an imbalance between money demand and money supply. Thus, any analysis of the impact of a policy or other changes must begin with an analysis of how this change generates a divergence between actual and desired money balances or affects such a divergence that already exists.

4. The consequences of the MABP

The approach focuses its analysis on the monetary account of the balance of payments in the context of a general equilibrium analysis.¹ Thus, "the balance of payments is a 'monetary' and not a real phenomenon and ... balance of payments disequilibria are 'stock' and not flow disequilibria (Johnson, 1975: 220). Accordingly, the focuses of the MABP is not on the items constituting of subaccounts (goods, services, transfers, short- and long-term capital), called "items above the line" which represents the channels of change in net foreign assets, but rather focuses on the overall result of the changes in both subaccounts.

4-1 The direction of causality (The monetary imbalance causes external imbalance)

According to the monetary approach, the balance of payments is a reflection of the interaction between the demand for money and money supply. Since the imposition of the basic of this analysis is based on the stability of the demand for money function (The demand for money constant, and linear function in nominal income). This means that in an open economy with a given level of real income, any surplus in the money supply resulting from the expansion of domestic credit will generate a deficit in the balance of payments. On the other hand, with the stability of monetary multiplier, as Polak assumption, the changes in the net foreign assets will reflect any imbalance between the change in the money demand and money supply resulting from a change in the volume of domestic credit.

4-2 The conditional correction mechanism

According to the monetary approach, the balance of payments is the main channel leads to the monetary balance. Thus under a system of fixed exchange rates excess money supply induces increased expenditure, which shows itself in increased purchases of foreign goods and services by domestic residents. These purchases have to be financed by running down foreign exchange reserves, thereby worsening the balance of payments. The outflow of foreign exchange

¹ This is in sharp contrast to the elasticity and absorption approaches, which either concentrate on the current account or rely on partial equilibrium analysis.

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, domestic monetary expansion and eventually a restored balance of payments equilibrium position (Dhliwayo, 1996: 7). However, the previous correction mechanism depends on the continuation of the monetary imbalance.

5. The role of government sector

Based on the monetary analysis of the relationship between monetary imbalances and BOP imbalances, as explained above, the monetary analysis identifies a central role for the government sector in achieving these imbalances, especially in the non-oil developing countries where the government obligations increasing towards fulfilling the requirements of defense, national security, economic development plans and ease the burdens of Living. So that the increase in commitments leads to increase in public spending. And because government revenues do not keep pace with the increase in public spending, the fiscal deficit becomes an attribute that is characterized the budget of the government sector in these countries.

Compounding this deficit, the nature of private sector investment in these countries, we find that it is not only at low levels, but also unproductive. They are confined to land, real estate, service sector and accounts in foreign banks ... etc. such a situation forced the governments of these countries to play a greater role in domestic capital formation. The result is that the general budget deficit is increasing automatically with the development, as a result of the lack of flexibility of the tax structure to changes in income.

It is no doubt that this deficit impact on the money supply in the community, either directly or indirectly. The extent of this influence depends on the method of financing the deficit. Specifically, if the deficit is financed by domestic or external non-monetary borrowing (borrowing from the domestic non-banks private sector and from non-residents) the money stock will remain essentially unaffected. But if it is financed through the banking system; the money supply will increase. "In a framework where monetary policy decisions are made independently of fiscal policy decisions, the monetary authorities, through the relevant credit policy decisions, determine the level of government debt purchases by the non-bank private sector, while the fiscal authorities are left to finance the residual. By contrast, if monetary policy is passive with respect to fiscal policy, credit policy decisions and the level of government debt purchases are directly linked to the deficit since the full amount of it must be financed by the monetary authorities" (Akhtar & Wilford, 1979: 3). The foregoing means, once government expenditures and revenues have been decided by fiscal authorities, the banking system must finance the residual.

The subordination of monetary policy to fiscal policy is common in developing countries in general, especially non-oil developing countries. This is due to two reasons: First is that the majority of these countries suffer from a

lack of a sophisticated local capital markets which leads to not being able to sell large amounts of public debt to the non-bank private sector, The second is the decreasing ability of the governments of these countries to borrow from abroad with the increasing volume of foreign debts.

6. Methodology

6.1 The Model

The model used in this study based on the theoretical framework of the MABP. To derive the basic equation between the external imbalance and monetary imbalance, we need the money supply and balance of payment functions, where:

$$S = C + F \quad (1)$$

Where S = money supply, C = Domestic credits, F = Net foreign assists

Hence, changes in the money supply is achieved as a result of changes in the size of a domestic credit, or changes in net foreign assets, so:

$$\Delta F = -\Delta C + \Delta S \quad (2)$$

where the changes in net foreign assets is the stock of the BOP that is equal to the sum of the current account balance (X-M) and the stock of capital transactions (K), hence:

As the balance of the money market is a balance in terms of stocks (S=D), the balance of this market at the level of flows requires that:

$$\Delta S = \Delta D \quad (3)$$

Substituting equation 4 into equation 3, the result is:

$$\Delta F = -\Delta C + \Delta D \quad (4)$$

Equation (4) is the basic equation of the MABP. With money demand being stable, an increase in domestic credit will cause an equal and opposite change in international reserves. The coefficient of ΔC is, therefore, known as an offset coefficient. It shows the extent to which changes in domestic credit are offset by changes in international reserves. The MABP envisages a value of minus unity for this coefficient in the reserve flow equation. Most of the empirical studies on the monetary approach confirm this result. (See, for instance, Kannan, 1989; Kamas, 1986; Dalamagas, 1990; Sundararajan, 1984; Sohrab, 1985; and Dhliwayo, 1996).

Therefore, the regression equation for the estimation of the relationship between the external imbalance and monetary imbalance is given in equation (5)

$$\Delta F = \beta_0 - \beta_1(\Delta C - \Delta D) \quad ; \beta_1 < 0 \quad (5)$$

It is expected that there will be a period of time between the occurrence of the monetary imbalance and the emergence of its impact in the form of an external imbalance. If we assume that this time period is a year, which is a

reasonable assumption, it can be said that the external imbalance in year (t) is affected by monetary imbalances in year (t-1). On the other hand, the amount of money imbalance, which is expected to have a significant influence on the external imbalance, determined on the basis of the anticipated needs of clients of money balances and not on the basis of their current needs. So, if clients expect to increase their future needs by the increase occurred in the volume of domestic credit, it is not expected to have an impact on the balance of payments, even though this change is greater than the change in the demand for money balances in the current period. In view of this, the basic equation takes the following form:

$$\Delta F_t = \beta_0 - \beta_1(\Delta C_{t-1} - \Delta D^e_{t-1}) \quad ; \beta_1 < 0 \quad (6)$$

Where (ΔD^e_{t-1}) represents the change in the demand for nominal money balances expected for the period (t), which is determined in the period (t-1). If this expected change in demand is determined according to the rational expectations hypothesis, it would be equal to the change achieved in the period (t). This means that: $\Delta D^e_{t-1} = \Delta D$

Thus, the basic equation becomes as follows:

$$\Delta F_t = \beta_0 - \beta_1(\Delta C_{t-1} - \Delta D) \quad (7)$$

With regard to the second point, because the test is based on the concept of monetary imbalance, we find it's difficult to separate the basic equation about estimating demand for money function. We will assume for simplicity that the money demand function takes the following form:

$$D = aY\beta_2 \quad ; \beta_2 > 0 \quad (8)$$

Where (Y)=GDP at market price, (β_2) = income elasticity of demand for money. It is worth mentioning that if (β_2) is equal to one, this function becomes the Cambridge function of the demand for money. In this case (a) represents the inverted velocity of money and the change in the demand for money is:

$$\Delta D = Y^a D \beta_2 \quad (9)$$

Where (Y^a) is the annual growth rate of GDP. We note that the annual growth rate of demand for money is equal to:

$$D^e = \beta_2 Y^a \quad (10)$$

Compensation equation (10) in the basic equation (Equation 8), we obtain

$$\Delta F_t = \beta_0 - \beta_1(\Delta C^a_{t-1} - \beta_2 Y^a) \quad (11)$$

In linear form, the model estimated is given in equation (12).

$$NFA_t = \varphi_0 - \varphi_1 DC^a_{t-1} + \varphi_2 Y^a_t + \varepsilon_t \quad (12)$$

$$\varphi_0 = \beta_0 \geq 0, \quad \varphi_1 = \beta_1 < 0, \quad \varphi_2 = \beta_1 \beta_2 > 0$$

Where ε = disturbance term and all other variables are defined as earlier.

6.2 Data description and sources

Aggregate annual data from 1980 to 2012 are obtained from the World development indicators web site. Net foreign assets (NFA) equal the sum of international reserves and gold. Domestic credit (DC) is the sum of net claims on government and the private sector by the monetary sector. Income (Y) is real gross domestic product.

7. Empirical Results and Discussion

7.1 Correcting for autocorrelation

The Model was estimated taking into account that error term has a serial correlation from first order AR(1), where

$$\varepsilon_t = \rho \varepsilon_{t-1} + \nu_t \quad (13)$$

Where:

- ρ : Autocorrelation coefficient
- ε_t : the residual obtained from the original regression
- ν_t : white noise error

By estimating the model in this form we find that:

$$\varepsilon_t = 0.781813 \varepsilon_{t-1} + \nu_t$$

Se=0.123597

The model was estimated in this formula to remove the autocorrelation

7.2 Unit root test

This study applies the Dickey Fuller test in order to test for the existence of unit root in the residual. The test indicates that all variables employed are stationary and their use would not lead to spurious regression. Therefore, all the variables are integrated of the same order one and the linear combination of these variables, which is the Residual, is stationary.

Table (1): Results of Unit Root Test: Using Dickey Fuller (DF) test on RES

Null Hypothesis: RES has a unit root				
Exogenous: Constant				
Lag Length: 5 (Automatic - based on SIC, maxlag=7)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-3.316974	0.0249
Test critical values:	1% level		-3.724070	
	5% level		-2.986225	
	10% level		-2.632604	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(RES)				
Method: Least Squares				

Date: 03/11/14 Time: 12:54				
Sample (adjusted): 1988 2012				
Included observations: 25 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RES(-1)	-1.092156	0.329263	-3.316974	0.0038
D(RES(-1))	0.417357	0.349542	1.194012	0.2480
D(RES(-2))	0.486968	0.354990	1.371780	0.1870
D(RES(-3))	0.582909	0.339393	1.717504	0.1030
D(RES(-4))	0.554549	0.283039	1.959268	0.0658
D(RES(-5))	0.714805	0.184104	3.882616	0.0011
C	3.96E+09	6.64E+09	0.597452	0.5576
R-squared	0.802672	Mean dependent var		1.84E+09
Adjusted R-squared	0.736896	S.D. dependent var		5.99E+10
S.E. of regression	3.07E+10	Akaike info criterion		51.36748
Sum squared resid	1.70E+22	Schwarz criterion		51.70877
Log likelihood	-635.0935	Hannan-Quinn criter.		51.46214
F-statistic	12.20313	Durbin-Watson stat		1.944928
Prob(F-statistic)	0.000017			

The results from table (2) indicated that domestic credit and gross domestic product explains 76% of the behavior of the BOP in Egypt. The result also indicated that the domestic credit in Egyptian economy is negative and statistically significant, and the result from the gross domestic product is positive and statistically significant. In economic terms, the signs of the estimated parameters are consistent with the expected signs from the monetary approach which is evidence to the validity of the conclusions of this approach *so the balance of payment in Egypt is a purely monetary phenomenon*, as an increase in domestic credit in the previous year leads to a deterioration of the BOP in the current year, while an increase in the demand for money in the current year (measured by the growth rate of GDP in that year) leads to an improvement in the BOP.

It should be noted that the BOP in response to an increase in domestic credit equivalent to 1%, leads to a deterioration of the Egyptian BOP with a value of 4430 million

Table (2): Model Estimation

Dependent Variable: NFA				
Method: Least Squares				
Date: 03/11/14 Time: 12:48				
Sample (adjusted): 1982 2012				
Included observations: 31 after adjustments				
Convergence achieved after 2 iterations				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.93E+10	6.39E+10	0.927856	0.3617
Y	6.27E+11	1.46E+11	4.301298	0.0002
DC	-4.43E+11	1.55E+11	-2.862447	0.0080
AR(1)	0.870384	0.101606	8.566261	0.0000
R-squared	0.769135	Mean dependent var		7.02E+10

Adjusted R-squared	0.743483	S.D. dependent var	9.01E+10
S.E. of regression	4.56E+10	Akaike info criterion	52.04531
Sum squared resid	5.62E+22	Schwarz criterion	52.23034
Log likelihood	-802.7023	Hannan-Quinn criter.	52.10562
F-statistic	29.98383	Durbin-Watson stat	1.905110
Prob(F-statistic)	0.000000		
Inverted AR Roots	.87		

Diagnostic tests were carried out to test the residuals for homoscedasticity and autoregressive conditional heteroscedasticity (ARCH Effect). Appendix Table 1 shows the results of these tests. The results show that the residuals are free from heteroscedasticity and autoregressive conditional heteroscedasticity (ARCH Effect). The model was also tested for residual normality and the result is given in Appendix Figure 1. The result shows that the residuals are normal.

8. Conclusion

In this paper, we estimated the role excess domestic liquidity in the disequilibrium of that balance of payment in Egypt. The beginning was through the presentation of the theoretical framework of the relationship between the two types of imbalance. It was clear that the growth of domestic credit at rates exceed the growth of the demand for money balances lead to a deterioration of the balance of payments. As it turns out that the continuation of this deterioration reflects the insistence of the monetary authorities on the continued expansion of the money supply at rates do not fit with the growth of the demand for money. The monetary analysis identifies a central role for the government sector in achieving these imbalances, especially in the non-oil developing countries where the governments' obligations increasing towards fulfilling the requirements of defense, national security, economic development plans and ease the burdens of Living, so that the increase in commitments leads to increase in public spending. And because government revenues do not keep pace with the increase in public spending, the fiscal deficit becomes an attribute that is characterized the budget of the government sector in these countries. And Because of the marginal role played by the financial market in the compilation of the savings, the difficulty of external borrowing and the rigidity of tax revenues, the result is the continued expansion of credit granted by the banking system for this sector.

The empirical results showed that the balance of payments in Egypt is a purely monetary phenomenon. This is in accordance with predictions of the MABP. The results of this study are entirely complying with the strong assumptions of the latter approach.

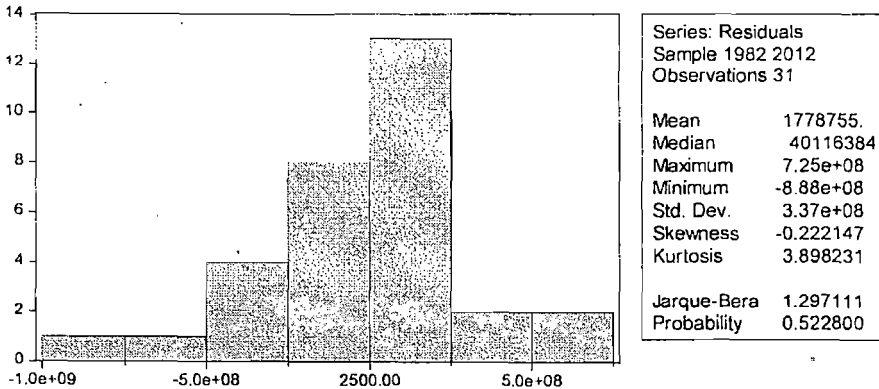
When looking for policy instruments to correct the disequilibrium, authorities should also concentrate on other policy measures instead of relying solely on monetary tools to attain stability in the country's balance of payments account.

APPENDIX

Appendix Table 1: Residual Diagnostic Tests

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Prob. F(2,28)	0.0639	F-statistic	3.038674
Prob. Chi-Square(2)	0.0630	Obs*R-squared	5.528534
Prob. Chi-Square(2)	0.0481	Scaled explained SS	6.067276
Heteroskedasticity Test: ARCH			
Prob. F(2,28)	0.9492	F-statistic	0.004126
Prob. Chi-Square(1)	0.9470	Obs*R-squared	0.004420

Appendix Figure 1: Residual Normality Test Results



Actual	Fitted	Residual	Residual Plot
-4.6E+08	8.1E+10	-8.1E+10	* . . .
6.7E+08	4.7E+07	6.2E+08	. * . .
1.5E+08	7.4E+09	-7.3E+09	. * . .
6.4E+08	1.4E+10	-1.3E+10	. * . .
1.4E+09	-9.8E+09	1.1E+10	. * . .
2.5E+09	1.1E+11	-1.0E+11	* . . .
2.2E+09	-5.9E+10	6.2E+10	. . . *
-1.5E+09	8.7E+09	-1.0E+10	. * . .
-1.4E+09	1.4E+10	-1.5E+10	. * . .
1.7E+10	2.4E+10	-7.4E+09	. * . .
3.4E+10	9.9E+10	-6.6E+10	* . . .

4.6E+10	-3.1E+10	7.6E+10		.	.	*
5.1E+10	3.6E+10	1.5E+10		.	*	.
4.9E+10	5.0E+10	-6.0E+08		.	*	.
5.4E+10	5.3E+10	8.4E+07		.	*	.
4.9E+10	7.0E+10	-2.1E+10		.	*	.
3.6E+10	-6.6E+08	3.7E+10		.	.	*
2.5E+10	5.3E+10	-2.8E+10		.	*	.
2.3E+10	5.4E+10	-3.1E+10		.	*	.
2.1E+10	-2.8E+09	2.3E+10		.	.	*
1.8E+10	1.8E+10	3.7E+07		.	.	*
3.3E+10	4.3E+10	-1.0E+10		.	*	.
5.4E+10	4.7E+10	7.6E+09		.	*	.
1.1E+11	8.8E+10	2.4E+10		.	.	*
1.9E+11	1.1E+11	8.3E+10		.	.	*
2.3E+11	2.0E+11	2.9E+10		.	.	*
2.5E+11	1.9E+11	5.4E+10		.	.	*
2.6E+11	2.1E+11	4.4E+10		.	.	*
3.1E+11	2.5E+11	5.2E+10		.	.	*
1.9E+11	2.1E+11	-2.0E+10		.	*	.
1.3E+11	1.9E+11	-5.8E+10		*	.	.

REFERENCES:

- Akpansung, A. O. 1998. "Applicability of Monetary Approach to Nigeria's Balance of Payments, 1960-1995". Unpublished M.Sc (Economics) Thesis, University of Calabar, Nigeria.
- Coppin, A. (1994). The determinants of international reserves in Barbados: A test of the monetarist approach. *Journal of social and economic studies*, 43(2):75-89.
- Dhliwayo, R. 1996. The balance of payments as a monetary phenomenon: An econometric study of Zimbabwe's experience. African economic research consortium, Research Paper 46.
- Dornbush, R. 1973. "Currency depreciation, hoarding and relative prices," *Journal of Political Economy*. 81(4): 893-915
- -----1973. "Devaluation, money and nontraded goods". *The American Economic Review*. 63(5):871-83.
- Dalamagas, B. 1990. "Fiscal deepening versus financial underdevelopment: which account for payments problems?" *Applied Economics*. 22:687-710.
- Frenkel, J & H Johnson. (1976). The monetary approach to the balance of payments: Essential concepts and historical origins. In Frenkel, J & Johnson, H (eds.). *The monetary approach to the balance of payments*. London: Allen and Unwin.
- Johnson, H. G. 1972. "The Monetary Theory of Balance of Payments Theory." *Journal of Financial and Quantitative Analysis*. March: 1555 - 1572
- -----1975. "The monetary approach to balance of payments theory: adiabatic analysis". *Manchester School*. September: 220-74.
- Kemp, D. S. 1975. "A Monetary View of the Balance of Payments". Staff Paper, Federal Reserve Bank of St. Louis, April.
- Kannan, R. 1989. "Monetary approach to balance of payments- a case study of India, 1968-1985". *Economic and Political Weekly*. 15(4):627-636.
- Karnas, L. 1986. "The balance of payments offset to monetary policy: monetarist, portfolio balance, and Keynesian estimates for Mexico and Venezuela". *Journal of Money, Credit and Banking*. 18:467-481.
- Laffer, AB. (1969). The US balance of payments - A financial center view. *Law and contemporary problems*, 34:33-46.
- Mundell, RA. (1971). "Monetary theory: Inflation, interest and growth in the world economy". *Pacific Palisades: Goodyear*.
- Polak, J.J. 1957. "Monetary Analysis of Income Formation and Payments Problems", I.M.F Staff Paper, Vol: 6; No:1, November, pp. 1-50
- Sundararajan, V. 1984. "Exchange rate vs credit policy". *Journal of Development Economics*. 20:75-105.
- Sohrab, H. 1985. "Monetary approach to balance of payments: evidence from less developing countries". *Indian Economic Journal*. 3:92-104.