Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.5, No.14, 2014

Empirical Analysis of Money Demand Stability in Nigeria

Osmond N. Okonkwo[1]* Emmanuel I. Ajudua[2] Sunny T. Alozie[3]
1. Department of Economics, Alvan Ikoku Federal College of Education, Owerri.
2. Department of Economics, Faculty of Social Sciences, Imo State University. Owerri.
3. Department Of Banking & Finance, Imo State Polytechnic, Umuagwo, Imo State.
* E-mail of the corresponding author: osmond.okonkwo@gmail.com

Abstract
The main focus of this study is to identify the variables influencing the demand for money in Nigeria; and to ascertain the stability of money demand in Nigeria. Related theories and empirical researches in this area were reviewed in order to ensure the relevance of variables under study and possible expectation of their relationship with money - demand in Nigeria. Four explanatory variables were specified for this study based on theoretical underpinning. Stationarity test were conducted and all variables were stationary at first difference, with two cointegrating equations after using the Johansen Cointegration test. The error correction model (ECM) was rightly signed and revealed a recovery rate of 18 percent. It was also recommended among others that the monetary policy strategy of the CBN should be structured to deal with the growing challenges posed by financial innovations. The stability test revealed that M2 money demand in Nigeria is stable using both CUSUM and CUSUMSQ at 5 percent critical lines.
Keywords: Money-Demand, Non-Bank Financial Institutions, Speculative demand for money, Liquidity, cointegration.

1. Introduction

The demand for money as seen by economists is the desired holding of financial assets in the form of money; either as cash or bank demand deposits. Money demand is found to be a major determinant of liquidity. Its stability guarantees predictability of interest rates, output, and inflation. The search for stability of the demand for money has received great attention as an understanding of its causes and consequences give useful insight into the formulation of monetary policy.
Demand for money stability is important for both macroeconomic modeling and monetary policy. In the case of stability, Poole (1970), argued that the rate of interest should be targeted if liquidity preference is unstable while money supply should be targeted if the investment savings relationship is unstable and the demand for money is unstable.
The Central Bank in an economy operates to achieve the stability and control of the demand for money through her monetary policy instrument, so as to have a forecastable influence on output, interest rate and prices (Sriresun 1999). This is so because a stable money demand function contributes to a broader economic growth and rising standard of living. In countries where the Central Bank targets monetary aggregate, for instance, using reserve money to implement monetary policy, the effectiveness of monetary policy rests mainly on the stability of the monetary transmission mechanism as well as velocity of money. When this relationship is subjected to unexpected fluctuations, monetary targets lose their relevance and are less able to signal the appropriate stance of monetary policy. This argument has been used as a reason for moving to inflation targeting which uses range of information to assess the monetary policy stance (Dagher and Kovanen 2011).
The Central Bank of Nigeria since the Structural Adjustment Programme (SAP) of 1986, have aimed at controlling money demand through interest rate using her monetary policy instruments. In this regard, the Central Bank of Nigeria maintains price stability by assigning more weight to the longer term relationship between money growth and inflation. This emphasis reflects in the CBN's view that inflation is a monetary phenomenon and price stability enhances the potential for economic growth (Rao & Kumar, 2007)
The main focus of this study is to identify the variables influencing the demand for money in Nigeria; ascertain the stability of money demand in Nigeria, and provide explanation to the relationship between money demand and monetary policy in Nigeria.
By 1988, SAP had started taking its toll on the Nigerian economy as high inflation rate, structural unemployment, decline in productivity, high interest rate, and low capacity utilization rate have become a general feature of the economy. Corruption and embezzlement of funds and resources made it difficult for the monetary authority to forecast and control money demand, thus unpredictability and fluctuations in the demand for money (Aiyegbedon, et al, 2013).

2. Literature Review

The demand for money has been taken to refer to an economy's medium of exchange; it is generally accepted in payment for goods and services. Thus, real cash balance is primarily the determinant of the demand for money.

The notion of money demand came forth in the 'cash balance' approach of the Cambridge economist. They presumed that the quantity of money demanded would depend primarily on the volume of transaction to be taken, but emphasized volition on the part of money holders and recognized that the ratio of real balances to transaction volume would be affected by forgone 'investment income' i.e. interest earning, (Ahuja 2013).
Money is necessary to carry out transactions; in other words, it provides liquidity. This creates a trade-off between the liquidity advantage of holding money and the interest advantage of holding other assets. The demand for money is a result of this trade-off regarding the form in which a person's wealth should be held.

2.1. Theoretical framework

Keynes in his study postulated three motives for the demand for money: transactions, precautionary and speculative motives, laying out speculative reasons for holding money, stressed the choice between money and bonds. If economic agents expect the future nominal interest rate (the return on bonds) to be lower than the current rate they will then reduce their holdings of money and increase their holdings of bonds. If the future interest rate does fall, then the price of bonds will increase and the agents will have realized a capital gain on the bonds they purchased. This means that the demand for money in any period will depend on both the current nominal interest rate and the expected future interest rate in addition to the transaction and precautionary motives which depend on income.
The demand for money according Friedman is influenced by the same factors that influence the demand for any asset; Friedman applied the theory of asset demand to the demand for money. This indicates that the demand for money is the function of the resources available to individuals and the expected returns on other assets relative to the expected return on money. Friedman included not only the level of income and rate of interest on bonds but also rates of return on other assets such as equity, durable goods including real property. Friedman's theory of money demand can be written as follows: $M^d = f(P, Y, r_b, re, r_d)$. Where M^d is money demand; P is price level; Y is real income; r_b is interest on bond; r_e is return on equity and r_d is return on durable goods. For Friedman money demand function is stable. Stability of money demand function implies that it will not shift erratically and that variables in the function will determine the quantity of money that will be demanded. Friedman's demand for money can also be rewritten as follows: $M^d = k(r_b, re, r_d)$ PY. Where k is now taken to be a function of rates of return on alternative non-monetary assets and PY is the nominal income.
For monetary policy to be effective, money demand function must be stable. With the Gurley and Shaw hypothesis, liquidity is totally unaccountable for by the monetary authority as the Non-bank Financial Institutions (NBFI) provide liquidity and safety to financial assets and help in transferring funds from ultimate lenders to ultimate borrowers for productive purpose (Nwaru, 2014). If the Central bank tries to control liquidity in the economy through reduction in money supply, the success rate becomes hampered as deposits of NBFI's can be easily converted into cash.
Economic theories posit a close relationship between money balances, income and opportunity cost variables. According to Friedman (1970), demand for money is a function of interest rate, income and the general utility of holding money. Other studies like Frenkel (1977) did not only emphasize expected inflation rate as a determinant of demand for money but also variables like real income. They postulated that an increase in the cost of holding money, through the interest or declining purchasing power of money because of inflation leads to a decline in demand for real money balance. In an inflationary economy, money loses its store of value function thus, demand increase for low inflation currency. Hence it is suggested by Civcir (2003) that portfolio theory may be more appropriate in the analysis of money demand in high inflation economies.

2.2. Empirical Framework

Empirical studies of money demand have tended to converge to a specification where demand for real money balance is a function of scale variables- income or expenditure, rate of return of money, the opportunity cost of holding money (domestic interest rate and/or expected rate of inflation). The inclusion of expected rate of inflation has been emphasized especially for developing countries where given the existence of underdeveloped monetary and financial system and non-market determined interest rate, physical assets represent one of the major hedges against inflation and an alternative asset in the portfolio of non-bank public (Rao and Kumar 2007).
According to Adam (1999), demand for money lies at the heart of macroeconomic policies. This is so because money either cash or interest bearing bonds, remains the most liquid and important financial asset held by the non-bank private sector. The quantity of money demanded in any economy indeed will depend upon prevailing institution (including Non-bank Financial Institution as seen by Gurley and Shaw), and technology.
Bahamani-Oskooee and Barry (2000), investigated the stability of the M2 money demand function in Russia. They found evidence of cointegration between the series in the system. While the plot of the cumulative sum of

recursive residuals (CUSUM) provided evidence of stability, the plot of the cumulative sum of squares of recursive residuals (CUSUMSQ), on the other hand, revealed that M2 money demand function is not stable. Al-Samara (2011), in his study in the analysis of money demand function in Syria found that real money demand M2 and its determinants are weakly cointegrated. On the other hand, stability test and error correction model have provided a support that money demand function is unstable in the Syrian economy, and this instability could be due to structural changes in the function. These findings support the choice of exchange rate as a nominal anchor for Syrian monetary policy to tie down the price level and achieve its stability.

Nell (1999) empirically evaluated the existence of a stable long-run demand for money function in South Africa over the period 1965-1997; given that after the adoption of money market-oriented monetary policy measures in 1980, South Africa Reserve Bank primarily relied on setting predetermined growth targets for M3. The empirical results suggest that M3 was stable while M1 and M2 display parameter instability. This suggests that M3 money stock could serve as an indicator for monetary policy for South Africa. Adam (1992) successfully established a series of single equation demand for money functions (*M0*, *M1*, *M2* and *M3*) for the Kenyan economy from 1973 to 1989. Application of the Johansen technique suggested that income elasticities of money demand were around unity for *M0* and slightly lower at around 0.8 for the other monetary aggregates; therefore he found that the demand for *M1* is stable.

Nwaobi (2002) and Nwafor, Nwakanma, Nkasah and Thopmson (2007) examined the stability of money demand for Nigeria using vector autoregression approach. Their results confirmed a stable money demand function for Nigeria. Akinlo (2006) using an autoregressive distributed lag (ARDL) technique combined with CUSUM and CUSUMQ tests, examined the cointegrating property and stability of broad (M2) money demand in Nigeria. The results show M2 to be cointegrated with income, interest rate and exchange rate. The CUSUM test weakly reported a stable money demand for Nigeria. Omotor (2009) also applied the ARDL technique and equally found a stable money demand for Nigeria.

Anoruo (2002) explored the stability of the M2 money demand function in Nigeria in the SAP period and his results from the Johansen and Juselius (1990) cointegration test suggested that real discount rate, economic activity and real M2, are cointegrated. His CUSUM and CUSUMSQ stability test results indicated that the M2 money demand function in Nigeria is stable for the study period. The results of the study showed that M2 is a viable monetary policy tool that could be used to stimulate economic activity in Nigeria. Omotor and Omotor (2011), estimated an endogenous structural break date of the money demand for Nigeria for the period 1960-2008. Using the Gregory and Hansen (2007) procedure, an endogenous break date of 1994 was estimated for the cointegrating equation of the demand for money. The study also joins previous ones to affirm a stable money demand function for Nigeria and established that the CBN has effectively used money supply as a monetary policy instrument.

3. Methodology

In Keynes' motives of holding money, transaction and precautionary motives of holding money is direct function of income, while speculative motive of holding money is an inverse function of interest rate. Friedman gave further insight by seeing inflation as a factor to be considered in the demand for real money balances.

As a result of globalization, the exchange rate becomes an important variable in the demand for money. An increase in expected foreign interest rate would stimulate the desire to hold more foreign assets in the economy leading to reduction in the holding of real money balances in the economy. Thus, foreign exchange is inversely related to the demand to hold real cash balances. Thus, in this study, broad money demand (M_d)is expressed as the function of GDP (as a proxy income), interest rate (INT), inflation rate (INF), and exchange rate (EXR).

Thus, M_d= F (GDP, INT, INF, EXR)

Therefore $M_d = \beta_0 + \beta_1 Y + \beta_2$ INT + β_3INF +β_4 EXR + μ

Where M_d = M_2 money balances, GDP= Gross Domestic Product, INT = Interest rate, INF = Inflation rate, EXR = Exchange rate, μ = error term, t = time trend. The a priori expectations for the coefficients are as follows: β1>0; β2, β3, β4 <0.

4. Analysis of Results and Discussion of Findings

4.1. Testing for Stationarity

In order to avoid spurious regression and conclusions drawn thereto, it became imperative to ensure that the parameters are estimated using stationary time series data. As a result, this study adopted the Augmented Dikky – Fuller (ADF) test. The ADF test statistic outcome of the time series data for the period, 1981 – 2012 shows that all-time series data are stationary at first difference at 1% critical level. See table below.

Table 1: Augmented Dickey-Fuller test statistic

	t - statistic	Critical values 1%	Critical values 5%	Critical values 10%	Prob.
D(Md)	9.784095	-4.416345	-3.622033	-3.248592	1.0000
D(GDP)	-6.355288	-4.296729	-3.568379	-3.218382	0.0001
D(INT)	-6.235813	-3.679322	-2.967767	-2.622989	0.0000
D(INF)	-5.508498	-4.296729	-3.568379	-3.218382	0.0005
D(EXR)	-5.224880	-3.670170	-2.963972	-2.621007	0.0002

4.2. Testing for Cointegration

Table 2: Johansen Cointegration Test

Date: 06/17/14 Time: 16:34				
Sample (adjusted): 1983 2012				
Included observations: 30 after adjustments				
Trend assumption: Linear deterministic trend				
Series: MD GDP INT INF EXR				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.668750	83.67957	69.81889	0.0026
At most 1 *	0.576760	50.53312	47.85613	0.0274
At most 2	0.468458	24.73865	29.79707	0.1710
At most 3	0.174315	5.779454	15.49471	0.7214
At most 4	0.001105	0.033180	3.841466	0.8554
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				

From the table above the trace statistics 83.67957 and 50.53312 exceed the critical values of 69.81889 and 47.85613 respectively at 1 percent and 5 percent confidence intervals respectively. Hence, we reject the null hypothesis and conclude that there are at least two cointegrating relationships and therefore, a long run relationship exists among the variables.

4.3. Error Correction Model

Table 2: Error Correction Model

Dependent Variable: D(MD)				
Method: Least Squares				
Date: 06/18/14 Time: 09:03				
Sample (adjusted): 1986 2012				
Included observations: 27 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	58072.89	188287.6	0.308427	0.7641
D(GDP)	0.029545	0.067274	0.439175	0.6699
D(GDP(-2))	0.157393	0.050319	3.127912	0.0107*
D(GDP(-3))	0.491363	0.083493	5.885045	0.0002*
D(INT)	-22331.07	37101.82	-0.601886	0.5606
D(INT(-1))	-65542.38	47881.13	-1.368856	0.2010
D(INT(-3))	90504.15	31924.53	2.834940	0.0177**
D(INT(-4))	57493.27	27732.30	2.073152	0.0649***
D(INF)	-4438.932	10226.14	-0.434077	0.6734
D(INF(-1))	-9401.379	7135.972	-1.317463	0.2171
D(INF(-2))	-5959.046	9823.326	-0.606622	0.5576
D(INF(-3))	-21461.89	14544.75	-1.475576	0.1708
D(INF(-4))	-23504.90	11489.43	-2.045785	0.0680***
D(EXR)	-14606.41	7584.431	-1.925841	0.0830***
D(EXR(-1))	-16018.07	14444.41	-1.108946	0.2934
D(EXR(-2))	-12016.66	6699.393	-1.793694	0.1031
ECM(-1)	-0.178688	0.208583	-0.856674	0.4117
R-squared	0.939071	Mean dependent var		572502.6
Adjusted R-squared	0.841586	S.D. dependent var		854933.2
S.E. of regression	340274.6	Akaike info criterion		28.57890
Sum squared resid	1.16E+12	Schwarz criterion		29.39480
Log likelihood	-368.8152	Hannan-Quinn criter.		28.82151
F-statistic	9.632906	Durbin-Watson stat		2.012399
Prob(F-statistic)	0.000463			
* denotes rejection of the hypothesis at the 0.01 level				
** denotes rejection of the hypothesis at the 0.05 level				
*** denotes rejection of the hypothesis at the 0.1 level				

From the result of the error correction model estimation above, the parameters are all rightly signed. National income (GDP), interest rate (INT), and inflation (INF) are not significant at current values with coefficients and t-statistics in bracket as follows; 0.029545 (0.439175), -22331.07 (-0.601886), and -4438.932 (-0.434077) respectively. However, the lags of these variables are significant 1 percent, 5 percent and 10 percent respectively. While there exists significant inverse relationship between money demand and exchange rate at 10 percent critical value. The ECM was rightly signed with the economy recovery rate of 18 percent. The R-squared showed that 94 percent variation in the demand for money in Nigeria is explained by the explanatory variables. The study also revealed that the Durbin Watson statistic of 2.01 fall within the range of 1.50 – 2.40 of no serial correlation.

4.4. Test of Stability

The test of stability in figures 1 and 2 below showed that neither the CUSUM nor CUSUMSQ plots cross the 5 percent critical lines, therefore, one can safely conclude that the estimated parameters for the study are stable and useful for policy decision. In other words, with the explanatory variables (GDP, interest rate, inflation and exchange rate) money demand function in Nigeria is stable. This means that the monetary authority can use M2 to control the level of liquidity preference in Nigeria no matter the level of external transactions.

Figure 1: Plot of Cumulative Sum of Recursive Residuals

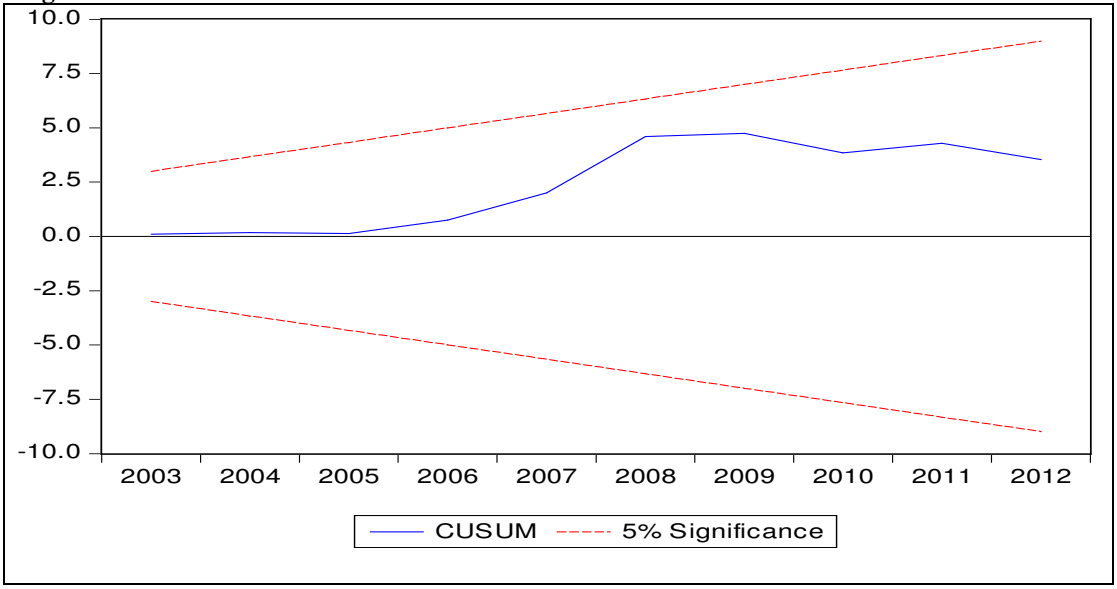
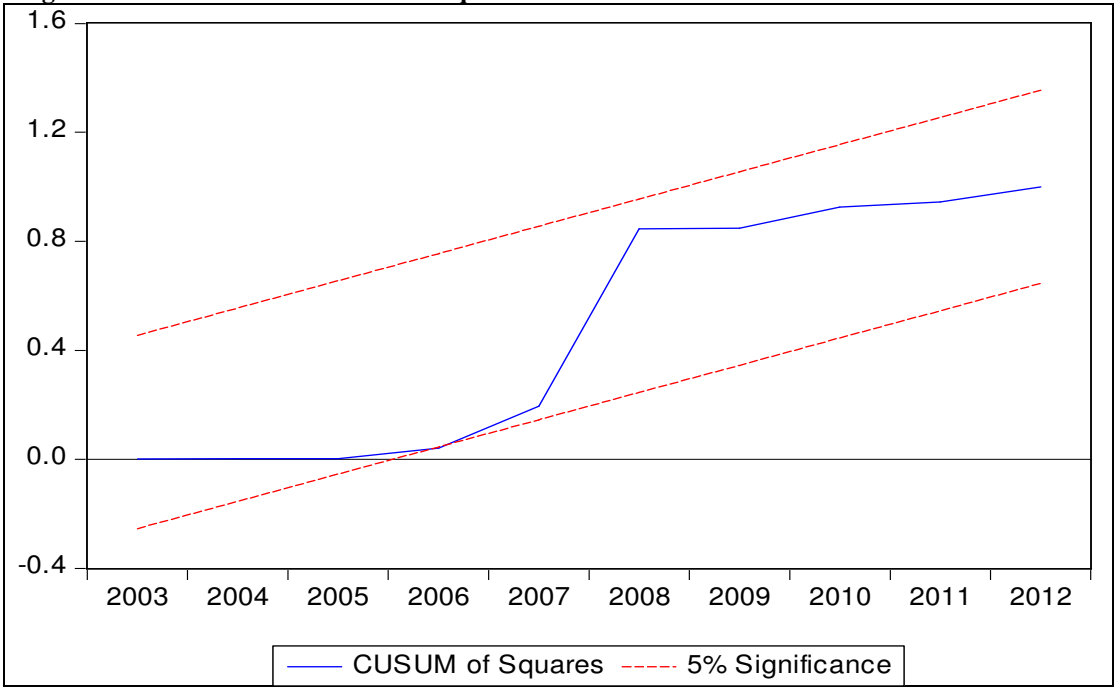


Figure 2: Plot of Cumulative Sum of Squares of Recursive Residuals



5. Conclusion

The study's objective was to ascertain the stability of the demand for money and the influence of monetary policies using monetary instruments in controlling the demand for money. The results obtained conformed to a priori expectation for income, interest rate, inflation and exchange rate. However, only exchange rate (at current value) was significant at 10 percent level of significance. Thus as pointed out by Gurley and Shaw, the activities of Non-Bank Financial Institutions (NBFI) in providing liquidity and raising interest rate for their own benefit run contrary to CBN's monetary policy in controlling the stability of money demand. The NBFI make tight monetary policy less successful and expansionary monetary policy ineffective by injecting and withdrawing liquidity respectively.

One of the empirical aspects of the study which involves test of stability showed that real money demand function in Nigeria is stable as neither the CUSUM nor the CUSUMSQ plots cross the 5 percent critical boundaries. Thus, liquidity can be managed by the CBN to achieve a targeted range of macroeconomic stability in Nigeria

5.1 Recommendations

1. The monetary policy strategy of the CBN should be to reduce the frivolous charges by the money deposit money banks in Nigeria in order to stimulate deposits and discourage the increasing apathy of the Nigerian public.
2. The monetary policy strategy of the CBN should also be structured to deal with the growing challenges posed by financial innovation.
3. A policy of attracting and checking non-government participant and private sector fund in the money market is necessary; and a stringent method to check the availability of more than required liquidity by individuals through withdrawal of deposits should be instituted by the CBN on commercial banks.

References

Adam, C. (1992); "On the Dynamic Specification of Money Demand in Kenya", *Journal of African Economies* 1, 233-270
Adam, C. (1992); "On the Dynamic Specification of Money Demand in Kenya", *Journal of African Economies* **1**, 233-270
Adam, C. S., P. J. Kessy, J. J. Nyella, and S. A. O'Connell (2011), The Demand for Money in Tanzania, *International Growth Center,* working paper 11_0336.
Ahuja, H.L. (2013); "Modern Economics, S. Chand Higher Academic, 17th Revised Edition.
Akinlo, A.E. (2006): "The Stability of Money Demand in Nigeria: An Autoregressive Distributed Lag Approach". *Journal of Policy Modeling*. 28: pp 445-452.
Al-Samara, M. (2011): "An Empirical Analysis of the Money Demand Function in Syria". *Economic Centre of Sorbonne, University of Paris-1 Panthéon-Sorbonne*
Anoruo, E. (2002). Stability of the Nigerian M2 Money Demand Function in the SAP period, *Economics Bulletin* Vol. 14 No. 3 pp. 1-9.
Anoruo, E. (2002): "Stability of the Nigerian M2 Money Demand Function in the SAP Period". *Economics Bulletin,* Vol. 14, No. 3 pp. 1–9.
Bahmani-Oskooee, M. and Barry, M. P. (2000): "Stability of the Demand for Money in an Unstable Country: Russia," *Journal of Keynesian Economics*, 22, No.4, pp619-629.
Bitrus, Y. P. (2011). The Demand for Money in Nigeria, *European Journal of Business and Management*, Vol. 3, No. 6
CBN (2012): Central Bank of Nigeria Statistical Bulletin and Annual Report and Statement of Account
Civcir, I. (2003) "Broad Money Demand and Currency substitution in Turkey", The Journal of Developing Areas, Vol. 36, No. 2 pp127-144.
Dagher, J. and A. Kovanen (2011). On the Stability of Money Demand in Ghana: A Bounds Testing Approach. *International Monetary Fund*, WP/11/273
Frenkel, J. (1977) "The Forward Exchange Rate, Expectations and the Demand for Money: The German Hyperinflation", American Economic Review, September, 653-670.
Friedman, M.A. (1970) "A Theoretical Framework for Monetary Analysis" Journal of Political Economy, March, 193-238.
Gbosi, A.N (2005), "Fundamentals *of Modern Economics*" Sodek Associates, Port Harcourt
Hamori, S (2008). Empirical Analysis of the Money Demand Function in Sub-Saharan Africa, *Economics Bulletin,* Vol. 15, No. 4, pp. 1-15.
Jhingan, M.L, (2002) "*Macro-economic theory*, Vrinda Publication India
Kumar, S., D. J. Webber, and S. Fargher (2010), Money Demand Stability: A Case of Nigeria. *Munich Personal RePEc Archive*s
Mayuku, G. J., Ogude, B. A., Ibeh, S. E. and Ohwofasa, B. O. (2012); "An Appraisal of the Impact of Bank Distress on Nigerian Economy, 1986-2010: An Empirical Investigation". *International Journal of Business and Social Science,* Vol. 3 No. 24 (Special Issue), December
Nduka, E.K. (2013). "Openness and Economic Growth in Nigeria" *Journal of Education and Practice*, Vol. 4, No. 1 pp. 68-73.
Nell, K.S. (1999); *The Stability of Money Demand in South Africa, 1965-1997*. University of Kent at Canterbury, Department of Economics, Studies in Economics, no. 99/5.
Nwaobi, G. (2002): "A Vector Error Correction and Nonnested Modeling of Money Demand Function in Nigeria," *Economics Bulletin*, 3, 4, 1-8.
Nwaru, M. D. (2014), Lesson notes on Monetary Economics

Ohwofasa, B. O. and Mayuku, J. G. (2012); "Determinants of Bank Distress and Effect on Nigerian Economy, 1986- 2010: An Empirical Analysis". *European Journal of Humanities and Social Sciences,* vol 17(1). www.journalsbank.com

Ohwofasa, B. O. and Mayuku, J. G. (2012); "Determinants of Bank Distress and Effect on Nigerian Economy, 1986- 2010: An Empirical Analysis". *European Journal of Humanities and Social Sciences,* vol 17(1). www.journalsbank.com

Omotor, D. G. and Omotor, P.E. (2011): "Structural Breaks, Demand for Money and Monetary Policy in Nigeria". www.google.com.ng

Omotor, D. G. and Omotor, P.E. (2011): "Structural Breaks, Demand for Money and Monetary Policy in Nigeria". www.google.com.ng

Omotor, D.G. (2009): "Money Demand and Foreign Exchange Risk for Nigeria: A Cointegration Analysis using ARDL Test". *Processed www.google.com.ng*

Omotor, D.G. (2009): "Money Demand and Foreign Exchange Risk for Nigeria: A Cointegration Analysis using ARDL Test". *Processed www.google.com.ng*

Owoye, O. and Onafowora, O, A. (2007): "Structural Adjustment and the Stability of the Nigerian Money Demand Function". *International Business & Economics Research Journal Volume 3, Number 8*

Poole, W. (1970): "The Optimal Choice of Monetary Policy Instruments in a Simple Macro Model". *Quarterly Journal of Economics 192-216*

Sanusi, A. R. (2010). An Empirical Analysis of the Money Supply Process in Ghana: 1983-2006. *Abuja Journal of Banking and Finance*, Vol. 2, No.1

Sriram, S. S. (2001). A Survey of Recent Empirical Money Demand Studies, *International Monetary Fund*, Vol. 47, No. 3

Tahir, J. (1995). Recent Developments in Demand for Money Issues: Survey of Theory & Evidence with Reference to Arab Countries. *Economic Research Forum.*

Teriba, A. O. (2006b): "Demand for M1 in Nigeria". *http://ssrn.com/abstract=874407*

Teriba, O. (1974); "The Demand for Money in the Nigerian Economy: Some Methodological Issues and Further Evidence", *Nigerian Journal of Economic and Social Studies*, 16(1): 153-164.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar