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THE NIGERIAN MONEY MARKET: ISSUES, PROSPECTS AND THE WAY FORWARD

Igbinosa, O. S. PhD and Ateboh-Briggs, Patricia B.
[1]Banking and Finance Department, University of Benin

Abstract: *The study examined the inter relationships prevailing in the money market as it relates to its instruments and the cumulative (Total) Value of the Money Market instruments (TVMM). It considered empirically the value of money market instruments: Treasury Bills (T__BILL), Commercial Bills (CMB) and Bankers Acceptance (BKA) relationships on the total value of the Money market instruments; 1981-2017. The methodology adopted for this study was basically using the econometrics tools for data analyses. The Unit Root Test, the (Augmented Dickey Fuller (ADF) Results) were used as Stationery test, Johanson's integration analysis and the VECM and the Causality (Granger) test. It was noticed that, the* ***ECT*** $_{t-,}$, *T__BILL and CMB were negative and statistically significant. However, TVMM and BKA were both positive and statistically not significant. Contrary to our apriori expectation, it was observed that the T__BILL and CMB are negatively signed while the ECM is negatively signed as expected. While, TVMM and BKA were positively signed as expected. Also, the study found a bi-directional causal degree of affinity connecting TVMM- the reliant and the not dependent variables T__BILL and BKA but none with CMB. Based on these results, it was recommended that since the Treasury Bill (T__BILL) and Commercial Bills (CMB) could possess a n0n positive impact on the total value of the Money market (TVMM) instruments and their causal relationship is bi-directional, proper monetary policies should be put in place and implemented and implemented by the regulatory authorities for Money market to possess a non negative influence on the expansion of the economy of Nigerian.*

Keywords: *Money Market instruments, econometrics approach, Nigeria*

1. Introduction

Background of the study

Money market is a financial market that deals on near-term borrowing and lending for a period of not more than a year. Government designed this market to operate on a short term basis for short term funding, in order to channel resources from surplus to deficit sectors of an economy. Money market is "an integral part of the overall financial market being used to manage near-term lending and borrowing. The money market can be viewed from two sub-sections: The elementary and the advanced markets. The elementary market issues new instruments (debt). The advanced market on the other hand trades on instruments that have been previously issued. (Ezirim 2005). It is the advanced market that permits instruments to be sold out before their specified maturity dates. (Afiemo, 2013).

In the Money market, banks borrow and lend from one another through financial instruments such as: Certificates of deposits (CDs), Bankers Acceptance (BAs), Repurchase Agreements (RAs) and money market derivatives. In the money market, the deficit unit could be public or private and the funding could be used to bridge budgetary gap, using short-term securities like: The Treasury Bills (TBs), Treasury Certificates (TCs), Call

Money, Certificate of Deposit and Commercial Papers (CPs). The participating Institutions in the Money market are: The Central Bank of Nigeria, Commercial Banks (Deposit Money Banks) and other Specialised Banks/Special purpose Banks.

At the global perspective, Money markets are being considered as an integral part to the infrastructure of the financial system and are being viewed as part of financial markets that can serve as channels for the execution and transition of policies that are monetary related; being used as venues for trading short-term financial instrument. Money market can also serve as central allocation of capital that could result in distributing liquidity efficiently for the benefit of institutions (financial) and short-term risks hedging; as well as playing a vital function in the process of evaluating credit. Money market functions are mainly to channel Near-term funds from excess fund units to the shortage of fund units in the economy. Also, the need for Money market became necessary because the receipt of economic units may not coincide with expenditure. (Nwosu and Hamman; 2008).

There is hope for money market in Nigerian to continuously transform and develop due to innovation of product and the technological adaptation, the CBN's striving performance at sustaining these positive market changes; more so there is also sign of Government's genuine commitment to wanting to maintain these long term growth objective for the Nigerian Money Market to be one of the major key players to foster improvement of the private sector investment that could eventually spur growth and a commendable economy development in Nigerian. Afiemo (2013).

1.1 Statement of the problem

Investment in the Nigerian Money Market, in recent times is becoming interestingly popular, that is gaining some grounds mainly because of the small interest charge on mobilized bank put downs from depositors by Commercial banks. They have prospects and opportunities include such as: attracting more investors, having a proper administered and guarded establishment with effervescent and dynamic character of delivering services that could yield reasonable returns within a short period. Money Market is a venture perceived as being capable of offering consistent returns on investment that provides new opportunities in pension scheme and other related government reforms. However, it is expected to advance the financial rudiments to facilitate funds in other to put in effort that should create a center of attention to preserve overseas investment in transacting in the Nigerian funds Market, which require a conducive situation, accompaniment with an unwavering opinionated and financial formation, followed up a suitable stipulated law. The improvement of essential service delivery is necessary in other to meet up with the global trend for a great deal of investing in recent equipment, attached to electronics and message communication system to establish novel and modern return and programme. The Nigerian Money market has some issues and prospects; this paper considered empirically the significance of few funds market tools relationships as against the total significance of the and the way forward. After considering the various contributions on the Nigerian funds market, it was observed that none of the studies has examined some issues and prospects of the Nigerian Money market; this paper focused empirically on the significance of few money market instruments and their relationships as against the total significance of the funds market tools and the means forging ahead for the Nigerian funds market.

1.2The Scope and Limitation of the Study

This paper considered empirically the value of few funds market tools which are: Treasury demand for payment (bills), business-related (Commercial) Bills and Bankers' Acceptance relationships as against the total worth of the funds market tools using the econometrics approach; from

1981-2017. These three Money market instruments were used because they were the only funds market tools that have complete series of data within the said period of study used for the analysis.

2. Review of related Literature

There are some scholars that have demonstrated that there is connectivity between financial services/institutions development and financially viable expansion; which is likened to being a superior basis of predicting instrument for future expansion and development of an economy. Few literature studies dealt with the validating and reviewing for an improved consideration of the funds Market effect on financial expansion and development taking place in the economy. The Gross Domestic Product (GDP) is being viewed and proxied as the best index that could be used to understand Nigerian economic viability. Agbada and Osuji (2013).

Empirical findings from literature show that there is a continuous renewed interest in the development of the money market. These results of the empirical literature studies could be described as being mixed and scanty. Although, some studies have utilized familiar econometrics tools like: Vector Error Correction Model, Johanson's co-integration and Granger causality test in their analyses.

Igbinosa and Aigbovo (2015) empirically assess the influence of the Funding market on economic development in Nigeria 1986–2013. Their work was based on money market indicators such as: treasury bills, commercial papers and bankers acceptances. These instruments were used as measures of the dependent variables for economic development, while the monetary policy rate was used as the only control variable. This study adopted a multivariate OLS analysis and the Granger causality analysis used to the variables direction of causality. The result showed that banker acceptances (LVBA) has a significant effect on financial development in both the short run and long-run, while value of treasury bills and commercial papers and monetary policy rate have only in the long run significant impact on economic development; with a unidirectional causality relationship between monetary policy rate and bankers' acceptances value.

Ikpefan and Osabuohien (2012) analysed the relationship between funds market tools, Discount houses as well as financial intensification within Nigeria; 1992-2007. Their work used accomplishment sign, using the obtained period ru information from CBN, co-integration along with VEC Model. It discovered extended correlations is observed connecting funds market instruments, the process of discount houses plus financial expansion, however, none of these relationships shows a statistically significant relationship.

Ehigiamusoe (2013) explains the significance of the funds market has on the financial expansion from 1980 – 2012; using analytical techniques such as: the O L Squares technique, Johanson's econometrics Co-integration analytical Test and VECM were used to observe both relationships. The Results reveal relationship that is long-term; between the fund market and the growth of the economy, but as at then, the Nigerian fund market had significant but negative relationship with the growth of the economy. The researcher concludes that real sector of the economy and the link between the money market remains very weak.

Oluwole (2014) based his work on the effect which Money and Capital markets have on the Financial Development and the growth of the economy. It employs OLS method to analyze the secondary data for the period of 1981-2010. The findings reveal that the Banking Credit system to the Domestic Economy (CDMB) and Money Supply (M2) (money market variable) have significant effects on the GDP (Economic Growth) but Market Capitalization (MCAP) as well as Value of Deals (VOD) used as the Capital Market variables were not statistically significant.

Agbada and Odejimi (2015) empirically examine Fund Market instruments and financially viable nature was proxied by GDP (Gross Domestic Products); from 1981-2011 from the CBN Statistical Bulletin, using Pearson correlation coefficient matrix and Multiple regression Analysis; which explain the Fund Market operations and financial expansion have a linear and significant relationship.

Akarara and Eniekezieme (2018) investigated selected few instruments of Fund market and their effects on expansion of the Nigerian economy; in addition to the information gathered from CBN 2017 financial annual Publication, using Autoregressive Distributive Lag (ARDL) and the co-integration test of the Bound approach. The results revealed Money market instruments are positively related with economic expansion in near and future terms, except Certificate of Deposit and Commercial Paper that both have inverse relationship at the long run. And the Treasury Certificate has a significant near term but positive impact with an insignificant future term effect on the GDP.

Other researchers such as: Iwedi and Igbanibo (2015), Ezirim and Emeka (2006) and Andrew and Deborah (2015); all established that Fund Market has a positive vital role and effect on the economy of Nigeria, despite the fact of the emergence of a changing governance with new economic policies.

Methodology

The methodology adopted for this study was basically using the econometrics tools for data analyses. The appliance of the Dickey & Fuller Augmented Test for Stationery test investigating the presence of Unit Root Results were used as well as the Johanson's Test for Co-integration test for analyzing the variables and the VECM plus the causality test of Granger.

Specification of Models

To specify our model that was used for this study based on the models in of Igbinosa and Aigbovo(2015), Agbada and Odejimi (2015) and Ehigiamusoe(2013).The variables for our model are the three Money Market instruments that serve as the autonomous variables. While, the reliant variables are the total value of Money market instruments.

From the foregoing, the multiple equation models estimated were stated as follows:

$$TVMM = f\,(T\_\_BILL, CMB, BKA) \ldots\ldots (1)$$

Equation (1) can be presented in econometrics form as:

$$TVMM = B_0 + B_1 T\_\_BILL + B_2\,CMB + B_3 BKA + U_t \ldots\ldots (2)$$

$$TVMM_{t-1} = B_0 + B_1 T\_\_BILL_{t-1} + B_2\,CMB_{t-1} + B_3 BKA_{t-1} + U_{t-1} \ldots\ldots (3)$$

Where:

TVMM = Total value of the Money market instruments.
T__BILL = Treasury Bills
CMB = Commercial Bills
BKA = Bankers' Acceptance
U_t = Error Term.

Our a priori expectations are that: **$B_1 > 0$, $B_2 > 0$, $B_3 > 0$**

Discussion of Findings (Data Presentation, Analysis and Discussion)

The presented data were analysed based on the formulated models. The findings are thus orderly discussed.

Table 1. SUMMARY OF THE UNIT ROOT ADF TEST RESULT

VARIABLES	VALUES		REMARKS
	Statistics Test (ADF)	@ 5% Critical level	
TVMM	9.537062	-3.580623	Stationary @ level
T__BILL	2.199763	-3.587527	Stationary @ level
CMB	-5.356311	-3.544284	Stationary @1(1)
BKA	-4.843315	-3.552973	Stationary @ level

Source: *e-view extract* result; 2019

From Table 1 above, the ADF Stationarity Test employed illustrate that they were all stationary at level apart from CMB that was stationary at 1st difference 1(1).

This shows that TVMM, T__BILL, CMB and BKA have no Unit Root because all of them are stationary; since ADF Test Statistics are all higher in value than the Critical value in both nominal and absolute terms @ 5%. We therefore reject all the Null hypotheses which stated that: TVMM, T__BILL, CMB and BKA all have Unit Root.

Table 2: JOHANSON CO-INTERGRATION TEST RESULT

	TRACE STATISTICS		MAX-EIGEN STATISTICS	
Hypothesized No. Of CE(s)	Trace Statistics	Critical Value @ 5%	Max-Eigen Statistics	Critical Value @ 5%
r = 0*	166.4218	69.81889	78.96412	33.87687
r = 1*	87.45771	47.85613	40.50980	27.58434
r = 2*	46.94791	29.79707	32.87734	21.13162
r = 3	14.07057	15.49471	11.07629	14.26460
r = 4	2.994279	3.841466	2.994279	3.841466

Source: *e-view extract* result; 2019

From Table 2 above, from that the Johanson Co-Intergration Test Result, it can be observed from the two partition of Trace Statistics and Max-Eigen Statistics, it can be seen that there are at least three co-integrating equations. This confirms therefore that there is co-integration among the reliant and autonomous variables of the model.

THE VECTOR ERROR CORRECTION MODEL (VECM)

The VECM estimate and corrects errors based on the previous disequilibrium in the state of the variables; that shows the speed of adjustment of the co-integrated variables. Since the order of stationarity is not at the same level of difference, it means that we are not permitted to adopt a linear equation modelling such as ECM because according to literature for ECM to be adopted the series must be stationary at the same level/order. Now that the variables integrated at different or varying order, it means the only way forward is to adopt a system equation method. This study therefore adopts the Vector Error Correction Model (VECM), because it is theoretically justified.

Table 3: THE VECTOR ERROR CORRECTION MODEL (VECM) RESULT

Explanatory variables	**D(TVMM)**	**D(T__BILL)**	**D(CMB)**	**D(BKA)**
ECM	-1.964316	-0.521061	-0.032761	-0.011158
	[-2.22527]	[-1.89530]	[-1.35263]	[-4.44341]
D(TVMM (-1))	5.684721	1.578925	0.110522	0.016394
	[1.47824]	[1.31830]	[1.04745]	[1.49853]
D(TVMM (-2))	11.29668	3.315761	-0.055470	0.020115
	[2.03606]	[1.91884]	[-0.36437]	[1.27438]
D(T__BILL (-1))	-26.35689	-7.183466	-0.476870	-0.088083
	[-2.43908]	[-2.13443]	[-1.60835]	[-2.86531]
D(T__BILL (-2))	-30.17681	-8.463371	-0.577948	-0.160171
	[-1.41334]	[-1.27272]	[-0.98653]	[-2.63698]
D(CMB (-1))	-22.38415	-6.320994	-0.418114	-0.119856
	[-2.85082]	[-2.58482]	[-1.94076]	[-5.36582]
D(CMB (-2))	-16.68307	-4.771193	-0.685753	-0.020681
	[-1.39223]	[-1.27843]	[-2.08569]	[-0.60667]
D(BKA (-1))	76.05348	18.09932	0.415392	0.017251
	[1.03975]	[0.79449]	[0.20697]	[0.08290]
D(BKA (-2))	24.19443	5.029950	0.127078	0.298791
	[0.26675]	[0.17806]	[0.05106]	[1.15798]
C	3236.627	858.7856	96.02864	23.27007
	[1.90189]	[1.62030]	[2.05656]	[4.80661]
R-squared (R^2)	0.683448	0.635472	0.483367	0.815785
Adj.R-squared (R^2)	0.564741	0.498774	0.289629	0.746704
F-statistic	5.757428	4.648734	2.494958	11.80917

Source: *e-view extract* result; 2019

From Table 3 above, it was observed that **ECT_{t-1}** is negatively signed and significant, this is in line with the negativity theory that relates with the economy and being statistically significant. The ECT has a value of -1.964316; with the t-value at -2.22527, showing a self-equilibrium mechanism that can converge to return to equilibrium having the speed of 196% per year. ECM shows a result for TVMM to be -1.964316, being above 1.00 should be disregarded because TVMM being the Total value of the Money Market instruments (dependent variable) was regressed against itself.

The short run estimate of 1 period lag of TVMM places the co-efficient at 5.684721 with a T. Value 1.47824 is in line with our a-priory expectation which is not significant @ 5% significant level. Hence, 1 unit change in TVMM for past phase shall cause a 5.684721unit boost during the present year.

The not too long approximate of 1 period lag of T__BILL places the co-efficient at -26.35689 and a T. Value having -2.43908 that is not in line with our a-priory expectation but it is significant @ 5% significant level. Hence 1 unit change of T__BILL in its past period will lead to a 2.43908 decrease in the present year.

The not too long approximate of CMB considers coefficient at-22.38415 with a T. Value having -2.85082 is not in line with our a-priory expectation and but it is significant @ 5% significant level. Hence a 1 unit change in CMB in its past period will lead to a 22.38415 single change in CMB for the present year.

The short run estimate of 1 period lag of BKA places the coefficient at 76.05348 with a T. Value of 1.03975 which shows that it conform to a-priori expectation and it is statistically not significant at 5% significant level. So, one unit difference in BKA in its past period will lead to a 76.05348 unit change in the current year.

Coefficient of determination (R^2) of 0.683448 shows that 68% of the systematic variation Total value of the Money market instruments is caused by the differences of the regressed value, while the value of 32% remaining is attributed to the error terms. Coefficient of determination is modified considering its freedom level, the explanatory value of 56% (0.564741). Using the R^2 and its R^2 adjusted of the approximated short run vector Model with a relatively high illustrative potential and good analytical capacity.

The F-Statistics of 5.757428 exceeds the critical value at 5%; which shows that the illustrative variables at least simultaneously interrelated to Total value of the Money market instruments (the dependable variable).

Table 4

Pairwise Causality Test

Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**
T__BILL does not Granger Cause TVMM	35	6.60191	0.0042
TVMM does not Granger Cause T__BILL	35	4.55794	0.0187
CMB does not Granger Cause TVMM	35	0.90541	0.4151
TVMM does not Granger Cause CMB	35	0.05142	0.9500
BKA does not Granger Cause TVMM	35	4.56820	0.0185
TVMM does not Granger Cause BKA	35	3.49196	0.0433
CMB does not Granger Cause T__BILL	35	0.18895	0.8288
T__BILL does not Granger Cause CMB	35	0.17664	0.8389
BKA does not Granger Cause T__BILL	35	2.48018	0.1007
T__BILL does not Granger Cause BKA	35	4.92622	0.0141
BKA does not Granger Cause CMB	35	1.39130	0.2643
CMB does not Granger Cause BKA	35	0.44420	0.6455

Source*:* *e-view extract* result; 2019

The table 4 above, shows we should reject the null hypothesis that states that T__BILL does not Granger Cause TVMM and BKA. Also, we should reject the null hypothesis that states that the dependent variable TVMM does not Granger Cause T__BILL and BKA because they are both significant and their relationships are bi-directional. Although, T__BILL does not Granger Cause CMB and vice versa, but T__BILL does Granger Cause BKA but the reverse is not the case due to their value of significance, thus their relationship is uni-directional. So, we should reject the null hypothesis that states T__BILL does not Granger Cause BKA because of the significant value and their relationship is also bi-directional. BKA does not Granger Cause CMB. Likewise CMB does not Granger Cause BKA due to their none significant values.

Discussion of the Study

The Augmented Dickey Fuller (ADF) Unit Root Test employed confirms that they were all stationary at level apart from CMB that was stationary at 1st difference 1(1).

The Igbinosa and Aigbovo (2015) Vector Error Correction Model (VECM) was adopted; it was observed that ECM could not be used for co-integration of the variables since the variables were not all stationary at the same level, so, the Johanson co-integration Test was used. , it can be seen that there are at least three co-integrating equations. This confirms therefore that there is co-integration between the reliant and the autonomous variables of the model. This study therefore adopts the Vector Error Correction Model (VECM) as: Ikpefan and Osabuohien (2012), Ehigiamusoe (2013), because it is theoretically justified. From the error correction modeling, it is noted that the Error Correction Term (**ECT** $_{t-1}$), T__BILL and CMB are negative and statistically significant. However, TVMM and BKA are both positive and statistically not significant. Based on the coefficient of determination R^2 and its adjusted R^2 of the estimated short run vector Model, it shows a relatively high explanatory power and good predictive ability. Contrary to our apriori expectation, it was observed that the T__BILL and CMB are negatively signed while the ECM is negatively signed as expected. While TVMM and BKA are positively signed as expected, base on our apriori expectation.

Policy Recommendations

Based on our analyses and empirical results we therefore recommend the following:

1. Since the Treasury Bill (T__BILL) and Commercial Bills (CMB)could have a negative impact on the total value of the Money market instruments (TVMM), proper monetary policies should be put in place and implemented for this negative impact to be transformed into a future positive effect.

2. It was observed that T__BILL, TVMM and BKA have significant and bi-directional causal relationship among them, their significant relationship could be beneficial to the total value of the Money market instruments, if well managed by the monitoring/regulatory authorities.

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