Treasury Single Account (TSA) and Bank Performance: Bound Test Approach

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Abstract: This paper juxtaposed the relationship between Treasury Single Account (TSA) and Bank Performance in Nigeria. The data used covers forty eight months (i.e. from September, 2013 to August, 2017) out of which twenty-four month were pre-TSA period and the other set of twenty-four month covers TSA implementation period. The paper employs Autoregressive Distributed Lag (ARDL) Model to investigate the long-run influence of treasury single account (TSA), interest rate and bank liquidity on bank performance over the period of the study. The result of ARDL bounds test reveal evidence of cointegration among the variables where F-statistics is 4.8178 signifying that there is evidence of cointegration. Furthermore, the result of the estimated long-run coefficients of the ARDL model reveals that there is positive and statistically significant relationship between bank performance and treasury single account in Nigeria throughout the study period. Contrariwise, the result further shows that bank liquidity has negative and statistically significant influence on bank performance. Thus R – square is 0.94 or 94% implying that the independent variables captured in the model explain 94 percent variation in the dependent variable i.e. bank performance. Therefore, only 6 percent is captured by other variables not captured in the model. The paper recommends that government agencies needs to work with the CBN in actualizing the proper disbursement of the huge resources allotted to the development funds created by Treasury Single Account on infrastructure, aviation, manufacturing, and power.

Keywords: bank performance and treasury single account, ARDL bounds.
JEL Classification: E43, E58, E63, G33, G21.

1. INTRODUCTION

The economic status of any country depends on how stable its banking industry is and the level of its performance. Hence, any issue that affects banking sector of a country it also has an impact on the economy of the country as a whole. When Treasury Single Account was introduced in Nigeria,
Ministries, Departments and Agencies which generates revenue to government had multiple accounts in commercial banks, and they use part of the revenue generated to fund their operations and then remit the surplus to the federation account. Consequently, agencies pay into Government account what they deem fit and under this circumstances, some government ministries and agencies became richer than the government itself. This resulted into leakages of funds, misappropriation and/or gross mismanagement of public funds as well as the inability of a government to know its financial status (Adetumobi, Adesina, Foboyede and Adejana, 2017).

Treasury Single Account has its merit of streamlining the process of remittance of revenue generated by various agencies and letting government know at a glance what it has in its accounts. Over the years, deposit money banks have been the custodians of the Nigeria Government fund as an engine of the nation’s economy and hence, the maintenance of a single account will deprive banks of the free flow of public funds from ministries held by them which was broadly estimated at about ₦2.2 trillion at the beginning of the first quarter of 2015 (Okerekeoti and Okoye, 2017), when such amount of money leaves the system it is noticeably that banks will have liquidity problems.

Therefore, treasury single accounts (TSA) will have a negative impact on banks liquidity which may affect their overall performance because banks have been surviving with government funds, with the (TSA) those money which are been used in trading, debt transactions or otherwise would been paid into the country’s treasury and used to appraise government performance. These undue practices have since passed consequences upon the introduction of treasury single account. Hence, banks should have to look for other sources of generating funds in the country. The inadequacy of funds in banks will increase better services delivery toward their clients and customers which will pave room for competition amongst banks and other financial institutions. From the forgoing, the following research questions are raised which this study seeks to address:

a. Does Treasury Single Account (TSA) have significant influence on bank performance?
b. Does interest rate have significant influence on bank performance?
c. Does bank liquidity have significant influence on bank performance?

The paper is organized as follows: following this introduction is section 2 that deals with conceptual, theoretical and empirical literature reviews. Section 3 explores the source of data and description of variables and model specification. The major findings are presented in Section 4 and section 5 reports the conclusion and recommendations of the study.

2. LITERATURE REVIEW

This section comprehensively reviewed conceptual, theoretical and empirical literature in relation to Treasury Single Account (TSA) and bank performance.

2.1 Conceptual Framework

A Treasury Single Account (TSA) is a unified structure of government bank accounts that gives a consolidated view of government cash resources. Based on the principle of unity of cash and the unity of treasury, a TSA is a bank account or a set of linked accounts through which the government transacts all its receipts and payments (Lienert, 2009). Treasury Single Account is a public accounting system under which all government revenue, receipts, and income are collected into one single account, usually maintained by the country's apex bank e.g. Central Bank of Nigeria and all payments should be done through this account as well. The purpose is primarily to ensure accountability of government revenue, enhance transparency and avoid misappropriation of public funds. The maintenance of a Treasury Single Account will help to ensure proper cash management by eliminating idle funds usually left with different commercial banks and in a way to enhance reconciliation of revenue collection and payment (Adeolu, 2016). On the other hand, Central bank liquidity is the ability of the central bank to supply the liquidity needed to the financial system. It is typically measured as the liquidity supplied to the economy by the central bank, i.e. the flow of monetary base from the central bank to the financial system.
2.2 Theoretical Framework

A number of different theories of socioeconomic accounting were borrowed to form a sound foundation to substantiate Treasury Single Account adoption and implementation. Some of them are Decentralized Model of TSA; Centralized Model of TSA; Modern Money Theory; and Stakeholder Theory and Public Finance Management Theory (See Nwaezeakwu, 2016). Drawing from the foregoing theorization, this study adopts the public finance management theory. The rationale behind adopting the aforementioned theory is that the public finance management theory assumed that all aspects of public financial resources both its mobilization and expenditure should be well managed by government officials for the benefits of the citizenry. It includes resources mobilization, prioritization of programmes, the budgetary process, efficient management of resources and exercising control to guide against threats. Besides, the Treasury Single Account (TSA) primarily is to avoid misappropriation of public funds.

2.3 Review of Empirical Literature

In this section, we shall have a look at some relevant empirical literature on the impact of treasury single account on banking sector performance.

Sabo, Muhammad and Ka'oje (2019) examined the impact of the Treasury Single Account (TSA) on bank liquidity in Nigeria from September 2013 to August 2017. The study employed a Robust Least Square (RLS) technique to estimate the variables under investigation. The findings revealed that the Treasury Single Account has a positive and statistically significant impact on bank liquidity. Equally, the interest rate has a positive and statistically significant impact on bank liquidity. Using time series data, Oguntodu et al., (2016) studied the relationship between government revenue, TSA and GDP in Nigeria over the period of 1999 - 2015, applying F-statistics test and the coefficient of determination. The results revealed a positive relationship among TSA, Government Revenue and Gross Domestic Product (GDP).

However, Kanu (2010) investigated the impact of the treasury single account (TSA) on bank liquidity in Nigeria. The study used a cross-sectional survey for a sample of 10 banks from a population of 24 banks applying chi-square. The finding shows that TSA is positively related to liquidity and performance of the banking sector. Udo and Esara (2016) attempted to assess the benefits, challenges and prospects of TSA in Nigeria using descriptive statistics. The findings reveal that full implementation of TSA adoption by the state governments will be of greatest benefit as showed in the weighted means scores. Bashir (2016) also examined the effect of treasury single account on public finance management in Nigeria using both primary and secondary data which were analysed using Pearson correlation techniques. Based on the study TSA policy will go along with in blocking the identified financial leakages in revenue generation and promote transparency and accountability in the public financial system.

In addition, Adetumobi, Adesina, Foboyede and Adejana (2017) studied the impact of treasury single account on bank liquidity in Nigeria using descriptive statistics and paired sample t-statistics. The results obtained confirmed that the implementation of TSA impacted negatively on the liquidity base of banks in Nigeria. It was recommended that if the policy is executed it will lead to the prompt payment of all income going into the nations purse without the interdiction of multiple banking arrangements. Olanguju, Adeyanju and Olobode (2011) examine liquidity management and commercial banks profitability in Nigeria using survey method. Their findings demonstrated that there is strong relationship between liquidity and profitability. Andornimye (2017) examines the impact of TSA implementation on bank liquidity in Nigeria using t – test statistics. The results reveal that TSA implementation has a negative significant impact on deposit mobilization by banks.

3. METHODOLOGY

3.1 Source of Data and Description of Variables

This paper uses Autoregressive Distributed Lag (ARDL) Model to investigate the influence of treasury single account (TSA), interest rate and bank liquidity on bank performance. The data used covers forty eight months (i.e. from September, 2013 to August, 2017) of which twenty -four month were pre-TSA period and another set of twenty-four month covers TSA implementation period. The
data were sourced from statistical Bulletin of Central Bank of Nigeria. The paper used return on asset and broad money (i.e. M2) to measure bank performance and bank liquidity, respectively. TSA was used as dummy variable where zeros and ones were assigned to the period of pre-TSA and periods prior to TSA implementation, respectively.

3.2 Model specification
Following the work of Pesaran et al. (2001), the ARDL model is specified as:

\[ \Delta ROA_t = \beta_0 + \sum_{t-1}^m \beta_1 TAS_{t-1} + \sum_{t-1}^m \beta_2 INT_{t-1} + \sum_{t-1}^m \beta_3 M2_{t-1} + \alpha_1 TSA_{t-1} + \alpha_2 INT_{t-1} + \alpha_3 M2_{t-1} + \mu_t \] (1)

Although, the ARDL model consist of two parts, the first part of the equations with \( \beta_1 \) to \( \beta_3 \) stand for the short-run dynamics of the models, while the coefficients \( \alpha_1 \) to \( \alpha_3 \) represents the long-run relationship. The null hypothesis of the above model is defined as \( H_0: \alpha_1 = \alpha_2 = \alpha_3 = 0 \) which indicates that there is no evidence of long run relationship (Pesaran et al., 2001).

We begin the estimation by conducting cointegration test. The calculated F-statistics is compared with the Critical Value as tabulated by Pesaran et al. (2001). If F-statistics exceeds or supersedes the upper critical value, then the decision rule will be to reject the null hypothesis of no long-run relationship (no cointegration) irrespective of whether the underlying order of integration of the variables is zero or one i.e. I(0) or I(1), whereas if F-statistics falls below a lower critical value, then the null hypothesis cannot be rejected and if F-statistics falls within these two critical bounds, then the result is inconclusive (Pesaran et al, 2001). However, before estimating equation (1), the study conducted a unit root test through the use of Phillips-Perron and KPSS.

4. DATA ANALYSIS AND DISCUSSION OF RESULTS
It is noteworthy to mention that even though ARDL does not require testing the stationarity of the variables under investigation, but this study decide to determine the stationarity level of the variables before estimating the ARDL model. This is because ARDL bound test is not capable of handling any series that goes beyond first difference i.e. I(1) order of integration. Table 1, shows the results of the Phillips-Perron and KPSS unit root tests and none of the series goes beyond I(1) order of integration. Based on the Phillips-Perron test, the results show that Bank Performance interest rate and bank liquidity are stationary at first difference. Likewise the result from the KPSS test shows that treasury single account is stationary at first difference.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Phillips-Perron</th>
<th>KPSS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>First Diff.</td>
</tr>
<tr>
<td>Bank Performance</td>
<td>-5.3881***</td>
<td></td>
</tr>
<tr>
<td>Treasury Single Account</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest Rate</td>
<td>-6.9141***</td>
<td></td>
</tr>
<tr>
<td>Bank Liquidity</td>
<td>-7.1161***</td>
<td></td>
</tr>
</tbody>
</table>

Note: *** indicating significant at 1%.
Source: Authors computation using Eviews Version 9.0

However, conduction of unit root test confirms that we are on the right path of employing ARDL bound test to estimate the variables under investigation because all the variables are stationary not exceeding first difference. There is also need to know the value of F-statistics in order to determine the existence of cointegration or otherwise among the variables under estimation. This has been carried out using ARDL bounds test and the results reveal evidence of cointegration among the variables. From Table 2, F-statistics is 4.8178 signifying that there is evidence of cointegration among the variables. Therefore, this shows that the null hypothesis of no cointegration can be rejected at one percent level of significance as the value of F-statistics is greater than the upper bound critical value of 4.66 and 3.65 for lower critical bound value, respectively.
Furthermore, the estimated results of ARDL model are presented in Table 3. The results reveals that the coefficient of treasury single account is 0.0871 with t – statistics of 2.6336 implying that there is positive and statistically significant relationship between bank performance and treasury single account in Nigeria throughout the study period. This implies that, in the long-run, increase in bank performance is associated with the implementation of treasury single account. Specifically, TSA implementation leads to about 8.71% increase in bank performance in the country which is really a gigantic appreciation in bank performance. Contrariwise, the results show that bank liquidity has negative and statistically significant influence on bank performance which is contrary to normal circumstances but signaling that something is wrong somewhere. While the coefficient of interest rate is -0.0095 and insignificant at all levels. Thus R – square is 0.94 or 94% implying that the independent variables captured in the model explain 94 percent variation in the dependent variable i.e. bank performance. Therefore, only 6 percent is captured by other variables not captured in the model.

Table 3: Result of the Estimated Long-Run Coefficients of the ARDL

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>t-Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Liquidity</td>
<td>-0.8986</td>
<td>-3.4434***</td>
</tr>
<tr>
<td>Treasury Single Account</td>
<td>0.0871</td>
<td>2.6336**</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>-0.0095</td>
<td>-0.9073</td>
</tr>
</tbody>
</table>

R² = 0.94, Adj. R² = 0.93, AIC = -7.1326, SIC = -6.6953, HQC = -6.9688, DW = 2.2574

Note: *** and ** indicating significant at 1% and 5%, respectively.
Source: Authors Computation Using Eviews Version 9.0

Nevertheless, when the ARDL bound test approach reveals existence of cointegration among the variables under study, at that moment we should go further to run error correction model (ECM) that expresses the short-run nexus among the variables. The reason behind this ECM is that, it expresses the speed of adjustment from the short-run to the long-run equilibrium in case of any distortion in the economy. The results as depicted in Table 4 show that ECM coefficient is -0.1740 and statistically significant at 1% level going by the p-value of 0.0000. This shows high speed of adjustment to equilibrium level after a shock. For the other explanatory variables, the short-run analysis reveals the existence of positive and statistically significant relationship between bank performance and interest rate. On the other hand, bank liquidity exerts negative influence on bank performance which is significant at 5 percent level of significance. While coefficient of Treasury Single Account is 0.0012 which is statistically insignificant at all levels of significance.
Table 4: Error Correction Estimate of the ARDL Model (Short-Dynamics)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>t-Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Liquidity</td>
<td>-0.1529</td>
<td>-2.2613**</td>
</tr>
<tr>
<td>Treasury Single Account</td>
<td>0.0012</td>
<td>0.2016</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>0.0047</td>
<td>1.8641**</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-0.1740</td>
<td>-5.2464***</td>
</tr>
</tbody>
</table>

Note: *** and ** indicating significant at 1% and 5%, respectively.
Source: Authors Computation Using Eviews Version 9.0

5. CONCLUSION AND RECOMMENDATIONS

The paper examines the impact of treasury single account on bank performance in Nigeria over the period of forty eight months (i.e. from September, 2013 to August, 2017). Thus, Phillips-Perron and KPSS were used in testing the unit root properties of the variables under study. The paper further employed Autoregressive Distributed Lag (ARDL) bound test to examine the long-run relationships among the variables under estimation. The paper found that treasury single account and bank liquidity have important role to play in boosting bank performance in Nigeria.

On the bases of the general findings of this study which revealed that the Treasury Single Account enhances bank performance in Nigeria over the period of the study. We, therefore, recommend that government agencies needs to work with the CBN in actualizing the proper disbursement of the huge resources allotted to the development funds created by Treasury Single Account on infrastructure, aviation, manufacturing, and power. The peculiar nature of the environment requires a holistic approach to tackle the fundamental and inter-related issues that necessitate several agencies work in a cohesive manner in the interest of the country. It is also recommended that deposit money banks should fund other sectors of the economy especially those that are marginalized, for example, agriculture and small and medium enterprises and also CBN should go beyond the guidelines and put in place measures to correct any lapses or negative impact of the policy on the banking sector performance.

6. REFERENCES


