Treasury Single Account in Nigeria as a Tool for Fraud Prevention

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Abstract: The study is primarily aimed at determining whether the introduction of Treasury Single Account (TSA) minimizes fraud perpetration in Nigeria with particular reference to federal MDAs in Sokoto. To achieve this, Questionnaires were administered to selected federal MDAs in Sokoto State. A sample of 252 staff was arrived at using Taro Yamane's (1967) sampling formula out of a total population of 4393. Descriptive (Mean and Standard deviation) and Inferential (Correlation and Multiple Regression) were employed to analyze the data collected. The result from the analysis revealed that the introduction of TSA has contributed immensely to minimizing fraud perpetration, blocking revenue leakage leading to consolidation of government cash balances in the country. This was evident from the significant p-value of 0.032 and a positive coefficient of 0.103 in respect of fraud perpetration against the independent variable (TSA). Also revealed was that the control variables (blocking revenue leakage and cash consolidation) alongside the independent variable account for about 42% variation of the dependent variable. In view of the above, the study concluded that TSA undoubtedly mitigates the perpetration of fraudulent activities in the public sector by ensuring accountability and transparency in the management of public finances. Base on the finding it is recommended that there is the need for massive enlightenment by regulatory bodies on the importance of implementing TSA by States and Local government. Also, there is the need for appropriate statutory backing on the implementation of TSA to ensure its effectiveness.

Keywords: TSA, Fraud, Financial Leakages, Accountability, Transparency

1. Introduction

Nigeria is faced with different financial irregularities in the management of its finances that range from corruption, fraud, misappropriation of funds by key government officials, which was contributed to a large extent by the operation of a fragmented system of banking in the country. These have significantly affected the implementation of laudable policies, programs, and services that are capable of stimulating economic progress. The previous government continued to operate multiple Bank accounts for the collection and spending of government revenue which contradicts the provision of the country's constitution which stipulates that all government revenues collected be remitted into a single account called Consolidated Revenue Fund (CRF). These practices pave way for the perpetration of fraudulent activities like corruption, mismanagement of public funds among others. Despite tremendous efforts embarked upon by governments to eliminate the act of fraud in the public financial management system, it is indeed discovered that fraud in its countless natures remained undetected and continues to grow in frequency and severity [22]. Currently, the perpetration of fraud and other fraudulent activities has become a customary act by Ministries, Departments, and Agencies (MDAs) of the country thereby affecting the entirety of the country's economic system [16, 10].

To ensure efficient and effective utilization of public resources, curtail to some extent the level of corruption

perpetrated by public officers, minimize fraudulent acts and misappropriation of its resources which will, in turn, ameliorate the deteriorating condition of the country's Public Financial Management (PFM), Nigeria introduced and initiated a sequence of monetary and non-monetary policies capable of assisting in the effective and efficient management of her resources. One of these reforms is the introduction of the Treasury Single Account (TSA). This sparked the interest of scholars, researchers, financial analysts, and policymakers to identify the effect of TSA on PFM in Nigeria. Several studies were conducted in Nigeria to find the effect of TSA implementation on PFM [1, 3, 4, 9, 15]. The findings from these studies are still contradictory and most of the studies conducted are carried out in the Southern part of the country, hence the need to ascertain whether the introduction of TSA in Nigeria aided in the elimination of fraud in Nigeria with particular reference to federal MDAs in Sokoto State.

2. Literature Review & Empirical Studies

TSA is defined as a consolidated account controlled and maintained by the country's apex bank or a virtual account comprising of sub-accounts meant for the government managed and controlled by the treasury which enables the consolidation of cash position at the end of each day [7]. Onyekpere [18] opined that TSA is a system designed to effectively manage the government's finances, bank accounts, and other cash resources thereby pooling all government resources through the main account.

Various definitions of fraud emanated from researchers in the likes of Ernst and Young [6] who defined fraud to mean any deliberate act of using fake, deceit, or any false action to deny someone is legal right, money, or property. However, in the wordings of Hopwood [11]; Rezaee [20]; Kranacher et al. [13] fraud involves the use of purposeful deception and other logical actions to obtain an illegal advantage over an entity despite the harm it may cause. Several reasons were believed to be the cause of perpetration of fraudulent activities in an organization, Ramaswamy [19] believed poor corporate governance and an ineffective internal control system to be the major cause of fraud. These factors give individuals the opportunity to perpetrate fraudulent acts in an organization. Mukoro et al. [14] stated that fraud occurs when individuals undertake any act believed to be deceitful knowingly in an organization purposely to deprive others of their rights.

Adebisi and Matthew [1] studied the effect of adopting TSA on revenue leakages using data obtained through questionnaire administration. The regression result revealed that TSA is an effective tool for curbing revenue leakages in the Country. The study thus recommended the adoption of TSA by States that are yet to adopt. Bashir [3] explore the effect of TSA policy on PFM in Nigeria using Data from MDAs in Bauchi obtained through the use of questionnaires. Pearson Correlation was used to achieve the objective. The outcome from the analysis revealed that TSA adoption is

capable of plugging financial loopholes, promoting transparency and accountability in the public Financial System. Thus, the researchers recommend that for the success of this policy government should promulgate more legislation to make it mandatory for all three tiers of government in Nigeria. Effiong et al. [4] administered questionnaires to the staff of the Federal Ministry of Finance objectively to examine the effect of the implementation of TSA on fraud in public interest entities in Nigeria. Linear regression was used to analyze the data collected and the result established that TSA implementation positively influences the perpetration of fraud in Public Interest Entities. Olorunnishola and Fasina [17] investigate the effectiveness of TSA in blocking financial leakages in public fund management in Nigeria using Ekiti State Federal MDAs. Regression analysis result revealed that TSA significantly blocks financial leakage thus indicating its effectiveness. In a related study, Ganyam [9] obtained data through the use of questionnaires and examine the effect of TSA on financial accountability, corruption, and financial discipline in the Nigerian public sector. ANOVA test results revealed that implementation of TSA significantly promotes accountability, reduces the level of corruption, and enhanced financial discipline. Ensuring sustainability of TSA policy was recommended.

Amaefule [2] while examining the relationship between TSA and performance of the Nigerian government where revenue, capital investment, and external reserve were used as performance indices employed an equity test to analyze the primary data obtained through questionnaires. The result revealed that implementation of TSA has a significant negative effect on revenue generation, while TSA exhibits an insignificant effect on capital investment and external reserve. Thus concluded that TSA implementation did not make the system healthier and recommended for the strengthening of the MDAs internal control system. Opposing this view, Gbegi et al. [10] using perceptions of accounting professionals, accounting academics and accounting officers within Benue State examine the effect of TSA adoption on accountability, transparency, and PFM in Nigeria. Chi-square was used to analyze the data and the result therefrom revealed that TSA adoption has significantly improved accountability, transparency, and PFM in Nigeria. The study recommended the development of a policy that will ensure prompt release of funds to MDAs as at when due. Reaffirming the above findings, Ejoh [5] explored the implication of TSA on government revenue control among federal MDAs in Nigeria. 240 questionnaires were administered to selected staff of federal MDAs in Abuja. Data obtained was analyzed using the Univariate regression model. The result therefrom revealed that TSA has a positive and significant effect on cash monitoring and control. Also posited out by the result was that TSA reduces the level of idle cash with commercial banks. More recently, Ogungbade et al. [15] using paired sample t-test examine the effect of TSA on revenue generation of some federal MDAs in Ekiti State and the result therefrom revealed that, TSA has not

enhanced the revenue generation among federal MDAs in Ekiti State and that TSA is counterproductive in the State. This study is underpinned by the Institutional-centric theory of finances and resources-based theories. As proposed by Stein and Rosefieldein [21] institutional centric theory is designed to replace the financial liberalization theory due to its defect employed during the 90s. This, therefore, highlighted the need to have an integrated system that supports real-time financial information access which is TSA is aimed at.

3. Methodology

The population of the study comprised all federal MDAs in Sokoto State totaling 38 with a staff strength of 4393, (Federal Character Commission, 2020). Based on the population of the study sample size of 367 was arrived at using Yamane [23] sampling technique (n=N/1+ (e)2) with a 95% confidence level. Pretested questionnaires were used to collect data from the respondent. The qualitative responses were quantified using the Likert scale rating (Strongly Agreed=5, Agreed=4, Undecided=3, Disagreed=2, and Strongly Disagreed=1). The questionnaire is divided into two sections, section A contains questions on demographic characteristics of the respondents while Section B was further subdivided into four sub-sections; responses on the implementation of TSA, responses on the implementation of TSA and fraud prevention, responses on implementation of TSA, responses on consolidation of government cash balances, and lastly responses on implementation of TSA and blocking revenue leakages in Nigeria. A pilot study was conducted on 100 respondents from ten selected MDAs in Sokoto State to test the validity and reliability of the questionnaires towards generating the required data for analysis. 367 questionnaires were administered out of which 252 were retrieved from the field survey. Descriptive and empirical analyses were employed. The descriptive analysis uses mean and standard deviation in describing the data collected while inferential analysis was achieved with multiple regression using SPSS v20. Before analyzing the data, pre-estimation tests were carried out.

Model Specification

Regression analysis was used to test the objective of the study, the general form of the regression model can be specified more compactly as:

$$Yi = \beta 0 + \beta 1\,Xi1 + \beta 2\,Xi2 + ... + \beta\,pXip + \varepsilon i \quad (1)$$

The study adapted the regression model employed by Adebisi and Mathew [1] shown below:

$$RevLit = \beta o + \beta 1FundTSActt + \beta 2RevGt + e \quad (2)$$

The model was modified to suit our objective of determining the effect of our independent variable (TSA) on the dependent variable (FP) with the introduction of CC and RL as control variables.

$$FPi = \beta 0 + \beta 1TSAi + \beta 2CCi + \beta 3RLi + \varepsilon \quad (3)$$

Where: FP (Fraud prevention), TSA (Treasury Single Account), CC (Cash control), and RL (Revenue leakages).

4. Data Presentation and Analysis

This section presents the analysis of data collected through the use of pretested questionnaires administered to the 252 staff of federal MDAs in Sokoto. To check the reliability of the data collected, Cronbach alpha was used being the most widely used method [8]. It is scores range from 0.00 to 1.00 and values at or above 0.75 are generally considered to indicate adequate internal consistency reliability [8]. All the study variables returned alpha values >0.75 except BL which returned an alpha value of 0.71 which is also acceptable as shown in Table 1 and were as such deemed reliable.

Table 1. *Reliability Test.*

Cronbach alpha	TSA	FP	CC	BL
Total	.756	.781	.811	.711

Source: SPSS output version 20

4.1. Descriptive Analysis

This subsection presents the number of questionnaires administered and retrieved, demographic characteristics of the respondents, and lastly the mean and standard deviation of the responses.

4.1.1. Questionnaires Administered and Retrieved

Table 2 presents an analysis of questionnaires administered and retrieved from various MDAs.

Table 2. *Questionnaires Administered and Retrieved.*

Respondents	Questionnaires administered	Percentage administered	Questionnaires retrieved and used	Percentage of retrieved and used
Ministries	167	46	103	41
Departments	100	27	87	35
Agencies	100	27	62	24
Total	367	100	252	100

Source: Field Survey 2021

Table 2 above revealed that 252 questionnaires were retrieved representing 68.7% of the total questionnaires administered.

4.1.2. Demographic Characteristics of Respondents

Table 2 is a demographic characteristic of respondents comprising of Age, Educational qualification, and working experience.

***Table 3.** Demographic characteristics.*

S/N	Items	Options	No. Of Response	% of Response
1	Age	18 - 30 years	71	28
		31 – 40 years	123	49
		41 years and above	58	23
		Total	252	100
2	Educational Qualification	O'Level	0	0
		OND/ND	94	37
		HND/B.Sc.	129	51
		PGD	17	7
		M.Sc/MBA/PhD	12	5
		Total	252	100
3	Working Experience	0 – 10 years	98	39
		11 – 30 years	136	54
		31 years and above	18	7
		Total	252	100

Source: Field Survey 2021

Table 3 above indicates that majority of the respondents are within the age bracket between 31-40 years. The table equally revealed that the majority of the respondent holds HND/B.Sc. certificates with the least being the O'level holders. Also revealed by table 3 is that about 54% (136 respondents) of the respondents have 11 – 30 years of working experience with their MDAs.

4.1.3. Responses on Implementation of Treasury Single Account (TSA)

Responses on the implementation of TSA by federal MDAs in Sokoto State as stated in Table 3 below.

***Table 4.** Mean value of responses on the implementation of TSA by federal MDAs.*

S/N	Measures	Mean	SD
1	Your MDA does not maintain a fragmented Banking system with the Commercial Banks	4.67	0.68
2	Your MDA does not maintain a personal Bank Account	4.69	0.62
3	Your MDA's Account is linked to the TSA maintained by the Central Bank of Nigeria	4.72	0.54
4	Your MDA access its account balance in real-time	4.61	0.76
5	Your MDA consolidate its Cash Balance as at when due	4.87	0.35

Source: Field Survey 2021

Table 4 showed that the mean ratings of the responses on all determinants of operationalizing TSA by the MDAs are within the real limit of 4.87 – 4.61 on a 5-point rating scale. This revealed that the respondents believe that TSA is being operationalized by their MDAs.

4.1.4. Responses on Whether Implementation of TSA Prevents Fraud

***Table 5.** Mean value of responses on whether implementation of TSA prevents fraud in federal MDAs.*

SN	Measures	Mean	SD
1	The introduction of TSA ensures an effective Internal Control system in your MDA.	4.84	0.559
2	Introduction of TSA aid in the effective monitoring and evaluation of financial activities in your MDA.	4.88	0.415
3	TSA prevents unlawful use of public funds for private advances	4.81	0.586
4	introduction of the TSA prevents over-and under-invoicing	4.66	0.742
5	1mplementation of the TSA deter the payment of ghost workers and pensioners	4.95	0.239
6	Introduction of the TSA avert payment for goods or services not provided or rendered in federal MDAs	4.82	0.604
7	Introduction of the TSA avert inflation of prices of goods and services	4.86	0.467
8	Implementation of the TSA prevents MDAs secrecy around the management of public finances	4.80	0.599
9	TSA is an avenue upon which transparency in public expenditure is achieved	4.70	0.695
10	TSA served as a tool for fraud risk assessment in MDAs	4.89	0.323

Source: Field Survey 2021

Table 5 above revealed the mean ratings of the responses on all the measures employed goes beyond 4 and near 5 (4.81 – 4.95) which implies that the respondents strongly believed that TSA implementation aid in the mitigation of fraud perpetration in their MDAs.

4.1.5. Responses on Whether Implementation of TSA Aid in Consolidating Government Cash Balances

Table 6 revealed that that the mean of all the measures employed is between 4.95 and 4.37 which is very close to 5 (strongly agreed).

Table 6. *Mean value of responses on whether implementation of TSA Consolidates Cash Balances.*

SN	Measures	Mean (x)	SD
1	Implementation of the TSA by federal MDAs avail their cash balances in real-time	4.77	.608
2	Implementation of the TSA in Nigeria reduce debt servicing costs	4.83	.414
3	TSA cover both budgetary and extra-budgetary balances in Nigeria	4.92	.452
4	Implementation of the TSA control the delay in the remittance of government revenues	4.37	.907
5	Implementation of the TSA ensure rapid payment of government expenses	4.90	.305
6	Implementation of the TSA ensure prompt remittance of all revenues due to government	4.94	.253
7	Implementation of the TSA aid MDAs to execute a more viable project	4.92	.329
8	TSA implementation ensure timely rendition of MDAs' financial transactions (Transcript of accounts)	4.87	.409
9	Implementation of TSA save MDAs the problem of a warrant being issued without cash backing	4.84	.462
10	Implementation of TSA reduce the country's debt burden	4.95	.270

Source: Field Survey 2021

4.1.6. Responses on Whether Implementation of TSA Help in Blocking Revenue Leakages

Table 7. *Mean value of responses on whether implementation of TSA blocks revenue leakages.*

SN	Measures	Mean (x)	SD
1	Does the implementation of TSA in Nigeria significantly increased revenue generation?	4.90	0.463
2	Does the introduction of TSA serve as a yardstick of public expenditure management in Nigeria?	5.00	0.063
3	Does the implementation of TSA significantly reduce the rate of bribery and corruption in Nigeria?	4.96	0.206
4	Does the implementation of TSA bring about transparency and accountability in public finance management?	4.81	0.575
5	Does the introduction of TSA reduce the rate of revenue diversion in the public sector?	4.99	0.089
6	Does the implementation of TSA ensure that public financial resources are harnessed efficiently and effectively?	4.99	0.109
7	Does TSA implementation aid effective implementation of government projects?	5.00	0.063
8	Does the implementation of TSA bring about fiscal discipline in MDAs?	4.99	0.109
9	Does TSA implementation increase the volume of the country's revenue?	4.98	0.125
10	Does implementation of TSA brought about transparency in public spending?	4.98	0.125

Source: Field Survey 2021

Table 7 presented a mean value of responses on the effect TSA implementation has in blocking leakages in the public sector. The mean between $5 - 4.81$ revealed that the respondents believed all the 10 measures stated in the questionnaires to determine the effectiveness of TSA on blocking.

4.2. Inferential Analysis

4.2.1. Correlation

This section analyses data collected to determine the relationship between TSA and Fraud prevention in federal MDAs as presented in Table 8. The table indicates the absence of a multicollinearity problem between the independent variables. The highest correlation coefficient is 0.41 which is lower than the maximum allowed threshold of ±0.8 or ±0.9. Table 8 supported the outcome of the correlation coefficient for the absence of multicollinearity between the study variables as the highest VIF value is 1.253. Multicollinearity problem arises where VIF values are>10 [12].

Table 8. *Correlation matrix result.*

Variables		TSA	FP	CC	BL	Tolerance	VIF
TSA	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	252					
FP	Pearson Correlation	.141[*]	1			.8292	1.206
	Sig. (2-tailed)	.025					
	N	252	252				
CC	Pearson Correlation	.034	.271[**]	1		.8292	1.206
	Sig. (2-tailed)	.591	.000				
	N	252	252	252			
BL	Pearson Correlation	.034	.241[**]	.413[**]	1	.9980	1.002
	Sig. (2-tailed)	.590	.000	.000			
	N	252	252	252	252		

Source: SPSS v20 soft output, 2021.
*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

The result from the analysis in Table 8 shows a positive, and statistically significant ($r=0.141$; $p < 0.05$) relationship between TSA and FP at a 5% level of significance. This implies that the more effective TSA is the higher reduction of chances of fraud perpetration in the public sector. Equally revealed from the result is a positive and significant relationship between FP and

CC with a p-value of 0.000 < 0.01.

4.2.2. ANOVA Result

Another important result from the regression result is

Analysis of Variance (ANOVA) which tests for acceptability of models from the statistical point of view presented in Table 9.

Table 9. ANOVA result.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.636	3	0.212	10.254	0.000[b]
	Residual	5.124	248	0.021		
	Total	5.760	251			
a. Dependent Variable: FP						
b. Predictors: (Constant), BL, TSA, CC						

Source: SPSS v20 soft output, 2021.

From the result in Table 9, it can be seen that the significance value of f-statistics is small (0.000) which is less than 1% which indicated that TSA explained the variation in FP as evidence from the significant p-value.

4.2.3. Regression Results

Table 10 is a regression result of the dependent variable (FP) regressed against the independent (TSA) and control variables (CC and BL) introduced.

Table 10. Regression results on the effect of TSA on Fraud prevention.

Dependent variable	Coefficient	Fraud prevention (FP)		
Predictor variables		Std. Error	t-Statistics	P-Value
(Constant)	1.089	0.789	1.381	0.169
TSA	0.103	0.048	2.155	.032**
CC	0.279	0.090	3.099	.002*
BL	0.388	0.167	2.321	.021**
R=	0.664			
R^2=	0.420			
Adj. R^2=	0.400			

*Significant at 1%; **Significant at 5%
Source: SPSS v20 soft output, 2021.

The result from the analysis in Table 10 confirms that TSA alongside control variables introduced are positively related to FP in Nigeria. TSA has a positive relationship with FP evident from a positive coefficient of 0.103 and a p-value less than 0.05 (0.032). This is an indication that TSA significantly affects fraud perpetration in Nigeria thus supporting the findings of Effiong et al. [4]. All the control variables introduced are positively significant with a p-value of 0.002 and 0.021 against CC and BL respectively. Also revealed from the analysis in Table 10 is that the independent variables (TSA) alongside the control variables (CC and BL) account for about 42% variation in the dependent variable (FP) and the remaining 58% is accounted for by other factors outside the variables introduced.

5. Conclusion and Recommendations

In view of the foregoing findings from the analysis, the study concluded that the introduction of TSA aid in the efficient and effective utilization of public finances by preventing the perpetration of fraudulent acts bedeviling public financial management which has been affecting accountability and transparency in the public sector. This is because the policy ensures prompt consolidation of government cash balances into a single account maintained by the country's apex bank. The policy is believed to be an avenue for timely collection of revenue and payment of expenditures without the

intervention of banks. In view of the above, the study, therefore, concluded that the implementation of TSA has aided to a large extent in the elimination of fraud and other irregularities in the public sectors.

Based on the findings and conclusion reached, the study recommended the need for informative campaigns to enlighten the public on the need for the implementation of the policy, there should also be a framework for the operation of the TSA. The government should also overhaul the capacity of the Federal Ministry of Finance and the CBN to cope with challenges associated with the enforcement of the provisions of the TSA. The government should secure as soon as possible the appropriate legislative support to facilitate the relevant regulatory environment which will drive the effective implementation of the treasury single account by all MDAs and lastly, there is a need for more legislation to cover the states and local government levels since the policy in question only covered the federal level.

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