



## **AN EVALUATION OF SOCIAL SECTOR BUDGETING IN SOKOTO STATE, NIGERIA**

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### **Abstract**

*The Nigerian National Bureau of Statistics, in its 2019 Poverty and Inequality report, ranked the North Western state of Sokoto as the poorest in the country, with 87.7 percent of the population classified as poor. Given the importance of the social sector in poverty reduction, this study examines the budgeting process in Sokoto state, with a view to ascertaining the spending pattern on the social sector. Using basic autoregressive models and conducting diagnostic tests, including the CUSUM model stability test, the study found that the budget for health and water and sanitation for previous periods, have significant positive effects on the current budget. The effect is also positive for Education but not significant. Past allocations for Nutrition, Child Protection and Social Protection have significant negative effect on current provisions. This may be attributed to the fact that these budgetary allocations are designed and implemented by different institutions. Overall, past budget allocations for the social sector have significant positive effect on current provisions. This therefore means that the budget for the social sector in Sokoto state follows a consistent pattern.*

*Keywords: Public administration, Sokoto, Budget, Health, Education, Water*

## INTRODUCTION

In Nigeria, Sokoto was created in 1976 from the defunct North-West state and is home to mostly the Hausa and Fulani ethnic groups, majority of whom are Muslims. The state is endowed with varieties of mineral resources, especially limestone and kaolin, but are largely untapped or at best being extracted using crude methods. The National Bureau of Statistics (NBS), in its Annual Abstract of Statistics (2012), estimates that Sokoto is the 13th largest state in the country by landmass, with a size of 27,825 square kilometres. In terms of population, the National Population Commission (NPC) in its 2016 estimate, indicated that the state's population is about 4.7 million, thereby making it the 17th most populous state in Nigeria. The poverty rate in Sokoto is the highest in the country as the NBS in its 2019 Poverty and Inequality report, estimated that 87.7 percent of the population in the state are poor.

The business environment in Sokoto state, as reflected in the World Bank 2018 Sub-national Ease of Doing Business, points to mixed accomplishment in 2018. While the state's ranking in Dealing with Construction Permits and Enforcing Contracts components were commendable, as it ranked 7th and 15th in these components, the performance in Starting Business and Registering Property units were poor. While it ranked 33rd in the starting a business unit, it placed 30th in registering of property part.

Given the level of poverty in Sokoto state, the objective of this study is to investigate the budget process in the state and ascertain the pattern of social sector allocations and actual expenditure. The rationale for this study is based on the view that the budget is the main fiscal and public policy tool that governments use to provide infrastructure and redistribute income (Egvide and Agbude, 2012). Besides, the importance of the social sector stems from the fact that issues concerning health, education, water and sanitation, and child protection, as well as social protection, are crucial in alleviating poverty, especially as it concerns women, children and the disadvantaged in the society. Apart from public funds, Development Partners usually intervene to support government initiatives in these areas.

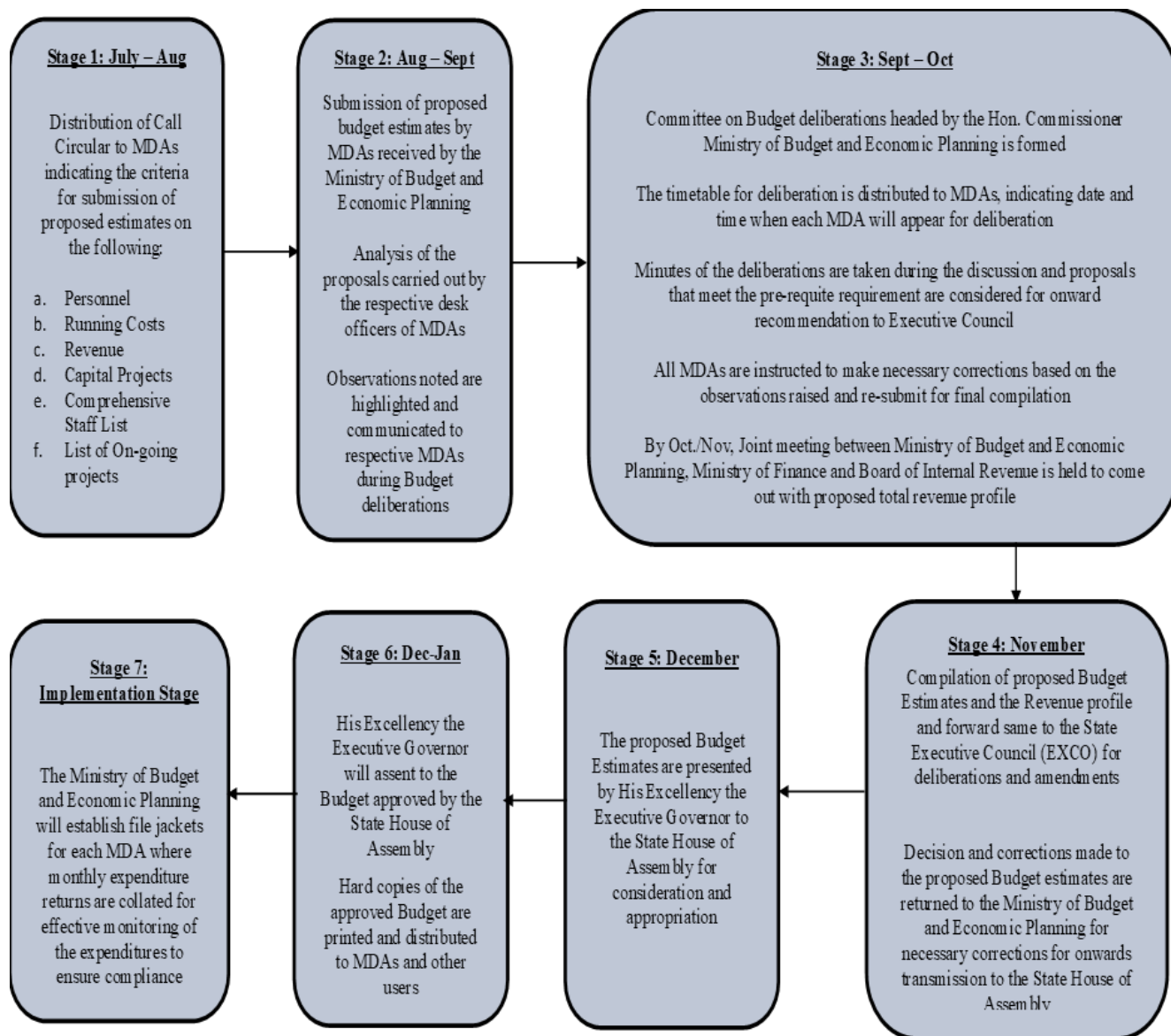
The subsequent sections of this study are structured as follows: section 2 discusses the budget process in Sokoto, while section 3 describes the social sector in the state and the pattern of budgetary allocation and actual spending, between 2008 and 2018. Section 4 provides the empirical analysis for explaining whether social sector budgeting in Sokoto follows a consistent pattern and section 5 concludes the study.

## THE BUDGET PROCESS IN SOKOTO

Figure 1 below illustrates the budget process in Sokoto as provided by the Ministry of Budget and Economic Planning (MBEP). The state operates a January – December budget cycle that has seven stages. The first stage starts between July and August when the Budget Call Circular (BCC) is distributed to the Ministries, Departments and Agencies (MDAs). The BCC explains the guidelines for preparation of budget estimates and modalities for submission. MDAs then submit their proposals between August and September. Observations are made by the MBEP and the MDAs are then communicated to present a revised budget. Activities in the third stage are between September and October, and starts with the setting up of the Committee on Budget Deliberations which is chaired by the Commissioner of the MBEP. The Committee on Budget Deliberations has representations from the Ministry of Finance, Board of Internal Revenue and Civil Society Organisations (CSOs).

Two key activities are carried out in November, in the fourth stage. The consolidated budget and revenue estimates are forwarded to the State Executive Council for deliberations and necessary amendments. The conclusion and alterations made to the proposed Budget estimates are returned to the supervising Ministry for corrections before transmission to the State House of Assembly. In the fifth stage, the proposed Budget Estimates are presented by the Executive Governor to the State House of Assembly for consideration and appropriation. In the sixth stage, the Governor assents to the Budget, as approved by the State House of Assembly, and hard copies of the approved Budget are printed and distributed to MDAs and other users. Finally, the MBEP creates file jackets for each MDA where monthly expenditure returns are collated for effective monitoring of the expenditures to ensure compliance. This is the seventh and last stage of the budget process in Sokoto state.

Figure 1: The Budget Process in Sokoto

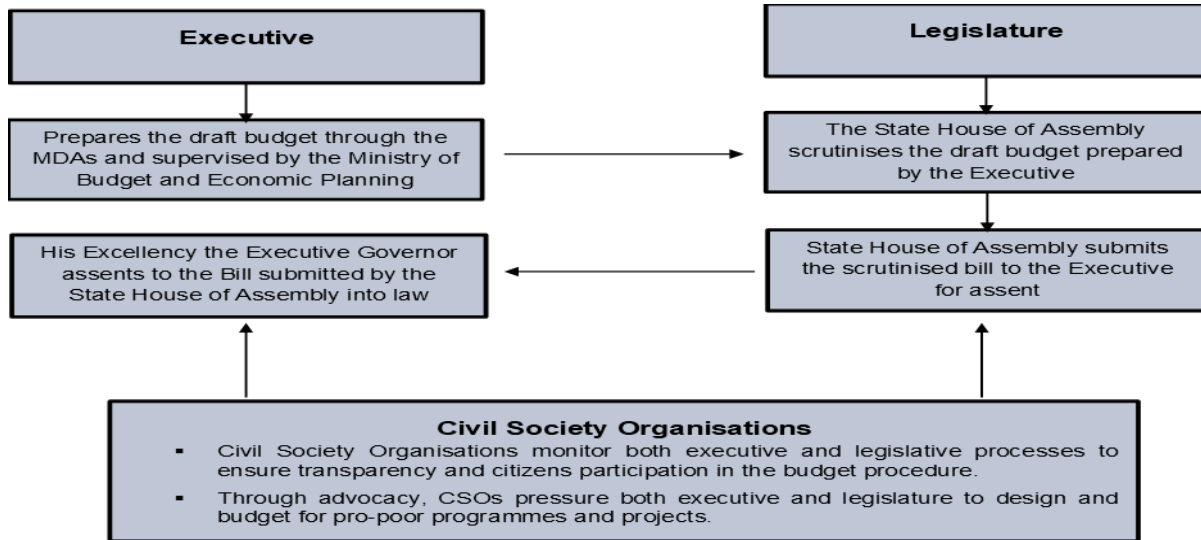


Source: Sokoto State Ministry of Budget and Economic Planning

The key players in the budget process in Sokoto state, as depicted in the figure 2, comprises of Government and Non-Government Institutions. Government is made up of the Executive and Legislature. The MDAs are the actors from the Executive side while the State House of Assembly conducts legislative activities relating to the budget. The Non-Governmental organisations (NGOs) comprise mainly of Civil Society Organizations (CSOs) whose activities focus on different sectors of the economy. For example, apart from monitoring the entire budget process, the Educational Empowerment Initiatives of Nigeria (EEIN) is a non-governmental organisation that is concerned about education and thus makes specific contributions to the

education budget. The CSOs use advocacy to pressure government, not just to design certain policies, but also to increase spending in relevant sectors.

Figure 2: Key Players in the Budget Process

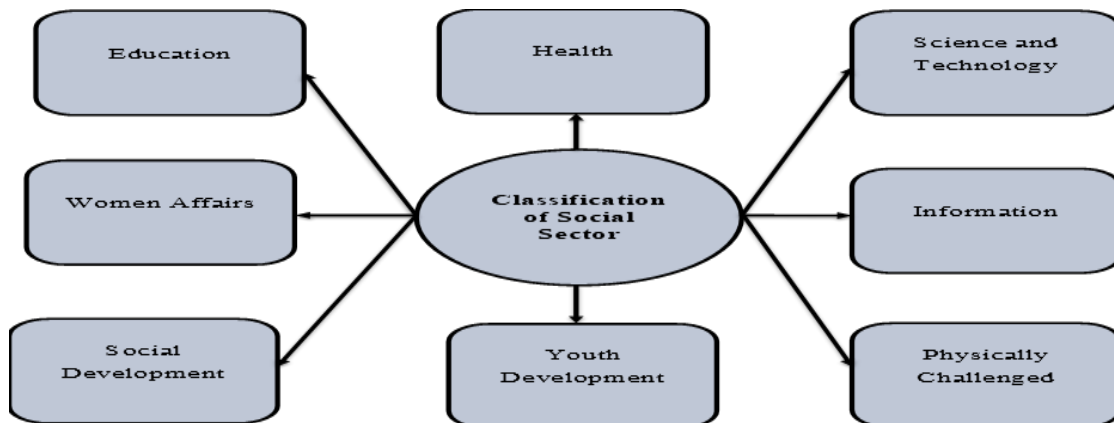


Source: Authors' compilation

### SOCIAL SECTOR ANALYSIS

The social sector in Sokoto state, as depicted in figure 3, comprises of various sub-sectors such as Education, Health, Science and Technology, Women Affairs and Information. The others are Social Development, Youth Development, and the Department for the Physically Challenged. Programmes, projects and activities implemented by these MDAs are crucial for reducing poverty and income inequality, especially for improving the living conditions of women, children and the disadvantaged.

Figure 3: Classification of Social Sector



Source: Authors Design

Table 1 below shows how Sokoto allocated the capital budget for the social sector between 2008 and 2018 (see appendix 2, p. 13). It is obvious that Education is a top priority as N159.29 billion (59%) of the total social sector capital of N271.96 billion, was allocated to the sub-sector in the period. Health received the second highest votes of N57.81 billion (36%), while the allocation to Women Affairs was only N6.10 billion (3.8%) of the total social sector capital between 2008 and 2018.

Table 1: Social Sector Capital Budgets (N'bn)

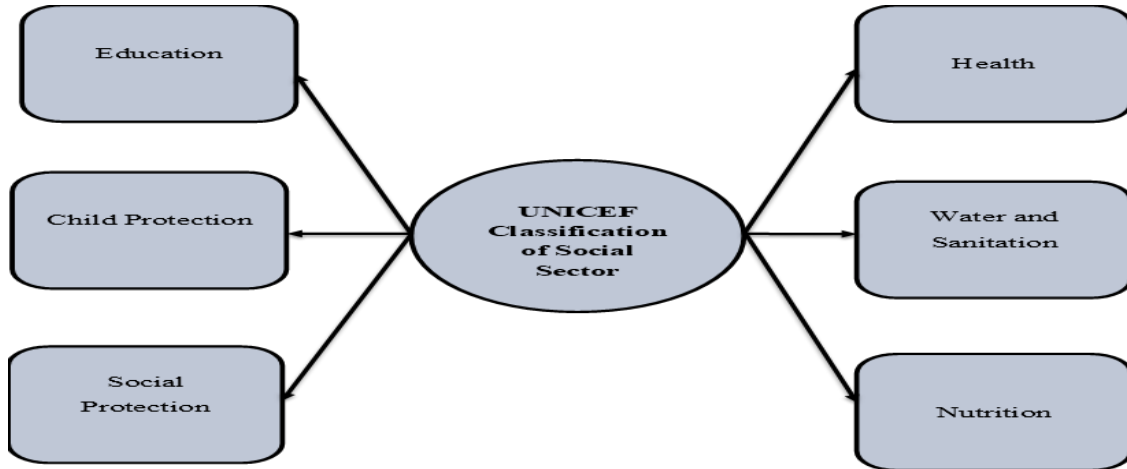
	Education	Science and Tech	Health	Women Affairs	Information	Social Development	Youth Development	Physically Challenged	Total
2008	4.859	0.981	3.277	0.101	0.665	2.326	0.508	0.000	12.72
2009	4.880	0.780	2.004	0.110	0.337	1.060	0.488	0.000	9.66
2010	7.595	0.629	1.816	0.277	0.658	0.956	0.681	0.018	12.63
2011	6.526	0.728	2.149	0.344	0.635	0.795	1.131	0.018	12.33
2012	7.864	1.320	5.979	0.506	0.895	0.804	1.820	0.034	19.22
2013	7.744	1.250	5.333	0.778	0.795	0.681	2.110	0.040	18.73
2014	7.358	0.980	4.335	0.773	0.382	0.383	2.062	0.031	16.30
2015	7.146	0.701	3.516	0.506	0.448	0.328	1.130	0.017	13.79
2016	31.604	3.005	5.580	0.872	0.772	0.568	3.453	0.073	45.93
2017	36.126	2.500	7.828	1.057	0.727	0.591	1.518	0.080	50.43
2018	37.595	3.469	15.991	0.785	0.742	0.606	1.045	0.000	60.23
<b>Total</b>	<b>159.297</b>	<b>16.344</b>	<b>57.807</b>	<b>6.109</b>	<b>7.055</b>	<b>9.099</b>	<b>15.946</b>	<b>0.311</b>	<b>271.97</b>

Source: Sokoto State Approved Budgets 2008 – 2018

For the purposes of standardising the definition of the social sector, figure 4 shows the composition, as put forward by the United Nations International Children Emergency Fund (UNICEF). According to this description, the social sector comprises of Education, Health, Child Protection, Social Protection, Nutrition and Water and Sanitation. This classification is premised on the principle that public policy should concentrate on designing and funding programmes and projects that are relevant for the welfare of women, children and the disadvantaged in the society.

Based on UNICEF's classification, the allocations and spending on the sub-sectors were estimated. While education and health projects are directly under the Ministries of Education and Health, the others, that is, nutrition, child protection, social protection and water and sanitation, are cross-cutting and are not under a dedicated government institution. As such, the approach for estimating the social sector budget in Sokoto, based on UNICEF's classification, is described in Appendix 1.

Figure 4: Classification of Social Sector



Source: Authors Design

**METHODOLOGY**

**Estimation techniques**

This section provides an empirical analysis of the extent to which the preceding budgetary allocations for the social sector affects the current provisions for the sector, in Sokoto state. In other words, the goal is to ascertain if the health budget for the previous period, for example, influences the current year’s budget.

The estimation technique is a basic autoregressive AR(1) model of the form:

$$Y_t = \alpha + \beta Y_{t-1} + U_t \dots\dots\dots 1$$

This equation means that variable Y, which is the dependent variable at time t, depends on its previous value Y<sub>t-1</sub> which is the independent variable. α is known as the Intercept while β is the coefficient that explains the extent to which Y will change if there is a unit or percentage change in Y<sub>t-1</sub>. Because we have not assumed a deterministic model, that is a model in which only the independent variable affects the dependent variable, U<sub>t</sub> which theoretically is the error term, is included in the model and captures the effects of other factors that may affect the dependent variable Y but are not included in the model.

Applying this concept to Sokoto state, and using it to provide an indicative idea of how the budget of previous periods affects current budgets, the following equations are estimated:

$$EDB_t = \alpha + \beta EDB_{t-1} + U_t \dots\dots\dots 2$$

Equation 2 means that Education Budget in current period (EDB<sub>t</sub>) depends on Education Budget in the previous period (EDB<sub>t-1</sub>)

$$HB_t = \alpha + \beta HB_{t-1} + U_t \dots\dots\dots 3$$



Equation 3 implies that Health Budget in current period (HBt) depends on Health Budget in the previous period (HBt-1)

$$NBt = \alpha + \beta NBt-1 + Ut \dots\dots\dots 4$$

Equation 4 connotes that Nutrition Budget in current period (NBt) depends on Nutrition Budget in the previous period (NBt-1)

$$WSBt = \alpha + \beta WSBt-1 + Ut \dots\dots\dots 5$$

Equation 5 indicates that Water and Sanitation Budget in current period (WSBt) depends on Water and Sanitation budget in the previous period (WSBt-1)

$$CPBt = \alpha + \beta CPBt-1 + Ut \dots\dots\dots 6$$

Equation 6 specifies that Child Protection Budget in current period (CPBt) depends on Child Protection Budget in the previous period (CPBt-1).

$$SPBt = \alpha + \beta SPB t-1 + Ut \dots\dots\dots 7$$

Equation 7 specifies that Social Protection Budget in current period (CPBt) depends on Child Protection Budget in the previous period (CPBt-1).

$$TSBt = \alpha + \beta TSBt-1 + Ut \dots\dots\dots 8$$

Total Social Budget in current period (TSBt) depends on Total Social Budget in the previous period (TSBt-1).

Table 2 explains the concepts that help in the interpretation of the results:

Table 2: Concepts to Aid Interpretation of Regression Results

	<b>Concept</b>	<b>Interpretation</b>
<b>1</b>	Coefficient	Describes the change in current budget based on the percentage change in previous budget
<b>2</b>	P-value	Explains whether the change that occurred in (1) is significant. If the figure is less than 0.05, then the effect is significant, meaning that the change in the current budget was not affected by the previous budget by chance.
<b>3</b>	R-Square	Explains the extent to which the previous budget accounts for variation in the current budget.
<b>4</b>	Assumption of Model Stability	The model is stable, that is, no sudden and/or unexpected events will affect the impact of previous budget on the current budget.
<b>5</b>	Assumption of No Serial Correlation	This means that the previous year's budget Yt-1 is not correlated with the error term Ut so that the effect of the previous year's budget on the current budget can be clearly established. If the p-value is less than 0.05, then the assumption is violated
<b>6</b>	Assumption of No heteroskedasticity	Means that the variance of the error term Ut that explains the effects of variables not included in the model is the same. If the p-value is less than 0.05, then the assumption is violated
<b>7</b>	Akaike Information Criterion	It is used to select how good or bad a model is. The lower the figure, the better the model



## Data

Data for this study is derived from the budgetary allocations for Health and Education, as well as the estimated allocations for Nutrition, Child Protection, Social Protection and Water and Sanitation sub sectors, for 2008 to 2018. Since the period under consideration provides only 11 data points, which is inadequate for carrying out any meaningful empirical testing, we convert the dataset from annual to quarterly figures using Gretl, resulting to 44 data points. In other words, the budgetary allocations were converted from yearly to quarterly figures, to ensure that there are enough data points to estimate the extent to which previous budgetary allocations in Sokoto affects current provisions.

Apart from converting the data from annual to quarterly, we ascertain the time series properties of the variables by checking for stationarity. This means that we establish if the variables will return to equilibrium in the event of a shock. A shock means a sudden change or occurrence in the economy. The essence is to ensure that the regression results are meaningful and not spurious.

Panel A in Appendix 2 shows the graphic illustration of the variables in their original form. This indicates that they all trended upwards, meaning that they are not stationary or will not revert to equilibrium in the event of a shock or sudden change in the system. Panel B shows the variables in their original, but log form and they still exhibited trend. Panel C shows the variables in log and first difference form, and indicates that the trends have been removed and they are stationary. The models were thus estimated using the variables in their differenced form.

## RESULTS

The results of the estimated models are shown in Tables A-G in Appendix 3, while Table 3 below shows the summary.

Table 3: Summary of Estimated Regression Results

	Coefficient	P-value	R-Square	P-value for Serial Correlation	P-value for Heteroskedasticity Test	Akaike Information Criterion	Model Rank
Education	0.1579	0.3109	0.0257	0.6969	0.2811	-0.5476	3
Health	0.7824	0.0000	0.6286	0.0330	0.0000	-2.2716	1
Nutrition	-2.4207	0.0004	0.8955	0.0187	0.5963	2.0094	6
Water & Sanitation	0.3601	0.0083	0.1618	0.0055	0.2863	0.4800	4
Child Protection	-0.6583	0.0652	0.3631	0.3314	0.9449	3.4877	7
Social Protection	-0.8868	0.0000	0.7197	0.0757	0.0054	1,8282	5
Total Social Sector	0.5894	0.0000	0.3769	0.1742	0.3984	-1.8099	2

The interpretations of the results and the policy implications are as follows:

a) Previous budgetary allocations for Health, Total Social Sector and Water and Sanitation have significant positive impact on current allocations. The effect is also positive for Education but not significant, while the effects were significantly negative for Social Protection, Nutrition and Child Protection.

b) Previous budgetary allocations had the highest influence in terms of variation for Nutrition, with R-square of approximately 90%, followed by Social Protection 72% and Health 63%. Education has the lowest R-square of 2%, meaning that previous allocation had very low effect on the variation of current budget.

c) Of all the estimated models, Health and Social Protection violated the serial correlation and heteroskedasticity assumptions, while Total Social Sector, Education and Child Protection did not violate any of the assumption. However, Water and Sanitation and Nutrition violated the serial correlation assumption but not the heteroskedasticity test. All the models did not violate the stability assumption as shown in all the graphs in Appendix 4. The stability graphs are plotted using the CUSUM test and the condition for model stability is that the blue line must be within the two red lines.

d) The Akaike information criterion shows that the estimated model for Health is the best because it has the lowest Akaike figure, followed by the Total Social Sector model and then Education. The Water and Sanitation model ranked 4th while Social Protection is placed at 5th and Nutrition 6th. The Child Protection model is the least ranked as it has the highest Akaike Information Criteria.

e) The policy implications of the results are as follows:

i. The positive effect of the previous period's budgets on current period's budget for Education and Health may be attributed to the fact that the Ministries of Health and Education are organised institutions. Therefore, their budget preparation procedures follow a consistent pattern.

ii. The positive effect of Water and Sanitation may also be attributed to the fact that water provision and sanitation issues fall under one agency.

iii. The significantly negative effect of previous periods budget for Nutrition, Child Protection and Social Protection, can be attributed to the fact that the programmes, projects and activities

are cross-cutting and are not implemented by a single MDA. This weakens a coherent and systematic approach to preparing their budgets.

iv. Past Total Social Sector Budget has significant effect on the current budget. However, the low R-square of 38% suggests that apart from Health, Education and Water and Sanitation, there is need for Sokoto state to improve on the processes for preparing the budgets for Nutrition, Child Protection and Social Protection.

## SUMMARY AND CONCLUSION

This study examined the social budgeting pattern in the North Western state of Sokoto, Nigeria. According to the Nigerian National Bureau of Statistics, the state is the poorest in the country, with approximately 88 percent of the population classified as poor. Since the social sector is crucial for poverty alleviation, this study scrutinised the social sector budget by investigating if the budget for previous periods affect current allocations.

Using basic autoregressive models and conducting diagnostic tests, including the CUSUM model stability test, the study found that the previous period's budgets for Health and Water and Sanitation have significant positive effect on current budget. The effect is also positive for Education but not significant. Past allocations for Nutrition, Child Protection and Social Protection have significant negative effect on current provisions and this may be attributed to the fact that these are designed and implemented by different institutions. Overall, past allocations for the social sector have significant positive effect on current provisions, and this means that the social sector budget for Sokoto state follows a consistent pattern.

Future studies may consider social budgeting in two similar states as this will provide an insight into the progress, or otherwise, being made by these states.

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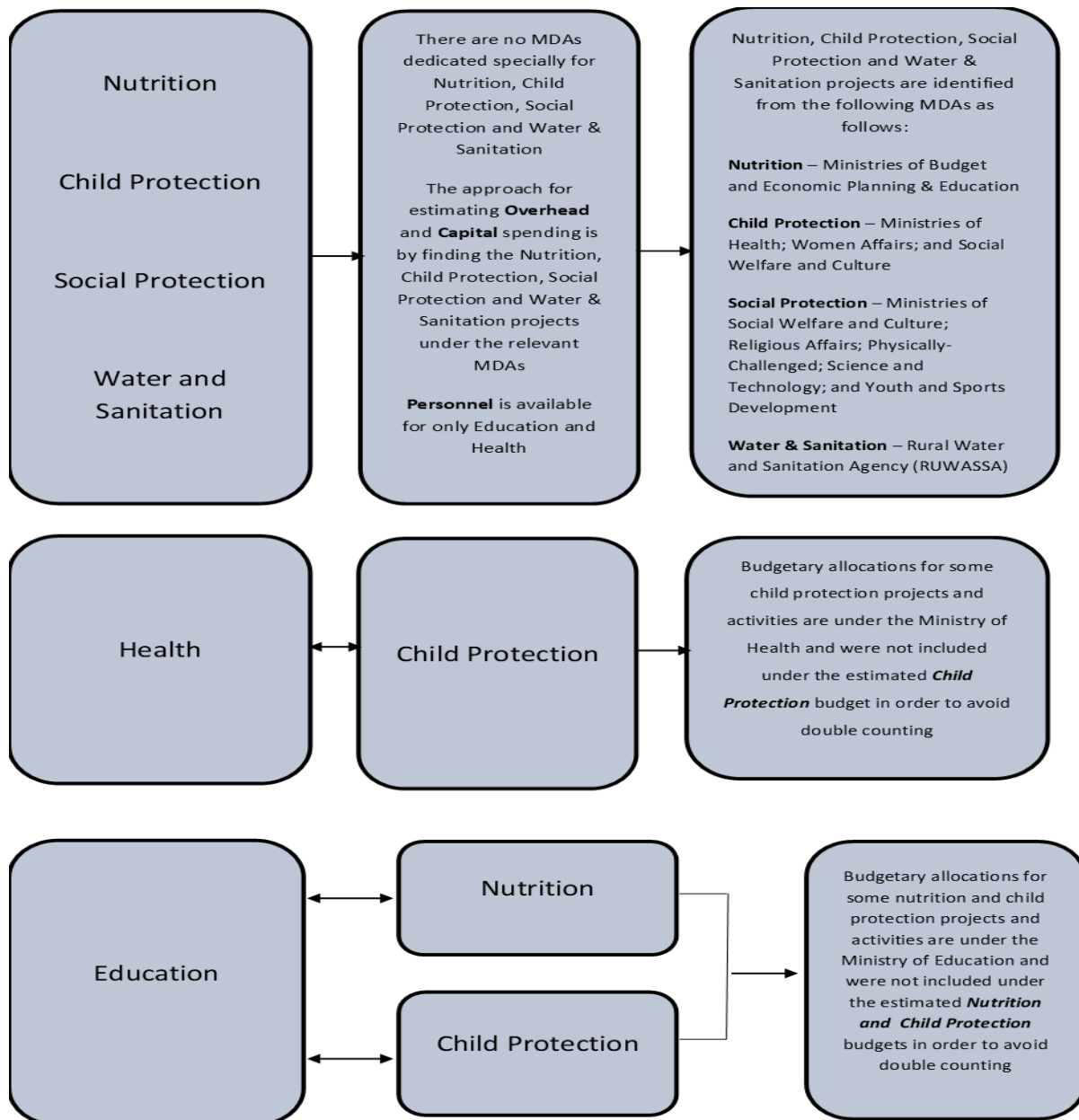
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APPENDICES

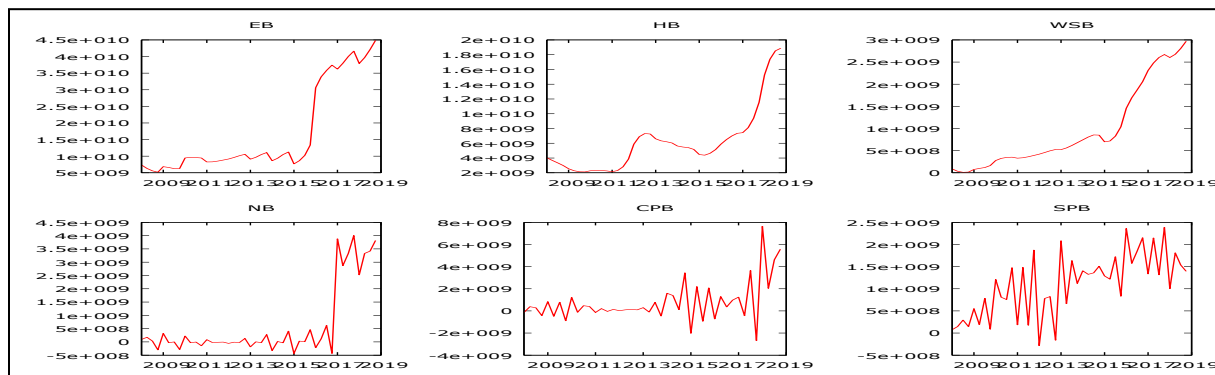
**Appendix 1**

**Approach for Estimating Social Sector Spending**

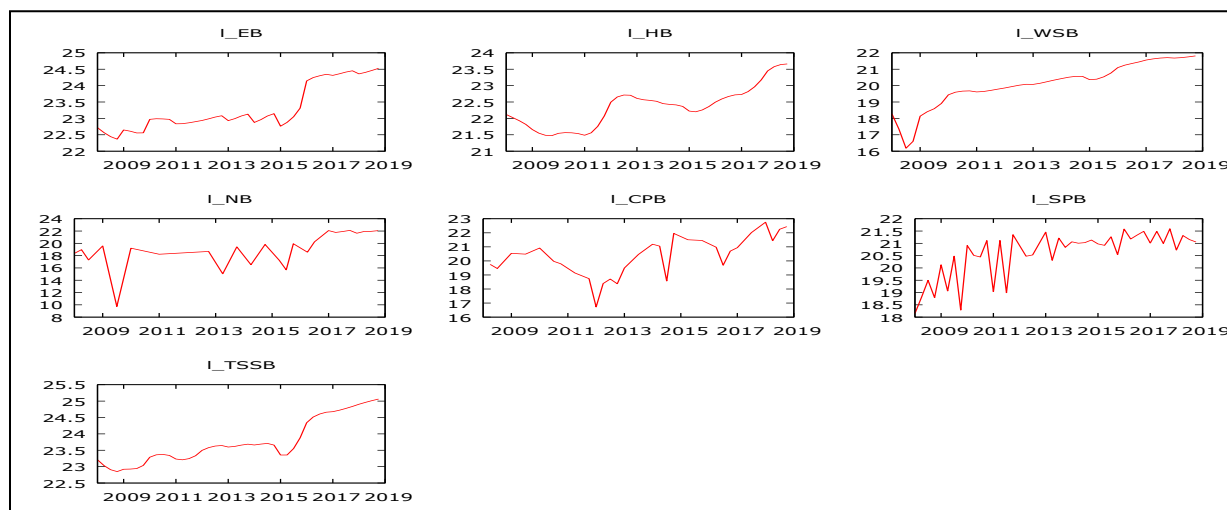


## Appendix 2

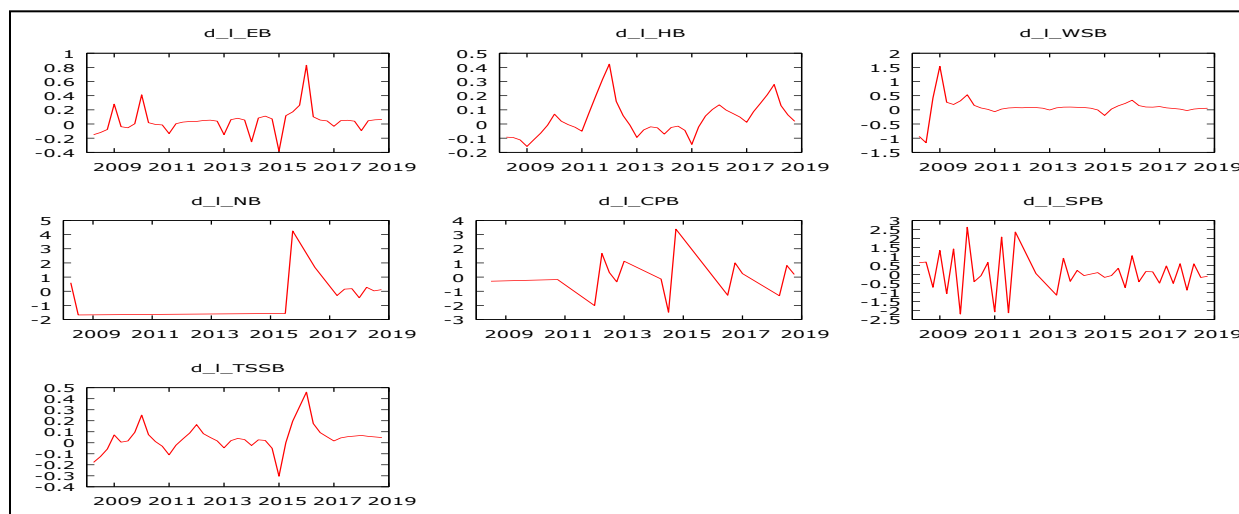
### Panel A: Variables in their Original Form



### Panel B: Variables in their Log Form



### Panel C: Variables in their Log and First Difference Form



**Appendix 3****Table A: Results Estimated Regression for Education Budget**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.040149	0.028471	1.410154	0.1662
EDB(-1)	0.157945	0.153896	1.026311	0.3109
R-squared	0.025657	Mean dependent var	0.046721	
Adjusted R-squared	0.001299	S.D. dependent var	0.179905	
S.E. of regression	0.179788	Akaike info criterion	-0.547631	
Sum squared resid	1.292946	Schwarz criterion	-0.464885	
Log likelihood	13.50025	Hannan-Quinn criter.	-0.517301	
F-statistic	1.053314	Durbin-Watson stat	2.007277	
Prob(F-statistic)	0.310912			
<b>Breusch-Godfrey Serial Correlation LM Test</b>				
F-statistic	0.364534	Prob. F(2,38)	0.6969	
Obs*R-squared	0.790644	Prob. Chi-Square(2)	0.6735	
<b>Heteroskedasticity Test: Breusch-Pagan-Godfrey</b>				
F-statistic	1.193922	Prob. F(1,40)	0.2811	
Obs*R-squared	1.217284	Prob. Chi-Square(1)	0.2699	
Scaled explained SS	4.812378	Prob. Chi-Square(1)	0.0283	

**Table B: Results of Estimated Regression for Health Budget**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.010560	0.012214	0.864623	0.3924
HB(-1)	0.782375	0.095095	8.227266	0.0000
R-squared	0.628556	Mean dependent var	0.038958	
Adjusted R-squared	0.619270	S.D. dependent var	0.123054	
S.E. of regression	0.075929	Akaike info criterion	-2.271601	
Sum squared resid	0.230606	Schwarz criterion	-2.188855	
Log likelihood	49.70362	Hannan-Quinn criter.	-2.241271	
F-statistic	67.68790	Durbin-Watson stat	1.351588	
Prob(F-statistic)	0.000000			
<b>Breusch-Godfrey Serial Correlation LM Test</b>				
F-statistic	3.738247	Prob. F(2,38)	0.0330	
Obs*R-squared	6.904946	Prob. Chi-Square(2)	0.0317	
<b>Heteroskedasticity Test: Breusch-Pagan-Godfrey</b>				
F-statistic	29.21007	Prob. F(1,40)	0.0000	
Obs*R-squared	17.72608	Prob. Chi-Square(1)	0.0000	
Scaled explained SS	14.69936	Prob. Chi-Square(1)	0.0001	



**Table C: Results of Estimated Regression for Nutrition Budget**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.026865	0.215137	0.124872	0.9047
NB(-1)	-2.420720	0.337655	-7.169207	0.0004
R-squared	0.895466	Mean dependent var	0.358455	
Adjusted R-squared	0.878044	S.D. dependent var	1.701697	
S.E. of regression	0.594271	Akaike info criterion	2.009356	
Sum squared resid	2.118950	Schwarz criterion	2.029217	
Log likelihood	-6.037425	Hannan-Quinn criter.	1.875406	
F-statistic	51.39752	Durbin-Watson stat	3.080872	
Prob(F-statistic)	0.000372			
<b>Breusch-Godfrey Serial Correlation LM Test</b>				
F-statistic	12.62329	Prob. F(2,4)	0.0187	
Obs*R-squared	6.905855	Prob. Chi-Square(2)	0.0317	
<b>Heteroskedasticity Test: Breusch-Pagan-Godfrey</b>				
F-statistic	0.312562	Prob. F(1,40)	0.5963	
Obs*R-squared	0.396114	Prob. Chi-Square(1)	0.5291	
Scaled explained SS	0.090306	Prob. Chi-Square(1)	0.7638	

**Table D: Results of Estimated Regression for Child Protection Budget**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.345250	0.417072	0.827793	0.4318
DLCPB(-1)	-0.658288	0.308254	-2.135537	0.0652
R-squared	0.363084	Mean dependent var	0.593194	
Adjusted R-squared	0.283469	S.D. dependent var	1.496506	
S.E. of regression	1.266764	Akaike info criterion	3.487665	
Sum squared resid	12.83753	Schwarz criterion	3.548182	
Log likelihood	-15.43833	Hannan-Quinn criter.	3.421278	
F-statistic	4.560520	Durbin-Watson stat	2.725617	
Prob(F-statistic)	0.065228			
<b>Breusch-Godfrey Serial Correlation LM Test</b>				
F-statistic	1.335143	Prob. F(2,6)	0.3314	
Obs*R-squared	3.079813	Prob. Chi-Square(2)	0.2144	
<b>Heteroskedasticity Test: Breusch-Pagan-Godfrey</b>				
F-statistic	0.005093	Prob. F(1,40)	0.9449	
Obs*R-squared	0.006363	Prob. Chi-Square(1)	0.9364	
Scaled explained SS	0.007614	Prob. Chi-Square(1)	0.9305	

**Table E: Results of Estimated Regression for Social Protection Budget**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.104666	0.097933	1.068752	0.2927
SPB(-1)	-0.886756	0.094916	-9.342486	0.0000
<b>R-squared</b>	0.719662	Mean dependent var	0.091450	
<b>Adjusted R-squared</b>	0.711416	S.D. dependent var	1.093702	
<b>S.E. of regression</b>	0.587536	Akaike info criterion	1.828195	
<b>Sum squared resid</b>	11.73676	Schwarz criterion	1.916168	
<b>Log likelihood</b>	-30.90751	Hannan-Quinn criter.	1.858900	
<b>F-statistic</b>	87.28205	Durbin-Watson stat	2.490580	
<b>Prob(F-statistic)</b>	0.000000			
<b>Breusch-Godfrey Serial Correlation LM Test</b>				
<b>F-statistic</b>	2.800468	Prob. F(2,6)	0.0757	
<b>Obs*R-squared</b>	5.362465	Prob. Chi-Square(2)	0.0685	
<b>Heteroskedasticity Test: Breusch-Pagan-Godfrey</b>				
<b>F-statistic</b>	8.831424	Prob. F(1,40)	0.0054	
<b>Obs*R-squared</b>	7.422850	Prob. Chi-Square(1)	0.0064	
<b>Scaled explained SS</b>	14.99918	Prob. Chi-Square(1)	0.0001	

**Table F: Results of Estimated Regression for Water and Sanitation Budget**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.076629	0.047596	1.609984	0.1153
WSB(-1)	0.360075	0.129589	2.778598	0.0083
<b>R-squared</b>	0.161788	Mean dependent var	0.106394	
<b>Adjusted R-squared</b>	0.140832	S.D. dependent var	0.324243	
<b>S.E. of regression</b>	0.300545	Akaike info criterion	0.480008	
<b>Sum squared resid</b>	3.613088	Schwarz criterion	0.562754	
<b>Log likelihood</b>	-8.080174	Hannan-Quinn criter.	0.510338	
<b>F-statistic</b>	7.720605	Durbin-Watson stat	1.797487	
<b>Prob(F-statistic)</b>	0.008275			
<b>Breusch-Godfrey Serial Correlation LM Test</b>				
<b>F-statistic</b>	5.990264	Prob. F(2,6)	0.0055	
<b>Obs*R-squared</b>	10.06756	Prob. Chi-Square(2)	0.0065	
<b>Heteroskedasticity Test: Breusch-Pagan-Godfrey</b>				
<b>F-statistic</b>	1.167817	Prob. F(1,40)	0.2863	
<b>Obs*R-squared</b>	1.191424	Prob. Chi-Square(1)	0.2750	
<b>Scaled explained SS</b>	6.385472	Prob. Chi-Square(1)	0.0115	

**Table G: Results of Estimated Regression for Total Social Sector Budget**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.022999	0.015631	1.471412	0.1490
TSSB(-1)	0.589420	0.119818	4.919305	0.0000
R-squared	0.376943	Mean dependent var	0.048329	
Adjusted R-squared	0.361366	S.D. dependent var	0.119684	
S.E. of regression	0.095645	Akaike info criterion	-1.809908	
Sum squared resid	0.365915	Schwarz criterion	-1.727162	
Log likelihood	40.00807	Hannan-Quinn criter.	-1.779579	
F-statistic	24.19956	Durbin-Watson stat	1.609606	
Prob(F-statistic)	0.000015			
<b>Breusch-Godfrey Serial Correlation LM Test</b>				
F-statistic	1.830301	Prob. F(2,6)	0.1742	
Obs*R-squared	3.690423	Prob. Chi-Square(2)	0.1580	
<b>Heteroskedasticity Test: Breusch-Pagan-Godfrey</b>				
F-statistic	0.728523	Prob. F(1,40)	0.3984	
Obs*R-squared	0.751267	Prob. Chi-Square(1)	0.3861	
Scaled explained SS	1.342443	Prob. Chi-Square(1)	0.2466	

**Appendix 4 - Model Stability**

