Fiscal federalism and accountability in Nigeria: an ARDL approach

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Abstract

Purpose – The purpose of this paper is to examine the relationship between fiscal federalism and accountability in Nigeria. Corruption is a global plague and is endemic in nature. Several policies have been adopted by the Nigerian Government to institutionalize accountability and combat the scourge of corruption that have hindered socio-economic progress but to no avail.

Design/methodology/approach – Thus, this study examined fiscal federalism and accountability issues in Nigeria using secondary data and used the auto-regressive distributed lag econometric technique to analyse the data.

Findings – The results from this study reveal that fiscal federalism fails to mitigate corruption in the long run in Nigeria because of poor bureaucratic quality (BQ) and ineffective law and order (LOR).

Social implications – Fiscal decentralization must be accompanied by legislations that will strengthen BQ of fiscal institutions at subnational levels and promote effective LOR.

Originality/value – This study recommends that for fiscal federalism to mitigate corruption in the long run, government must adopt appropriate policies to improve BQ and further strengthen LOR in Nigeria. The finding also suggests that to promote public sector accountability in Nigeria, government should ensure the simultaneous decentralization of expenditure and revenue to lower tiers of government. This study provides detailed empirical evidence that fiscal decentralization without accountability will accentuate public sector corruption, and in the long run, weaken local economic development initiative to boost growth and development.

Keywords Accountability, Fiscal federalism, Fiscal decentralization, Autoregressive distributed lag

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1. Introduction

Fiscal federalism is the devolution of revenue powers and expenditure responsibilities to the various tiers of government in a federation, while fiscal decentralization is the extent to which taxing powers and expenditure responsibilities are devolved to subnational government in a federation (Ewetan, 2012; Taiwo, 1999; Tanzi, 1995). Fiscal federalism, no doubt, has become the centrepiece of national discourse in many countries that see decentralization as a strategy for addressing the critical challenge of accountability (Ewetan *et al.*, 2015b; Aigbokhan, 1999). Fiscal decentralization is now globally accepted for a number of reasons which include access to local information by local officials, promotion of inter-jurisdictional competition and alignment of interest of local government officials with preferences of local residents (Ma and Mao, 2018; Oates, 1972).

Nigeria has been confronted with the plague of corruption, which began in the 1970s till date with grave consequences for socio-political and economic development (Matthew *et al.*, 2020). Corruption is a global plague and is endemic in nature with a global average score of 43% and a major driver of poverty, inequality, insecurity, ethnic violence and denial of fundamental human rights (Transparency International, 2015; Babajide *et al.*, 2020). Institutionalization of accountability to mitigate corruption is goal that has attracted the attention of scholars, researchers, policymakers and development partners. Accountability involves transparency, institutional and agency relationships, interactions between public and non-public sectors and adequate monitoring mechanisms for execution of responsibilities, reportage and evaluation. The development experiences of developed and industrialized countries reveal that public sector accountability contributed significantly to their successful development narratives. Also the rapid economic development miracle recorded by the Asian Tigers within a short period confirms clearly that development cannot be achieved without accountability. The institutional framework of government whether federal or unitary in nature plays a significant role in addressing the issue of accountability in the public sector and its interface with the private sector.

In the post-independence period from 1960 to 1966, Nigeria practised fiscal federalism under a regional structure. During this period, the regions retained a significant proportion of the revenue generated and remitted the rest to the Federal Government. This fiscal arrangement promoted healthy competition among the regions, which spurred economic development and structural transformation of the regions. Accountability was the hallmark during this period as the regions made judicious use of the huge revenue they generated and retained. The economic gains and structural transformation of the early post-independence period was reversed when oil became the major foreign exchange earner and the military with its unitary command structure and centric tendencies took control of governance in 1966 and totally abandoned fiscal federalism. The huge petrol dollar created a false sense of economic prosperity, encouraged an over bloated fiscal structure through the creation of more states to provide political jobs for the military boys and their cronies, progressively destroyed accountability in public sector finances, enthroned public sector corruption and decimated the economic fortune of Nigeria. There was complete reversal of the modest regional economic achievements recorded during the first republic and till date Nigeria has continued to grapple with the lack of accountability and enthronement of pervasive public sector corruption. Thus, the significant economic progress made in the first republic has made many to canvass for the adoption of fiscal federalism to address the issue of accountability in Nigeria's public sector.

Against this background, this paper therefore, seeks to examine the extent to which re-introduction of fiscal federalism can help promote accountability in Nigeria. This study is presented in six sections. Section 2 presents a review of related literature and the theoretical framework for the study. Section 3 discusses the choice of variables, sources of data, models and estimation technique. Section 4 presents the results of estimated models. Section 5 discusses the results of the empirical analysis and implication of findings and Section 6 concludes the study.

2. Literature review and theoretical framework

Fiscal federalism theory states that in a federation, each tier of government is supreme within its defined delimited sphere and should also have appropriate taxing powers to exploit its independent sources of revenue to enable it carry out assigned fiscal responsibilities (Vincent, 2001; Wheare, 1963). It seeks to promote healthy intergovernmental relations and synergy in a federation (Ewetan, 2011; Taiwo, 1999; Oates, 1972; Tanzi, 1995).

In the empirical literature there is evidence that government in developing countries are far more centralized than in the industrialized countries (Oates, 1993; Innocents, 2011). The results of a study by Oates (1985) using a sample of 43 countries reveal an average share of central government spending in total public expenditure of 65% in the subsample of 18 industrialized countries as contrasted to 89% in the subsample of 25 developing nations. In terms of public revenues, the average share of central governments in the developing countries was in excess of 90% confirming that central government in the developing countries assumes the lion's share of fiscal responsibility. The weakness of local government in relation to central government in fiscal operations is one of the most striking phenomena of underdeveloped countries (Martin and Lewis, 1956).

Findings in the empirical literature on the relationship between decentralization and public sector accountability or corruption are mixed. Some studies find that decentralization promotes greater public sector accountability and government responsiveness, encourages local innovation in service provision, reduces corruption and improves regional balance in development (Agyemang-Duah *et al.*, 2018; Arif and Ahmad, 2018; Ewetan *et al.*, 2015a; Meloche and Vaillancourt, 2015; Zegras *et al.*, 2013; Gurgur and Shah, 2002; Huther and Shah, 1998; Arikan, 2004; De Mello and Barenstein, 2001). Other studies find that decentralization leads to corruption especially at subnational level of governance in developing countries (Bojanic, 2018; Fisman and Gatti, 2002). In a study on the impact of fiscal decentralization on accountability, economic freedom and political and civil liberties in the Americas, Bojanic (2018) finds that decentralization initially hampers but eventually enhances accountability and political and civil liberties, in line with the hypothesized positive correlation between greater fiscal autonomy and a more inclusive, participatory government. In a study on the effect of fiscal decentralization on poverty, Llorca-Rodríguez *et al.* (2017) affirm that the issues of accountability, fiscal assignments and fiscal strategy must be adequately addressed for fiscal decentralization to produce positive results in any country.

In Nigerian case, a comparative study by Ekanade (2011) on fiscal federalism and development in Nigeria and Canada posits that to overcome the challenge of accountability, Nigeria must learn from the Canadian experience with respect to accountability in public sector finances made possible by the culture of reverence for the constitution and the rule of law in their intergovernmental financial relations. Other studies on Nigeria find that fiscal centralization, mismatch between revenue sources and expenditure responsibilities and predatory and politically motivated parameters of revenue allocation have contributed significantly to lack of accountability in the public sector and economic and social backwardness (Ewetan, 2012; Alabi, 2010; Nwede *et al.*, 2013).

Similarly, some studies find that the faulty federal structure and the abandonment of fiscal federalism have promoted lack of accountability, corruption and violent struggle for resource control by ethnic militias (Ewetan *et al.*, 2015b; Daniel, 2015).

The literature review has revealed that the abandonment of fiscal federalism has contributed to the progressive destruction of public sector accountability in Nigeria with negative attendant consequences such as corruption, dysfunctional development and violent struggle for resource control by ethnic militias. There is therefore an urgent need for the government to address a number of issues such as fiscal laws that will ensure legal framework for beneficial and dynamic intergovernmental fiscal relations, significant devolution of fiscal powers and responsibilities to subnational government guided by the principles of fiscal federalism and the nurturing of strong, transparent, efficient and independent fiscal institutions that will ensure accountability, and that can address proactively emerging fiscal challenges of the 21st century in the public sector.

There is no formalized theory that links fiscal federalism and accountability. The first generation theory of fiscal federalism linked efficiency and equity in a federation to the decentralization of expenditure responsibilities and centralization of revenue responsibilities. The theory emphasized the importance and benefits of transfers of power for the purpose of addressing the problems of vertical and horizontal imbalances observed in government. It largely assumes that federating unit decision-makers are "benevolent" and can maximize the social welfare, ignoring the weakness in sub-national government in most developing countries (Jha, 2013; Rodden *et al.*, 2003). The first generation theory of fiscal decentralization was based on the decentralization theorem (Oates, 1999; Bird, 2009).

The decentralization theorem states that fiscal federalism promotes efficiency and accountability in public sector service delivery because local authorities can be held accountable for resources under their control (Oates, 1972; Ozo-Eson, 2005). Governments and their officials were seen as the custodians of public interest and as a result are expected to maximize social welfare through local outputs targeted at local demands at different multi-layer of government (Oates, 1999; Bird, 2009; Ozo-Eson, 2005).

3. Choice of variables and data source

Description of data and source are presented in Table 1. The study used annual data on study variables from 1981 to 2017 sourced from Central Bank of Nigeria Statistical Bulletin of Various Issues and International Country Risk Guide. To examine the link between fiscal federalism and accountability, the study used corruption index (CI) as a proxy for accountability. The study argues that where there is accountability, corruption will be mitigated; this is the dependent variable. The study also argues that fiscal federalism, bureaucratic quality (BQ) and law and order (LOR) will mitigate corruption and also increase the honesty level. On the basis of this argument, the independent variables include the three measures of fiscal decentralization (FDC1, FDC2 and FDC3); the other independent variables are BQ and LOR. All the variables are presented in Table 1.

3.1 Model and estimation techniques

The purpose of this study is to examine the relationship between fiscal federalism and accountability in Nigeria. To achieve this objective, the following specific objectives are investigated. Firstly, the study investigates the short- and long-run linkages between accountability and fiscal federalism in Nigeria. Secondly, it analyses the causal relationship between accountability and measures of fiscal federalism in Nigeria.

To estimate the error correction model (ECM), the unit root is carried out for the study variables using the augmented Dickey–Fuller (ADF) approach; the equation is given as:

Variable	Abbreviation	Data description and source
Decentralization of taxing power	FDC1	Measures the ratio of sub-national internally generated to total federal revenue (SIGR/FGR) Source: CBN Statistical Bulletin Various Issues
Decentralization of expenditure power	FDC2	Measures the ratio of sub-national expenditure to total federal expenditure (SEX/FGE) Source: CBN Statistical Bulletin Various Issues
Simultaneous decentralization of revenue and expenditure	FDC3	Ratio of sub-national internally generated revenue to total federal expenditure (SIGR/FGE) Source: CBN Statistical Bulletin Various Issues
Corruption index	CI	CI measures perceived level of corruption in a country on a scale of 0–10 where 0 is highly corrupt and 10 is highly clean Source: International Country Risk Guide
Bureaucratic quality index	BQ	Measures the perceptions of the degree and quality of public services and civil service, freedom from political pressures, quality of policy formulation and implementation and the credibility of government's commitment to such policies on a scale of 0–10 where 0 is absence of quality and 10 is perfect quality Source: International Country Risk Guide
Law and order index	LOR	Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of all forms of crime and violence. It lies between 0 and 10, where 0 is absence of law and order and 10 is perfect law and order Source: International Country Risk Guide

Notes: CBN = Central Bank of Nigeria Statistical Bulletin; FGR = Federal Government Revenue; SIGR = sub-national internally generated revenue; SEX = sub-national expenditure; FGE = Federal Government Expenditure; CI = corruption index

Table 1. Data description and sources

$$\Delta Z = \delta Z_{t-1} + \sum_{i=1}^{n} \phi i \Delta Z_{t-1} + \mu_t$$

If the series is not stationary at level form, it could be stationary at the first difference form. The study engaged the use of autoregressive distributed lag (ARDL) cointegration approach (Osabohien *et al.*, 2017; Pesaran *et al.*, 2001).

The implicit form of the model:

$$CI = f\,(FDC1, FDC2, FDC3, BQ, LOR) \tag{1}$$

CI = corruption perception index;
FDC1 = decentralization of taxing power;
FDC2 = decentralization of expenditure power;
FDC3 = simultaneous decentralization of both powers;
BQ = bureaucratic quality; and LOR = law and order.

The explicit form can be written as:

$$CI = \alpha + \delta FDC1 + \theta FDC2 + \rho FDC3 + \beta BQ + \gamma LOR + \varepsilon_t \tag{2}$$

Theoretically it is anticipated that the relationship between CI and fiscal decentralization could be positive or negative. Theoretically, it is anticipated that BQ and LOR should have a positive relationship with CI.

The model for the ARDL is specified as:

$$\Delta CI_t = \alpha + \sum_{i=1}^{m} \sigma i \Delta CI_{t-i} + \sum_{i=1}^{n} \beta i \Delta BQ_{t-i} + \sum_{i=1}^{o} \gamma i \Delta LOR_{t-i} + \sum_{i=0}^{p} \delta i \Delta FDC1_{t-i}$$

$$+ \sum_{i=0}^{q} \theta i \Delta FDC2_{t-i} + \sum_{i=0}^{\mathrm{r}} \rho i \Delta FDC3_{t-i} + \lambda ECM_{t-i} + \varepsilon_t \quad (3)$$

Where: Δ represents the change in operator; ECM_{t-i} represents the error correction term; and λ represents the rate of adjustment. The rate of adjustments means how fast the system adjusts back to equilibrium in the event of distortion. The null hypothesis of no long-run relationship (cointegration) is further tested. In the presence of cointegration, the estimated equation will be super consistent and gives the long-run behaviour.

The hypothesis is stated thus:

H0. $\sigma = \beta = \gamma = \delta = \theta = \rho = 0$ (No long-run relationship exists).

H1. $\sigma \neq \beta \neq \gamma \neq \delta \neq \theta \neq \rho \neq 0$(There exists a long-run relationship).

ARDL cointegration approach has three main advantages over the normal cointegration approach; the first one is that variables under survey does not necessarily be stationary at the same order; the second advantage is that the ARDL method can be applied when the variables are differently integrated that is, at levels [I (0)], or integrated at order one [I (1)], as presented in Table 3. The third advantage is that the estimator obtained from ARDL model tends to be more efficient (Osabohien *et al.*, 2017; Pesaran *et al.*, 2001). The requirement for the use of ARDL are that none of the variables should be integrated of order 2 (1 (2)) and the dependent variable has to be integrated of order 1.

4. Results

Table 2 presents the correlation analysis of the series used in this study, which shows the pair relationship between the series. The emphasis is on the two dependent variables (GDP per capita and CI). Table 2 shows a weak positive correlation between CI and revenue decentralization (FDC1) and expenditure decentralization (FDC2) with 0.061 and 0.306, respectively. However, a strong positive correlation with BQ index with the value of 0.568 is seen. Table also reveals a weak negative correlation between CI and simultaneous decentralization of revenue and expenditure (FDC3) and LOR with −0.814 and −0.087, respectively. The correlation analysis therefore shows that the series used in this study is not collinear.

Table 3 presents the descriptive statistics of the series used in the study. LOR has the highest mean, followed by CI, BQ index, expenditure decentralization (FDC2), simultaneous decentralization of revenue and expenditure (FDC3) and revenue decentralization (FDC1). Likewise, LOR has the highest standard deviation and FDC1 has the lowest standard deviation. With the exception of CI that is negatively skewed, all the remaining series are positively skewed.

The unit root test was done using both the ADF approach and the breakpoint unit root ADF test to deal with the issue of structural breaks of variables such as GDP per capita. The

ADF test reported in Table 4 shows that FDC3 is integrated of order 0 at 5% significant level, while the remaining series are integrated of order 1 at 5% significant level. The dependent variable CI fulfils the requirement of ARDL as it is integrated of order 1 at 5% significant level. The breakpoint unit root test reported in Table 5 also shows that BQ and LOR are integrated of order 0 at 5% significant level while the remaining series which includes CI is integrated of order 1 at 5% significant levels, thus confirming the ADF unit test reported in Table 4. The ARDL technique as advanced by Pesaran *et al.* (2001) is applicable if the study series are a combination of I(0) and I(1) and the order of integration is not expected to be greater than I(1). All the requirements of ARDL technique are satisfied in this study.

Series	CI	FDC1	FDC2	FDC3	BQ	LOR
CI	1					
FDC1	0.061	1				
FDC2	0.306	−0.338	1			
FDC3	−0.184	0.764	−0.316	1		
BQ	0.568	−0.117	−0.209	−0.176	1	
LOR	−0.087	−0.217	−0.420	−0.1370	0.182	1

Source: Authors' computation using EViews 10

Table 2. Correlation analysis for variables in Model 2

	CI	FDC1	FDC2	FDC3	BQ	LOR
Mean	1.6	0.054	0.345	0.086	1.172	2.02
Median	1.5	0.049	0.340	0.074	1.0	2.0
Maximum	2.0	0.147	1.150	0.181	2.0	3.0
Minimum	1.0	0.004	0.010	0.004	0.0	1.0
Std Dev.	0.37	0.035	0.186	0.045	0.53	0.72
Skewness	−0.33	0.921	2.360	0.287	0.19	0.06
Kurtosis	1.93	3.239	11.960	2.390	3.046	1.87
Sum	54.5	1.850	11.730	2.910	39.83	68.67
Sum Sq. Dev.	4.45	0.040	1.140	0.066	9.31	17.2
Observations	34	34	34	34	34	34

Source: Authors' computation using EViews 10

Table 3. Descriptive statistics

Series	ADF test statistic			ADF test statistic		
	Level	5% CV	Order	1st diff	5% CV	Order
CI	−2.066	−3.558		−3.918	−3.558	I (1)
FDC1	−2.607	−3.540		−4.792	−3.548	I (1)
FDC2	−2.308	−3.540		−6.518	−3.544	I (1)
FDC3	−3.675	−3.540	I (0)			
BQ	−2.633	−3.540		−4.711	−3.563	I (1)
LOR	−2.356	−3.540		−4.521	−3.558	I (1)

Source: Authors' computation using EViews 10

Table 4. ADF unit root test for stationarity

The ARDL results reported in Table 6 reveal that the computed F-statistics for testing the joint null hypothesis that the coefficients of the level variables in the ARDL model is zero (meaning there exist no long-run relationship among them) is 8.8109. This value lies above the critical upper value bounds at the 10%, 5% and 1% level of significance, respectively. This reveals that there exists a long-run relationship between the dependent variables and the explanatory variables. Thus the null hypothesis which states that there is no co-integration among the variables is rejected.

The estimates of the long-run coefficients based on the ARDL model specified in equation (3) are reported in Table 7. In the model, simultaneous decentralization of revenue and expenditure (FDC3) and LOR are not significant at all levels. FDC1 is statistically significant at 5% level while FDC2 and BQ are statistically significant at 1% level. FDC1

Table 5. ADF unit root test for structural breaks

Series	Level	1st Diff	5% CV	Order
CI	−11.199		−5.176	I (1)
D (FDC1)	−3.871	−6.855	−5.176	I (1)
D (FDC2)	−4.570	−8.506	−5.176	I (1)
D (FDC3)	−4.996	−8.143	−5.176	I (1)
BQ	−67.855		−5.176	I (0)
LOR	−15.433		−5.176	I (0)

Source: Authors' computation using EViews 10

Table 6. ARDL bounds test for determination of long-run relationship

Model *Critical value bounds of the *F*-statistic	Lower bound	Upper bound
	I (0)	I (1)
10%	2.26	3.35
5%	2.62	3.79
1%	3.41	4.68
F-statistic	8.8109	

Notes: Case: intercept and trend; number of regressors (K) = 5; and *crtitical value bounds of the *F*-statistic are from Pesaran *et al.* (2001)
Source: Authors' computation using EViews 10

Table 7. Estimates of the long-run coefficients based on ARDL model

Dependent variable CI
Selected model – ARDL (1,1,1,0,1,0)

Variable	Coefficient	*p*-value
FDC1	4.787** (2.079)	0.049
FDC2	2.126* (6.074)	0.000
FDC3	−0.652 (0.404)	0.690
BQ	0.639* (6.871)	0.000
LOR	−0.026 (0.361)	0.722

Notes: * Significant at 1% level; ** significant at 5% level
Source: Authors' computation using EViews 10

and FDC2 have a significant positive relationship with CI; this means that revenue and expenditure decentralization will increase corruption significantly. On the contrary, FDC3 has an insignificant negative relationship with CI; this means that simultaneous decentralization of revenue and expenditure will reduce or mitigate corruption insignificantly in the long run.

Table 8 presents the estimates of the error correction coefficients for the model associated with the long-run estimates. The estimated ECM provides information on the short-run relationship among the dependent variable (CI) and the independent variables. In the model with the exception of FDC1, the remaining explanatory variables are individually statistically significant indicating that meaningful short-run impact is also generated by these explanatory variables on corruption (CI). The error correction coefficients ecm(−1) for the model has the expected negative sign and lies between the usual range of 0 and 1. The speed of adjustment is −0.462 suggesting that about 46% of errors generated in each period are automatically corrected by the system in the subsequent period.

Table 9 reports the diagnostic checks for the Model 1 using the histogram normality test, Breusch–Godfrey serial correlation Lagrange multiplier test and the Breusch–Pagan–Godfrey heteroskedasticity test to check for normality, serial correction and heteroskedasticity in the results. It is expected that the probability value must not be significant at the level of 5% to conclude that the errors are normally distributed and that there is no autocorrelation and heteroskedasticity in the results. In Table 9, the results reveal that the probability values for the three tests are greater than 5%. Therefore we can conclude that for the study model, the errors are normally distributed, and autocorrelation and heteroskedasticity are not present in the regression model.

5. Discussion

The findings from this study adequately address the research objectives set. The aim of the study was to find out the relationship between fiscal federalism and accountability in Nigeria. Specifically the study investigated the extent to which fiscal federalism can

Selected model –ARDL (1,1,1,0,1,0) Dependent variable: D (CI)	Coefficient	Std error	*p*-value
C	−0.027 (−1.814)	0.015	0.083
D (FDC1)	0.848 ((1.603)	0.529	0.123
D (FDC2)	0.679 (5.904)	0.155	0.000
D (FDC3)	−0.693 (−7.787)	0.089	0.0000
D (BQ)	0.099 (3.357)	0.042	0.027
ecm (−1)	−0.462 (−8.030)	0.058	0.000

Notes: R^2 = 0.744; Adj. R^2 = 0.707; S.E. of regression = 0.083; *F*-statistic = 20.324; and DW-statistic = 1.620
Source: Authors' computation using EViews 10

Table 8. Error correction representation for the ARDL model

Test carried out	Jarque–Bera value	Obs. *R^2	*p*-value
Normality	0.727		0.695
Serial correlation		2.606	0.272
Heteroskedasticity (ARCH)		11.277	0.257

Source: Authors' computation using EViews 10

Table 9. Post estimation test

mitigate corruption in the long and short run. The findings from the study have several policy implications which will be useful for policymakers, academicians and researchers in this study area.

Lack of accountability poses serious threat to fiscal operations in Nigeria and many developing countries. The nature of intergovernmental fiscal relations and the methods of handling and managing public revenue and expenditure in a multi-tier government which are critical for accountability provide the motivation for this study. Previous studies on Nigeria have focussed more on fiscal federalism and economic growth and development (Ubogu, 1982; Ewetan, 2011; Philip and Isah, 2012; Ewetan *et al.*, 2016; Aigbokhan, 1999; Anyanwu, 1999). This study fills the gap in the literature on the role fiscal federalism can play in addressing the challenge of accountability in a multi-tier government.

The major finding in this study is that in the long run, the three measures of fiscal decentralization had different impact on CI used to proxy accountability. While revenue decentralization (FDC1) and expenditure decentralization increased corruption significantly, on the contrary, simultaneous decentralization of revenue and expenditure (FDC3) reduced corruption insignificantly. Specifically 1% increase in revenue decentralization (FDC1) and expenditure decentralization (FDC2) will significantly increase corruption by 4.787% and 2.126%, respectively, while 1% increase in simultaneous decentralization of revenue and expenditure (FDC3) will reduce corruption by 0.652% insignificantly. The overall conclusion is that in the long run, fiscal decentralization increased corruption and does not promote accountability significantly in Nigeria. This finding agrees with Bojanic (2018) and Fisman and Gatti (2002) that decentralization leads to corruption especially at subnational level of governance in developing countries. This finding also supports the conclusion of Prud'homme (1995) and Tanzi (1995) that corruption may be more common at the local level than at the national level which is the major reason adduced by opponents of fiscal decentralization in developing countries. However this finding contradicts Innocents (2011), Agyemang-Duah *et al.* (2018), Arif and Ahmad (2018), Ewetan *et al.* (2015a), Meloche and Vaillancourt (2015), Zegras *et al.* (2013), Gurgur and Shah (2002), Huther and Shah (1998), Arikan (2004) and De Mello and Barenstein (2001) that fiscal decentralization reduces corruption and promotes greater public sector accountability and government responsiveness to the needs of people in its jurisdiction. The implication of the inability of fiscal decentralization to promote accountability in the long run is that government must adopt appropriate policies to improve BQ, which promoted corruption significantly at 5% level, and strengthen LOR, which reduced corruption insignificantly in this study.

For fiscal decentralization to mitigate corruption, deliberate policies must be adopted to strengthen intergovernmental fiscal system and institutionalize accountability in government fiscal operations at all tiers of government. These policies will ensure that fiscal institutions use their limited funds to deliver optimal level of local and national public goods and services to promote accountability and drive growth and development (Osabuohien *et al.*, 2018).

6. Conclusion and recommendations

The study examined the extent to which fiscal federalism had mitigated the challenge of accountability in Nigeria. To achieve this objective, the study used the ARDL method and time series data from 1981 to 2017. The study found that fiscal decentralization failed to mitigate corruption in the long run in Nigeria because of poor BQ and ineffective LOR. The policy implication of this finding is that for fiscal decentralization to promote accountability and mitigate public sector corruption in the long run in Nigeria, it must be accompanied with appropriate policies to improve BQ, and further strengthen LOR. The finding also suggests that to promote public sector accountability in Nigeria, government should ensure the simultaneous decentralization of expenditure and revenue to lower tiers of government. This study provides detailed empirical evidence that fiscal decentralization without accountability will accentuate public sector corruption and in the long run weakens local economic development initiative to boost growth and development.

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