



That's Incredible!

The Contours of Budget Credibility in Nigeria

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SUMMARY OF KEY FINDINGS

Nigeria's federal budget suffers consistently from low credibility, meaning that revenues are under-collected and actual spending falls short of targets in approved budgets. Poor performance of the federal budget in Nigeria is often attributed to fluctuating oil prices and oil revenues. But is this correct? To learn more, we took a comprehensive look at the overall budget credibility challenges in Nigeria between 2009 and 2016. While we found that oil revenue does play a role in Nigeria's low budget credibility, much of the problem is explained by other factors. Here are some of our key findings:

- **While oil revenue accounted for 60 percent of total revenue in Nigeria between 2009 and 2016, in only two of those years – 2010 and 2011 – was oil the majority factor in the under-collection of revenue.** Rather, underperformance of customs revenue and “independent revenue,” which in Nigeria mainly refers to fees and service charges collected by independent agencies, together accounted for more than half of under-collection in most years. Poor oil revenue projections were not driven as much by poor price forecasting as they were by poor production forecasts.
- **Ambitious revenue projections are a key factor explaining poor budget credibility, but aggressive expenditure projections also play a role.** For example, in 2010, revenue was projected to increase by 42 percent, and was under-collected by 8 percent. But expenditure was expected to increase by 70 percent, and underspending was 22 percent. Clearly, both revenue and expenditure projections were too high, but the expenditure projections were significantly higher and led to significantly more underspending.
- **Ambitious expenditure projections are rooted in both executive action and legislative amendment powers.** The data show that legislative amendments tend to exacerbate underspending by introducing additional projects into the budget that cannot be implemented. For example, in 2010 the legislature introduced nearly one trillion Naira of underspending (if we compare actual expenditure against the original budget versus comparing actual expenditure to the budget as it was amended by the National Assembly). However, the legislature's role is complex: in 2012 they decreased the executive's budget proposal, reducing underspending, and in 2015, the increases they made introduced underspending but led to a larger and more realistic budget overall.

- **Perhaps unsurprisingly, the biggest credibility problem in Nigeria is on the capital side of the budget. In each year from 2009 to 2016 most of the underspending was related to capital expenditure.** Not all agencies underspend their capital budgets - on average, the Office of the Presidency and the Ministry of Sport overspend their capital budgets. A majority of the underspending on capital is related to the economic sector, affecting major infrastructure projects in transport, energy, petroleum, and so on. The data nevertheless show important variations within the economic sector. For example, the Ministry of Works and the Ministry of Power exhibit less underspending compared to the Ministries of Petroleum Resources, Trade, and Investment, and Labour and Productivity.
- **Is underspending on capital in Nigeria driven by unrealistic budget formulation, or by implementation challenges when agencies receive funds but cannot spend them? Both problems exist in Nigeria, but unrealistic budgeting is the larger of these.** In 2013, agencies spent 92 percent of the funds released to them, but only 58 percent of their budgets, meaning most of the underspending was due to funds that agencies never touched (only 8 percent of the funds actually received remained unused). Nevertheless, in some years, underspending against releases was particularly poor. In 2012, underspending against releases was only 67 percent, and in 2014 it was 81 percent. Thus, Nigeria is a case where budgets are unrealistic, and also a case where money that is available to ministries is often left on the table.

These findings demonstrate that while oil is an important factor in Nigeria's low budget credibility, the country also suffers from other typical budget formulation and implementation problems that cannot be blamed on oil directly. Of course, more research is needed to understand the nature and impact of low budget credibility in Nigeria. Future research should examine exactly which capital projects are driving poor budget credibility, and the extent to which these are projects inserted into the budget by the legislature or by ministries and agencies. We should also strive to understand better the drivers of poor implementation when funds are actually available to ministries. Finally, we need to learn more about the impact of poor budget credibility on the geographical distribution of resources across the country and its impact on equity.

INTRODUCTION

Nigeria, a large middle-income country, has long had severe budget credibility issues at both national and subnational levels. Recent evidence suggests that the problem has not improved: the central government underspent its budget by 16 percent in 2009 and by 27 percent in 2016 (Table 1). This paper, the first of several presenting our research in the country, probes the various factors that may be contributing to the low credibility of the budget – i.e., the significant deviations between actual spending and the approved budget. Available data suggests that the central government in Nigeria has adopted what Schick has termed “escapist budgeting,” consistently authorizing more spending than the government can actually mobilize.¹ The Nigerian budget may also mirror findings from other countries where the budget is considered a form of “theater,” in which key actors act out their formal roles, while informal processes yield actual expenditure far from the ideals mouthed by the players.²

TABLE 1. FEDERAL GOVERNMENT EXPENDITURE: COMPARISON OF BUDGET ESTIMATES AGAINST ACTUAL SPENDING

Year	BUDGET	Budget Estimate: change from prior year	ACTUAL	Actual Spending: change from prior year	VARIANCE	
					Actual Spending vs Budget Estimate	
	<i>billion naira</i>	%	<i>billion naira</i>	%	<i>billion naira</i>	%
2009	3,205.16	-3%	2,697.23	4%	-507.93	-16%
2010	5,159.66	61%	4,047.06	50%	-1,112.60	-22%
2011	4,484.75	-13%	4,302.06	6%	-182.69	-4%
2012	4,697.21	5%	4,131.23	-4%	-565.98	-12%
2013	4,986.30	6%	4,560.81	10%	-425.49	-9%
2014	4,987.24	0%	4,123.42	-10%	-863.82	-17%
2015	5,067.90	2%	4,767.36	16%	-300.54	-6%
2016	6,060.48	20%	4,396.24	-8%	-1,664.24	-27%
Average*						-15%

*Cumulative average calculated pre-rounding.

Source: Fourth quarter and consolidated budget implementation reports 2009 – 2016, Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

¹ Schick, A., A Contemporary Approach to Public Expenditure Management. (Washington DC: World Bank, 1998)

² "The Budget as Theatre– the formal and informal institutional makings of the budget process in Malawi," Lise Rakner, et al, CMI, July 2004. <https://www.cmi.no/publications/file/1928-the-budget-as-theatre-the-formal-and-informal.pdf>

Previous work has documented unrealistic revenue and capital spending projections in the annual budget in Nigeria.³ While much literature on Nigeria discusses overall budget credibility, there is also evidence of the failure to implement approved capital projects. Data collected on a large sample (over 4700) of public investment projects from 2006/2007 in Nigeria finds that more than a third of these projects are never started, let alone completed.⁴

The causes of poor credibility are not dealt with exhaustively in these reports, but they do offer some insights. Analysts attribute poor credibility to fraught legislative-executive relations that lead to unrealistic increases in the projected budget, and delays in approval and implementation of the budget.⁵ Other work finds that the implementation of capital projects is affected by the ways in which civil servants are managed; those ministries offering employees more autonomy have higher completion rates for projects.⁶ Across sources, it becomes clear that many actors find revenue and capital spending projections in Nigeria to be unrealistic, leading inevitably to low credibility.⁷

The government's own budget execution reports also acknowledge credibility challenges. The central government's 2016 year-end budget report showed a shortfall in revenue collection from non-oil revenue sources of over 44 percent.⁸ The same report shows significant underspending of capital budgets in agriculture, education and science and technology.

Over-promising and under-delivering may be annoying, but does it have a real cost? The government suggests that it does:

*"Project funds were equally not set aside for critical projects as they are left to compete with non-priority projects and programmes. Some turnkey projects with huge capital outlay were at times completed and left without furnishing or equipment including those in Health and Education sectors, e.g. construction of lecture and hospital theaters (Yabatech, OAUTH, Il lfe, etc.)."*⁹

³BudgIT: <http://yourbudgit.com/?s=fiscal+realism>; International Monetary Fund: <https://www.imf.org/en/Publications/CR/Issues/2018/03/07/Nigeria-2018-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-45699>; Nigeria Biannual Economic Update: "Connecting to Compete," World Bank. April 2018. <http://documents.worldbank.org/curated/en/769551524576691390/pdf/WPNigeriaBiannualEconomicUpdateAprilFinalVersion-PUBLIC.pdf>

⁴Imran Rasul and Daniel Rogger, "Management of Bureaucrats and Public Service Delivery: Evidence from the Nigerian Civil Service," The Economic Journal, 2017.

⁵Verena Fritz, Marijn Verhoeven and Ambra Avenia, "Political Economy of Public Financial Management Reforms: Experiences and Implications for Dialogue and Operational Engagement," World Bank 2017.

⁶Rasul and Rogger, "Management of Bureaucrats and Public Service Delivery..."

⁷World Bank, 2018

⁸Budget Office of the Federation, Ministry of Budget and National Planning, 2017

⁹Ibid.

This passage suggests that prioritization of resource allocation, which should happen at the formulation stage, is being undone during the implementation stage of the budget. The same report ruminates on non-financial implementation failures as well, such as neglecting to involve indigenous contractors from the local community in capital projects, which in turn leads to vandalism. In summary, the evidence is clear that low budget credibility exists and is problematic in Nigeria.

While there is a degree of consensus that Nigeria has a credibility problem that impacts negatively on services and priorities, there are still gaps in our knowledge about the types of credibility challenges that exist in Nigeria, their causes, and the extent to which they reflect a broader dysfunction in the public financial management (PFM) system. Much of the global budget credibility literature also focuses on overall (aggregate) budget credibility problems, but an understanding of the nature and extent of low budget credibility in Nigeria requires digging in further to disaggregated revenue and expenditure data. While government reports do sporadically acknowledge challenges at a more disaggregated level, there is no systematic, independent analysis of this data. This paper, the first of several, aims to begin to fill this gap. Subsequent papers will dig further into compositional budget credibility (at sector/ministry level) and, more specifically, into budget credibility in health and education.

METHODS

This study covers the period 2009 – 2016, fiscal years for which data was available, and focuses on the central government in Nigeria. The approved expenditure estimates and expenditure outcomes for the central government were obtained from the Budget Office of the Federation. The Annual Report and Statement of Accounts from the Accountant General of the Federation and Nigeria-specific scholarly papers on the topic were also reviewed. Our research probed deviations from the budget at multiple levels and the relationship between the variations

The analysis presented in this paper is structured around an assessment of eight different hypotheses for what could be driving the budget credibility problem. On each, we reviewed quantitative data to identify plausibility and to point out any data gaps that may have prevented us from forming a clear position on its relevance. These hypotheses draw on common conceptions about the causes of low budget credibility, globally, and in Nigeria, specifically, but they are not comprehensive; we have investigated only those that can be answered with our data.

What Could Be Driving the Budget Credibility Problem in Nigeria? Eight Different Hypotheses

Hypothesis 1: In years when the central government increases its projected aggregate budget estimates more aggressively, there is more severe underspending.

Hypothesis 2: Revenue overestimation is the main driver of low budget credibility.

Hypothesis 3: In years when the government taps into the Excess Crude Account to cover shortfalls, budget deviations are lower than in other years.

Hypothesis 4: Underspending in Nigeria is mainly about underspending on the capital budget.

Hypothesis 5: Low capital budget credibility is mainly about underspending on big infrastructure projects (those in the economic sector) that are budgeted for but not implemented.

Hypothesis 6: The legislature is the main driver of credibility challenges by amending an otherwise realistic budget to introduce new projects that are not feasible.

Hypothesis 7: Major wage increases are a driver of low budget credibility.

Hypothesis 8: There is a consistent set of factors driving low budget credibility in Nigeria, rather than idiosyncratic factors that differ from year to year.

FINDINGS AND DISCUSSIONS

HYPOTHESIS 1: IN YEARS WHEN THE CENTRAL GOVERNMENT INCREASES ITS PROJECTED AGGREGATE BUDGET ESTIMATES MORE AGGRESSIVELY, THERE IS MORE SEVERE UNDERSPENDING.

This hypothesis suggests that underspending is mainly about government making unrealistic projections of spending in a given year. If this hypothesis is true, then when these projections are particularly unrealistic, underspending is likely to be particularly severe. The data we have cannot tell us conclusively why projections may be particularly unrealistic in a given year, but we can speculate about these reasons. For example, even if debt and wages are rising quickly, many governments will be reluctant to scale back the capital budget because it is politically unattractive to do so. This could lead to a more ambitious budget than what can realistically be spent.

Table 2 provides evidence related to the hypothesis that underspending is particularly severe in years where projected budgets are particularly ambitious (and vice versa). For example, the variances between expenditure estimates and outturn were highest in 2010 and 2016. These years also saw large increases in projected expenditure estimates in the approved budget (61 and 20 percent respectively).

The final column in Table 2 examines this relationship more systematically and provides support for the hypothesis. It asks whether both the projected growth in budget and the credibility gap were above average (or below average) in a given year. That is, if the projected budget grew more than average, was the rate of underspending above average, and vice versa?¹⁰ In seven out of nine years examined, this was the case. In 2009 and 2014, the relationship did not hold: the projected budget grew modestly but variances were still relatively high.

We will look at issues related to debt and wages again later in this paper, but it is worth noting that in 2010, debt and wage expenditure both grew at an above average rate (Table 2), but the projected capital budget also grew rapidly, by 90 percent (Table 4). This could suggest that one driver of aggressive budget projections is a desire to maintain the appearance of high levels of capital spending even as this budget should be cut to allow for other non-discretionary spending. However, this does not hold to the same extent in 2016; in this year both the capital and overall budget increased aggressively, but the budgets for both debt and wages fell marginally (Tables 2 and 4).

¹⁰ We use a similar approach – looking for patterns in below and above average behavior – to analyze much of the data in this paper, due to the perils of using correlations or other types of analysis with a small sample.

TABLE 2. FEDERAL GOVERNMENT: CHANGES IN AGGREGATE BUDGET & VARIANCE BETWEEN ACTUAL EXPENDITURE AND BUDGET

Year	Projected Budget	Recurrent (Debt) Expenditure	Recurrent (Wage) Expenditure	VARIANCE Actual Expenditure vs Budget	Both projected change in budget and credibility gap are larger/smaller than average
	Change from prior year – %			%	
2009	-3%	N/A	N/A	-16%	N
2010	61%	48%	73%	-22%	Y
2011	-13%	39%	32%	-4%	Y
2012	5%	15%	-8%	-12%	Y
2013	6%	23%	-5%	-9%	Y
2014	0%	9%	8%	-17%	N
2015	2%	41%	-1%	-6%	Y
2016	20%	-2%	-5%	-28%	Y
Average	10%	25%	14%	-14%	
Median	5%	23%	-1%	-14%	

Y= Yes N=No

Source: Authors' compilation. Derived from data from the Budget Office of the Federation cited above.

One weakness in looking at year-on-year budget growth is that it does not account for how realistic the previous year's budget was. For example, the budget may have grown only 5 percent over last year's budget, but 30 percent over last year's actual expenditure. In order to account for this, we also checked credibility against the growth in the budget versus actual expenditure. Table 3 looks at the relationship between growth in the estimates versus previous year actuals and underspending, and this shows that the hypothesis is still supported. In five out of seven years, above average growth in estimates versus actuals is associated with greater than average underspending, or vice versa. In 2016 we see a borderline case, as the variance was above average while the projected increase in the budget was almost exactly average. When we use the median to reduce the skew introduced by 2010, the overall result remains the same (though specific years shift somewhat).

TABLE 3. FEDERAL GOVERNMENT: CHANGES IN AGGREGATE BUDGETED EXPENDITURE & VARIANCE BETWEEN ACTUAL SPENDING AND BUDGETED EXPENDITURE

	Underspending of aggregate budget	Annual change between expenditure estimate and previous year expenditure outturn	Was annual change in the estimated budget above the average?	Is underspending worse than average?	Was annual change in the estimated budget versus previous year actual above the median?	Is underspending worse than the median?
	Actual vs Budget					
Year	<i>In percentage</i>	<i>In percentage</i>				
2009	-16%	N/A		-	-	
2010	-22%	91%	Y	Y	Y	Y
2011	-4%	11%	N	N	N	N
2012	-12%	9%	N	N	N	N
2013	-9%	21%	N	N	N	N
2014	-17%	9%	N	Y	N	Y
2015	-6%	23%	N	N	Y	N
2016	-28%	27%	N	Y	Y	Y
Average	-14%	27%				
Median	-14%	21%				

Y= Yes N=No

Source: Authors' compilation. Derived from data from the Budget Office of the Federation cited above.

CAPITAL EXPENDITURE

Does our first hypothesis also hold for capital expenditure specifically? That is, was actual capital spending particularly below capital budget estimates in years when the original estimates grew by a particularly high percentage? In relative terms, the change in government capital expenditure estimates from the year before was most aggressive in fiscal year 2010 and 2016 (as it was for the overall budget). Once again, the variance between capital expenditure estimates and outturn was also highest in 2010 and 2016. Projected capital expenditure for fiscal year 2010 was 90 percent higher than the 2009 budget level, and the resulting variance between expenditure estimates and outturn was nearly 50 percent. In fiscal year 2016, an aggressive increase in the capital budget of 185 percent also led to lower credibility, with actual expenditure that year 89 percent below budget.

As Table 4 shows, in most years, if the growth in the capital budget was above average, the credibility challenge was above average, and vice versa. The only exception to this pattern was 2014, when the capital budget decreased substantially but underspending was worse than average. Thus, the hypothesis is supported for the capital budget. This is consistent with the notion discussed above that one cause of aggressive budgeting is a desire to inflate the capital budget even as other areas of spending are demanding a greater share of the overall budget.

TABLE 4. FEDERAL GOVERNMENT: CHANGES IN CAPITAL BUDGET AND VARIANCE BETWEEN ACTUAL AND BUDGETED CAPITAL EXPENDITURE

Year	CAPITAL SPENDING		VARIANCE		Did Nigeria experience lower/higher budget credibility in years when the capital budget estimates increased/decreased more aggressively?
	BUDGET	ACTUAL	Actual vs Budget	Actual vs Budget	
	Change from prior year (in percentage)		<i>In billion naira</i>	<i>percentage</i>	
2010	90%	57%	-880.8	-50%	Y
2011	-35%	4%	-228.2	-20%	Y
2012	17%	-19%	-595.6	-45%	Y
2013	19%	29%	-632.7	-40%	Y
2014	-30%	-39%	-532.0	-48%	N
2015	-50%	-38%	-194.6	-35%	Y
2016	185%	-52%	-1,414.3	-89%	Y
Average	28%	-47%	-639.8	-47%	

Y = Yes N = No

Source: Authors' compilation. Derived from data from the Budget Office of the Federation cited above.

RECURRENT EXPENDITURE

There is evidence that our hypothesis also holds true for recurrent spending: when recurrent budgets are projected to be particularly high, credibility gaps are also larger, and vice versa. This is the case in all years except 2016 (Table 5), where the last two columns indicate when larger than average projected increases in the budget are associated with larger than average credibility gaps, and vice versa.

In relative terms, changes in government recurrent expenditure estimates were most aggressive in fiscal years 2010 and 2015. The variance between expenditure estimate and outturn was also highest in both relative and absolute terms in 2010 and 2015. In 2016, however, the budget projections were less than one percent higher than in 2015, but actual spending was six percent below budget.

TABLE 5. FEDERAL GOVERNMENT: CHANGES IN RECURRENT BUDGET & VARIANCE BETWEEN ACTUAL AND BUDGETED RECURRENT EXPENDITURE

Year	RECURRENT EXPENDITURE		Was the annual change in the estimated recurrent budget above average?	Is underspending worse than average?
	BUDGET	VARIANCE		
	Change from prior year (percentage)	Actual Spending vs Budget (percentage)		
2010	52%	-8%	Y	Y
2011	-9%	5%	N	N
2012	2%	3%	N	N
2013	1%	7%	N	N
2014	-1%	6%	N	N
2015	39%	-13%	Y	Y
2016	0%	-6%	N	Y
Average	12%	-1%		

Y=Yes N=No

Source: Authors' compilation. Derived from data from the Budget Office of the Federation cited above.

BREAKDOWN OF RECURRENT EXPENDITURE: NON-DEBT AND DEBT

We go deeper into the recurrent budget to look at both debt and non-debt recurrent expenditure and to see whether each supports our first hypothesis. The evidence is more mixed as we dig deeper.

Recurrent Non-Debt Expenditure

Our hypothesis receives some support when looking only at recurrent non-debt expenditure, but it is not as convincing as in the cases discussed above. The hypothesis holds in four out of seven years where there is an above/below average projected increase in the budget and a larger/smaller than average credibility gap. But it does not hold in 2010, 2014 or 2016. It is worth noting, therefore, that the hypothesis is not supported for recurrent (non-debt) expenditure in the same years when overall spending and capital spending most closely align with this hypothesis: 2010 and 2016.

TABLE 6. FEDERAL GOVERNMENT: CHANGES IN RECURRENT (NON-DEBT) BUDGET & VARIANCE BETWEEN ACTUAL AND BUDGETED RECURRENT (NON-DEBT) EXPENDITURE

Year	NON-DEBT RECURRENT EXPENDITURE				Are annual changes in estimated budget higher than the period average?	Is underspending worse than average?
	BUDGET	ACTUAL	VARIANCE			
	<i>In percentage</i>	<i>In percentage</i>	<i>In billion naira</i>	<i>In percentage</i>		
2010	46%	48%	-122.8	-5%	Y	N
2011	-9%	-1%	102.2	4%	N	N
2012	0%	-5%	-24.8	-1%	N	N
2013	0%	-1%	-28.9	-1%	N	N
2014	2%	-7%	-238.1	-10%	N	Y
2015	29%	15%	-621.0	-20%	Y	Y
2016	-17%	-5%	-234.8	-9%	N	Y
Average	7%			-6%		

Y = Yes N = No

Source: Authors' compilation. Derived from data from the Budget Office of the Federation cited above.

Recurrent Debt Expenditure

The recurrent debt component of the federal government's budget also experiences deviations from budget. However, unlike in most of the previous cases where underspending dominates, in the case of debt, in three out of seven years reviewed, the government overspent on debt. To be sure, there are still years in which the pattern identified for other types of expenditure holds. For example, in 2010, there was a 61 percent increase in projected debt repayment, and this resulted in underspending of 15 percent, the worst underspending for the period (Table 7). Ambitious budgets were also associated with underspending in 2011 and 2014.

However, this way of assessing the relationship between budgeting and actual spending is less useful for debt in 2013 and 2015, years of significant overspending. In both years, the problem seems to be that debt was not projected to increase aggressively enough. In 2013, the government projected a modest increase in debt repayment but significantly overspent on this area (by 24 percent). In 2015, a modest decline in projected debt repayment was also associated with major overspending (38 percent). Finally, in 2016, there was a substantial increase in projections, but it turned out to be accurate: underspending was below one percent. Thus, while there is some evidence that high projections lead to underspending, the relationship between ambitious projections and larger credibility gaps is not as strong for debt as for other types of expenditure.

TABLE 7. FEDERAL GOVERNMENT: CHANGES IN RECURRENT (DEBT) BUDGET & VARIANCE BETWEEN ACTUAL AND BUDGETED DEBT EXPENDITURE

Year	RECURRENT DEBT EXPENDITURE				Did budget for recurrent (debt) grow faster than average?	Is underspending worse than average?
	BUDGET	ACTUAL	VARIANCE			
	Change from prior year:		Actual vs Budget			
	%	%	<i>In billion naira</i>	<i>In percentage</i>		
2010	61%	48%	-109.0	-15%	Y	Y
2011	26%	39%	-56.7	-6%	Y	Y
2012	2%	15%	54.3	6%	N	N
2013	5%	23%	236.2	24%	N	N
2014	44%	9%	-93.7	-7%	Y	Y
2015	-5%	41%	515.1	38%	N	N
2016	36%	-2%	-15.2	-1%	N	Y
Average	24%	25%		6%		
Median	26%	23%		-1%		

Y=Yes N= No

Source: Authors' compilation. Derived from data from the Budget Office of the Federation cited above.

HYPOTHESIS 2: REVENUE OVERESTIMATION IS THE MAIN DRIVER OF LOW BUDGET CREDIBILITY.

Hypothesis 1 asks if aggressive expenditure forecasting is a driver of underspending. We find that it is. Closely related is the question of whether revenue forecasting follows the same pattern. Theoretically, there should be a relationship between revenue and expenditure. And, globally, it is common for revenues to be overestimated. However, because governments can finance revenue gaps with borrowing, it is possible for there to be a divergence in the relationship between overestimation of revenue and overestimation of expenditure. That is, overestimation of revenue need not lead to underspending if borrowing can cover the gap.

We also mean something different by ambitious expenditure targets than we do by overestimation of revenue. When we looked at expenditure, we meant that the government was forecasting particularly large jumps in spending (measured as those above the period average). When we talk about revenue overestimation, though, we mean this relative to actual collections. So, these are different standards.

To begin this analysis, we consider whether there are differences between revenue and expenditure estimates. Both revenue and expenditure were overestimated in 2010 and 2016 (Table 8). Thus, revenue follows the expenditure analysis we saw in hypothesis #1. However, while revenue projections in 2010 were far above average, under-collection was below average. In 2013, revenues were also aggressively estimated, but growth in projected expenditure projection was below average. While below average growth in projected spending and below average underspending in 2013 yield support for hypothesis 1, we see that aggressive revenue forecasting in 2013 did not lead to more extreme than average underspending (as we would expect under hypothesis 2). Overall, hypothesis one was supported in six out of eight years (75 percent). Hypothesis #2 is supported in only four out of seven years (57 percent). Both hypotheses are supported, but the evidence is stronger for the relationship between expenditure overestimation and underspending.

TABLE 8. WHO’S TO BLAME? AMBITIOUS REVENUE FORECASTS OR AGGRESSIVE EXPENDITURE ESTIMATES

Year	Growth in Projected Revenue	Variance in Actual Revenue v Projected	Growth in Projected Expenditure	Variance in Actual v. Projected Expenditure	Year in which Revenue Growth and Under-collection both above (below) average?	Year in which Expenditure Growth and Underspending both above (below) average?
2009		-25%	-3%	-16%		N
2010	42%	-8%	70%	-22%	N	Y
2011	5%	-23%	-13%	-4%	N	Y
2012	6%	-12%	5%	-12%	Y	Y
2013	15%	-15%	6%	-9%	N	Y
2014	-9%	-13%	0%	-17%	Y	N
2015	-8%	-20%	2%	-6%	Y	Y
2016	12%	-55%	20%	-28%	Y	Y
Average	9%	-21%	10%	-14%		
Median	6%	-17%	5%	-14%		

Source: Authors’ compilation. Derived from data from the Budget Office of the Federation cited above.

If overestimating revenue collection is one source of low credibility, which sources of revenue are of particular concern? We review the major revenue sources here. While credibility challenges are severe across all revenue sources (Table 9), the severity of under-collection was higher for federal government independent revenue, customs revenue, and value-added tax (VAT) as can be seen by looking at average underperformance by source for the period.

TABLE 9. FEDERAL GOVERNMENT: ESTIMATED VS ACTUAL REVENUE

Year	Oil Revenue	Company income tax	Value Added tax	Custom Revenue	Independent Revenue
	Percentage of ACTUAL vs BUDGET				
2011	-28%	3%	-16%	-6%	-20%
2012	-9%	3%	-12%	-34%	-54%
2013	-15%	0%	-16%	-53%	-40%
2014	-6%	-8%	-6%	-44%	-35%
2015	-26%	-27%	-39%	-28%	-34%
2016	-3%	-47%	-45%	-30%	-84%
Average	-15%	-13%	-22%	-32%	-44%
Median	-12%	-4%	-16%	-32%	-37%

Source: Fourth quarter and consolidated budget implementation reports 2009 – 2016, Budget office of the federation Ministry of Budget and National Planning, Abuja

As Table 10, shows, however, the revenue sources with the lowest credibility also account for the lowest share of total revenue. Oil revenue and company tax together account for an average of about 78 percent of revenue between 2011-2016, while the sum of the lower credibility sources – value added tax, custom revenue, and independent revenue – account for only 22 percent during that period.

TABLE 10. SHARE OF TOTAL REVENUE BY CATEGORY

Year	Oil Revenue	Company income tax	Value Added tax	Custom Revenue	Independent Revenue
	Share of total Revenue				
2009	59%	20%	6%	10%	5%
2010	65%	16%	4%	7%	8%
2011	68%	13%	4%	8%	7%
2012	66%	15%	4%	8%	8%
2013	66%	15%	4%	6%	9%
2014	65%	14%	3%	8%	10%
2015	52%	20%	4%	10%	14%
2016	40%	26%	6%	13%	14%
Average	60%	17%	4%	9%	9%
Median	65%	15%	4%	8%	8%

Source: Fourth quarter and consolidated budget implementation reports 2009 – 2016, Budget office of the federation, Ministry of Budget and National Planning, Abuja

Nevertheless, as Table 11 demonstrates, independent revenue is a major contributor to under-collection of revenue in most years, particularly 2009-10, 2012, and 2016. In Nigeria, agencies collect revenue from services and fees which they can retain for operations. They are supposed to remit a share of the funds they collect that are in excess of their operational needs to the Treasury, which is a principal source of what is known as “independent revenue” in Nigeria. Treasury estimates how much it will receive from agencies each year, but consistently overestimates this amount. In 2016, Treasury expected recent reforms, like the introduction of a Treasury Single Account, to lead to improved collection, and therefore increased its projected revenue from this source by more than four times. However, this did not materialize, leading to a large gap in total actual versus projected revenue, of which independent revenue accounted for more than 60 percent.

TABLE 11. CONTRIBUTION OF EACH REVENUE SOURCE TO UNDER-COLLECTION OF TOTAL REVENUE

Year	UNDER-COLLECTION of REVENUE	Oil Revenue	Company income Tax Revenue	Value Added tax	Custom Revenue	Independent Revenue
	<i>In billion naira</i>	<i>in percentage</i>				
2009	-501.8	30%	2%	3%	18%	47%
2010	-344.1	55%	-10%	1%	12%	43%
2011	-718.6	91%	-1%	2%	2%	6%
2012	-528.9	34%	-2%	2%	21%	45%
2013	-775.8	46%	0%	3%	28%	23%
2014	-533.3	25%	7%	1%	37%	29%
2015	-923.3	45%	19%	7%	10%	18%
2016	-1,884.5	1%	22%	5%	5%	67%

Source: Fourth quarter and consolidated budget implementation reports 2009 – 2016, Budget office of the federation

OIL REVENUE

Oil revenue volatility is sometimes blamed for budget credibility challenges in Nigeria. As Table 11 shows, however, while it is an important source of low revenue credibility, it is not the majority contributor to poor revenue performance in most years (except for 2010 and 2011). Our evidence above also finds that poor expenditure projections have more explanatory power than poor revenue estimates during the period under investigation. Below, we examine the extent to which poor oil revenue collections are associated with low budget credibility in specific years.

The Central government generally overestimated oil revenue projections for all the years reviewed. For instance, in 2011, despite government budget authorization projecting oil revenue for the federal government at N2.35 trillion, actual receipt from the oil sector was approximately N1.69 trillion or 72 percent of revenue target. The variance

between targeted oil revenue and actual revenue of government at the national level between 2011 and 2016 followed the same trajectory, although the actual oil revenue in 2016 was fairly close to budget.

Table 12 compares the gap in revenue between projected and actual oil revenues with overall underspending in the budget each year. The data show that a large share of underspending could have been accounted for by oil revenue under-collection. However, it is worth noting that years with particularly large gaps between actual and projected oil are not the years with particularly large absolute credibility gaps. In 2010, the oil revenue gap was the largest in our sample, but the overall budget variance was lowest. In 2016, the oil revenue gap was the smallest in our sample, but the overall credibility gap was largest. Only in 2012 is above/below average oil credibility associated with above/below average overall credibility. Thus, while oil revenue clearly contributes to lower revenues, there is no link between the extent of overestimation of oil revenues and the extent of underperformance on budget execution overall.

TABLE 12. FEDERAL GOVERNMENT OIL REVENUE PROJECTIONS VS ACTUAL OIL REVENUE

Year	BUDGET	ACTUAL	VARIANCE for Oil Revenue		Variance for Aggregate Expenditure
			Actual vs Budget	Actual vs Budget	Actual vs Budget
	<i>In billion naira</i>	<i>In billion naira</i>	<i>In billion naira</i>	<i>In percentage</i>	<i>In billion naira</i>
2011	2,346.66	1,694.35	-652.31	-28%	-182.69
2012	1,943.88	1,764.69	-179.19	-9%	-565.98
2013	2,354.77	1,996.24	-358.53	-15%	-425.49
2014	2,114.54	1,980.36	-134.18	-6%	-863.82
2015	1,637.87	1,218.22	-419.65	-26%	-300.54
2016	717.55	697.80	-19.75	-3%	-1,664.24

Source: Fourth quarter and consolidated budget implementation reports 2009 – 2016, Budget office of the federation

To the extent that overestimation of oil revenues is a factor in overall revenue underperformance, what drives it? Two key variables determine oil revenue outturn: oil price and oil production. Nigeria's crude oil price assumptions have always turned out to be conservative (Table 13). But its estimates for production have usually turned out to be ambitious (Table 14).

TABLE 13. FEDERAL GOVERNMENT OIL PRICE PROJECTIONS VS ACTUAL OIL PRICE

Year	BUDGET <i>In US Dollars</i>	ACTUAL <i>In US Dollars</i>	VARIANCE	
			Actual vs Budget	Actual vs Budget
			<i>In US Dollars</i>	<i>In percentage</i>
2009	45	61.74	16.74	37%
2010	60	79.61	19.61	33%
2011	75	111.26	36.26	48%
2012	72	111.63	39.63	55%
2013	79	108.56	29.56	37%
2014	78	98.97	21.47	28%
2015	53	52.32	0.68	1%
2016	38	43.67	5.67	15%

Source: Budget office of the Federation, EIA. <https://www.eia.gov/dnav/pet/hist/rbrteD.htm>

TABLE 14. FEDERAL GOVERNMENT OIL PRODUCTION PROJECTIONS VS ACTUAL OIL PRODUCTION

Year	BUDGET <i>million barrel / day</i>	ACTUAL <i>million barrel / day</i>	VARIANCE	
			Actual vs Budget	Actual vs Budget
			<i>million barrel / day</i>	<i>In percentage</i>
2011	2.30	2.38	0.08	3%
2012	2.48	2.37	-0.11	-4%
2013	2.52	2.19	-0.33	-13%
2014	2.39	2.12	-0.27	-11%
2015	2.28	2.11	-0.17	-7%
2016	2.20	1.74	-0.46	-21%

Source: Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

HYPOTHESIS 3: IN YEARS WHEN THE GOVERNMENT TAPS INTO THE EXCESS CRUDE ACCOUNT TO COVER SHORTFALLS, BUDGET DEVIATIONS ARE LOWER THAN IN OTHER YEARS.

As discussed above, Nigeria's budget relies heavily on revenues generated by the petroleum industry. Some petroleum revenues are used to fund a reserve account that can be used to plug holes in the budget. One possibility is that in years when credibility is higher, it could be because the Excess Crude Account was used to fill the gap, whereas it was not available or could not be used in other years. If this were correct, the variation in credibility from year to year would not be a result of better performance in some years than others, but of the degree to which the reserve fund was used or not.

Over the period of our review, funds were drawn from the Excess Crude Account in five out of eight years (Table 15). No money was withdrawn in 2009. In fiscal year 2010, a total of N447.28 billion amounting to 11 percent of aggregate actual expenditure was drawn by the central government from the account to augment the budget. Smaller amounts were withdrawn in 2012, 2013, 2014 and 2016. Transfers from the excess crude account reduced the annual variance between aggregate expenditure estimates and actual expenditure by four percentage points on average. Clearly, the use of the fund does reduce the apparent size of the credibility challenge in Nigeria.

However, the use of the Excess Crude Account does not result in lower credibility challenges in some years than others. If we rank fiscal years from worst to best in terms of credibility, the only difference when we include or exclude the crude account is whether 2010 or 2016 is the worst or second worst year for credibility. Because the account was only used in years with more severe credibility challenges (usually more than 12 percent underspending), and because it only covered a part of the gap in funding, it does not explain the years with better credibility. Rather, the fund was not used at all in such years.

Thus, this hypothesis is false and cannot explain variations from year to year in credibility in Nigeria.

TABLE 15. FEDERAL GOVERNMENT: IMPACT OF EXCESS CRUDE ACCOUNT ON CREDIBILITY

Year	Budget	Actual Spending	Distribution of Excess Crude Account Funds (Budget Augmentation)	Actual Spending Excluding Excess crude account	VARIANCE		
					Actual vs Budget		Actual (Excluding Excess Crude Account) vs Budget
					<i>In billion Naira</i>	<i>percent</i>	<i>percent</i>
2009	3,205.16	2,697.23	0	2,697.23	-507.93	-16%	-16%
2010	5,159.66	4,047.06	447.28	3,599.78	-1,559.88	-22%	-30%
2011	4,484.75	4,302.06	0	4,302.06	-182.69	-4%	-4%
2012	4,697.21	4,131.23	162.39	3,968.84	-728.37	-12%	-16%
2013	4,986.30	4,560.81	195.86	4,364.95	-621.35	-9%	-12%
2014	4,987.24	4,123.42	180.00	3,943.42	-1,043.82	-17%	-21%
2015	5,067.90	4,767.36	0	4,767.36	-300.54	-6%	-6%
2016	6,060.48	4,396.24	108.72	4,287.52	-1,772.96	-27%	-29%

Source: Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

HYPOTHESIS 4: UNDERSPENDING IN NIGERIA IS MAINLY ABOUT UNDERSPENDING ON THE CAPITAL BUDGET.

Underspending is common in capital budgets globally, so one hypothesis is that this is the main locus of underspending in Nigeria, too. However, one problem with this hypothesis is that capital spending is usually a minority of the total budget, so even large underspending may not sufficiently account for significant underspending of the overall budget.

Despite capital expenditure, as a percentage of total expenditure, averaging only 26 percent between 2009 and 2016, the variance between capital expenditure estimate and outturn was substantially higher than that of recurrent expenditure. The deviation of actual capital expenditure from the capital budget ranges between 20 and 89 percent. For recurrent, the range is only between 3 and 12 percent (Table 16).

TABLE 16. VARIANCES IN CAPITAL EXPENDITURE VS RECURRENT EXPENDITURE

Year	Capital Expenditure VARIANCE	Recurrent Expenditure VARIANCE
	Actual vs Budget (<i>percentage</i>)	Actual vs Budget (<i>percentage</i>)
2009	-39%	-7%
2010	-50%	-8%
2011	-20%	5%
2012	-44%	3%
2013	-40%	7%
2014	-48%	6%
2015	-35%	-12%
2016	-89%	-6%
Average	-46%	-2%

Source: Fourth quarter and consolidated budget implementation reports 2009 – 2016, Budget Office of the Federation

In thinking about the impact of high underspending on capital, the question is which weighs more in the balance: the high levels of variance of the capital budget, or the lower share of the budget that is dedicated to capital? Table 17 shows that the higher underspending overwhelms the lower share of spending: capital underspending accounts for between 62 percent and 149 percent of total underspending each year. Aggregate underspending would have been even higher in fiscal year 2011, 2012, and 2013 were it not for *overspending* on recurrent expenditure. However, the share of capital underspending relative to total underspending was lower in 2014 and 2015.

TABLE 17. CAPITAL EXPENDITURE: CONTRIBUTION TO UNDERSPENDING

Year	Capital Expenditure as a percentage of aggregate expenditure	Aggregate Expenditure (Variance)	Capital Expenditure (Variance)	Recurrent Expenditure (Variance)	Underspending on capital expenditure as a share of total underspending	Is underspending in Nigeria mainly about capital underspending?
2009	29%	-508	-366	-144	72%	Y
2010	34%	-1,113	-881	-250	79%	Y
2011	26%	-183	-228	134	125%	Y
2012	29%	-566	-596	95	105%	Y
2013	32%	-426	-633	207	149%	Y
2014	23%	-864	-532	181	62%	Y
2015	11%	-301	-195	-514	65%	Y
2016	26%	-1,664	-1,414	-243	85%	Y

Source: Fourth quarter and consolidated budget implementation reports 2009 – 2016, Budget Office of the Federation

In relative terms, the credibility challenge affecting the federal government’s budget at the aggregate level was more pronounced for capital expenditure than for the recurrent side of the budget. Thus, the hypothesis is confirmed: low budget credibility in Nigeria is predominantly (though not exclusively) about underspending on capital.

HYPOTHESIS 5: LOW CAPITAL BUDGET CREDIBILITY IN NIGERIA IS MAINLY ABOUT UNDERSPENDING ON AND FAILURE TO IMPLEMENT BIG INFRASTRUCTURE PROJECTS (I.E., THOSE IN THE ECONOMIC SECTOR)

Capital projects are spread across all sectors of government. A plausible hypothesis is that the capital budget credibility problem is driven by underspending in the largest infrastructure projects captured under the capital budget. If this were true in Nigeria, then the economic sector, which comprises public spending in agriculture, water, transportation, trade and investment, power, aviation, petroleum resources, mines and steel, roads, and other construction, would be the biggest driver of the credibility challenges for capital expenditure between fiscal year 2012 and 2016.

There is strong evidence to support this hypothesis. Across all years, low capital budget credibility is mainly about underspending in the economic sector (Table 18). The economic sector includes large infrastructure projects under ministries and agencies related to public works, energy, transport, science and technology, agriculture, and water, as well as a large pool of funds for capital projects managed under the Ministry of Finance.

In fact, this hypothesis has strengthened over time, as underspending on the economic sector accounted for 55 percent of the total capital underspending in 2012, but more than 100 percent of total underspending in 2016. However, it is worth noting that the share of the problem accounted for by the administrative sector has also increased over time.

TABLE 18. UNDERSPENDING BY SECTOR (CAPITAL EXPENDITURE)

VARIANCE	Adminis- trative	Economic	Law and Justice	Regional	Social Services	Total	Share of total variance accounted for by economic sector
Year	<i>In billion naira</i>						<i>In percentage</i>
2012	-41	-134.7	3.36	-61.76	-12.66	-246.76	55%
2013	-87.47	-251.42	1.86	15.86	-3.89	-325.06	77%
2014	-29.64	-583.16	-2.52	-45.61	-51.79	-712.72	82%
2015	-103.35	-301.82	-5.33	-18.71	71.54	-357.67	84%
2016	59.07	-930.50	58.01	-3.84	223.15	-594.11	157%
						<i>Average:</i>	77%
						<i>Median:</i>	82%

Source: Office of the Accountant General of the Federation

To what extent do line ministries – i.e., ministries, departments and agencies (MDAs) – underspend on capital because they are not able to execute available funds versus they do not have access to sufficient funds because the original budget was unrealistic? We can use additional data provided by the Budget Office of the Federation to assess this, as we do in Table 19. In 2012, the failure to meet the budget was roughly equally driven by both unrealistic budgeting and failure to execute available funds. In all other years, however, the main driver of underspending was unrealistic budgeting or an inability to release budgeted funds to MDAs. Nevertheless, failure to spend available funds still accounts for more than 10 percent of underspending in all years.

TABLE 19. CAPITAL BUDGETS, RELEASES AND EXPENDITURES, 2012-2015

Year	Enacted Budget (Capital)	Actual Amount Released to MDAs*	Amount Spent	Variance between budget and release		Variance between actual spending and enacted Budget		Variance of actual spending against release
	Billion naira			Bn naira	%	Bn naira	%	%
2012	1,345.2	1,018.0	686.3	-327.2	-24%	-658.9	-49%	50%
2013	1,591.0	1,004.0	922.2	-587.0	-37%	-668.8	-42%	12%
2014	1,134.7	476.8	388.1	-657.9	-58%	-746.6	-66%	12%
2015	557.4	387.4	358.2	-170.0	-31%	-199.17	-36%	15%
<i>Average</i>								22%

Source: Budget office of the Federation quarterly budget implementation reports, available at <http://www.budgetoffice.gov.ng/index.php/resources/internal-resources/reports/quarterly-budget-implementation-report>

*MDAs - Ministry, department, and agencies

In Table 20, we disaggregate the overall data on budget, releases, and expenditure by MDA, and assess whether most MDAs follow the overall pattern described above, or whether there are some cases in which underspending against releases is a larger part of the problem. The data suggest that the biggest problem is that budgets are not realistic, with actual spending against budget far below spending against releases in most cases. Nevertheless, spending below releases is prevalent. In 2015, twelve MDAs spent 85% or less of their releases. For the economic sector MDAs, most performed reasonably well against releases in 2015: only Housing, Information and Petroleum Resources spent less than 90 percent of releases. In 2014, however, all economic sector MDAs except the Federal Ministry of Works executed less than 90 percent of releases.

TABLE 20. SHARE OF RELEASES SPENT, VERSUS SHARE OF BUDGET SPENT, BY MDA, 2012-2015

MDAs	2012		2013		2014		2015	
	Share of releases spent by ministries	Share of budget spent	Share of releases spent by ministries	Share of budget spent	Share of releases spent by ministries	Share of budget spent	Share of releases spent by ministries	Share of budget spent
	in percentage							
Presidency	86%	75%	100%	624%	96%	464%	77%	49%
SGF	49%	33%	96%	52%	67%	30%	75%	55%
Youth	75%	46%	100%	48%	66%	29%	98%	53%
Police	77%	76%	99%	124%	67%	30%	0%	0%
Women	75%	47%	95%	61%	85%	38%	67%	34%
<i>Agriculture*</i>	80%	54%	100%	49%	78%	34%	95%	48%
<i>Water*</i>	71%	49%	96%	37%	67%	28%	93%	48%
Defense	91%	76%	98%	67%	61%	59%	91%	65%
Education	73%	52%	94%	48%	63%	27%	94%	55%
FCTA**	94%	72%	100%	58%	90%	40%	100%	77%
Foreign	88%	70%	100%	86%	93%	36%	99%	97%
<i>Finance*</i>	79%	52%	100%	94%	78%	60%	77%	15%
Health	75%	55%	96%	56%	71%	29%	74%	54%
<i>Trade*</i>	68%	45%	96%	29%	57%	23%	98%	56%
Information	79%	70%	88%	62%	69%	29%	87%	44%
Communication	69%	57%	97%	109%	88%	85%	100%	324%
Interior	82%	55%	92%	51%	61%	32%	97%	51%
Head of Service	78%	57%	100%	54%	76%	32%	85%	42%
Justice	75%	50%	91%	67%	33%	18%	90%	34%
<i>Labour*</i>	74%	44%	68%	30%	71%	28%	94%	47%
<i>Power*</i>	76%	52%	80%	54%	83%	62%	91%	140%
<i>Science*</i>	70%	48%	95%	48%	59%	28%	91%	49%
<i>Transport*</i>	76%	51%	84%	45%	68%	29%	94%	74%
<i>Petroleum*</i>	32%	21%	58%	29%	50%	23%	80%	40%
<i>Works*</i>	100%	79%	91%	44%	97%	45%	98%	96%
<i>Housing*</i>	69%	45%	100%	43%	76%	35%	50%	61%
<i>Mines*</i>	79%	47%	90%	56%	58%	32%	99%	52%
<i>Aviation*</i>	93%	72%	100%	59%	39%	16%	99%	65%
Environment	76%	51%	50%	24%	58%	29%	100%	67%
<i>Culture*</i>	76%	59%	84%	41%	74%	33%	72%	36%
<i>Nat. Planning*</i>	82%	90%	100%	89%	100%	90%	83%	71%
Sport	79%	55%	100%	145%	93%	306%	100%	183%
NSA Office**	99%	77%	100%	80%	77%	34%	100%	100%
Niger Delta	96%	71%	98%	49%	99%	41%	97%	49%
Capital Supplementation	-	-	-	-	-	-	100%	65%
Others	24%	19%	86%	52%	96%	17%	84%	45%
TOTAL	67%	51%	92%	58%	81%	34%	92%	64%

* MDAs within the economic sector as per the reports from the OAGF Annual Report of the Auditor General of the Federation 2012, 2013, and 2014. ** FCTA=Federal Capital Territory Administration; NSA=National Security Adviser.

Table 21 helps us to understand which MDAs have demonstrated particularly high underspending over the period, by presenting average deviations from 2012 - 2015. The tables reveal a few aspects of the credibility challenge in Nigeria. First, not all capital spending is underspent. On average, both the Office of the Presidency and the Ministry of Sport overspend their capital budgets. The Ministry of Communication has also overspent in two out of four years considered.

The data show important variations within the economic sector, as well. The Ministry of Works and the Ministry of Power, for example, have relatively low underspending compared to the Ministries of Petroleum Resources, Trade, and Investment, and Labour and Productivity. Further investigation is needed to understand this variation.

TABLE 21. VARIANCES IN CAPITAL EXPENDITURE BY MDAS, 2012-2015

MDAs	2012	2013	2014	2015	Mean (%)	Median (%)
Actual vs Budget (%)						
Presidency	-26%	524%	364%	-51%	203%	169%
Sport	-45%	45%	206%	83%	72%	64%
Communication	-43%	9%	-15%	224%	44%	-3%
Nat. Planning	-10%	-11%	-10%	-29%	-15%	-10%
NSA Office*	-23%	-20%	-66%	0%	-27%	-22%
Foreign	-30%	-14%	-64%	-3%	-28%	-22%
Defence	-24%	-33%	-41%	-35%	-33%	-34%
FCTA*	-28%	-42%	-60%	-23%	-38%	-35%
Capital Supplementation	-	-	-	-35%	-35%	-35%
Aviation	-29%	-41%	-84%	-35%	-47%	-38%
Works	-21%	-56%	-55%	-4%	-34%	-38%
Power	-48%	-46%	-38%	40%	-23%	-42%
Finance	-48%	-6%	-40%	-85%	-45%	-44%
Health	-45%	-44%	-71%	-46%	-51%	-45%
Information	-30%	-38%	-71%	-56%	-49%	-47%
Police	-24%	24%	-70%	-100%	-43%	-47%
Interior	-45%	-49%	-68%	-49%	-53%	-49%
Education	-48%	-52%	-73%	-45%	-54%	-50%
Mines	-53%	-44%	-68%	-48%	-53%	-51%
Agriculture	-46%	-51%	-66%	-52%	-54%	-51%
Niger Delta	-29%	-51%	-59%	-51%	-48%	-51%
Head of Service	-43%	-46%	-68%	-58%	-54%	-52%
Transport	-49%	-55%	-71%	-26%	-50%	-52%
Science	-52%	-52%	-72%	-51%	-57%	-52%
Youth	-54%	-52%	-71%	-47%	-56%	-53%
Housing	-55%	-57%	-65%	-39%	-54%	-56%
Water	-51%	-63%	-72%	-52%	-59%	-57%
Women	-53%	-39%	-62%	-66%	-55%	-58%
SGF*	-67%	-48%	-70%	-45%	-57%	-58%
Justice	-50%	-33%	-82%	-66%	-58%	-58%
Environment	-49%	-76%	-71%	-33%	-57%	-60%
Culture	-41%	-59%	-67%	-64%	-58%	-61%
Labour	-56%	-70%	-72%	-53%	-63%	-63%
Trade	-1%	-1%	-1%	-44%	-1%	-1%
Others	-81%	-48%	-83%	-55%	-67%	-68%
Petroleum	-79%	-71%	-77%	-60%	-72%	-74%
TOTAL	-49%	-42%	-66%	36%	-48%	-46%

* FCTA=Federal Capital Territory Administration; NSA=National Security Adviser; SGF= Secretary to the Government of the Federation.
Source: Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

HYPOTHESIS 6: THE LEGISLATURE IS THE MAIN DRIVER OF CREDIBILITY CHALLENGES BY AMENDING AN OTHERWISE REALISTIC BUDGET TO INTRODUCE NEW PROJECTS THAT ARE NOT FEASIBLE.

Nigeria's legislature has considerable amendment powers and it uses them in practice to alter the budget each year. The Nigerian Constitution grants legislative powers of the National Assembly under Section 59, which includes the power to amend the budget estimates received from the President. Indeed, Section 59(4) vests in the National Assembly the power to override a presidential veto or inaction, where the President declines to give his assent to what the National Assembly considers fit and proper for the country. The President may only veto the budget as a whole; there is no line-item veto in Nigeria. Where the President fails to assent to a Money Bill within 30 days of his receipt of the same, a Joint Sitting of both Houses of the National Assembly is required. If the Joint Sitting passes the Money Bill by two-thirds majority, the assent of the President is dispensed with and the Money Bill automatically becomes law.

Thus, the legislature has considerable power to increase or decrease the budget in defiance of the executive. If it were the case that the legislature consistently increased the budget beyond what the executive proposed, and beyond what could be implemented feasibly, this could suggest that the legislature was largely responsible for low budget credibility in Nigeria.

How credible is this hypothesis? For six of the eight years reviewed (all years between 2009 - 2016 except 2012 and 2016), the legislative arm of government increased the budget of the central government (Table 22). The size of these increases was substantial. If we compare total actual spending both to the executive's original budget, and to the budget approved by the legislature, we can see that legislative amendments significantly increased the size of the credibility problem. For example, in 2009 if the executive budget proposal had not been amended by the legislature, the deviation could have been as low as N172.77 billion rather than N507.93 billion. In 2010, legislators increased the budget from the executive proposal of N4.08 trillion to N5.16 trillion. The variance between enacted expenditure estimates and outturn was N1.11 trillion instead of 32 billion (against the original proposed budget). In fact, in 2010, the executive's budget would basically have been fully implemented with a variance less than one percent, while the amended budget was implemented at less than 80 percent. Though not as extreme, similar patterns hold in 2013 - 2015.

In both 2013 and 2015, however, the proposed budget was significantly below actual expenditure, suggesting it was too low. The enacted budget was closer (in absolute value) to actual spending than the budget proposal in both years, so while the legislature did introduce underspending into the budget, the budget they enacted was arguably more realistic than the executive's budget.

In fiscal years 2012 and 2016, legislators did cut the budget from N4.75 trillion to N4.69 trillion and from N6.08tn to N6.06 trillion respectively. Interestingly, the variance between the expenditure estimate and outturn for fiscal year 2016 was the highest during the period of review. In 2016, the executive proposed a very ambitious budget on its own, without help from legislators, and legislators did not reduce it sufficiently. This evidence suggests that budget amendments by legislators are likely one driver of the credibility challenge, but they are certainly not the only driver.

TABLE 22. FEDERAL GOVERNMENT: IMPACT OF LEGISLATIVE AMENDMENTS ON CREDIBILITY

Year	Proposed Budget	Enacted Budget	Actual Expenditure	Variance Enacted Budget vs Actual Expenditure	Variance Proposed Budget vs Actual Expenditure	Variance Enacted Budget vs Actual Expenditure	Variance Proposed Budget vs Actual Expenditure
	<i>in billion Naira</i>				<i>in percentage</i>		
2009	2,870.00	3,205.16	2,697.23	-507.93	-172.77	-16%	-6%
2010	4,079.00	5,159.66	4,047.06	-1,112.60	-31.94	-22%	-1%
2011	4,226.19	4,484.75	4,302.06	-182.69	75.87	-4%	2%
2012	4,749.00	4,697.21	4,131.23	-565.98	-617.77	-12%	-13%
2013	3,950.00	4,986.30	4,560.81	-425.49	610.81	-9%	15%
2014	4,300.00	4,987.24	4,123.42	-863.82	-176.58	-17%	-4%
2015	4,357.96	5,067.90	4,767.36	-300.54	409.40	-6%	9%
2016	6,078.00	6,060.48	4,396.24	-1,664.24	-1,681.76	-27%	-28%
Average	4,326.27	4,831.09	4,128.18	-702.91	-198.09	-14%	-3%

Source: Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

HYPOTHESIS 7: WAGE INCREASES ARE A DRIVER OF LOW BUDGET CREDIBILITY.

It is possible that large annual increments in the wage bill have resulted in lower budget credibility in Nigeria. However, it is necessary to think about what this claim would mean. A first possibility is that wages themselves are generally not credible: that is, the government underspends on wages. This is possible but unlikely, as it is politically difficult to cut wage spending compared to other areas.

Another possibility is that wage increases put pressure on the entirety of the budget, making it difficult to implement other parts of the budget, such as the capital budget. However, this interpretation of the hypothesis is largely the same as hypothesis 1: if large wage increases are driving up the overall budget, then the budget should

be cut in other areas. If it is not, then the budget is too ambitious which is equivalent to our first hypothesis about ambitious expenditure projections.

A final possibility is that wages are adjusted upward during budget implementation due to wage settlements that occur *after* budget approval. In this case, wage increases directly undermine budget credibility by changing expenditure during the budget year and requiring in-year adjustments, such as supplementary budgets.

The evidence for the wage hypothesis and its various interpretations is weak, though it may have played a role in some years. As a general matter, wage expenditure generally experiences higher credibility than other parts of the budget. On average, wages are underspent by less than two percent of budget, compared to roughly six percent for all non-debt recurrent expenditure. In five out of seven years, nevertheless, a version of hypothesis #1 still holds for wage expenditure: projected increases that are above/below average are associated with credibility gaps that are above/below average (Table 23). Only in 2014 and 2016 are below-average increases in projections associated with more-severe-than-average underspending. So, wages are not generally an area of underspending.

TABLE 23. FEDERAL GOVERNMENT: CHANGES IN WAGE EXPENDITURE & VARIANCE BETWEEN ACTUAL AND ENACTED EXPENDITURE

Year	WAGE EXPENDITURE				Are annual changes in estimated budget higher than the period average?	Is underspending worse than average?
	BUDGET	ACTUAL	VARIANCE			
	Change from prior year		Actual vs Budget			
	percentage	percentage	billion naira	percentage		
2010	73%	61%	-98.42	-7%	Y	Y
2011	32%	34%	-94.95	-5%	Y	Y
2012	-8%	-2%	11.06	1%	N	N
2013	-5%	-3%	35.38	2%	N	N
2014	8%	3%	-51.3	-3%	N	Y
2015	-1%	3%	34.42	2%	N	N
2016	-5%	-10%	-58.39	-3%	N	Y
Average	13%			-2%		

Y=Yes N=No

Source: Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

There is also little association between the size of wage bill increments and the size of the overall underspending of the budget (Table 24). Years 2010 and 2011 are partial exceptions. Wage expansion is high in 2010 and underspending is also quite high, though wages do not account for a substantial share of the total underspending

in that year. In 2011, the size of the underspending on wages was half of total underspending, but in most other years, it was less than one tenth of total underspending. There are also several years in which the wage bill actually fell and actual spending was also far below budget, such as 2012 and 2016. In fact, the average variance in the aggregate budget in years where actual expenditure on wages fell was -16 percent (i.e., the budget was underspent by 16 percent in those years), while in the years when actual expenditure on wages increased it was -12 percent, meaning that absolute wage increases were associated with higher budget credibility.

TABLE 24. WAGE CONTRIBUTION TO LOW CREDIBILITY AT AGGREGATE AND RECURRENT EXPENDITURE LEVEL

Year	Recurrent (wage) as a share of aggregate expenditure	VARIANCE			Underspending in recurrent (wage) as a share of total underspending	Is recurrent (wage) the main driver of underspending in Nigeria?	Underspending in recurrent (wage) as a share of Total Recurrent Expenditure	Is recurrent (wage) the main driver of underspending for recurrent expenditure?
		Aggregate Expenditure	Recurrent Expenditure	Recurrent (wage)				
	percent	Actual vs Budget (in billion naira)			%		%	
2009	27%	-507.93		0	0%	N	0%	N
2010	29%	-1,112.60	-249.53	-98.42	9%	N	39%	N
2011	43%	-182.69	134.16	-94.95	52%	Y	-71%	Y
2012	38%	-565.98	94.95	11.06	-2%	N	12%	N
2013	34%	-425.49	207.43	35.38	-8%	N	17%	N
2014	37%	-863.82	180.66	-51.3	6%	N	-28%	N
2015	36%	-300.54	-514.22	34.42	-12%	N	-7%	N
2016	29%	-1,664.24	-242.56	-58.39	4%	N	24%	N

Source: Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

The evidence that wage increases are associated with underspending in other areas, such as capital, is also limited. Again in 2010, the wage bill expansion was very significant, and this certainly crowded out other spending. However, overall, in years when the budget for wages rose, the capital budget was underspent by 39 percent, but in years when the budget for wages fell, budget implementation was even worse: the budget was underspent by 52 percent (the same basic relationship holds for actual, as opposed to budgeted, wage spending). It is thus difficult to assert that wage increases are associated with declines in capital spending against budget.

TABLE 25. FEDERAL GOVERNMENT EXPENDITURE: CHANGES IN WAGES, CAPITAL EXPENDITURE AND AGGREGATE EXPENDITURE

Recurrent (wage) expenditure estimate			VARIANCE		
Change from prior year			Aggregate Expenditure	Capital Expenditure	Aggregate Expenditure
Year			Actual vs Budget		
	In billion naira	In percentage	In billion naira	In percentage	In percentage
2009				-39%	-16%
2010	621.88	73%	-1,112.60	-50%	-22%
2011	469.99	32%	-182.69	-20%	-4%
2012	-149.31	-8%	-565.98	-44%	-12%
2013	-81.37	-5%	-425.49	-40%	-9%
2014	142.06	8%	-863.82	-48%	-17%
2015	-25.37	-1%	-300.54	-35%	-6%
2016	-86.59	-5%	-1,664.24	-89%	-27%

Source: Budget Office of the Federation, Ministry of Budget and National Planning, Abuja.

The final question is whether there are cases where wage agreements caused the budget to shift during the year and led to lower budget credibility. In the years we are reviewing this appears to have happened only in 2010, which was a special case. The first half of 2010 featured a series of agitations for various levels of wage increase or improved conditions of service by the core civil service Academic Staff Union of Universities and Medical workers. The Government approved a net increase in wages by 53.37% with effect from July 1, 2010. These developments necessitated the approval of a supplementary budget of N644.75 billion. Personnel costs rose from the 2009 level of N867.04 billion to N1.38 trillion in 2010. By the government's own admission, the changes were not planned:

"Despite these measures, recent non-discretionary actions like the sudden and unplanned wage increases and other national exigencies as occurred in 2010 posed considerable challenge to achieving the Government's budget objectives. As such, recurrent expenditure (in absolute terms) has been on the rise in recent years." (2010 Year-end Report released by the Budget Office of the Federation.)

Taking all the evidence together, there is little to support the idea that wages have been an important factor in undermining budget credibility in Nigeria, with the partial exceptions of 2010 and 2011.

HYPOTHESIS 8: THERE IS A CONSISTENT SET OF FACTORS DRIVING UNDERSPENDING AND LOW BUDGET CREDIBILITY IN NIGERIA, RATHER THAN IDIOSYNCRATIC FACTORS EACH YEAR.

Having reviewed various hypotheses, we are left with a question of whether they tell us a clear story about the period from 2009 - 2016. For example, do ambitious revenue targets explain poor credibility in each year? Are they the main driver of underspending? Or are they a good explanation only in some years, while the role of the legislature is more important in other years?

Table 26 pulls together information about years in which our main hypotheses do explain credibility. We do not include the hypothesis related to the Excess Crude Account, as there is not even partial evidence to support it.

TABLE 26. DID EACH OF OUR HYPOTHESES PLAY A ROLE IN LOW BUDGET CREDIBILITY IN A PARTICULAR YEAR?

HYPOTHESES:						
Year	#1: Ambitious Expenditure Targets	#2: Ambitious Revenue Targets	#6: Legislative Amendments**	#4: Most underspending is capital	#5: Most Underspending is in Economic Sector (Infrastructure)	#7: High Wage Bill Accounts for High Underspending
2009	N	-	Y	Y	-	N
2010	Y	N	Y	Y	-	Y
2011	Y	N	Y	Y	-	Y
2012	Y	Y	N	Y	Y	N
2013	Y	N	Y	Y	Y	N
2014	N	Y	Y	Y	Y	N
2015	Y	Y	Y	Y	Y	N
2016	Y	Y	N	Y	Y	N

***As we discuss above, in 2013 and 2015, legislative amendments did introduce underspending, but they did not necessarily worsen credibility. We find that the original budget was farther below actual spending than the enacted budget was above actual spending.*

What does this show? First, multiple factors are at play in each year. There is not even one year where none of our hypotheses is true, and in all years, more than two of them are relevant. The table also suggests some important nuances. Under-collection of revenue tied to ambitious expenditure targets is associated with low credibility in four years. But neither revenue nor expenditure explains outcomes in 2013, and only ambitious expenditure projections are relevant in 2010 and 2011. Underspending in 2013 may be better explained by legislative amendments to the budget. Wage growth seems to explain part of the credibility problem in 2010 only. What is true in all years from 2012-2016 is that underspending of the capital budget, mainly large infrastructure projects in the economic sector, is where underspending is concentrated. This underspending mainly reflects unrealistic budgeting, but there are also challenges in budget execution evidenced by low execution rates against released

funds. The data show that there is important variation within the economic sector; for example, the petroleum ministry shows poor budget credibility while the works ministry performs reasonably well. There is no publicly available information that explains these variations.

CONCLUSION

This paper set out to organize and discuss overall budget credibility in Nigeria as a first step to looking more closely at compositional credibility and budget credibility in sectors like education and health. We focused here on collecting basic expenditure data for the period from 2009 to 2016 and reviewing it in the light of some common ideas about low budget credibility.

Nigeria has low budget credibility across nearly all types of expenditure, though it has reasonably high credibility for wages. The biggest area of low credibility is large infrastructure projects in the economic sector, which is consistently the largest share of underspending over the period examined. One of the biggest contributing factors to underspending is ambitious budgeting: in most years where expenditure is projected to increase dramatically, underspending is the result. This is related, but not limited, to under-collection of revenue, and overestimation of expenditure occurs even when revenues are not projected to grow dramatically.

Interestingly, although low budget credibility in Nigeria is often attributed to the role of oil in the economy, oil revenues and the use of the Excess Crude Account were not as significant as we might expect relative to other factors. In some years, it appears that legislative amendments to the budget exacerbate low credibility (underspending), though in some years the legislature encouraged greater spending even as expenditure fell short of budget. In most years, there are several factors affecting credibility, and thus our data does not allow us to discriminate among causes. Further investigation and interviews will be needed to go deeper into the causes and consequences of credibility challenges.

An important question remains to understand how the large cuts in the infrastructure budget – that occur every year – are distributed. How do these shifts undermine priority setting at the formulation stage of the budget? Who are the winners and losers from these changes? To find answers we require additional data on those projects that are budgeted for and not spent each year, including those that are added to the budget by the legislature. While the high degree of optimism about the budget means that underspending in Nigeria is not mainly about “leaving money on the table,” it may still be about creating opportunities to shift funds from socially-agreed priorities established during budget formulation to other areas during the year, when fewer stakeholders are watching. We hope to collect more data on the extent of this problem in the subsequent papers in this series.