Protest Matters: The Effects of Protests on Economic Redistribution*

Belinda Archibong†
Johns Hopkins University SAIS and NBER

Chinemelu Okafor
Harvard University

Evans Osabuohien
Covenant University CEPDeR and DIaDeRC

Tom Moerenhout
Columbia University

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Abstract

Can citizen-led protests lead to meaningful economic redistribution? We study the effects of protests on fiscal redistribution using evidence from Nigeria. We digitized twenty-six years of public finance data from 1988 to 2016 to examine the effects of protests on intergovernmental transfers. We find that protests increase transfers to protesting regions, but only in areas that are politically aligned with disbursing governments. Two natural experiments- the large-scale 2012 Occupy Nigeria protests and 2015 presidential election- validate these results. Protesters also face increased police violence, particularly in non-aligned regions. The results show that protests can influence fiscal redistribution.

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†Johns Hopkins University School of Advanced International Studies and NBER. 555 Pennsylvania Avenue NW, Washington, DC 20001. barchib2@jh.edu.

1 Introduction

"We turn out in the streets and nothing seems to happen. Maybe we're doing it wrong"

- Nathan Heller, *The New Yorker, August 14, 2017*

On September 17, 2011, hundreds of people marched on Zuccotti Park in Manhattan to protest income and wealth inequality in the United States under the banner of 'Occupy Wall Street'.[1] The march marked the start of months-long protests against economic inequality in the US and worldwide, collectively labeled the Occupy movement. Three months after the movement began, another series of demonstrations erupted in Nigeria under the banner of "Occupy Nigeria", following the removal of a long-standing fuel subsidy in January 2012. The subsidy removal, implemented without warning by the federal government on January 1, 2012, led to an overnight 115% increase in gasoline prices (Akanle, Adebayo, and Adetayo, 2014). Protests began the following day on January 2, 2012, with, reportedly, millions of Nigerians participating nationwide, making it the largest mass mobilization in the country's history at that time (Adebayo, 2015; Adigun, 2018). Drawing inspiration from the economic redistribution demands of Occupy Wall Street, protesters demanded the reversal of the subsidy removal, viewing fuel subsidies as the most visible and directly impactful form of economic redistribution from government to citizens (Akanle, Adebayo, and Adetayo, 2014). The protests lasted nearly two weeks, with numerous protesters killed or injured by police and security forces.[2] Given that a major stated driver of citizen participation in protests like those in the Occupy movement is demand for economic redistribution, can protests actually lead to meaningful changes in government policy, particularly regarding the redistribution of economic resources? This is a difficult empirical question to answer due to both the complexity of fiscal systems globally and the paucity of subnational public finance data.

We address this question using evidence from Nigeria, Africa's most populous country and the world's sixth most populous by United Nations estimates. Nigeria's highly centralized, rule-based intergovernmental fiscal transfer system provides an informative setting to examine how governments might deploy fiscal resources in response to citizen-led protests. Nigeria's federal government distributes revenues derived primarily from oil- so that the size

[1]Source: https://www.history.com/this-day-in-history/september-17/occupy-wall-street-begins-zuccotti-park

[2]Source: Vanguard News, https://www.vanguardngr.com/2012/01/12-killed-as-subsidy-protests-turn-bloody/

of the redistributable pool is plausibly exogenous, depending on oil prices rather than on subnational economic activity or citizens as taxpayers- directly to states, and can choose to adjust these disbursements in response to protests.[3] We construct a new dataset from 26 years of archival public finance records (1988-2016), combining state revenues and expenditures with geocoded protest data. Nigeria's political history- military rule from 1970 to 1999, followed by democracy- also allows us to test how government responses to protests differ across regime types (Ellman and Wantchekon, 2000; Hollyer, Rosendorff, and Vreeland, 2015).

This paper proceeds in four steps. First, to fix ideas about the links between protests and intergovernmental transfers, we outline a simple principal-agent framework. The principal (federal president) controls revenue disbursements and seeks to retain office by quelling protests that threaten tenure. The agent (state governor) must cooperate to suppress protests, and the principal incentivizes this cooperation by sharing revenues. When an agent is politically aligned with the principal- sharing the same party affiliation and thus having incentives to keep the principal in office- the principal transfers more revenues in response to protests. When the agent is non-aligned, the principal reduces transfers. This strategy is most effective for opaque transfers whose distribution citizens cannot easily monitor, and least effective for publicly announced transfers that are subject to scrutiny.

Second, we test these predictions empirically. In the Nigerian context, two primary transfer types flow from the federal government to states: publicly announced allocation transfers and opaque VAT transfers. We measure protest intensity as the within-period z-score of state protest counts relative to the national monthly mean, capturing how much more contentious a state is relative to the national landscape in a given period. The results show that protests are associated with a 0.5% decrease in monthly VAT transfers in non-aligned states and a relative 1.6% increase in aligned states (total 1.1% increase), yielding a monthly differential of 10.2 million Naira (US$68,000) per standard deviation of protest intensity over the democratic period.[4] At the yearly level, the differential is 259 million Naira (US$1.73 million) per standard deviation. Allocation transfers show no robust effects, consistent with the transparency mechanism.

[3]Nigeria is one of more than 30 countries with natural resource revenue-sharing schemes; see Figure A1 in the Appendix (Oates, 1999).

[4]During the democratic period (2000-2016), average monthly allocation and VAT transfers were approximately 4 billion Naira and 640 million Naira per state, respectively, in real 2010 figures. The average exchange rate in 2010 was 1 USD = 150 Naira (https://fred.stlouisfed.org/series/FXRATENGA618NUPN). Details in Section 4.

Third, we estimate causal effects using two natural experiments. The January 2012 fuel subsidy removal provides exogenous variation in protest intensity: difference-in-differences estimates confirm protests decreased VAT transfers to non-aligned states by 0.9% and increased them to aligned states by a relative 1.5% (total 0.6% increase), echoing the OLS results. The 2015 presidential election- when 23 states simultaneously switched alignment following the first-ever incumbent defeat in Nigerian history- provides exogenous variation in alignment status, validating the mechanism: states gaining alignment show a 14% relative increase in protest responsiveness for VAT transfers, while allocation transfers show no robust effects, consistent with the transparency mechanism. Dynamic analysis reveals that protest effects on VAT transfers persist over multiple years, with aligned governments strategically reallocating budgets and initially expanding recurrent expenditure, followed by substantial delayed capital spending prioritizing visible infrastructure. We conduct several falsification tests and show our results are robust to alternate specifications of our protest measure and various heterogeneity tests. Results are also robust to examining protest effects over the military period, providing out-of-sample validation that the federal government used transfers to respond to protest pressure even before democratization. Our results are not driven by other conflict events, and protests in aligned states are not associated with increases in non-transfer revenue such as internally generated revenue.

Fourth, we examine other government responses to protests. Protests are associated with higher policing and police violence, particularly in non-aligned states: a one-standard-deviation increase in protests is associated with a 4.9 pp increase in police share of protest actors in non-aligned states but a near-zero total effect of 0.3 pp in aligned states. Policing rises with protest activity in non-aligned states but not in aligned ones, consistent with aligned governments managing protest pressure through fiscal channels. Protests are also positively associated with incarceration, especially under military rule. Together, the results show that protests can influence fiscal redistribution, but how they do so depends critically on the political relationship between disbursing federal governments and protesting states.

We add to two distinct literatures. First, we add to the literature on the political economy of protest (Bates, 1981; Cantoni et al., 2019, 2024; El-Mallakh, 2020; Madestam et al., 2013; Acemoglu, Hassan, and Tahoun, 2018; Mazumder, 2018). Previous work has highlighted the role of social media in lowering collective action costs and mobilizing protests (Enikolopov, Makarin, and Petrova, 2020; Manacorda and Tesei, 2020; Battaglini, 2017) and examined the effects of protests on voting behavior and electoral competition (Madestam et al., 2013; El-Mallakh, 2020; Ellman and Wantchekon, 2000), stock market valuations (Ace-

moglu, Hassan, and Tahoun, 2018; Ba, Rivera, and Whitefield, 2023), women's labor market outcomes (El-Mallakh, Maurel, and Speciale, 2018), and political attitudes (Mazumder, 2018). Our paper also connects to a growing body of work on protest, policing, and political violence, including evidence that police violence shapes student protests and educational outcomes (González and Prem, 2024), and that cohesive institutions temper political violence (Fetzer and Kyburz, 2024). Whereas this work studies the coercive consequences of protest and the institutional roots of violence, we show that the state's response also operates on a fiscal margin: governments choose between concession through transfers and repression through policing depending on political alignment. There is almost no research, however, on the effects of protests on economic redistribution. Most work on protest effects on economic outcomes has focused on the economic costs of protests, with evidence showing that protests decrease stock market valuations of politically connected firms (Acemoglu, Hassan, and Tahoun, 2018) and decrease property values (Collins and Margo, 2007). Given that a major stated driver of citizen participation in protests is demand for economic redistribution, whether these protests can nudge governments to engage in more fiscal redistribution is an important but largely unaddressed question in the literature.

We also contribute to the economics literature on fiscal federalism and fiscal decentralization and a related literature on the role of party affiliation and regional favoritism in the distribution of fiscal resources (Oates, 1999, 1993; Musgrave, 1997; Poterba, 1994; Buchanan, 1950; Hoover and Pecorino, 2005; Zhuravskaya, 2000; Boadway and Shah, 2007; Hodler and Raschky, 2014; Gerber, Huber, and Washington, 2010). Much of this work has focused on explaining the incentive structure of revenue-sharing schemes in either democratic regimes or authoritarian contexts, but not both. We show that the incentive constraints of government entities in revenue-sharing environments can remain stable under both democratic and non-electoral regimes. The social science literature on regional favoritism has highlighted the role of politician origin in economic outcomes, (Hodler and Raschky, 2014; Fiva and Halse, 2016), the role of political party alignment in economic and political outcomes (Cullen, Turner, and Washington, 2021; Gerber, Huber, and Washington, 2010), and the distortions in incentives of political stakeholders that can arise from regional and party favoritism (Zantman, 2002; Zhuravskaya, 2000; Casey, 2015). We add to this literature and show that political alignment affects how central governments respond in terms of disbursement behavior to protests. We also provide suggestive evidence that alignment can affect governments' use of violence in response to protests.

The paper is organized as follows: Section 2 provides context and historical background

on intergovernmental transfers and protests in Nigeria. Section 3 outlines a simple conceptual framework. Section 4 describes the data on public finance and protests. Section 5 reports quantitative estimates of protest effects on fiscal redistribution. Section 6 examines policing and incarceration outcomes. Section 7 concludes.

2 Fiscal Redistribution and Protests in Nigeria

2.1 Intergovernmental Transfers

Nigeria is a federation of 36 states and a Federal Capital Territory (FCT), further subdivided into 774 local government areas (LGAs) and 6 geopolitical zones whose geographies correlate strongly with ethnicity.[5] Following oil discovery in 1956, independence in 1960, and a civil war from 1967 to 1970, Nigeria has operated under fiscal federalism, with 80% of government revenue from oil distributed centrally to states and LGAs (Archibong, 2019; Maystadt and Salihu, 2019). The country experienced military rule from 1970 to 1999,[6] followed by democratic governance since 1999.

All revenues- except a constitutional 13% derivation to oil-producing states- are remitted to the Federation Account, which pools oil receipts, corporate income taxes, customs and excise duties, and VAT (Alm and Boex, 2008). Because oil dominates the Account, its size fluctuates with plausibly exogenous oil price movements (Maystadt and Salihu, 2019). Revenues are then distributed across three tiers of government via vertical and horizontal formulas. Between 1981 and 2016, the vertical share ranged from 48.5% to 55% for the federal government, 24% to 30.5% for states, and 10% to 20.6% for LGAs (Okauru, 2012; Onuigbo and Innocent, 2015). The horizontal formula weights five main factors: equality of states (40-50%), population (30-50%), internal revenue effort (0-10%), landmass and terrain (0-10%), and social development factors (0-15%).[7]

Transfers to states from the Federation Account include two categories: allocations and VAT transfers remitted back to states. VAT transfers follow the general horizontal allocation formula: approximately 50% of transfers are shared equally among states; 30% were awarded in proportion to population; and 20% were based on each individual state's relative contribution to VAT revenues (Maystadt and Salihu, 2019). Of these formula components,

[5]The North-West zone is dominated by Hausa and Fulani; the North-East by Kanuri; the South-West by Yoruba; the South-East by Igbo; the South-South by Ijaw/Edo/Bini/Ibibio; and the North-Central by Tiv, Nupe and smaller groups (Archibong, 2019). See Figure A2 in Appendix A.1.

[6]With brief civilian interludes in 1979-1983 and 1993.

[7]Social development factors are human-development indicators- health, education, and water access- that reflect long-run, historically persistent processes (Archibong, 2018).

only the derivation share (the 20% of VAT tied to a state's own VAT contribution) and the internal-revenue-effort weight (0-10% of allocations) are linked to a state's own economic activity; the majority- the equality and population shares- are fixed or relatively time-invariant at the state level.[8] The link between transfers and oil prices operates at the national level, through the size of the Federation Account: oil windfalls raise the total pool available for both allocation and VAT transfers (Maystadt and Salihu, 2019).

The formula's administration is opaque. Since the 1980s, the Federation Account Allocation Committee (FAAC)- chaired by the federal Minister of Finance and including state and central bank representatives- meets monthly to disburse the prior month's revenues, generally around mid-month.[9] Despite the ostensibly rule-based structure, the federal government discloses virtually nothing about formula inputs. One of the largest components, population, is heavily contested: the last census was conducted in 2006 and none has been held since (Eme and Idike, 2015).

States do not control federal transfer rates. Their only own-source revenue is internally generated revenue (IGR), primarily from personal income taxes and fees (Ekpo, 1994; Maystadt and Salihu, 2019; Salami, 2011). Between 1988 and 2016, federal transfers comprised 80% of state revenues on average- 66% from statutory allocations and 14% from VAT transfers- while IGR accounted for only 20%.[10]

Transparency differs markedly across transfer types in the democratic period. Statutory allocation data- over 60% of state revenues- are regularly publicized in media and federal documents. VAT transfer data remain opaque, with little public disclosure of distribution formulas or state-level amounts. Figure 1 documents this gap using Google Trends data from Nigeria (2011–2021): searches for "allocation" substantially exceed those for "VAT," and related queries show Nigerians search for allocation formulas but for VAT definitions (Table A1).[11]

This differential transparency matters because weak monitoring institutions make transfers susceptible to manipulation despite their formula-based nature (Maystadt and Salihu, 2019; Ekpo, 1994; Salami, 2011; Banful, 2011): the federal government can adjust opaque VAT transfers at lower political cost than publicly scrutinized allocation transfers. This also allows us to examine how federal governments may use intergovernmental transfers to

[8]Population, because the last census was conducted in 2006.

[9]See Maystadt and Salihu (2019) for institutional details.

[10]Author calculations from archival data; see Section 4.

[11]Patterns are similar from 2004 onward; we show post-2010 data following Google's geolocation revision.

respond to protests, despite the ostensibly rule-based structure of the transfer system.

2.2 Protests and Government Responses

Although citizens participate in protests for many reasons, research on the drivers of protests has highlighted that poor economic conditions and economic grievances, combined with factors that lower communication and organization costs, are strong predictors of higher protest levels within countries (Enikolopov, Makarin, and Petrova, 2020; Manacorda and Tesei, 2020; Battaglini, 2017; Madestam et al., 2013). This is also true in Nigeria, where many large-scale protests have been linked to economic grievances among the population. The Nigerian government's responses to these protests have been a mixture of concession- generally in the form of economic transfers to protesters or policy retractions- and repression through state-sponsored violence and security clampdowns. We outline examples of notable protests over Nigeria's military and democratic periods here.

2.2.1 Military Rule

Many protests occurred throughout Nigeria's history of military rule. To illustrate the government's response to protests, we highlight the so-called "economic riots" of the Structural Adjustment Program (SAP) era of the 1980s and 1990s (Shettima, 1993). During the debt crisis of the 1980s, Nigeria was one of several African countries that qualified for loans from international financial institutions such as the International Monetary Fund (IMF) and the World Bank. The loans came with strict conditions: to qualify for debt relief under SAP, participants had to increase the number of their free-market-based policies (Archibong, Coulibaly, and Okonjo-Iweala, 2021). Some SAP policies, like the removal of agricultural subsidies which kept food prices low, led to increases in food prices. These increases were then blamed for the stagnation of economic growth and increases in youth unemployment and poverty (Archibong, Coulibaly, and Okonjo-Iweala, 2021; Sender, 1999). During the 1980s and 1990s, these poor economic conditions led to numerous protests, characterized by the international press as "economic riots", that were often organized by university students and labor unions[12] (Sneyd, Legwegoh, and Fraser, 2013; Shettima, 1993). These protests foreshadowed the wave of pro-democracy demonstrations that erupted between 1993-1998 (Ogbondah, 2000). The military government responded with a combination of concession- in the form of transfers, such as salary payments to workers- and repression, including beatings, incarceration, and the killing of protesters (Shettima, 1993).

[12]A headline from the New York Times from this period is shown in Figure A5.

2.2.2 The Democratic Period and the Occupy Nigeria Movement

As in the military period, the drivers of protest since the onset of Nigeria's democratic period in 1999 have varied, with a common theme being protests against economic conditions led by labor unions and opposition party leaders (Sneyd, Legwegoh, and Fraser, 2013; Bellemare, 2015; Omotola, 2009). Poor economic conditions and periodic failure to pay public sector salaries and pensions are frequently cited drivers, with unions organizing workers from teachers to healthcare workers to demand government payment and improved working conditions (Adeloye et al., 2017; Orifowomo, 2006).[13] In southern Nigeria, particularly the southeast where most of the country's petroleum is located, protests have additionally focused on poor economic and environmental conditions, attributed to environmental degradation caused by oil extraction (Nwajiaku-Dahou, 2012).

Notable protests in the past few decades include the 2007 electoral protests, the 2020 End SARS protests and the 2012 Occupy Nigeria fuel subsidy protests.[14] The 2012 Occupy Nigeria protests stand out as the first large-scale protest of the democratic period and one of the largest in Nigeria's history (Adebayo, 2015; Adigun, 2018). Following the removal of long-standing fuel subsidies by President Goodluck Jonathan on January 1, 2012, without warning to the Nigerian population,[15] gasoline prices spiked by 115% overnight (Akanle, Adebayo, and Adetayo, 2014). Protests began the following day, with millions of Nigerians demanding restoration of the subsidy, widely viewed as a visible and impactful form of government redistribution (Adebayo, 2015; Akanle, Adebayo, and Adetayo, 2014). The Nigeria Labour Congress (NLC) and Trade Union Congress (TUC), the largest labor unions in Nigeria, played a central role in organizing the protests and coordinating a nationwide general strike which shut down major sectors of the economy across states (Adebayo, 2015). During the most intense period of protest, which lasted almost 2 weeks, numerous protesters were killed or injured by police and security forces.[16] Protests subsided after President Jonathan

[13] Figure A6 in Appendix A.2 shows newspaper headlines documenting workers' discontent over government failure to pay salaries and pensions.

[14] The 2007 electoral protests, which followed the election of then president Umaru Yar'Adua, was motivated by the belief that the voting had been rigged and that the incumbent party, the People's Democratic Party (PDP), which had been in power for the entirety of the democratic period, had not done enough to improve economic conditions (Omotola, 2009). The 2020 End SARS protesters, who were inspired in large part by the BLM anti-police brutality protests, demanded an end to police brutality by the Special Anti-Robbery Squad (SARS) and an improvement in young people's economic conditions. Source: https://www.bbc.com/news/world-africa-54662986

[15] Following years of internal pushback against the subsidies from international finance institutions (Archibong, Coulibaly, and Okonjo-Iweala, 2021).

[16] Source: Vanguard News, www.vanguardngr.com/2012/01/12-killed-as-subsidy-protests-turn-bloody/

announced a partial reinstatement of the fuel subsidy, reducing fuel prices by 45% relative to the post-subsidy removal price.

3 Conceptual Framework

As documented in Section 2.2, federal governments respond to protests through concession and repression. We outline a simple principal-agent framework to fix ideas about how protests shape intergovernmental transfers, and to motivate the empirical predictions we test.[17]

Setup

There are three sets of actors: citizens, who protest with intensity $P_i \geq 0$ in state i; a federal government leader (principal, f) who controls disbursement of centrally collected revenues R; and n state government leaders (agents, $i = 1, \ldots, n$) who depend on f for revenue transfers. Revenues are exogenously determined by natural resource prices, so R does not depend on subnational economic activity; normalize $R = 1$. Protest intensity is publicly observed.

The principal's objective is to retain office by minimizing coup risk under military rule or maximizing reelection probability under democracy. Protests threaten tenure by signaling organized citizen discontent and regime vulnerability, and the threat is increasing in protest intensity P_i. Suppressing protest requires effort $e_i \geq 0$ from agent i, which the principal cannot directly observe. The principal offers agent i a transfer share $\theta_i \in [0, 1]$, with statutory shares $\bar{\theta}_i$ set by the allocation formula and $\sum_i \theta_i \leq 1$, to incentivize cooperation. Agents differ in political alignment, indexed by $a_i \in \{0, 1\}$, which is publicly known. The game has three stages: (i) the principal observes P_i and a_i and sets θ_i; (ii) the agent observes θ_i and chooses e_i; (iii) revenues are distributed. We solve for the subgame perfect equilibrium by backward induction.

Agent's Problem

An aligned agent ($a_i = 1$) chooses effort in deploying transferred resources to manage protest, maximizing $\theta_i e_i - c(e_i)$, where $c(\cdot)$ is increasing and strictly convex with $c(0) = c'(0) = 0$ and $c''' > 0$. The interior first-order condition gives $\theta_i = c'(e_i^*)$, so equilibrium effort $e_i^* = (c')^{-1}(\theta_i)$ is strictly increasing in the transfer offered. A higher transfer share induces more effort.

A non-aligned agent ($a_i = 0$) has no intrinsic stake in the principal's tenure and

[17] We present this as a conceptual illustration rather than a complete formal theory. A fully micro-founded model with endogenous citizen beliefs and opaque versus transparent transfers is beyond the scope of this paper and is left for future work.

may instead actively undermine the principal (e.g., funding opposition media or supporting protesters). We take the limiting case in which such an agent supplies no productive suppression effort at any transfer, so $e_i^* = 0$ for all θ_i. The principal, unable to monitor effort, anticipates this.

Principal's Problem and Predictions

The principal retains the share $1 - \sum_i \theta_i$ of revenues and values suppression effort in proportion to the protest threat it defuses. She solves the following state by state; for an aligned state:

$$\max_{\theta_i} (1 - \theta_i) \; + \; \lambda P_i \, e_i^*(\theta_i), \tag{1}$$

where $\lambda > 0$ scales the tenure value of suppression. Using $e_i^{*\prime}(\theta_i) = 1/c''(e_i^*)$, the interior first-order condition is $c''(e_i^*) = \lambda P_i$. Because c'' is increasing, equilibrium effort and hence the equilibrium transfer share $\theta_i^* = c'(e_i^*)$ are increasing in protest intensity.[18] This yields our first prediction.

Prediction 1. *The equilibrium transfer share to an aligned state is increasing in protest intensity. States where protests are more intense, requiring greater suppression effort, receive larger transfers.*

For a non-aligned state, $e_i^* = 0$ regardless of θ_i, so the second term in Equation 1 vanishes and the principal obtains no return from any transfer. Provided she values retaining revenues for other uses (e.g. security spending or debt service), she transfers no more than the statutory share $\bar{\theta}_i$. Additionally, because the constraint $\sum_i \theta_i \leq 1$ makes transfers competing claims on a common pool, increases to aligned protesting states are financed by reducing non-aligned shares below $\bar{\theta}_i$. This yields our second prediction.

Prediction 2. *Protests increase transfers to aligned states but reduce or leave unchanged transfers to non-aligned states. The differential response is larger for transfer types that citizens cannot monitor.*

The second part of Prediction 2 follows from an information asymmetry across transfer

[18] With $c(e) = e^{1+\gamma}/(1+\gamma)$ and $\gamma > 1$, this gives $e_i^* = (\lambda P_i/\gamma)^{1/(\gamma-1)}$ and $\theta_i^* = (e_i^*)^\gamma$, both strictly increasing in P_i. More intense protest raises the marginal value of suppression effort to the principal, and inducing that effort requires a larger transfer share.

types. Because statutory allocations are publicized in national media and federal documents, deviating from the allocation formula is visible to citizens and politically costly. The state-level distribution of VAT transfers is less publicly disclosed, so the same deviation carries less political cost (Maystadt and Salihu, 2019). The principal therefore concentrates discretionary adjustment on VAT transfers.[19] Opacity serves a dual function: it allows adjustment without the political cost of appearing to concede to protest pressure, and it limits moral hazard, since if the protest-transfer link were publicly observable every state would have an incentive to manufacture protests to extract transfers, regardless of alignment.

Finally, the fiscal response is specific to citizen-led protests rather than other conflict events. Armed conflicts signal political polarization rather than organized civic mobilization (Montalvo and Reynal-Querol, 2005); they do not threaten the principal's tenure through the channel the framework describes, and cannot be managed through the discretionary, alignment-contingent transfer mechanism, since the federal security response they elicit requires no cooperation from the governor and so leaves nothing for a transfer to purchase.[20]

Application to Nigeria

In Nigeria, the principal is the federal president; each agent is a state governor. Under military rule, all governors were presidential appointees, so all agents are effectively aligned and Prediction 1 applies uniformly. Both transfer types also lacked transparency, so the principal could use either channel; protests should therefore raise both VAT and allocation transfers in that period. Under democracy, alignment is determined by party affiliation (Ellman and Wantchekon, 2000; Cox and McCubbins, 1986), and VAT transfers remain opaque while statutory allocations are publicized. Prediction 2 therefore generates three testable implications for the democratic period: protests should increase VAT transfers in aligned states, decrease them or leave them unchanged in non-aligned states, and show no robust effect on allocation transfers. We test these predictions in Section 5.

A final institutional feature supports the mechanism's operation under opacity. While VAT transfer adjustments are not publicly announced, state governors are informed of federal discretionary decisions through their representatives on the FAAC committee and direct communication with federal officials (Maystadt and Salihu, 2019). The political return to cooperation therefore flows through the governor-president relationship rather than through

[19] We document this asymmetry empirically in Figure 1 and Figure 5 and discuss it further in Section 5.

[20] This is consistent with our empirical finding that battles have no differential effect on transfers by alignment (Table 8) as discussed in Section 5.

public credit claiming, allowing aligned governors to signal fiscal competence to local constituents without revealing the protest-contingent mechanism to the general public or to non-aligned states.

4 Description of Data

4.1 Public Finance

We digitized 26 years of archival data on state revenues and expenditures from the Nigerian Annual Abstract of Statistics (AAS) and Ministry of Finance FAAC Reports covering 1988 to 2016. The AAS reports contain annual data on allocation and VAT transfers, internally generated revenue (IGR) and recurrent and capital expenditures at the state level from 1988 to 1996 (the military period).[21] As described in Section 2.1, the two transfer types differ in both composition and transparency: statutory allocations are the general revenue-sharing transfer distributed by the horizontal formula, while VAT transfers partly return VAT receipts to states. Statutory allocation data- over 60% of state revenues- are regularly publicized in media and federal documents, whereas VAT transfer data remain opaque, with little public disclosure of distribution formulas or state-level amounts. The FAAC reports document monthly and total yearly VAT transfers and allocations to states from 2000-2016 (the democratic period), with IGR and expenditure data available only annually.[22] These data sources and the variables we use in our analysis are described in detail in the data appendix in Appendix A.1.1.

Figure 2 show maps of Nigeria with its states outlined, as well as the shares of VAT and allocation transfers and IGR in total state revenues from 2000 to 2016. The spatial distribution of state revenues remained relatively stable between the military and democratic periods, reflected in the significant positive correlations between state revenues across both periods[23]. Consistent with prior work[24], increases in plausibly exogenous oil prices are strongly positively associated with total allocation and VAT transfers (Maystadt and Salihu, 2019).

[21] An example of the archival data from the AAS reports is shown in Figure A3.

[22] Observation counts differ across outcomes because of data availability: the FAAC reports provide VAT and allocation transfers monthly for 2000-2016, while IGR and expenditure data are annual, and archival coverage in the military period varies by transfer type (VAT 1994-1996, statutory allocation 1990-1996, IGR 1988-1996).

[23] The correlation between state revenues in both periods is largest for IGR at 0.97 ($p < 0.001$), followed by VAT transfers (0.93, $p < 0.001$) and allocation transfers (0.67, $p < 0.001$).

[24] See Figure A4 in Appendix A.1.

As noted in Section 2, transfers constitute most state revenues. Allocation transfers comprise 67% and 66% of total state revenues over the military and democratic periods, respectively, while VAT transfers make up 13% (military) and 15% (democratic). Allocation and VAT transfers are distributed broadly across states with no strong spatial concentration, consistent with the formula-based, equal-share components described above. IGR, by contrast, is concentrated in wealthier southern states, where own-source revenue capacity is highest (Figure 2).[25]

Between 2000 and 2016, states received on average 32 billion Naira in allocation transfers and 7.4 billion Naira in VAT transfers annually (in real 2010 currency). Recurrent expenditures account for 68% (military) and 59% (democratic) of total spending, with capital expenditures representing 33% and 41% respectively. Over the democratic period, recurrent spending is dominated by personnel costs (41%), overhead costs (21%), and pensions (36%). Table A2 in Appendix A.1 provides detailed summary statistics.

4.2 Protests

We measure protests using two geocoded datasets spanning 1988-2016. For the democratic period (2000-2016), we use the Armed Conflict Location and Event Data (ACLED), which records geocoded conflict events from media and news sources (Raleigh et al., 2010). Our main variable of interest is the "protests and riots" category (hereafter "protests"), defined as "demonstrations against a political entity such as a government institution," distinct from "battles"- "violent interactions between two politically organized armed groups" (Raleigh et al., 2010).[26] Protests are typically less violent than battles: 4,060 protest fatalities were recorded in Nigeria between 2000 and 2016 versus 30,943 from battles. For the military period (1988-1996), we use the Global Data on Events Location and Tone (GDELT) project, which similarly records geocoded conflict events from media sources (Ward et al., 2013).[27]

[25]Lagos and Rivers are the only states where IGR exceeds transfers as a share of total state revenues.

[26]ACLED does not provide sufficient detail to systematically classify protests by type (e.g., labor strikes versus political demonstrations versus fuel price protests) across the full sample period. Event notes are available for a small subset of events and are not consistently coded. We therefore treat all protest events uniformly and rely on the historical narrative in Section 2.2 to document that a major driver of protest activity in our sample is economic grievances- fuel prices, salary and pension non-payment, and poor public services- organized by labor unions, students, and political party members. Our OLS results capture the federal government's response to protest intensity rather than to any particular protest type as discussed in Section 5.

[27]GDELT includes twenty event categories; our variable of interest is the "protest" category. For the 1997-1999 overlap period, the correlation between ACLED and GDELT protest counts is 0.86 ($p < 0.001$), supporting comparability across datasets. We keep military and democratic period analyses strictly separate so the dataset switch does not confound any single specification.

All analyses are conducted separately by period.

Figure 3 shows the spatial distribution of protests and battles from 2000 to 2016. Southern states had relatively higher protest shares while the northeast saw more battles following Boko Haram (an Islamic terrorist group) attacks (Ekhator and Asfaw, 2018). During the democratic period, states are more likely to experience high-intensity protests than battles; this pattern reverses under military rule.[28] The ACLED dataset also lists actors involved in protests for a small subset of events. The top three non-state actors in democratic-period protests are labor unions, students, and political party members.[29]

4.3 Political Parties

To test the hypothesis regarding political alignment as a primary channel linking protests and transfers, outlined in the framework in Section 3, we compile governor and presidential party affiliations for 2000-2016 from public sources.[30] Two parties dominate presidential politics: the People's Democratic Party (PDP) held the presidency in 88% of sample years, while the All Progressives Congress (APC) won in 2015. Gubernatorial politics are more competitive, with ten parties electing governors over this period.[31] Political alignment varies substantially across states and time. State politics are highly localized, driven by ethnoregional coalitions (Azeez, 2009), producing heterogeneous governor-president alignments (Figure 4). Crucially, alignment status responds to electoral outcomes: gubernatorial elections coincide with presidential elections every four years (2003, 2007, 2011, 2015), creating discrete alignment switches. The 2015 election produced the largest realignment: consolidated opposition parties formed the APC and defeated incumbent PDP president Goodluck Jonathan- the first incumbent to lose reelection in Nigeria's history- causing 23 of 36 states (64%) to switch alignment status (Figure 4). This variation provides two sources of identification. First, cross-sectional variation from seven states with PDP governors throughout the entire sample period, reflecting durable ethnoregional coalitions (Azeez, 2009). Second, temporal variation from 57 alignment switches across 30 states, clustering around elections and driven

[28]High intensity is defined as protest counts exceeding the national mean. Table A2 provides summary statistics for both periods.

[29]The GDELT categories are less detailed than their ACLED counterparts, with the top actors for protest participants in the military period listed as 'Nigerians' against the 'government'. Table A2 provides a summary of protest and public finance statistics in the democratic and military periods.

[30]Data sources detailed in Appendix A.3.

[31]Governors serve four-year terms with a two-term limit. Individual governors rarely switch parties (1.5% of cases); when they do, 56% switch from aligned to non-aligned status. Ethnoregional politics are stable: geographies correlate strongly with ethnicity and party preferences (Azeez, 2009). See Appendix A.3 for party composition over time (Table A5) and spatial patterns (Figure A7).

by exogenous electoral outcomes.

5 Protests and Fiscal Redistribution

5.1 Protests and Intergovernmental Transfers

We examine the relationship between protests and intergovernmental transfers by estimating:

$$y_{smt} = \phi \text{Protest}_{smt} + \mu_s + \delta_{mt} + \epsilon_{smt} \tag{2}$$

where y_{smt} is the outcome for state s at month m in year t. The main outcome of interest is total transfers (allocation or VAT) to state s in month m and year t. State fixed effects (μ_s) capture time-invariant state characteristics- including population and geographic characteristics like landmass and terrain that are components of the standard formula for transfers as described in Section 2.1. The month-year fixed effects, δ_{mt}, control for changes in national policies (e.g. fiscal policies) and other macroeconomic factors that are changing at the month-year level. Standard errors are clustered at the state level to allow for arbitrary correlations, and all regressions include both state and month-year fixed effects. The specification captures the month to month disbursement structure of Nigeria's allocation transfers, which generally occur around mid-month as discussed in Section 2. For outcomes available only annually (IGR and state expenditures), we estimate Equation 2 at the state-year level with state and year fixed effects.

We measure "Protest" in two ways to capture both extensive and intensive margin effects. Our main measure, Protest (Continuous), is the within-period z-score: for each state-month-year, we subtract the national monthly mean and divide by the national monthly standard deviation, $\frac{(x_{smt} - \bar{x}_{mt})}{\sigma_{mt}}$, where x_{smt} is the total protest count in state s at month m in year t, $\bar{x}_{mt}$ is the national monthly mean across all states, and σ_{mt} is the national monthly standard deviation.[32] This captures relative protest intensity within each period- how many standard deviations above or below the national average a state is in a given month- which is more directly related to the federal government's political calculus than raw protest counts, per our framework, since the principal responds to states that are notably more contentious than the national landscape in a given period.

As a robustness check, Protest (Indicator) equals one if a state's protest count exceeds

[32]For state-year observations, we calculate this measure at the year level: $\frac{(x_{st} - \bar{x}_t)}{\sigma_t}$, where $\bar{x}_t$ is the national annual mean and σ_t is the national annual standard deviation.

the national monthly mean. The continuous measure's advantage over the binary indicator is not just one of precision: decomposing the z-score into its above- and below-mean components shows the fiscal response is concentrated on the above-mean margin- states with protest activity above the national average- with no consistent response on the below-mean margin.[33] Results are robust to alternative measures including raw protest counts and protests per capita.[34] While protests appear uncorrelated with geographic and institutional characteristics,[35] we interpret the OLS results as robust correlations due to potential endogeneity of the protest measure.[36] Section 5.3 addresses endogeneity concerns using the January 2012 fuel subsidy removal and subsequent Occupy Nigeria demonstrations as a source of exogenous variation in protest intensity.

5.1.1 Mechanisms: The Role of Political Alignment

To test the hypothesis that the primary channel linking protests and intergovernmental transfers is political alignment, with federal governments increasing transfers to aligned states and reducing transfers to non-aligned states, we estimate Equation 3:

$$y_{smt} = \alpha \text{Protest}_{smt} + \beta \text{GP Aligned}_{st} + \gamma \underbrace{\text{Protest}_{smt} \times \text{GP Aligned}_{st}}_{} + \mu_s + \delta_{mt} + \epsilon_{smt} \quad (3)$$

where "GP Aligned" is an indicator that equals one if the president and state governor come from the same political party. During the military period, "GP Aligned" always equaled one (governors are presidential appointees); thus Equation 3 reduces to Equation 2.[37] The key parameter of interest, γ, tests whether protest effects on transfers differ between aligned and non-aligned states. Prediction 2 implies $\gamma > 0$ for VAT transfers and $\gamma \approx 0$ for allocation transfers, reflecting the transparency asymmetry described in Section 3. Our identification exploits variation in alignment across two margins. First, cross-sectionally, seven states had PDP governors throughout the entire sample period, reflecting durable ethnoregional

[33] We discuss these results in Section 5.6 and report them in Appendix Table A17.

[34] These specifications rely explicitly on population levels, a major component of the intergovernmental transfer formula as discussed in Section 2.

[35] As shown in Tables A3 and A4 in Appendix A.5.

[36] A potential concern is that protests in one state may trigger protests in neighboring states through labor union networks and shared media, creating spatial correlation in the treatment variable. Our z-score measure mitigates this by removing the common national protest component within each month-year. We confirm formally that neighboring state protest intensity does not affect VAT transfers conditional on own-state protest intensity (Section 5.6, Appendix Table A21).

[37] γ in Equation 3 equals ϕ in Equation 2 during the military period.

coalitions (Azeez, 2009). Second, temporally, 30 states switch alignment at least once, with 57 total switches driven by electoral outcomes. The timing of switches is plausibly exogenous to state-level protests: elections occur on a fixed four-year cycle nationwide and switches concentrate in election years (Figure 4). When the APC defeated the PDP in 2015, 23 states switched alignment simultaneously, providing exogenous variation that we exploit in Section 5.4.

5.2 OLS Estimates

We focus on the democratic period to explicitly estimate political alignment effects. Figure 5 shows average monthly VAT and allocation transfers from 2000-2016. Unconditional means suggest higher transfers in high-protest areas, with notably more variance in less-publicized VAT transfers than in publicly announced allocation transfers. While VAT transfers constitute only 18% of total transfers, they exhibit significantly higher volatility (coefficient of variation of 1.26 in non-aligned states versus 0.41 for allocation transfers), with this volatility differing markedly by political alignment.[38] This pattern is consistent with VAT representing the primary margin of discretionary fiscal adjustment, and aligns with Prediction 2: the federal government can more effectively use transfers with lower citizen information to respond to protests.

Panel A of Table 1 reports estimates of protest effects on transfers. The results in Table 1 show that protests are associated with both increases (column (1)) and decreases (column (2)) in transfers, though estimates are imprecise. Results sharpen when examining protest effects by political alignment (Panel B of Table 1). A one-standard deviation increase in protests is associated with a 0.5% decrease in monthly VAT transfers in non-aligned states. Conversely, protests are associated with higher transfers in aligned states: a one-standard deviation increase in protests is associated with a relative 1.6% increase in monthly VAT transfers and a total 1.1% increase. Effects are larger at the yearly level (Table 2, Panel B): a one-standard deviation increase in yearly protests is associated with a 1.5% decrease in VAT transfers in non-aligned states (column (1)) but a relative 3.7% increase- and total 2.2% increase- in aligned states. These proportional effects translate into economically meaningful amounts in levels (Appendix Table A6). At the monthly level, a one-standard deviation increase in protests is associated with 3.2 million Naira (US$21,000) lower VAT transfers in non-aligned states and 7 million Naira (US$47,000) higher transfers in aligned states, a monthly aligned–non-aligned differential of 10.2 million Naira (US$68,000). At the yearly

[38]Non-aligned VAT transfers vary 2.25 times more than aligned VAT while non-aligned allocation transfers are just 1.24 times more than aligned allocation transfers.

level, the same increase is associated with a 105 million Naira (US$0.70 million) reduction in non-aligned states and a 154 million Naira (US$1.03 million) increase in aligned states, a yearly differential of 259 million Naira (US$1.73 million) per standard deviation of protest intensity.

While protest effects on allocation transfers are qualitatively similar, they are not robust (column (2)). The results are robust to alternate measures of protest intensity with the indicator measure (columns (4)-(6) of Table 1 and columns (5)-(8) of Table 2) and appear in total transfers (Table 1, columns (3) and (6) and Table 2, columns (3) and (7)) but not allocation transfers. The results on total transfers mirror the VAT results rather than showing a null effect, which would be expected under substitution between transfer types, confirming that VAT represents the primary margin of fiscal expansion in response to protests.

To test whether protests are associated with transfer revenues only or with all state revenue, we examine yearly IGR (Table 2).[39] There is no significant association between protests and IGR (columns (4) and (8) of Panel A). The interaction term with alignment is statistically insignificant (Panel B). One hypothesis is that high protest aligned states that receive more transfers may experience substitution effects; thus they collect less IGR- and vice versa. The IGR estimates in Panel B do not provide robust evidence of fiscal substitution effects. Collectively, the results show that protests are positively associated with VAT transfers in aligned states, but negatively associated with transfers in non-aligned states. Protests in aligned states are not associated with increases in non-transfer, internally generated revenue. The OLS estimates in Tables 1 and 2 are robust correlations but do not estimate a causal effect of protests on transfers, as omitted variables may affect both.

To estimate causal effects, we exploit two complementary natural experiments. First, we exploit the sudden increase in protests during the 2012 Occupy Nigeria demonstrations following the fuel subsidy removal (Section 5.3). Second, we exploit the 2015 presidential election, which caused exogenous variation in alignment status as 23 states switched when the opposition APC defeated the ruling PDP (Section 5.4). The January 2012 fuel subsidy crisis provides exogenous variation in protest intensity, while the 2015 presidential election provides exogenous variation in alignment status, together validating both the protest effects and the alignment mechanism.

[39]The internally generated revenue is not available at the month-year level.

5.3 Evidence from the 2012 Occupy Nigeria Protests

To estimate the causal effects of protests on transfers, we study fiscal responses to the Occupy Nigeria demonstrations that erupted following the fuel subsidy removal in January 2012, shown in Figure 6. Our two-step strategy first uses an event study centered on January 2012, tracing transfers six months before and after.[40] This identifies 2012 protest effects without confounding from longer-run shocks or prior protests.[41] The baseline event study is:

$$\text{Transfers}_{smt} = \alpha_s + \gamma_{mt} + \sum_{\ell \neq -1} \beta_\ell \, \mathbf{1}\{\tau_{mt} = \ell\} \text{Protest}_{smt} + \varepsilon_{smt}, \tag{4}$$

where "Protest" is the within-period z-score of protest intensity at the state (s), month (m), year (t) level. α_s and γ_{mt} are state and month-year fixed effects respectively. τ_{mt} denotes the event time, measured in months relative to the fuel subsidy removal and onset of the 2012 Occupy Nigeria protests (January 2012). Our empirical test for identification is that, in the six-months before the January 2012 fuel subsidy removal and Occupy Nigeria protests, high and low protest states had similar transfer amounts- i.e., parallel pre-trends with β_ℓ coefficients near zero and statistically insignificant. We also test Equation 4 replacing "Protest" with the political alignment ("GP Aligned") indicator to test for pre-trends in aligned versus non-aligned state transfers. Political alignment is constant throughout the ± 6 month event window: the preceding gubernatorial and presidential elections were held in April 2011, eight months before the event window begins, and the next elections were in April 2015, well outside the window. There are no alignment switches within the event window that could confound the estimates.

If parallel pre-trends hold, we estimate a simplified difference-in-differences (DD) specification in Equation 5:

$$\text{Transfers}_{smt} = \alpha_s + \gamma_{mt} + \theta \, \text{Protest}_{smt} + \beta \left(\text{Protest}_{smt} \times \text{Post}_{mt} \right) + \varepsilon_{smt}, \tag{5}$$

where "Post" is an indicator that equals one for months after January 2012. θ captures protest effects on transfers prior to the removal of the fuel subsidy (pre-January 2012). β in

[40] Results are robust to alternative event window lengths of ± 5 and ± 7 months (Table A7).

[41] A longer window would reach back into the April 2011 general election period.

Equation 5 is the DD estimate that measures how the effect of protests on transfers changed post-January 2012 relative to the pre-period. We explore political alignment with Equation 6:

$$\text{Transfers}_{smt} = \alpha_s + \gamma_{mt} + \eta\left(\text{Post}_{mt} \times \text{Protest}_{smt}\right) + \delta\left(\text{Post}_{mt} \times \text{Protest}_{smt} \times \text{GP Aligned}_{st}\right) + \varepsilon_{smt} \tag{6}$$

where η measures the effect of protests on transfers in the post-period for non-aligned states, and δ measures the differential effect of protests on transfers in aligned states, relative to non-aligned states. The parsimonious model in Equation 6 assumes that there are no pre-trends in protest effects on transfers ("Protest" omitted), and that there is no alignment effect of protests on transfers outside the post-period ("Protest x GP Aligned" omitted). It also assumes that there is no separate "Post × Aligned" difference in transfers or that alignment does not affect transfers simply because it's in the post period ("Post × Aligned" omitted). Finding no pre-trends in Equation 4 and no trends in the alignments and transfers event study would provide empirical support for these assumptions. The parsimonious model also facilitates interpretation of the total effect of protests on transfers in aligned areas as the sum of η and δ in Equation 6. As a robustness check, we also provide results from the fully saturated triple interaction model.[42]

5.3.1 DD Estimates

The event study plot in the top panel of Figure 7 shows no pre-trends in the effects of protests on VAT transfers pre-January 2012, validating the parallel trends assumption.[43] Post-January 2012, following the fuel subsidy removal and sudden spike in protest activity, VAT transfers increased in the month after protests started (though imprecisely estimated) then decreased in subsequent months.[44] The bottom panel confirms no differential trends in alignment effects on VAT transfers over the study period.[45] Together, the absence of pre-trends in both panels validates the DD designs in Equations 5 and 6 with VAT transfers

[42] Excluding the "post" and "GP Aligned" main effects which are dropped from the estimation because of collinearity.

[43] A linear pre-trend test confirms no systematic trend in the pre-period ($p = 0.376$).

[44] This pooled path masks the alignment-contingent response the framework predicts: as Table 3 shows, the average post-period effect is insignificant precisely because protests raise VAT transfers in aligned states while reducing them in non-aligned states, and the pooled event study averages the two.

[45] A linear pre-trend test confirms no systematic differential trend in alignment effects in the pre-period ($p = 0.672$).

as the outcome.[46]

The results in column (1) of Table 3 show no significant average effect of protests on VAT transfers in the post-January 2012 period, consistent with the OLS result that the average effect is imprecise absent the alignment interaction. Column (2) presents results from Equation 6, conditioning on political alignment. A one-standard-deviation increase in protests decreases VAT transfers to non-aligned states by 0.9% in the post-period. Conversely, a one-standard-deviation increase in protests results in a relative increase of 1.5% in VAT transfers to aligned states, equivalent to a total increase of 0.6%. The results are robust to the fully saturated triple-interaction specification in column (3). Column (2) is our preferred specification: the parsimonious model assumes no pre-trends in protest effects on transfers and no alignment effect outside the post-period, both of which are validated by the event study in Figure 7.

Allocation transfers show no response to protest intensity within the event window (Figure A9 in Appendix A.5): month-year and state fixed effects absorb essentially all cross-state variation in formula-determined allocation transfers, producing coefficients on the order of 10^{-11} log points- effectively indistinguishable from zero relative to the standard deviation of log allocation transfers (0.20)- confirming that allocation transfers behave as though strictly formula-determined within the event window. Battles show no post-January 2012 dynamics in either VAT or allocation transfers within the event window (Figure A10) and no alignment-contingent response around the January 2012 shock,[47] confirming that the fiscal response around the subsidy shock is specific to protest rather than to conflict activity more generally.

These DD estimates provide causal evidence that protests increase VAT transfers in aligned states and decrease them in non-aligned states, confirming the OLS results in Section 5.2. The parallel trends assumption is supported by the event study pre-period coefficients, and the exogeneity of the January 2012 shock- a nationally determined fuel subsidy removal unrelated to any individual state's fiscal position- addresses the endogeneity concern that state-level economic conditions drive both protests and transfers simultaneously. Al-

[46]We do not report the triple interaction event study because the short 13-month window and 36 state clusters leave insufficient degrees of freedom to estimate the full set of interactions precisely. Instead we validate parallel trends separately for protest intensity and political alignment, following standard practice when joint estimation is over-parameterized. The pre-period alignment–protest interaction coefficients are jointly null (Wald test: $F = 1.21$, $p = 0.304$), confirming parallel trends.

[47]For VAT transfers, the post-period battle–alignment interaction is null in both the parsimonious ($\hat{\beta} = 0.007$, $p > 0.10$) and saturated ($\hat{\beta} = 0.005$, $p > 0.10$) specifications.

location transfers show no meaningful DD effects within the event window, consistent with the transparency mechanism.

5.4 Evidence from the 2015 Presidential Election

When the APC defeated the PDP in 2015, 23 states switched alignment status simultaneously- the first incumbent defeat in Nigerian history- providing exogenous variation to test the alignment mechanism. Figure 8 illustrates the mechanism: in the full sample (left panels), aligned states (blue) show steeper protest-transfer slopes than non-aligned states (red), with the differential larger for VAT than allocation, reflecting VAT's greater discretion. The pattern persists for VAT transfers excluding Lagos (top right panel), though the slope differential is attenuated given Lagos's outlier protest intensity.[48] The 23 switching states (triangles) cluster along their new group's lines rather than historical patterns, demonstrating that differential responsiveness operates through alignment status rather than fixed state characteristics.

To test the alignment mechanism, we estimate:

$$\text{Transfers}_{st} = \beta_1(\text{Protest}_{st} \times \text{Gained}_s \times \text{Post2015}_t) + \beta_2(\text{Protest}_{st} \times \text{Lost}_s \times \text{Post2015}_t) + \alpha_s + \delta_t + \varepsilon_{st} \tag{7}$$

where Gained_s ($N = 13$) and Lost_s ($N = 10$) identify states switching alignment (gaining and losing alignment, respectively) in 2015. The timing of switches is plausibly exogenous to state-level protests: elections occur on a fixed four-year cycle and the 2015 outcome was driven by national coalition politics rather than within-state conditions. We test parallel trends by estimating Equation 8 on pre-2015 data:

$$\text{Transfers}_{st} = \gamma_1(\text{Protest}_{st} \times \text{Gained}_s \times \text{Year}_t) + \gamma_2(\text{Protest}_{st} \times \text{Lost}_s \times \text{Year}_t) + \alpha_s + \varepsilon_{st} \tag{8}$$

Table 4 presents results for VAT transfers, allocation transfers, and IGR (placebo).[49]

[48] The rightmost triangle in the top left panel is Lagos, which has the highest protest intensity among gained-alignment states. The Lagos-specific pre-trend documented below reflects this outlier position; results excluding Lagos are reported in Column (2) of Table 4 and are consistent with the main findings.

[49] Table A8 in Appendix A.5 reports the full specification including all lower-order interaction terms, allowing computation of total effects for each group.

States gaining alignment show a significantly larger protest responsiveness for VAT transfers relative to other states: a one-standard-deviation increase in protests is associated with a 14% relative increase in VAT transfers in gained-alignment states post-2015 (Column (1)) or 10.1% excluding Lagos (Column (2)). Pre-trends tests validate the design: lost-alignment states exhibit no differential trend ($\gamma_2 = -0.006$, $p = 0.47$) in both specifications. Gained-alignment states show a marginally significant upward pre-trend with Lagos ($\gamma_1 = 0.007$, $p = 0.08$), which disappears without Lagos ($\gamma_1 = 0.004$, $p = 0.50$).[50] Lost-alignment states show no significant change in protest responsiveness, consistent with the principal keeping transfers unchanged or reducing them in non-aligned states. Allocation transfers show no robust effects in either specification (Columns (3)-(4) of Table 4), following Prediction 2 and echoing the OLS results.[51] The IGR placebo (Columns (5)-(6)) shows the triple interaction for gained-alignment states is null excluding Lagos and marginally negative in the full sample- the opposite sign from the VAT result- ruling out the possibility that the 2015 result reflects general economic improvement in newly aligned states rather than deliberate federal transfer adjustment.[52]

5.5 Channels: Dynamic Effects, Public Expenditure, and Alignment Responses to Oil Prices

Next, we explore the dynamic effects of protests on VAT transfers and public expenditure, and how alignment-contingent protest responsiveness varies with world oil prices. This allows us to answer whether the protest-alignment VAT transfer response persists over time; how it links to state public expenditure, and specifically whether aligned states that receive more VAT transfers also experience increased public expenditure; and whether the federal government's alignment-contingent responsiveness changes when oil prices, and the associated oil-financed Federation Account pool, expand or contract.

[50] This Lagos-specific pre-trend likely reflects the PDP federal government's strategic efforts to maintain support in Nigeria's largest city and commercial capital, an APC stronghold. Excluding Lagos provides clean causal identification for the remaining states gaining alignment, with validated parallel pre-trends and plausibly exogenous treatment timing.

[51] The triple interaction in Column (4) is marginally significant ($p < 0.10$) excluding Lagos, but the allocation null in the full sample (Column (3)) and throughout the OLS and event study specifications confirms that allocation transfers are not a robust strategic adjustment margin. The VAT channel carries the main strategic adjustment, as shown in Columns (1)-(2), consistent with the transparency mechanism.

[52] Pre-trend tests for the gained-alignment group are null in both specifications (full sample $p = 0.553$; excluding Lagos $p = 0.732$).

5.5.1 Dynamic Effects

Table 5 tests whether protest effects persist over time and whether the alignment effect is robust to lagged effects. Columns (1)-(3) estimate separate lag structures; column (4) includes all lags simultaneously. Results show protests are associated with VAT transfers for multiple years. In columns (1)-(3), protests are associated with a 1.5-1.6% decrease in transfers in non-aligned states, while alignment interactions show relative increases of 3.4-3.7%, yielding net positive effects of approximately 2%. Column (4) confirms these patterns persist when controlling for all lags simultaneously: the contemporaneous interaction (relative 2.2%), one-year lagged interaction (relative 1.4%), and two-year lagged interaction (relative 2.3%) all remain significant, demonstrating robust and persistent differential responsiveness conditional on political alignment.[53] There are no dynamic effects of protests on allocation transfers (Table A10).

5.5.2 Public Expenditure

Along with increases in VAT transfers, Table 6 provides suggestive evidence that aligned governments strategically reallocate budgets in response to protests. Column (4) includes all lags simultaneously and is our preferred specification. Recurrent expenditure initially expands in aligned states: the total contemporaneous effect is 1.9% ($p < 0.10$) and 7.3% at lag 1 (insignificant), before reversing sharply at lag 2 (total -2.7%, $p < 0.01$). Capital spending exhibits the opposite pattern (column (8)): no significant contemporaneous effect, followed by substantial delayed increases of 9.1% at lag 1 (insignificant) and 13.4% at lag 2 ($p < 0.01$). The significant lag 2 effects- recurrent contraction and capital expansion- suggest strategic fiscal reallocation: aligned governments initially fund operational responses to protests, then shift toward visible infrastructure investment while cutting routine expenditures. The delayed capital effects are consistent with planning lags for construction projects. The contemporaneous recurrent spending response is concentrated in pension transfers (Appendix Table A11), with no significant effect on personnel costs or overhead. As discussed in Section 2.2.2, Nigerian public sector protests are frequently driven by both unpaid salaries and pension arrears (Orifowomo, 2006). The concentration of the fiscal response in pension payments suggests aligned governments selectively address pension grievances- a discretionary and politically visible component of labor demands- consistent with targeting rapid fiscal responses to organized labor constituencies. Figure 9 illustrates these dynamics.[54]

[53] Pooled models without the alignment interaction yield null results for all lags (Table A9).

[54] See Appendix A.4 for details.

5.5.3 Alignment Responses to Oil Prices

The framework in Section 3 and the results above imply that the principal increases opaque VAT transfers to aligned protesting states and reduces them to non-aligned ones, but they do not tell us whether the reduction finances the increase. Since the Federation Account is oil-financed, world oil prices generate variation in the resources available for discretionary adjustment that is external to any individual state's protest activity, and that allows us to ask whether the alignment-contingent response reflects reallocation within a constrained pool or discretionary expansion when resources are abundant.

To test this, we interact the protest-alignment term with the log world oil price, centered at its sample mean of $51 per barrel (Table 7). The triple interaction is negative and significant: the alignment gradient is attenuated when oil prices are high. Evaluated across the observed range of prices, the estimated alignment differential falls from 3.5 percent at $30 per barrel to 1.7 percent at $50, and is not statistically distinguishable from zero at $70 or $95. Figure 10 plots the differential across the price range, with the estimated zero crossing at approximately $81 per barrel.

Decomposing the differential into its two components sharpens the interpretation. When oil prices, and associated revenues, are low, the two groups move in opposite directions: at $30 per barrel a one-standard-deviation increase in protest intensity is associated with 2% lower VAT transfers to non-aligned states and 1.6% higher transfers to aligned states, with both effects individually significant. At $95 per barrel neither effect is statistically distinguishable from zero. The results are consistent with reallocation within a constrained pool: when the pool is tight (lower oil prices), higher transfers to aligned protesting states coincide with lower shares for non-aligned ones, and the gradient is steep; when oil revenues are higher, the constraint slackens and the gradient flattens. The pattern is robust to including interactions of protest and protest-by-alignment with a linear time trend, both of which are statistically indistinguishable from zero, indicating that the result does not reflect a linear trend in the alignment gradient, and to excluding the 2008-2009 global financial crisis oil price spike and collapse, the largest single oil price episode in the sample (Table 7).

5.6 Robustness and Falsification Tests

We conduct several falsification tests and explore alternate hypotheses. Appendix Table A12 includes future protest levels (leads) as a falsification test. Lead coefficients are statistically insignificant, consistent with no reverse causality or anticipatory response, while contemporaneous and lagged alignment interactions remain significant controlling for leads. Results

are robust to dropping the most populous and most urbanized states[55] from the sample (Tables A13 and A14 in Appendix A.5), to alternative protest measures including protests per capita and raw totals[56] (Table A15), to a share-based outcome measure that normalizes each state's VAT and allocation transfers relative to its own historical mean, removing size weighting (Table A16), and to a piecewise specification separating above- and below-mean protest intensity, which shows the alignment-contingent VAT response is concentrated on the above-mean margin (Table A17). Results are also robust to excluding oil-producing states (Table A18), confirming that the alignment mechanism is not driven by the special fiscal position of oil-producing states under Nigeria's derivation formula.[57]

For inference robustness with 36 state clusters, wild-cluster bootstrap p-values (Cameron, Gelbach, and Miller, 2008) confirm the significance of the key interactions in our main specifications (Table A19).[58] Results are robust to Driscoll–Kraay standard errors (Driscoll and Kraay, 1998), which additionally account for cross-sectional dependence across states from common oil price and electoral shocks (Table A20). We also confirm that spatial protest diffusion across neighboring states does not drive the results, using two complementary approaches (Table A21). First, we measure the spillover channel directly: conditioning on leave-one-out zone protest intensity leaves the protest–alignment interaction unchanged, while neighboring-state protest intensity has no significant effect on VAT transfers. Second, we absorb regional confounders nonparametrically by adding zone $\times$ month-year fixed effects; the results show that the protest–alignment interaction is essentially unchanged.

The following subsections examine robustness to other conflict events and the military period, and explore close elections and ethnic favoritism as potential alternative channels.

5.6.1 Other Conflict Events

To test whether results are driven by protests rather than by other conflict events, we examine the relationship between battles and transfers (Table 8) as well as all conflict events and transfers (Table A22).The OLS results show that battles had no effects on VAT transfers,

[55]Lagos and Kano are Nigeria's two most populous states. Lagos and Anambra are the most urbanized states by population density.

[56]These specifications rely explicitly on population levels, a major component of the intergovernmental transfer formula (Section 2).

[57]Oil-producing states are defined as the nine states comprising the Niger Delta region under the Niger Delta Development Commission (NDDC) Act (2000): Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo, and Rivers. These states receive derivation funds under Section 162(2) of Nigeria's 1999 Constitution.

[58]Bootstrap p-values use 9,999 replications with the null imposed; the 2015 design uses Webb weights for few treated clusters (MacKinnon and Webb, 2018).

including by alignment (column (1) of Panels A and B of Table 8). Battles are positively associated with allocation transfers (column (2) of Panel A), but not differentially by alignment (column (2) of Panel B), and show no association with total transfers (column (3)).[59] The event study for battles (Figure A10) shows pre-period variation in VAT transfer effects and no post-period effect of battles on VAT transfers around the January 2012 shock, confirming that the fiscal response is specific to the Occupy Nigeria protests rather than conflict events generally. There is no effect of all conflict events on transfers (Table A22).

5.6.2 Military Period

Appendix Table A23 examines the military period, when all governors were presidential appointees (effectively aligned) and both transfer types lacked transparency. Using full samples, protests are associated with a 2.6% increase in VAT transfers and a 4.6% increase in total transfers, with no significant effect on allocations. The allocation null reflects sample coverage[60]: restricting to 1994-1996 yields a 4.5% allocation effect, matching the total transfer result. Both channels therefore show a positive association during the 1994–1996 transition period, when pro-democracy demonstrations peaked and the weakening regime faced sustained mobilization. IGR shows no effects, consistent with the democratic period results. These findings serve two purposes. First, they provide out-of-sample validation for Prediction 1: the results suggest the federal government used transfers to respond to protest pressure even before democratization. Second, the emergence of responsiveness specifically during 1994-1996, when the regime faced sustained mobilization, foreshadows the alignment-contingent pattern documented for the democratic period and supports the interpretation that transfer adjustment reflects deliberate political strategy rather than mechanical formula application.

5.6.3 Close Elections

An alternative channel is electoral competition: incumbent presidents may increase transfers to protesting regions facing close races. With limited vote share data (Section 4.3), we examine protest effects on transfers by vote margins from close elections, using three years of available data from 2007, 2011 and 2015.[61] Table A25 finds no robust effects of protests on transfers by close election status. Column (3) provides suggestive evidence that higher

[59]The federal government often provides more allocation transfers to high-battle areas in the Northeast to combat Boko Haram, and this is publicized in news media (Abiodun, Asaolu, and Ndubuisi, 2020).

[60]Data availability varies by transfer type: VAT (1994-1996), statutory allocation (1990-1996), and IGR (1988-1996).

[61]Close elections are measured as 1 minus the vote share differential between the top two candidates in gubernatorial elections where the incumbent PDP was running. Higher values indicate closer elections.

protests in close election states may be associated with VAT transfer increases, consistent with alignment incentives being amplified under electoral pressure, but this is not robust across specifications.

5.6.4 Ethnic Favoritism

Another potential channel is ethnic favoritism, where incumbent presidents may increase transfers to protesting regions if they share ethnicity with the governor,[62] following predictions from a rich literature linking co-ethnicity, social network densities, collective action and public good provision (Habyarimana et al., 2007, 2009). There is no correlation between political alignment and shared governor-president ethnicity (Figure A11). Table A27 in Appendix A.5 reports the full results. Ethnically matched states receive significantly higher allocation transfers unconditionally but not VAT transfers, suggesting ethnic favoritism operates through the publicly announced allocation channel rather than opaque VAT- the reverse of the party alignment mechanism. Protests in ethnicity-matched states are associated with decreased VAT transfers rather than increases, with no significant effects on allocation transfers. The opposite sign and distinct channel indicate that ethnic favoritism does not drive the party alignment results.

6 Other Government Responses to Protests: Policing and Incarceration

Thus far, our framework has examined the indirect effects of protests on citizens through intergovernmental transfers. However, protesters can also face direct consequences, including violent government repression expressed as increased police violence and incarceration. We test whether governments respond to protests by increasing repression.

The Nigerian Police Force, a national body under the operational and administrative authority of an Inspector General appointed by the president, is charged with maintaining security in the country (Archibong and Obikili, 2020). The police are also a primary instrument of state violence.[63] We measure policing as the police share among protest actors documented in the ACLED data, aggregated to the state-year level due to incomplete monthly actor records.[64] Since higher police presence does not necessarily imply violence,

[62] In all states, the governor's ethnicity is also the modal ethnicity of the state's population.

[63] A fact which was a major driver of protests in the anti police brutality End SARS movement described in Section 2.2.

[64] The police share is the fraction of all actors recorded across all protest events in a state-year who are police, rather than an indicator for police appearing alongside protesters in a given event.

we validate the measure using ACLED event notes- qualitative newspaper accounts coded by independent researchers. The most frequently repeated note is "Police disperse protest violently," and in 58% of cases involving police actors, notes document police firing tear gas, shooting, killing, or otherwise clashing with protesters, confirming that police share captures actual violence rather than benign crowd management.

Table 9 reports results. Protests are strongly positively associated with policing: a one-standard-deviation increase is associated with a 2.6 pp increase in police share on average (column (1)). The association differs significantly by alignment (column (2)): protests are associated with a 4.9 pp increase in police share in non-aligned states but with a relative -4.6 pp differential in aligned states, yielding a near-zero total effect of 0.3 pp ($\chi^2(1) = 0.034$, $p = 0.854$).[65] Policing rises with protest activity in non-aligned states but not in aligned ones. There is no effect on military actor share (columns (3)-(4)). Protests are associated with increased political party and union involvement (columns (5)-(7)), consistent with the historical account in Section 2.2, but not differentially by alignment. As a falsification test, the absence of alignment-differential effects for military, party, and union actors confirms that the police result is specific to the coercive instrument most frequently deployed to manage civilian protests.

Table 10 examines incarceration. During the democratic period, protests are positively but insignificantly associated with incarceration (column (1)), with qualitatively similar alignment effects to the policing results (column (2)). During the military period, protests are positively associated with incarceration (column (3)).[66] Altogether, while protests yield higher transfers in aligned states, they are also associated with greater state violence against protesters in non-aligned states and under autocratic regimes- a pattern consistent with governments choosing between fiscal concession and coercion depending on political relationships.

7 Conclusion

Can protests lead to meaningful changes in government policy, particularly regarding the redistribution of economic resources? We examine this question using 26 years of archival public finance records from Nigeria (1988-2016), constructing a new subnational dataset that contributes to the sparse public finance data landscape for African countries. We test

[65] We cannot reject the null of zero total effect in aligned states. The near-zero total effect reflects the absence of police escalation in aligned states rather than active reduction, consistent with aligned governments managing protest pressure through fiscal channels rather than coercive ones.

[66] Military governments also incarcerated a higher share of the population than democratic regimes.

predictions from a principal-agent framework in which federal governments adjust intergovernmental transfers in response to protests based on the perceived cost of state government cooperation in quelling unrest. Political alignment between federal and state leaders governs whether this cooperation is forthcoming, and the strategy is most effective for transfers that citizens cannot easily monitor.

Protests increase VAT transfers in politically aligned states but decrease them in non-aligned states- a pattern validated by two natural experiments: the January 2012 Occupy Nigeria demonstrations and the 2015 presidential election, when 23 states simultaneously switched alignment following the first incumbent defeat in Nigerian history. The alignment mechanism extends beyond transfers to expenditure composition: aligned governments strategically reallocate budgets in response to protests, with initial recurrent expansion giving way to substantial delayed capital spending that prioritizes visible infrastructure over routine operations, persisting across multiple years. Allocation transfers show no robust effects throughout, consistent with the transparency mechanism: publicly scrutinized statutory allocations cannot effectively serve as a discretionary adjustment margin.

Fiscal responsiveness comes with costs. Protests are associated with greater state violence against protesters: policing rises sharply with protest activity in non-aligned states while aligned states show a near-zero net effect, consistent with aligned governments managing protest pressure through fiscal channels rather than coercive ones. Incarceration is also higher under military rule. The results show that protests can influence fiscal redistribution, but the manner and direction depend critically on the political relationship between federal and state governments: aligned states receive fiscal concession while non-aligned states face coercion.[67] Further research should examine the downstream effects of alignment-contingent redistribution on public good provision and citizen welfare, as well as whether the fiscal-versus-repression trade-off documented here generalizes to other intergovernmental revenue-sharing systems.

[67]The mechanism requires only discretionary central transfers, variation in political alignment, and transfer channels that differ in visibility to citizens. These conditions are common: Nigeria is one of more than thirty countries with natural resource revenue-sharing schemes, and alignment-contingent transfers are documented in a range of other settings (Gerber, Huber, and Washington, 2010; Cullen, Turner, and Washington, 2021; Zhuravskaya, 2000).

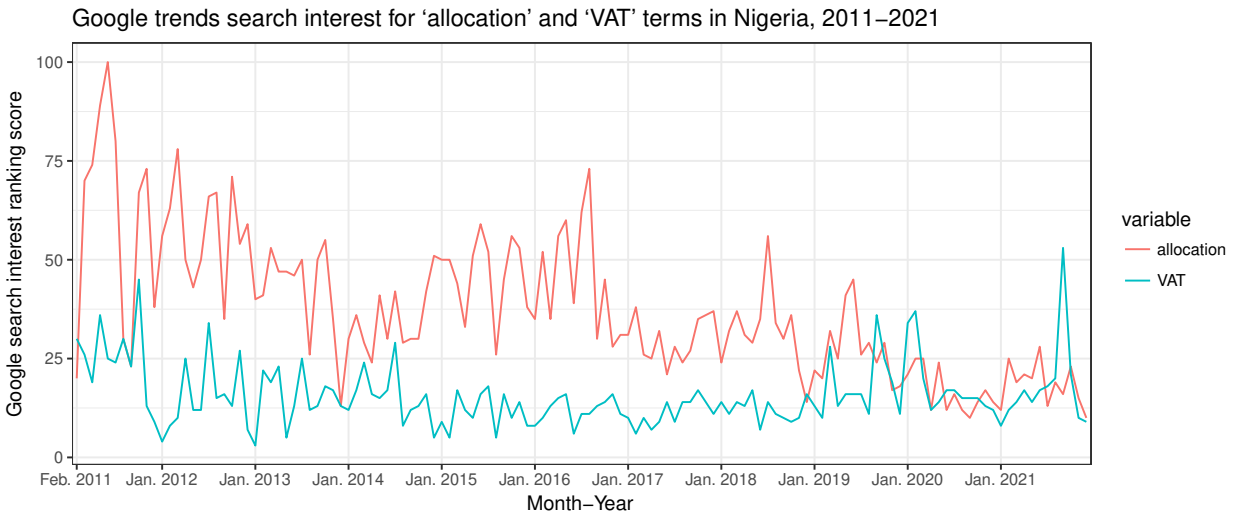


Figure 1: Google Trends search interest in Nigeria for 'allocation' and 'VAT', 2011–2021. Search interest is indexed to a maximum of 100 within the period. Higher search volume for 'allocation' than 'VAT' reflects the greater public visibility of statutory allocation transfers relative to VAT transfers.

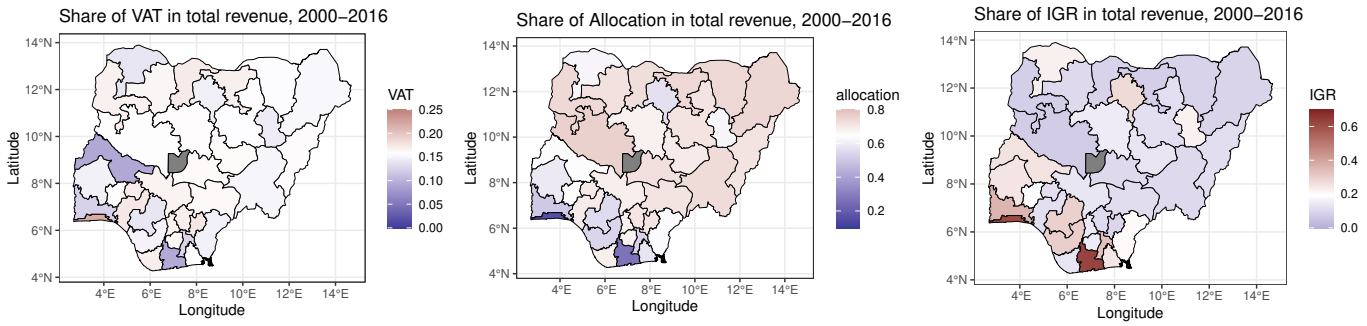


Figure 2: Share of VAT transfers, allocation transfers, and internally generated revenue (IGR) in total state revenues, 2000–2016.

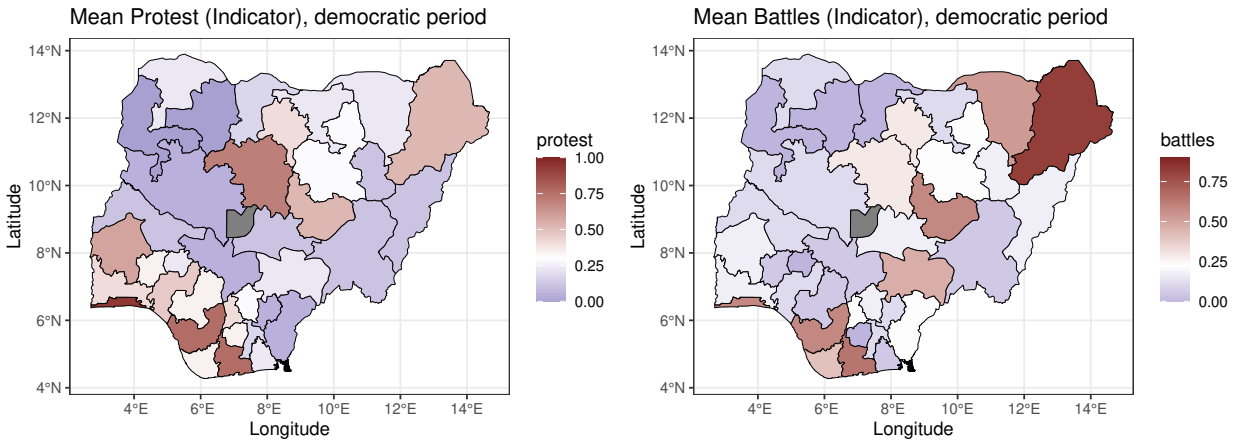


Figure 3: Protest and battle intensity by state, 2000–2016. Share of years in which state-level protest (left) and battle (right) counts exceed the national annual mean.

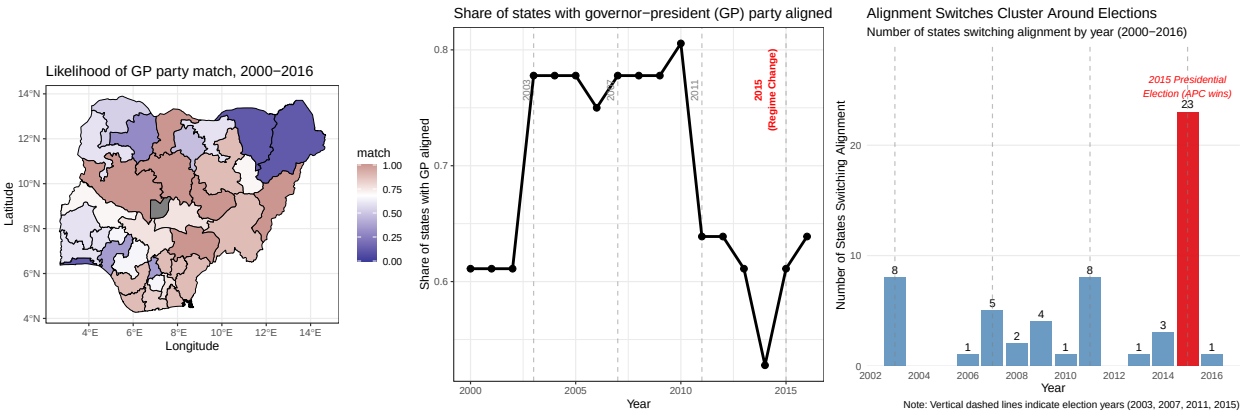


Figure 4: Political alignment patterns, 2000–2016. Left: geographic variation in alignment frequency. Center: share of states with governor–president party alignment; dashed lines mark election years. Right: annual alignment switches; the 2015 presidential election (red bar) produced 23 switches when the APC defeated the incumbent PDP.

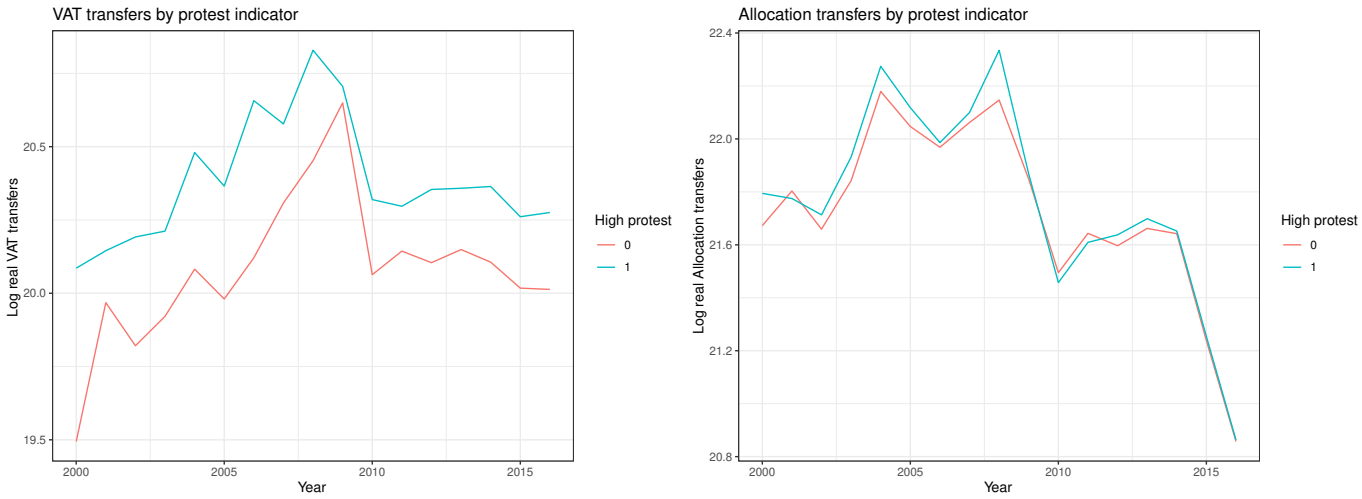


Figure 5: Average monthly VAT and allocation transfers by protest intensity (above vs below national mean), 2000–2016. VAT transfers exhibit greater variance across protest intensity categories than allocation transfers.

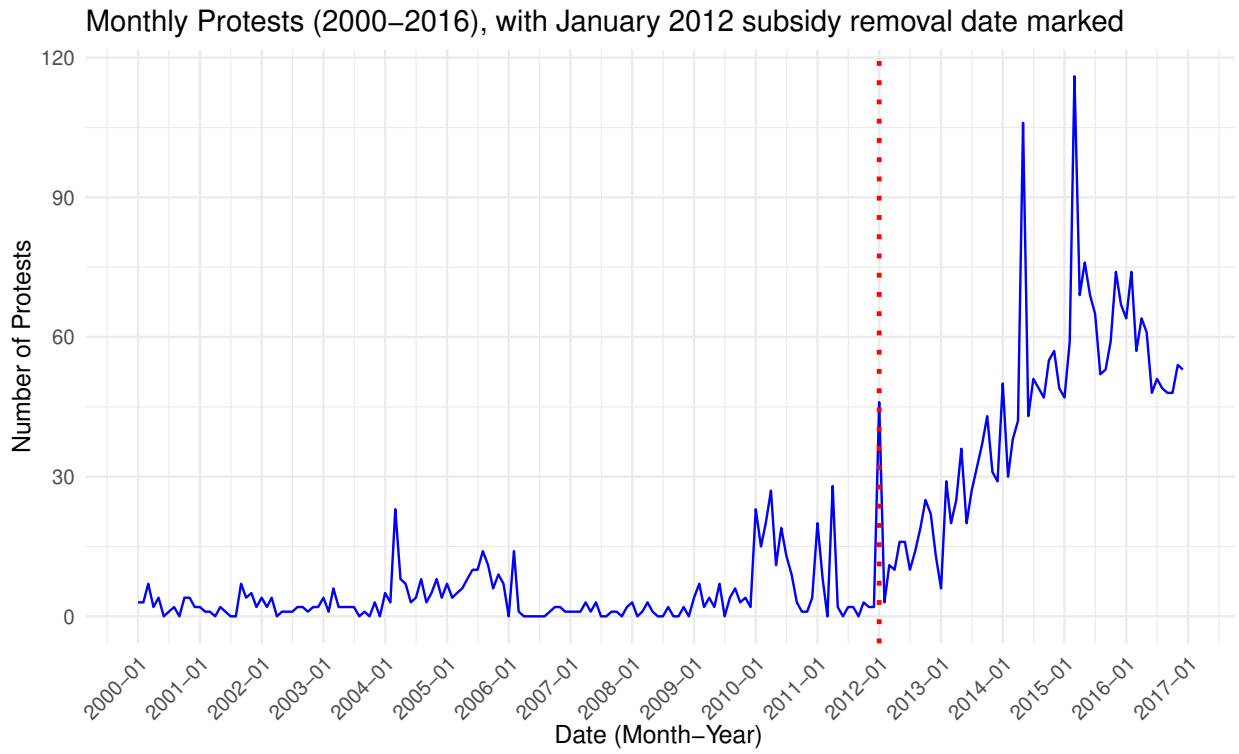


Figure 6: Total monthly protest events across all states, 2000–2016. Vertical line marks the January 2012 fuel subsidy removal and onset of the Occupy Nigeria protests.

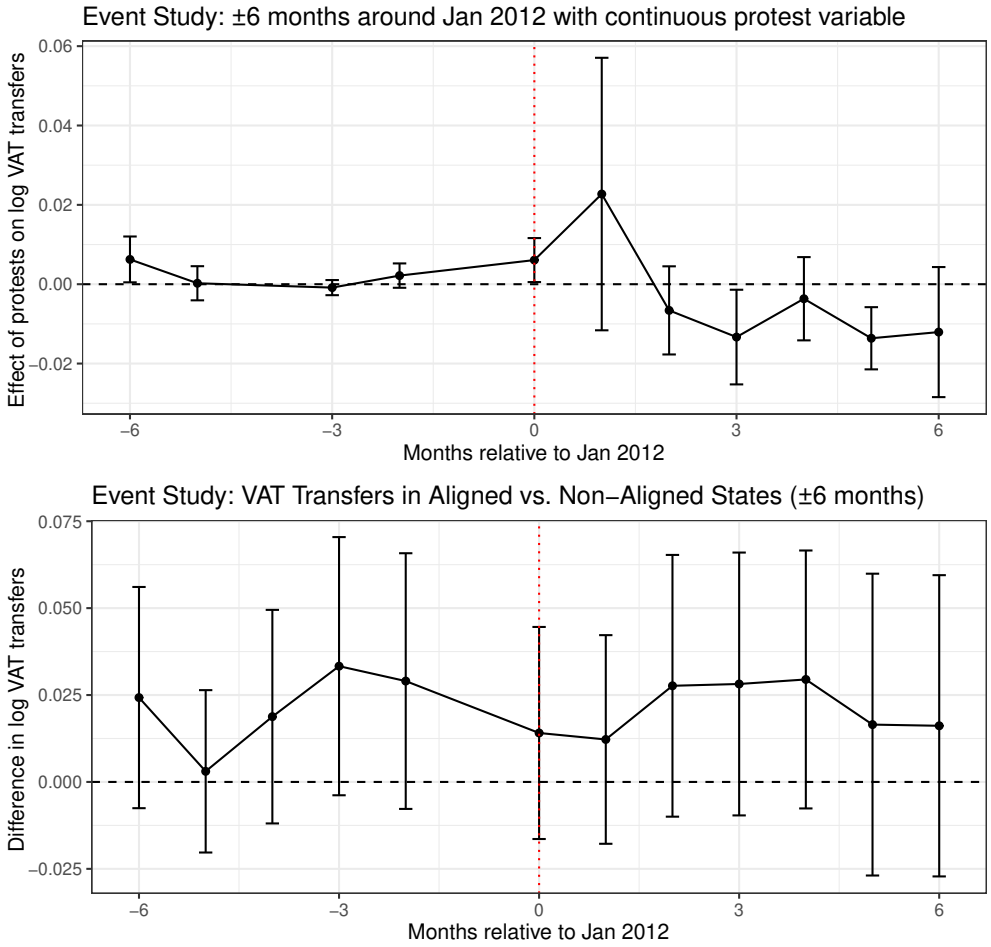


Figure 7: Event study estimates around the January 2012 fuel subsidy removal. Top panel: effect of protest intensity on log real VAT transfers. Bottom panel: difference in log real VAT transfers between aligned and non-aligned states. Political alignment is constant throughout the ±6 month event window. Event time zero (dashed vertical line) denotes January 2012.

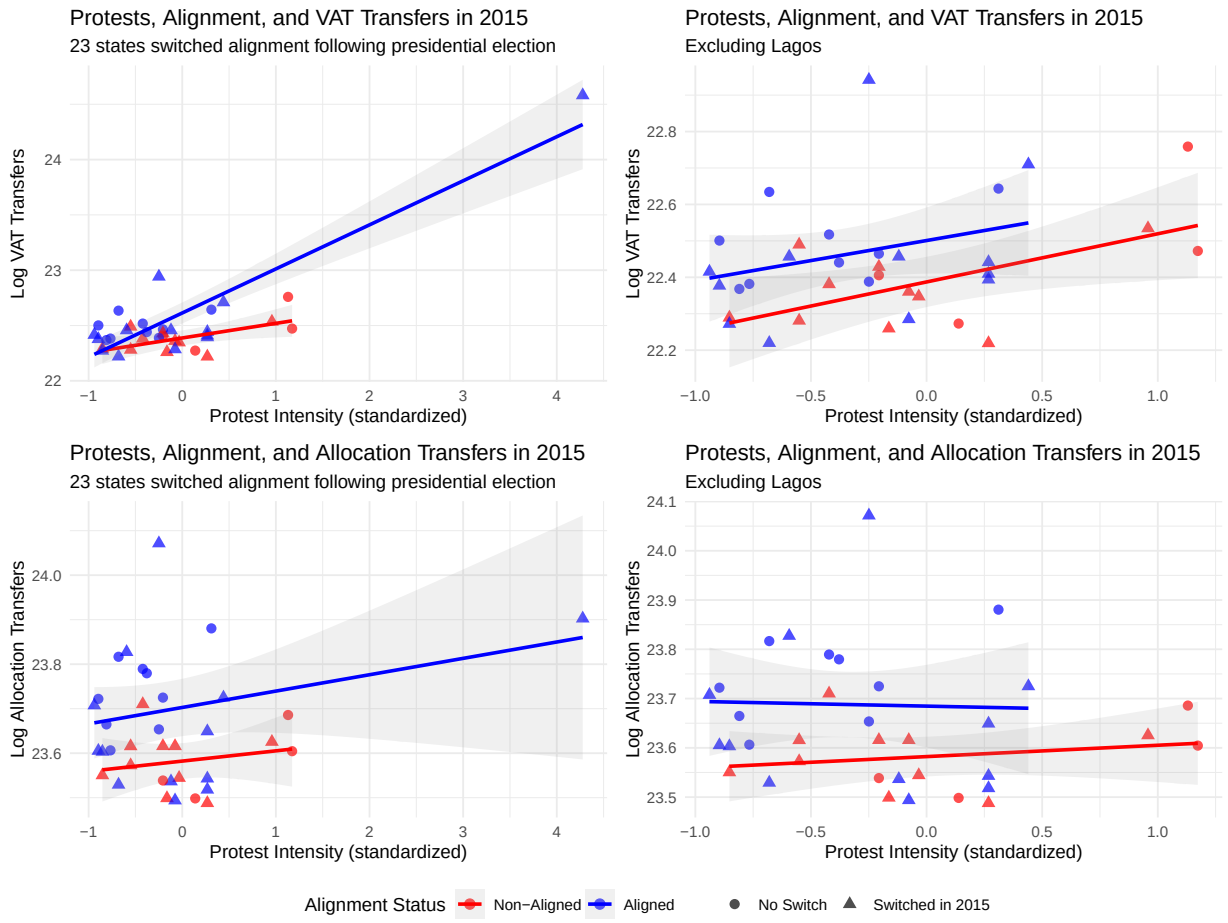


Figure 8: Protests, alignment status, and transfers in 2015. Top panels: log real VAT transfers. Bottom panels: log real allocation transfers. Left: full sample. Right: excluding Lagos. Blue (red) markers indicate aligned (non-aligned) states; triangles mark the 23 states that switched alignment following the 2015 presidential election, circles mark non-switching states. Lines show fitted linear relationships with 95% confidence intervals. Note: y-axis scales differ across columns; the full sample range is wider due to Lagos.

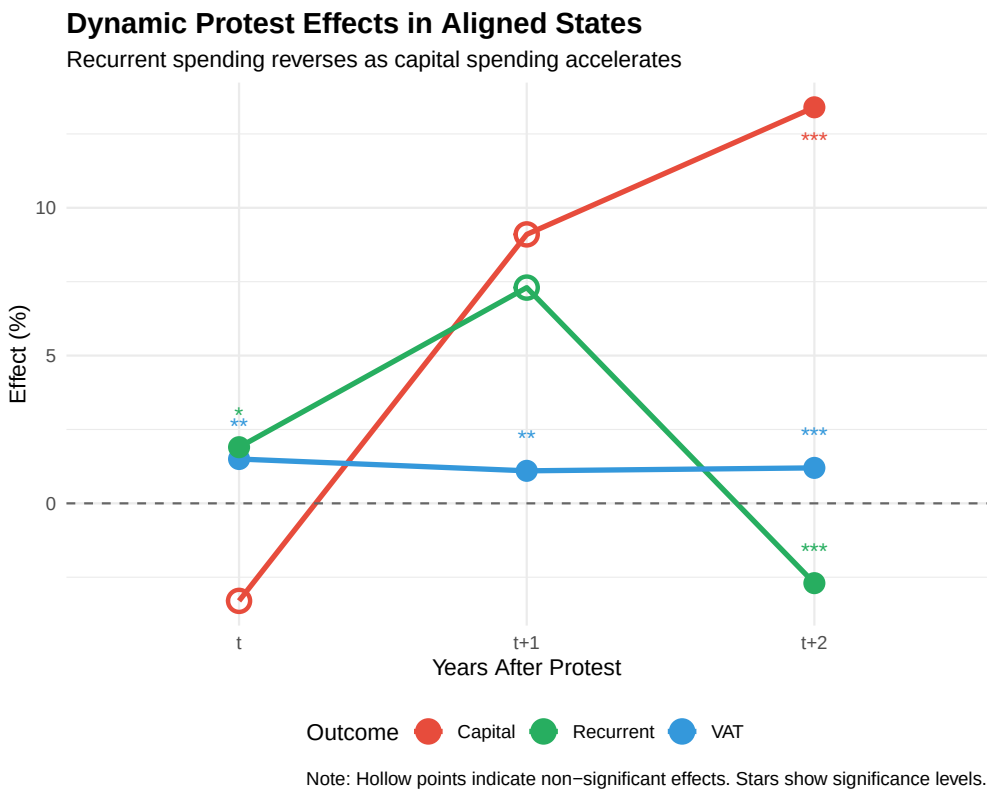


Figure 9: Dynamic effects of protests on VAT transfers, recurrent expenditure, and capital expenditure in politically aligned states. Effects calculated as baseline + alignment interaction from all-lags specifications (Tables 5 and 6). Filled (hollow) points indicate significant (non-significant) effects. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

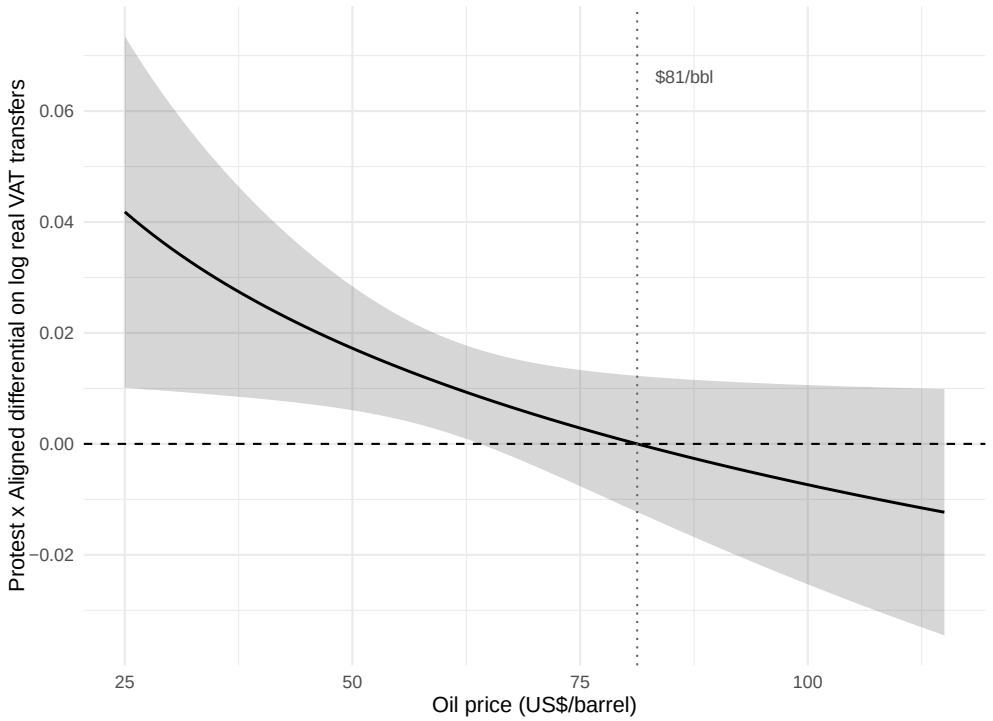


Figure 10: Protest, alignment, and world oil prices. The figure plots the marginal effect of protest intensity on log real VAT transfers in politically aligned relative to non-aligned states across the observed range of world oil prices, from column (1) of Table 7. The differential is modeled as linear in the log oil price; shaded region shows 95% confidence intervals with standard errors clustered by state. The vertical dotted line marks the estimated zero crossing at $81 per barrel.

Table 1: OLS estimates: Effect of protests on intergovernmental transfers (VAT, allocation)

	Panel A: Protest and State Revenue Outcomes					
	Protest (Continuous)			Protest (Indicator)		
Outcome:	VAT	Allocation	Total Transfers	VAT	Allocation	Total Transfers
	(1)	(2)	(3)	(4)	(5)	(6)
Protest	0.004	−0.002*	0.002	0.001	−0.006**	0.002
	(0.002)	(0.001)	(0.002)	(0.006)	(0.003)	(0.005)
Mean of outcome	20.120	21.726	21.928	20.120	21.726	21.928
Observations	6,696	6,696	6,696	6,696	6,696	6,696
Clusters	36	36	36	36	36	36
	Panel B: Protest and State Revenue Outcomes, by GP Alignment					
	Protest (Continuous)			Protest (Indicator)		
Outcome:	VAT	Allocation	Total Transfers	VAT	Allocation	Total Transfers
	(1)	(2)	(3)	(4)	(5)	(6)
Protest	−0.005*	−0.002*	−0.007**	−0.013	−0.007**	−0.010***
	(0.003)	(0.001)	(0.003)	(0.010)	(0.003)	(0.004)
Governor-President (GP) Aligned	0.023**	0.001	0.013	0.017*	0.0003	0.008
	(0.009)	(0.004)	(0.008)	(0.009)	(0.004)	(0.007)
Protest × GP Aligned	0.016***	0.0001	0.015*	0.028**	0.003	0.024*
	(0.005)	(0.003)	(0.009)	(0.013)	(0.005)	(0.013)
Mean of outcome	20.120	21.726	21.928	20.120	21.726	21.928
Observations	6,696	6,696	6,696	6,696	6,696	6,696
Clusters	36	36	36	36	36	36
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT transfers, log real statutory allocation transfers, and log real total transfers (VAT plus allocation) at the state-month-year level. Protest (Continuous) is the within-period z-score of state protest counts relative to the national monthly mean. Protest (Indicator) equals one if state protest counts exceed the national monthly mean. Governor-President (GP) Aligned equals one if the state governor and federal president belong to the same political party. State and month-year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 2: OLS estimates: Effects of protests on intergovernmental transfers (VAT, allocation) and internally generated revenue (IGR), yearly

	Panel A: Protest and State Revenue and IGR Outcomes							
	Protest (Continuous)				Protest (Indicator)			
Outcome:	VAT	Allocation	Total Transfers	IGR	VAT	Allocation	Total Transfers	IGR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Protest	0.004	−0.003**	−0.0003	0.020	−0.0002	−0.004	−0.005	0.019
	(0.003)	(0.001)	(0.001)	(0.038)	(0.005)	(0.003)	(0.003)	(0.077)
Mean of outcome	22.488	24.098	24.297	22.611	22.488	24.098	24.297	22.611
Observations	612	612	612	465	612	612	612	465
Clusters	36	36	36	36	36	36	36	36
	Panel B: Protest and State Revenue and IGR Outcomes, by GP Alignment							
	Protest (Continuous)				Protest (Indicator)			
Outcome:	VAT	Allocation	Total Transfers	IGR	VAT	Allocation	Total Transfers	IGR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Protest	−0.015**	−0.002	−0.015*	0.048	−0.028**	−0.010*	−0.026*	0.068
	(0.006)	(0.002)	(0.009)	(0.045)	(0.013)	(0.005)	(0.015)	(0.099)
Governor-President (GP) Aligned	0.026***	−0.001	0.013	−0.039	0.006	−0.003	−0.001	−0.009
	(0.009)	(0.005)	(0.009)	(0.095)	(0.007)	(0.005)	(0.005)	(0.114)
Protest × GP Aligned	0.037***	−0.002	0.028*	−0.056	0.048**	0.008	0.036*	−0.092
	(0.012)	(0.004)	(0.016)	(0.060)	(0.020)	(0.007)	(0.021)	(0.125)
Mean of outcome	22.488	24.098	24.297	22.611	22.488	24.098	24.297	22.611
Observations	612	612	612	465	612	612	612	465
Clusters	36	36	36	36	36	36	36	36
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT transfers, log real statutory allocation transfers, log real total transfers (VAT plus allocation), and log real internally generated revenue (IGR) at the state-year level. Protest (Continuous) is the within-period z-score of state protest counts relative to the national annual mean. Protest (Indicator) equals one if state protest counts exceed the national annual mean. Governor-President (GP) Aligned equals one if the state governor and federal president belong to the same political party. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 3: Effect of the January 2012 fuel subsidy removal and Occupy Nigeria protests on VAT transfers

Outcome:	VAT Transfers		
	(1)	(2)	(3)
Protest	0.006		0.007
	(0.004)		(0.007)
Protest × post	−0.007	−0.009***	−0.016**
	(0.006)	(0.002)	(0.007)
Protest × post × GP Aligned		0.015**	0.018**
		(0.008)	(0.009)
Protest × GP Aligned			−0.002
			(0.007)
post × GP Aligned			0.002
			(0.007)
Mean of outcome	20.185	20.185	20.185
Observations	468	468	468
Clusters	36	36	36
State FE	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variable is log real VAT transfers at the state-month level. Protest is the continuous z-score measure from the ACLED data based on monthly data. Governor-President (GP) Aligned is an indicator that equals one if the president and governor belong to the same political party. Post equals one for months after January 2012. Column (1) estimates the average protest effect post-January 2012 (Equation 5). Column (2) is the preferred parsimonious specification (Equation 6): Protest × Post captures the effect in non-aligned states and Protest × Post × GP Aligned captures the differential effect in aligned states; the total effect in aligned states is the sum of these two coefficients ($-0.009 + 0.015 = 0.006$). Column (3) presents the fully saturated model; main effects "Post" and "GP Aligned" are dropped due to collinearity with month-year and state fixed effects respectively. Observations cover the ±6-month window around the January 2012 fuel subsidy removal. State and month-year fixed effects included in all regressions. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 4: Evidence from the 2015 presidential election: alignment changes and protest responsiveness to VAT transfers, allocation transfers, and internally generated revenue

Outcome:	VAT Transfers		Allocation Transfers		IGR	
Sample:	All	Excl. Lagos	All	Excl. Lagos	All	Excl. Lagos
	(1)	(2)	(3)	(4)	(5)	(6)
Protest × Gained × Post-2015	0.140***	0.101**	−0.006	−0.033*	−0.194*	−0.206
	(0.043)	(0.046)	(0.011)	(0.019)	(0.112)	(0.253)
Protest × Lost × Post-2015	0.022	0.023	0.001	0.001	−0.159	−0.158
	(0.044)	(0.044)	(0.017)	(0.017)	(0.237)	(0.238)
Mean of outcome	22.488	22.434	24.098	24.089	22.611	22.611
Observations	612	595	612	595	465	452
Clusters	36	35	36	35	36	35
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Difference-in-differences estimates exploiting alignment changes from the 2015 presidential election. Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT transfers (columns 1-2), log real statutory allocation transfers (columns 3-4), and log real internally generated revenue (IGR, columns 5-6) at the state-year level. IGR columns serve as a placebo test. "Gained Alignment" identifies 13 states transitioning from non-aligned to aligned status when the opposition APC defeated the ruling PDP. "Lost Alignment" identifies 10 states transitioning from aligned to non-aligned status. Post-2015 covers 2015-2016. Odd (even) columns include all 36 states (exclude Lagos). Pre-trends test (2000-2014) for VAT: lost-alignment states exhibit no differential trend ($\gamma_2 = -0.006$, $p = 0.47$) in both specifications; gained-alignment states show a marginally significant pre-trend with Lagos ($\gamma_1 = 0.007$, $p = 0.08$) that disappears without Lagos ($\gamma_1 = 0.004$, $p = 0.50$), validating identification for the Lagos-excluded specification. Pre-trends test for allocation: lost-alignment states exhibit no differential trend ($\gamma_2 = -0.008$, $p = 0.25$); gained-alignment states show a marginally insignificant pre-trend with Lagos ($\gamma_1 = -0.006$, $p = 0.10$) that disappears without Lagos ($\gamma_1 = -0.003$, $p = 0.64$). Pre-trends test for IGR: gained-alignment pre-trend is null in both specifications (full sample $p = 0.553$; excluding Lagos $p = 0.732$). Table A8 in Appendix A.5 reports the full specification including all lower-order interaction terms. State and year fixed effects included in all regressions. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 5: Dynamic effects of protests on VAT transfers

Outcome:	VAT Transfers			
	(1)	(2)	(3)	(4)
Protest	−0.015**			−0.007
	(0.006)			(0.004)
Protest × GP Aligned	0.037***			0.022**
	(0.012)			(0.008)
Protest (t-1)		−0.015***		−0.003
		(0.005)		(0.004)
Protest (t-1) × GP Aligned		0.034***		0.014**
		(0.009)		(0.006)
Protest (t-2)			−0.016*	−0.011
			(0.008)	(0.007)
Protest (t-2) × GP Aligned			0.035***	0.023***
			(0.012)	(0.007)
Mean of outcome	22.488	22.517	22.532	22.532
Observations	612	576	540	540
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variable is log real VAT transfers at the state-year level. Protest is the continuous z-score measure of protests from ACLED data. Governor-President (GP) Aligned is an indicator that equals one if the president and governor of the state come from the same political party and is included in all specifications. Columns (1)-(3) test contemporaneous and lagged protest effects separately. Column (4) includes all lags simultaneously to test cumulative effects. State and year fixed effects included in all regressions. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 6: OLS estimates: Effects of protests on public expenditure (recurrent and capital expenditure)

Outcome:	Recurrent Expenditure				Capital Expenditure			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Protest	−0.031			−0.080*	−0.002			0.000
	(0.026)			(0.040)	(0.035)			(0.050)
Protest × GP Aligned	0.063*			0.099*	0.049			−0.033
	(0.039)			(0.054)	(0.045)			(0.063)
Protest (t-1)		0.031		0.034		−0.028		0.035
		(0.019)		(0.021)		(0.044)		(0.047)
Protest (t-1) × GP Aligned		0.038		0.039		0.132***		0.056
		(0.034)		(0.035)		(0.046)		(0.065)
Protest (t-2)			0.107***	0.127***			−0.030	−0.031
			(0.018)	(0.027)			(0.039)	(0.039)
Protest (t-2) × GP Aligned			−0.106***	−0.154***			0.173***	0.165***
			(0.024)	(0.036)			(0.058)	(0.056)
Mean of outcome	24.430	24.453	24.462	24.462	24.000	24.019	24.023	24.023
Observations	465	429	393	393	461	425	389	389
Clusters	36	36	36	36	36	36	36	36
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Clustered standard errors by state in parentheses. Dependent variables: log real recurrent expenditure (columns 1-4) and log real capital expenditure (columns 5-8). Protest: z-score of ACLED protest events. GP Aligned = 1 if governor and president are from the same party and is included in all specifications. Columns (1)-(3) and (5)-(7) test each lag separately; columns (4) and (8) include all lags simultaneously. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 7: Protest, alignment, and oil prices

Outcome:	VAT Transfers		
Sample/Specification:	Baseline	+ Trend	Excl. 2008–09
	(1)	(2)	(3)
Protest	−0.006*	−0.006	−0.004
	(0.004)	(0.004)	(0.005)
Protest × GP Aligned	0.016***	0.016***	0.015***
	(0.005)	(0.005)	(0.005)
Protest × Log Oil Price	0.025*	0.022**	0.027*
	(0.014)	(0.010)	(0.016)
Protest × GP Aligned × Log Oil Price	−0.036**	−0.039**	−0.039**
	(0.017)	(0.018)	(0.019)
Protest × Trend		0.000	
		(0.000)	
Protest × GP Aligned × Trend		0.000	
		(0.000)	
Mean of outcome	20.120	20.120	20.058
Observations	6,696	6,696	5,868
Clusters	36	36	36
State FE	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. The dependent variable is log real VAT transfers at the state-month-year level over 2000–2016. Log Oil Price is the log nominal world crude oil price, centered at its sample mean of $51.43 per barrel, so that the Protest × GP Aligned coefficient is evaluated at the average oil price over the period; the same centering is applied in all columns so that coefficients are comparable across samples. Because the oil price is national and time-varying, its level and its interaction with GP Aligned are absorbed by the month-year fixed effects, and the reported interactions capture differential cross-state variation. The negative triple interaction indicates that the alignment-contingent response is attenuated when oil prices are high. Evaluating the Protest × GP Aligned differential in column (1) across the observed range of oil prices gives 0.035 (95% CI [0.010, 0.061]) at $30 per barrel, 0.017 ([0.006, 0.028]) at $50, 0.005 ([-0.004, 0.015]) at $70, and -0.006 ([-0.022, 0.011]) at $95: the differential is significantly positive when oil revenues are scarce and is not statistically distinguishable from zero when they are abundant. Column (2) adds interactions of protest and protest × alignment with a linear time trend; both are statistically indistinguishable from zero (0.00003 and 0.00004 respectively), indicating that the oil interaction does not reflect a linear trend in the alignment gradient. Column (3) excludes the 2008–2009 global financial crisis oil price spike and collapse, the largest single oil price episode in the sample. State and month-year fixed effects are included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 8: OLS estimates: Battles and intergovernmental transfers (VAT, allocation) and internally generated revenue (IGR), democratic period

	Panel A: Battles and State Revenue Outcomes					
	Battles (Continuous)			Battles (Indicator)		
Outcome:	VAT	Allocation	Total Transfers	VAT	Allocation	Total Transfers
	(1)	(2)	(3)	(4)	(5)	(6)
Battles	0.001	0.002***	−0.003	−0.0004	0.003*	−0.004
	(0.005)	(0.001)	(0.004)	(0.009)	(0.002)	(0.006)
Mean of outcome	20.120	21.726	21.928	20.120	21.726	21.928
Observations	6,696	6,696	6,696	6,696	6,696	6,696
Clusters	36	36	36	36	36	36
	Panel B: Battles and State Revenue Outcomes, by GP Alignment					
	Battles (Continuous)			Battles (Indicator)		
Outcome:	VAT	Allocation	Total Transfers	VAT	Allocation	Total Transfers
	(1)	(2)	(3)	(4)	(5)	(6)
Battles	−0.007	0.003**	−0.009	−0.017	0.006**	−0.017
	(0.011)	(0.001)	(0.010)	(0.020)	(0.002)	(0.018)
Governor-President (GP) Aligned	0.022**	0.001	0.013	0.018**	0.002	0.009
	(0.010)	(0.004)	(0.009)	(0.008)	(0.004)	(0.006)
Battles × GP Aligned	0.012	−0.002	0.009	0.025	−0.005	0.019
	(0.012)	(0.002)	(0.010)	(0.020)	(0.003)	(0.018)
Mean of outcome	20.120	21.726	21.928	20.120	21.726	21.928
Observations	6,696	6,696	6,696	6,696	6,696	6,696
Clusters	36	36	36	36	36	36
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT transfers, log real statutory allocation transfers, and log real total transfers (VAT plus allocation) at the state-month-year level. Battles (Continuous) is the within-period z-score of state battle counts relative to the national monthly mean. Battles (Indicator) equals one if state battle counts exceed the national monthly mean. Governor-President (GP) Aligned equals one if the state governor and federal president belong to the same political party. State and month-year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 9: OLS estimates: Protest and policing, share of other major actors in events

Outcome:	Police Share		Military Share		Party Share		Union Share	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Protest	0.026**	0.049***	−0.002	−0.005	0.014*	0.024**	0.008*	0.004
	(0.012)	(0.013)	(0.009)	(0.012)	(0.008)	(0.012)	(0.005)	(0.004)
Governor-President (GP) Aligned		−0.026		−0.001		−0.019		0.023
		(0.027)		(0.015)		(0.017)		(0.014)
Protest × GP Aligned		−0.046**		0.005		−0.021		0.010
		(0.019)		(0.009)		(0.013)		(0.006)
Mean of outcome	0.151	0.151	0.026	0.026	0.074	0.074	0.032	0.032
Observations	352	352	352	352	352	352	352	352
Clusters	36	36	36	36	36	36	36	36
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are the shares of police, military, political party, and labor union actors in protest events at the state-year level, 2000–2016. Protest is the within-period z-score of state protest counts relative to the national annual mean. Governor-President (GP) Aligned equals one if the state governor and federal president belong to the same political party. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table 10: OLS estimates: Effect of protests on incarceration rates in the military and democratic periods

Period:	Democratic		Military
Outcome:	Total Prisoners per 100,000 pop.		
	(1)	(2)	(3)
Protest	0.379	0.394	6.302**
	(0.473)	(0.747)	(2.462)
Governor-President (GP) Aligned		−2.763*	
		(1.426)	
Protest × GP Aligned		−0.308	
		(1.151)	
Mean of outcome	34.969	34.969	88.661
Observations	459	459	272
Clusters	36	36	35
State FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variable is total prisoners per 100,000 population. Columns (1)–(2) cover the democratic period (2000–2016); column (3) covers the military period (1988–1995). Incarceration data are from the Annual Abstract of Statistics. Protest is the within-period z-score of state protest counts relative to the national annual mean, constructed from ACLED (democratic period) and GDELT (military period) data. Governor-President (GP) Aligned equals one if the state governor and federal president belong to the same political party; alignment is always equal to one under military rule. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

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A Appendix (For Online Publication)

A.1 Data Appendix

A.1.1 Data and Variable Descriptions

- **Protest data.** Democratic-period protest data are from the Armed Conflict Location and Event Data (ACLED) project, which codes conflict events from newspaper reports from 1997 onward (`https://acleddata.com`). Military-period protest data are from the Global Data on Events, Location and Tone (GDELT) database, which codes protest and riot events from newspaper sources (`https://www.gdeltproject.org`). Both datasets also include battle events. Summary statistics are provided in Table A2.
- **Political party data.** Governor and presidential party affiliations were digitized from WorldStatesmen.org. Vote share data for the 2007 gubernatorial elections are from Ijim-Agbor (2007); 2011 election data are from the African Elections Database; and 2015 election data are from ProshareNG.
- **Public finance data.** Military-period public finance data (1988–1996) were digitized from the Nigerian Annual Abstract of Statistics (Figure A3) and the Central Bank of Nigeria (CBN) Annual Reports. Democratic-period data (2000–2016) were digitized from the Annual Abstract of Statistics, the Nigerian National Bureau of Statistics (`https://nigerianstat.gov.ng/elibrary`), and CBN reports. Summary statistics are provided in Table A2.
- **Actor and incarceration data.** Data on police, military, political party, and labor union actor participation in protest and battle events are from ACLED. Incarceration data are from the Annual Abstract of Statistics.
- **Oil price data.** Oil prices from the Energy Information Administration (EIA) (`https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=f000000__3&f=m`).

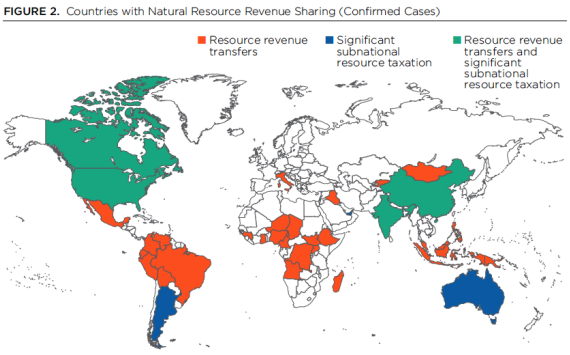


Figure A1: Countries with natural resource revenue-sharing arrangements. Source: UNDP (2016).

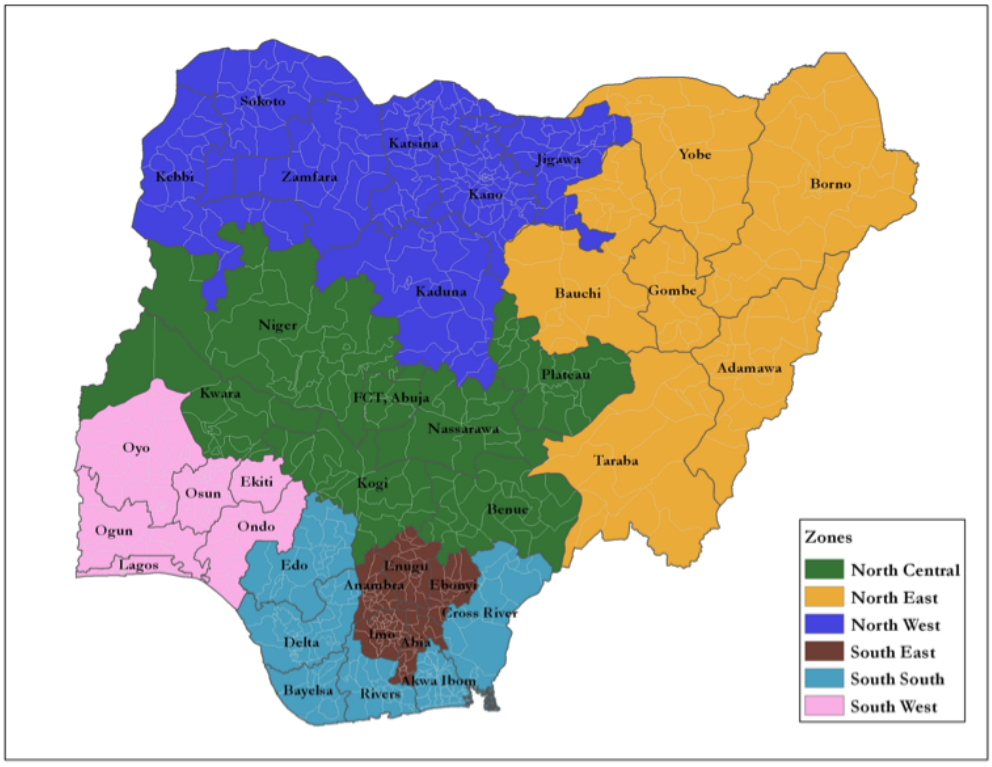


Figure A2: Nigeria's six geopolitical zones, with local government areas (LGAs) outlined and state names labeled. Zones proxy for ethnic regions.

Table A1: Google trends top related search query terms to 'allocation' and 'vat' in Nigeria, 2011-2016

Allocation	
Top 5 allocation related Google queries, February, 2011 to December, 2021	
Query	Ranking
revenue allocation	100
federal allocation	78
revenue allocation in nigeria	51
faac allocation	42
faac	36
VAT	
Top 5 VAT related Google queries, February, 2011 to December, 2021	
Query	Ranking
nigeria vat	100
vat in nigeria	85
what is vat	28
vat number	18
vat meaning	15

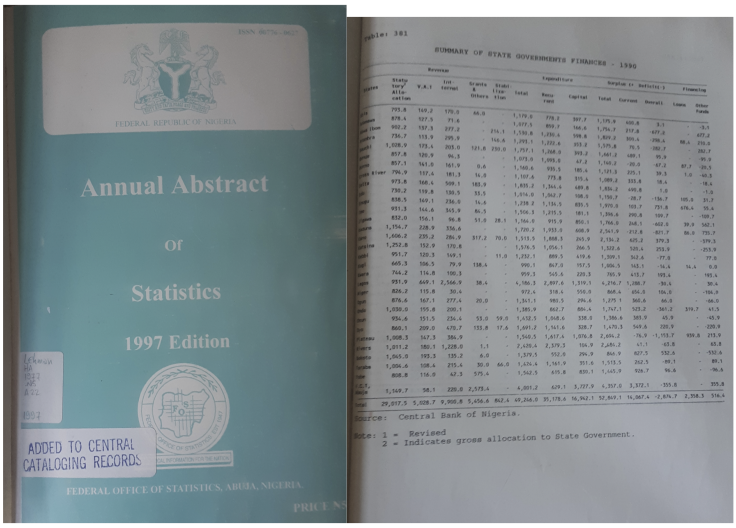


Figure A3: Archival public finance data from the 1997 Annual Abstract of Statistics (1990 records shown).

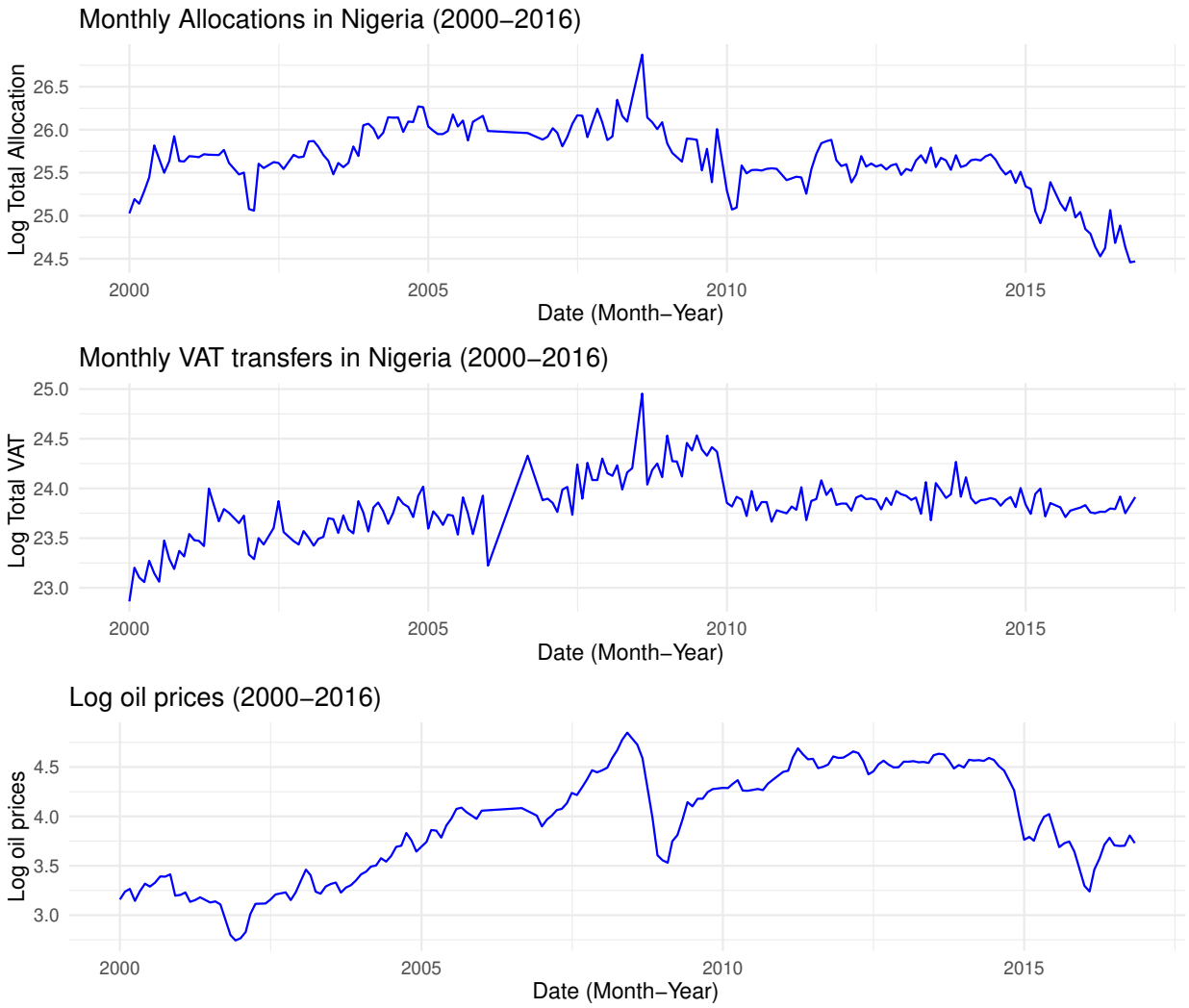


Figure A4: Oil prices and monthly intergovernmental transfers, 2000–2016.

Table A2: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Max
			Public Finance and Protest, Democratic Period		
VAT	6,696	20.120	0.464	18.823	22.801
Allocation	6,696	21.916	0.583	20.462	24.372
VAT (monthly, Naira)	6,696	640,189,725	618,238,113	149,540,541	7,987,811,179
Allocation (monthly, Naira)	6,696	4,048,422,217	3,525,079,642	770,379,071	38,413,456,285
VAT (yearly, Naira)	612	7,004,428,753	6,926,934,854	1,316,174,530	75,956,027,632
Allocation (yearly, Naira)	612	44,298,219,658	39,302,844,326	8,727,354,474	363,000,000,000
Governor-President (GP) Aligned	6,696	0.683	0.465	0	1
Protest, Continuous (monthly)	6,696	−0.026	0.889	−0.913	5.918
Protest, Indicator (monthly)	6,696	0.142	0.349	0	1
Protest, Continuous (yearly)	612	−0.037	0.950	−0.939	5.004
Protest, Indicator (yearly)	612	0.309	0.462	0	1
Battles, Continuous (monthly)	6,696	0.005	0.996	−0.691	5.918
Battles, Indicator (monthly)	6,696	0.160	0.366	0	1
Battles, Continuous (yearly)	612	0.007	0.999	−0.824	5.826
Battles, Indicator (yearly)	612	0.225	0.418	0	1
VAT Share	465	0.146	0.039	0.069	0.270
Allocation Share	465	0.662	0.153	0.068	0.900
IGR Share	465	0.193	0.150	0.005	0.760
IGR	465	22.611	1.075	19.237	26.448
Recurrent Expenditure	465	24.430	0.600	22.986	26.646
Capital Expenditure	461	24.000	0.935	18.110	27.130
Recurrent Expenditure Share	461	0.589	0.170	0.129	0.998
Personnel Recurrent Share	429	0.415	0.178	0.064	0.959
Overhead Recurrent Share	425	0.276	0.147	0.002	0.760
Pension Recurrent Share	131	0.356	0.145	0.036	0.708
Debt Recurrent Share	85	0.077	0.091	0.002	0.448
Capital Expenditure Share	461	0.411	0.170	0.002	0.871
			Public Finance and Protest, Military Period		
VAT	96	21.551	0.525	19.963	23.355
Allocation	224	23.773	0.800	21.112	25.444
VAT (yearly, Naira)	96	2,644,512,164	1,851,751,445	467,676,869	13,894,112,739
Allocation (yearly, Naira)	224	27,965,055,206	20,787,147,104	1,475,679,440	112,273,625,759
Protest, Continuous	324	−0.030	0.721	−0.275	5.918
Protest, Indicator	324	0.031	0.173	0	1
Battles, Continuous	324	−0.029	0.958	−0.390	5.918
Battles, Indicator	324	0.108	0.311	0	1
VAT Share	93	0.134	0.039	0.074	0.273
Allocation Share	93	0.674	0.130	0.190	0.859
IGR Share	93	0.192	0.130	0.004	0.696
IGR	251	22.050	1.278	15.935	25.913
Recurrent Expenditure	254	23.791	0.863	19.973	26.034
Capital Expenditure	254	0.347	0.154	0.041	0.872
Recurrent Expenditure Share	254	0.653	0.154	0.128	0.959
Capital Expenditure Share	254	0.347	0.154	0.041	0.872

Notes: Democratic period data is from 2000-2016. Military period data is from 1988-1996. Protest, Continuous is a z-score representing standard deviations from the national mean. Protest, Indicator is an indicator that equals one if the total number of protests is greater than the national mean. VAT and Allocation public finance values are logs of real values relative to 2010. IGR is internally generated revenue and VAT are transfers from the Value Added Tax revenue. Allocation (monthly, Naira) is the total monthly allocation in real 2010 Naira. Allocation (yearly, Naira) is the total yearly allocation in real 2010 Naira. VAT Share, Allocation Share and IGR Share are share of total yearly VAT, Allocation and IGR revenue in the sum of the total of these 3 revenue categories. Pension Recurrent Share is the share of pension transfers in recurrent expenditure.

Table A3: Balance on geographic and institutional characteristics

	Protest Average and State Characteristics							
	Geographic						Institutional	
	Petrol	Malaria	Suitability	Elevation	Seacoast	Dist. Capital	Slavery	Centralization
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Protest (Indicator)	−0.370	−0.054	−0.130	319.411	0.398	33.413	−243961.509	0.023
	(0.328)	(0.045)	(0.777)	(504.274)	(0.480)	(240.168)	(208814.2)	(1.064)
Observations	36	36	36	36	36	36	36	36
R^2	0.751	0.275	0.431	0.515	0.711	0.519	0.461	0.320
Zone FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses. Observations at the state level averages over 2000-2016. Zone is geopolitical zone. 'Protest (Indicator)' is the share of years where the state is experiencing high levels (above the national average in total numbers) of protests, taking the long-run average of the Protest indicator. Petrol is an indicator that equals 1 if the state has recorded deposits of petroleum from the PRIO dataset. Suitability is land suitability for agriculture from FAO data. Elevation is mean elevation in km from the Global Climate database. Seacoast is an indicator that equals one if the state shares a border with the sea coast. Dist. Capital is average distance to the capital in km. Malaria stability is from the malaria ecology index from Kiszewski et al., (2004). Slavery is the total exports of slaves from the region during the Atlantic slave trade. Centralization index is the level of precolonial centralization from Murdock ethnicity data (Murdock, 1967) (following Archibong (2019)). ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A4: Petroleum prices and protest

Outcome:	Protest (Continuous)	Protest (Indicator)
	(1)	(2)
Petrol x Petrol Price	−0.001	−0.0003
	(0.001)	(0.0004)
Mean of outcome	−0.026	0.142
N	6,696	6,696
Clusters	36	36
State FE	Yes	Yes
Month-Year FE	Yes	Yes

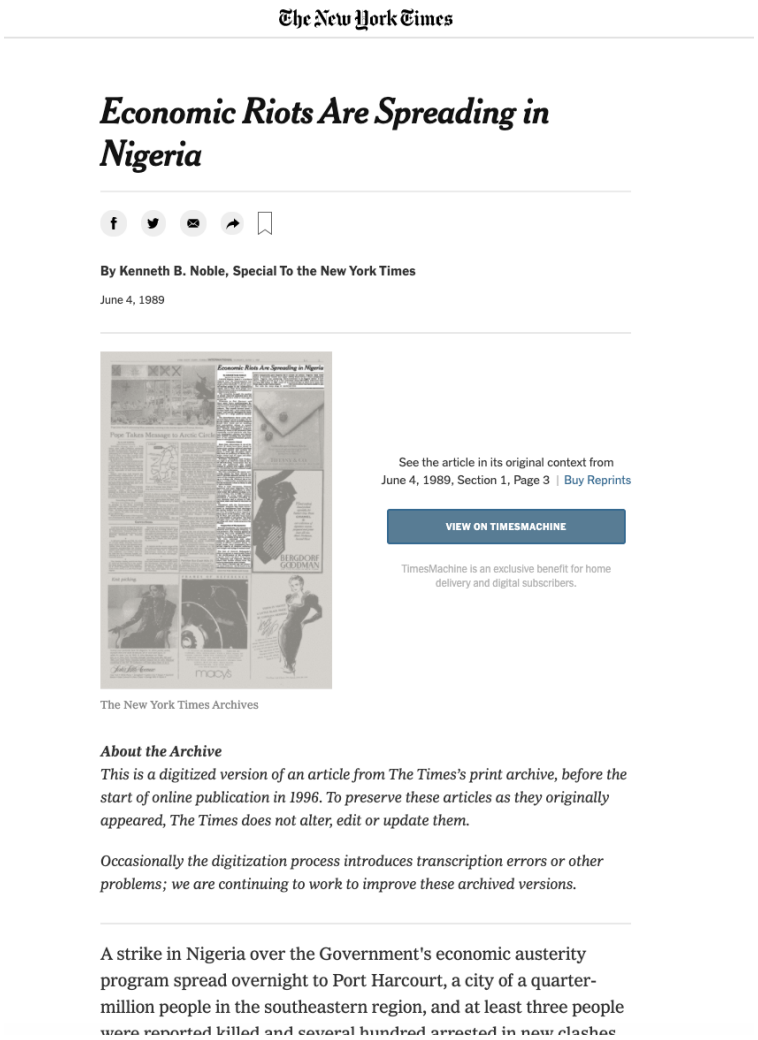
Notes: Robust standard errors in parentheses clustered by state. Dependent variables are protest variables. Protest is the continuous z-score measure of protests from the ACLED data in column (1) and the indicator that equals one if the total number of protests is greater than the national mean in that month and year in columns (2) as described in text and based on monthly data. Petrol is an indicator that equals one if the state is a petroleum producing area. Petrol Price is the log oil price of petroleum over 2000-2016. Observations are at the month-year level and month-year fixed effects are included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

A.2 Further Detail on Protests in Nigeria

A prominent example of protests in Nigeria comes from the Niger Delta region, where residents protested environmental damage caused by oil production, including uncompensated oil spills and damage to farming and fisheries- the primary livelihoods of regional residents- by operating companies such as Royal Dutch Shell (Frynas, 2001; Osaghae, 1995). The most prominent episode was the anti-Shell campaign led by the Movement for the Survival of the Ogoni People (MOSOP), culminating in the execution of its leader, Ken Saro-Wiwa, by military head of state Sani Abacha in 1995, to widespread international condemnation (Frynas, 2001). These protests produced both concessions- including the creation of the Oil Mineral Producing Areas Development Commission (OMPADEC), which allocated 1.5–3% of government revenue to affected regions, and the introduction of the 13% derivation rule for oil-producing states in the 1999 Constitution- and repression, including killings, arrests, and floggings of protesters (Osaghae, 1995). Protests in the Niger Delta have continued, with residents demanding increased transfers and resource ownership rights (Frynas, 2001).

Sixteen states account for all high-intensity protests in the military period; 24 states account for 65% of high-intensity protests in the democratic period. In the military period, 31% of high-intensity protests occurred in the Niger Delta region and 13% in southwestern Nigeria, where SAP-era protests were concentrated. In the democratic period, 33% of high-intensity protests occurred in the Niger Delta and 33% in states with relatively low governor–president party alignment, consistent with the opposition party-led protests described in Section 2. Together, Niger Delta and opposition-aligned states account for 66% of high-intensity protests in the democratic period.[68]

[68]Opposition party states include Ekiti, Lagos, Osun, Ogun, Oyo, Kwara, Kogi, and Borno.



The New York Times

Economic Riots Are Spreading in Nigeria

By Kenneth B. Noble, Special To the New York Times

June 4, 1989

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A strike in Nigeria over the Government's economic austerity program spread overnight to Port Harcourt, a city of a quarter-million people in the southeastern region, and at least three people were reported killed and several hundred arrested in new clashes

Figure A5: *New York Times* coverage of "economic riots" in Nigeria, 1989.



Figure A6: Nigerian newspaper headlines documenting public sector worker protests over unpaid salaries and pensions, 2000s.

A.3 Party Politics in Nigeria

Though political parties existed before Nigeria's 1999 democratic transition, only three parties received registration from military president Abdulsalami Abubakar: the Alliance for Democracy (AD), All People's Party (APP), and People's Democratic Party (PDP) (Azeez, 2009). The PDP dominated national politics for 15 years, winning every presidential election from 1999 to 2011. Gubernatorial elections operate differently, with voters focused on localized, often ethnic-based regional issues (Azeez, 2009). Ten parties elected governors between 2000 and 2016 (Table A5), though most came from the PDP. PDP gubernatorial dominance declined after 2010 following the sudden death of President Umaru Yar'Adua (Figure A7).

Yar'Adua's death and the subsequent ascension of Vice President Goodluck Jonathan- the first president from the south-south region- proved contentious. Jonathan's 2015 re-election bid violated Nigeria's unofficial north-south power-rotation agreement, contributing to his defeat (Owen and Usman, 2015). Multiple opposition parties (ACN, ANPP, CPC, and APGA) merged to form the All Progressives Congress (APC) in 2013. Jonathan became the first incumbent to lose re-election, and the APC won both the presidency and a majority of governorships, reshaping Nigeria's political landscape (Figure A7) (Owen and Usman, 2015). Figure A8 illustrates the strong ethnoregional clustering of gubernatorial party affiliations.

Table A5: Distribution of state governor and president parties, 2000–2016

State Governor Party	Share of Total
PDP	0.649
APC	0.118
ANPP	0.109
AD	0.036
ACN	0.029
APGA	0.021
APP	0.015
LP	0.013
PPA	0.007
CPC	0.003
President Party	**Share of Total**
PDP	0.882
APC	0.118

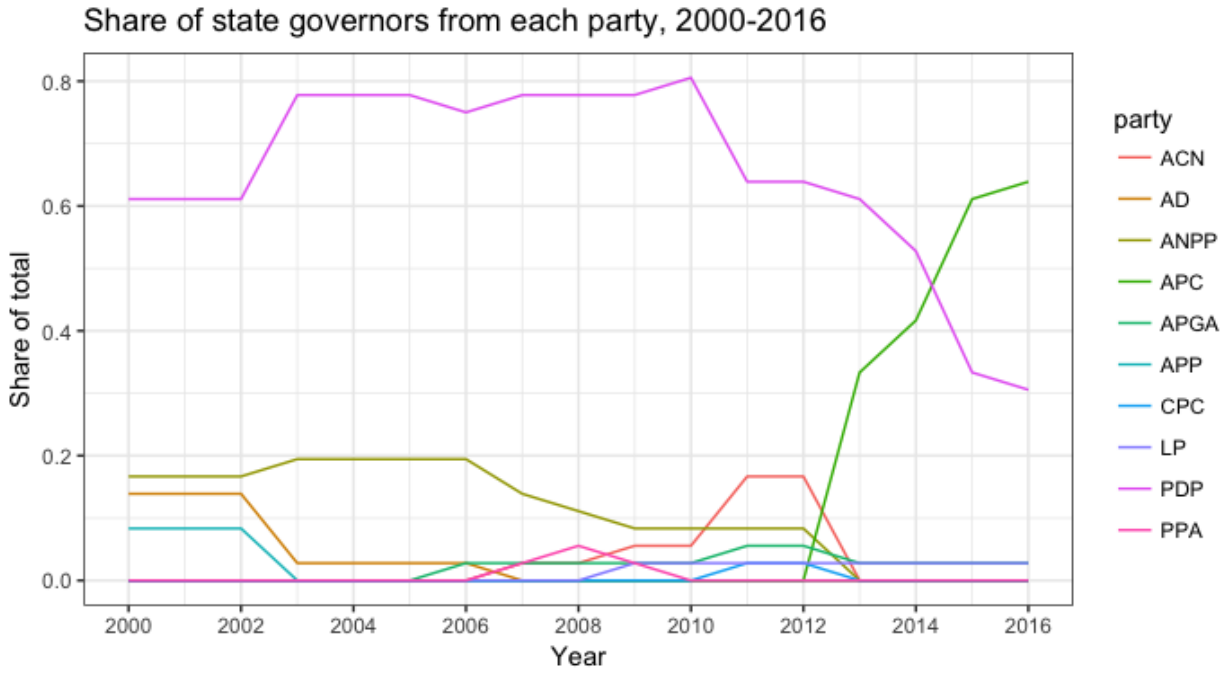


Figure A7: Share of state governors by political party, 2000–2016.

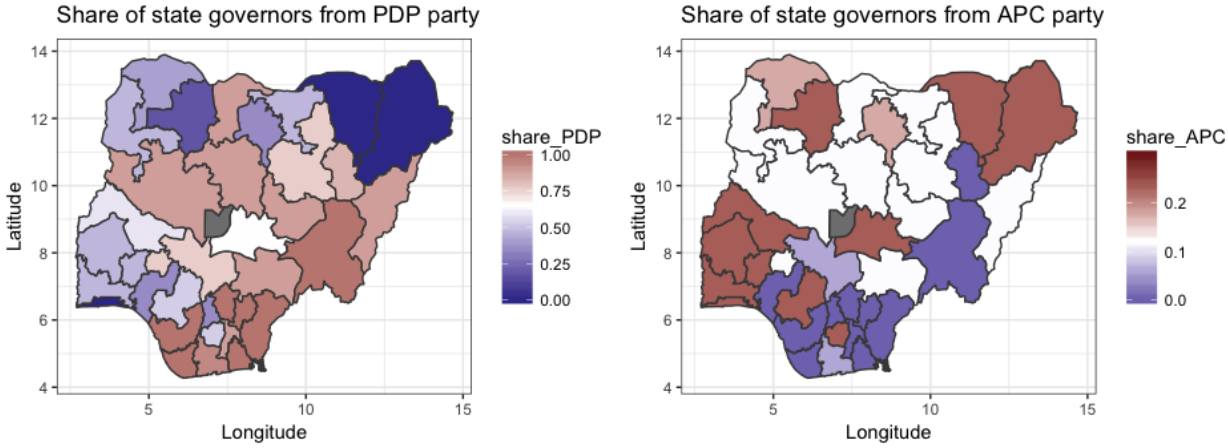


Figure A8: Share of state governors from the PDP versus the APC by state, 2000–2016.

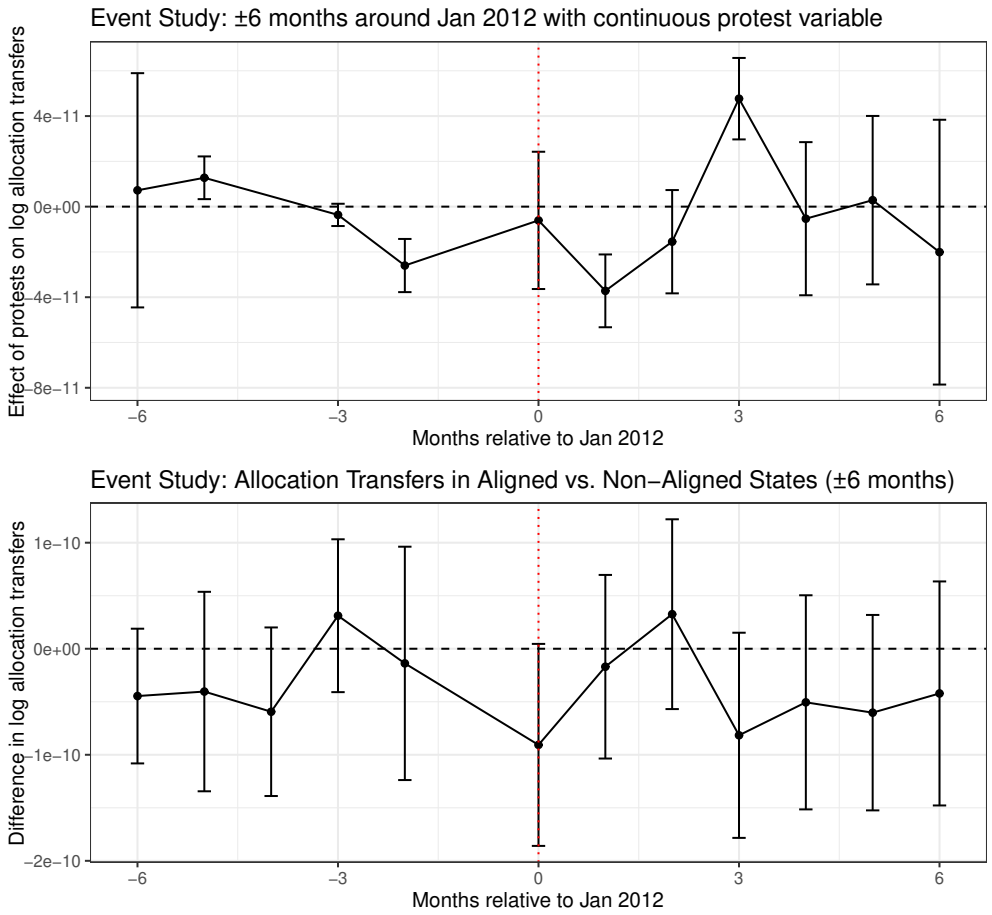


Figure A9: Event study coefficients of effects of protests and political alignment on allocation transfers over the January 2012 subsidy removal and Occupy Nigeria protests. Top panel: effect of protest intensity on log real allocation transfers. Bottom panel: difference in log allocation transfers between aligned and non-aligned states. Event time zero (dashed vertical line) denotes January 2012.

Table A6: Economic magnitude of protest effects (OLS estimates) on VAT transfers

	Monthly		Yearly	
	Naira (mn)	US$ (000s)	Naira (mn)	US$ (mn)
Non-Aligned States	-3.2	-21	-105	-0.70
Aligned States	7.0	47	154	1.03
Differential	**10.2**	**68**	**259**	**1.73**

Notes: Effects on VAT transfers per one standard deviation increase in protests, based on the Protest × GP Aligned interaction estimates in Tables 1 and 2 and on average VAT transfers over 2000–2016 (monthly = 640 million Naira; yearly = 7 billion Naira). Magnitudes use the linear approximation (coefficient × mean transfer). Exchange rate: 1 USD = 150 Naira (2010). The differential is the advantage aligned states receive relative to non-aligned states for the same protest intensity.

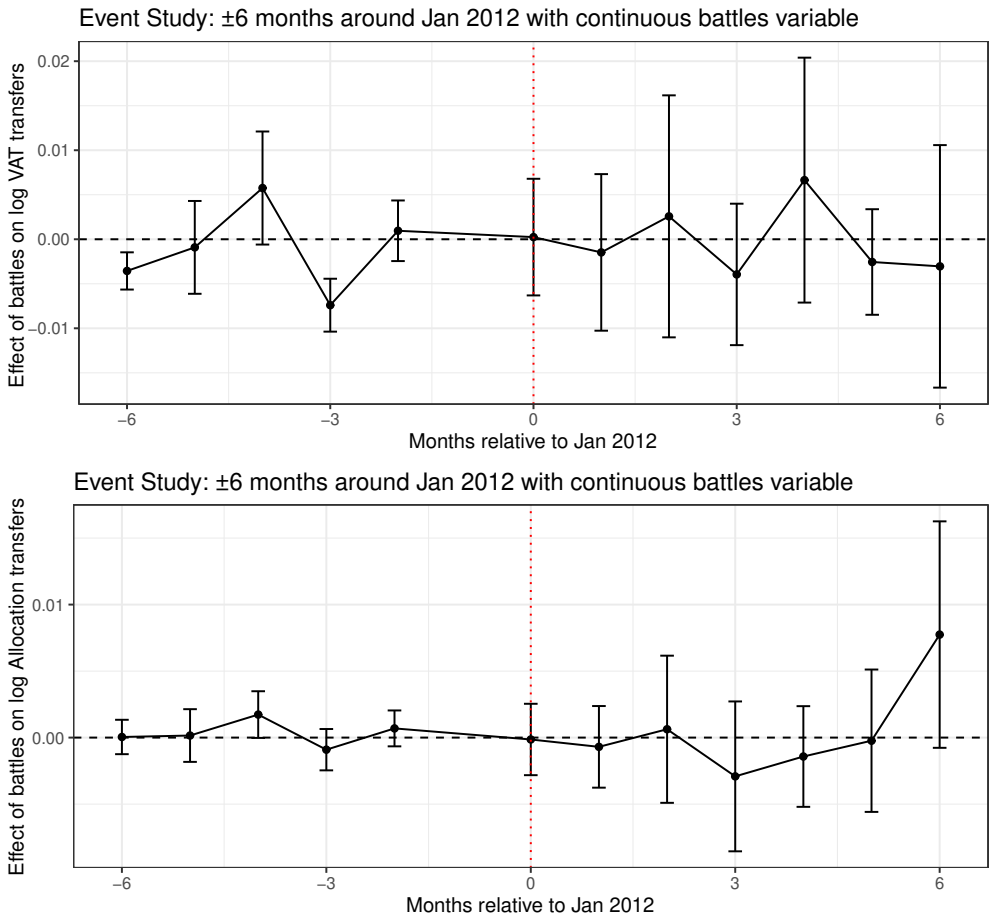


Figure A10: Event study coefficients of the effect of battle intensity on intergovernmental transfers around the January 2012 fuel subsidy removal. Top panel: log real VAT transfers. Bottom panel: log real allocation transfers. Event time zero (dashed vertical line) denotes January 2012.

Table A7: Effect of the Jan. 2012 fuel subsidy removal and Occupy Nigeria protests on intergovernmental transfers (VAT), 5 and 7-month windows

Window:	±5 months		±7 months	
Outcome:	VAT Transfers			
	(1)	(2)	(3)	(4)
Protest		0.007		0.008
		(0.006)		(0.007)
Protest × Post	−0.009***	−0.016**	−0.007***	−0.014**
	(0.002)	(0.006)	(0.001)	(0.007)
Protest × Post × GP Aligned	0.016**	0.020**	0.017**	0.019**
	(0.008)	(0.009)	(0.008)	(0.009)
Protest × GP Aligned		−0.004		−0.002
		(0.007)		(0.007)
Post × GP Aligned		0.003		0.006
		(0.007)		(0.007)
Mean of outcome	20.186	20.186	20.176	20.176
Observations	396	396	540	540
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variable is log real VAT transfers at the state-month level. Protest is the continuous z-score measure from the ACLED data based on monthly data. Governor-President (GP) Aligned is an indicator that equals one if the president and governor belong to the same political party. Post equals one for months after January 2012. Columns (1) and (3) present the parsimonious specification (Equation 6): Protest × Post captures the effect in non-aligned states and Protest × Post × GP Aligned captures the differential effect in aligned states. Columns (2) and (4) present the fully saturated model; main effects "Post" and "GP Aligned" are dropped due to collinearity with month-year and state fixed effects respectively. Columns (1)–(2) use a ±5 month window around the January 2012 fuel subsidy removal; columns (3)–(4) use a ±7 month window. The baseline ±6 month window results are reported in Table 3. State and month-year fixed effects included in all regressions. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A8: Full coefficient estimates: 2015 Presidential election DID

Outcome:	VAT Transfers		Allocation Transfers		IGR	
Sample:	All	Excl. Lagos	All	Excl. Lagos	All	Excl. Lagos
	(1)	(2)	(3)	(4)	(5)	(6)
Protest	0.007	0.007	−0.001	−0.001	−0.006	−0.006
	(0.008)	(0.008)	(0.002)	(0.002)	(0.056)	(0.056)
Protest × Gained	−0.012	−0.007	−0.003	−0.003	0.057	0.082
	(0.009)	(0.009)	(0.003)	(0.003)	(0.079)	(0.083)
Protest × Post-2015	−0.088**	−0.089**	−0.013	−0.013	0.235**	0.234**
	(0.043)	(0.042)	(0.010)	(0.010)	(0.109)	(0.110)
Gained × Post-2015	0.069***	0.057**	−0.015	−0.024	−0.126	−0.127
	(0.024)	(0.025)	(0.013)	(0.015)	(0.117)	(0.153)
Protest × Lost	0.016	0.015	0.004	0.004	−0.071	−0.069
	(0.014)	(0.014)	(0.004)	(0.004)	(0.106)	(0.107)
Lost × Post-2015	−0.012	−0.012	0.024*	0.024*	0.037	0.037
	(0.022)	(0.022)	(0.014)	(0.014)	(0.197)	(0.198)
Protest × Gained × Post-2015	0.140***	0.101**	−0.006	−0.033*	−0.194*	−0.206
	(0.043)	(0.046)	(0.011)	(0.019)	(0.112)	(0.253)
Protest × Lost × Post-2015	0.022	0.023	0.001	0.001	−0.159	−0.158
	(0.044)	(0.044)	(0.017)	(0.017)	(0.237)	(0.238)
Mean of outcome	22.488	22.434	24.098	24.089	22.611	22.611
Observations	612	595	612	595	465	452
Clusters	36	35	36	35	36	35
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Full coefficient estimates corresponding to the parsimonious Table 4. Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT transfers (columns 1-2), log real statutory allocation transfers (columns 3-4), and log real internally generated revenue (IGR, columns 5-6) at the state-year level. IGR columns serve as a placebo test: the negative and null triple interaction for gained-alignment states rules out general economic improvement in newly aligned states as an alternative explanation for the VAT result. "Gained" identifies 13 states transitioning from non-aligned to aligned status when the opposition APC defeated the ruling PDP in 2015. "Lost" identifies 10 states transitioning from aligned to non-aligned status. Post-2015 covers 2015-2016. Main effects for Gained, Lost, and Post-2015 are absorbed by state and year fixed effects and are not reported. State and year fixed effects included in all regressions. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

A.4 Dynamic Effects and Recurrent Expenditure Components

Table A11 disaggregates total recurrent expenditure to identify which components drive the protest response documented in Table 6. Three components are examined: pensions for retired government employees (36% of recurrent expenditure), personnel costs (salaries and wages for current staff, 42%), and overhead/administrative expenses (28%). The alignment interaction is concentrated entirely in pensions: protests are associated with a 26.8% increase in pension spending in aligned states, yielding a net effect of 15.5%. Personnel costs and administrative overhead show no significant alignment effects. This pattern is consistent with aligned governments targeting pension arrears- a discretionary and politically visible component of labor demands- rather than expanding general operational capacity through new hiring or administrative overhead. As discussed in Section 2.2.2, Nigerian public sector protests are frequently driven by both unpaid salaries and pension arrears (Orifowomo, 2006), and pension payments can be implemented quickly without the longer-term fiscal commitments associated with permanent staffing expansions. The pension result should be interpreted with caution given the limited sample size.

Table A9: Dynamic effects of protests on VAT transfers, no alignment

Outcome:	VAT Transfers			
	(1)	(2)	(3)	(4)
Protest	0.004			0.005
	(0.003)			(0.004)
Protest (t-1)		0.004		0.005
		(0.003)		(0.004)
Protest (t-2)			0.004	0.003
			(0.004)	(0.004)
Mean of outcome	22.488	22.517	22.532	22.532
Observations	612	576	540	540
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: Clustered standard errors (state) in parentheses. Dependent variable: log real VAT transfers. Protest: z-score of ACLED protest events. Columns (1)-(3) test each lag separately; column (4) includes all lags simultaneously. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A10: Dynamic effects of protests on allocation transfers

Outcome:	Allocation Transfers			
	(1)	(2)	(3)	(4)
Protest	−0.002			−0.003*
	(0.002)			(0.001)
Protest x GP Aligned	−0.002			−0.000
	(0.004)			(0.002)
Protest (t-1)		−0.002		−0.002
		(0.002)		(0.002)
Protest (t-1) x GP Aligned		−0.001		−0.001
		(0.004)		(0.002)
Protest (t-2)			−0.001	−0.001
			(0.001)	(0.001)
Protest (t-2) x GP Aligned			−0.002	−0.001
			(0.004)	(0.003)
Mean of outcome	24.098	24.092	24.091	24.091
Observations	612	576	540	540
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: Clustered standard errors (state) in parentheses. Dependent variable: log real statutory allocation transfers. Protest: z-score of ACLED protest events. GP Aligned = 1 if governor and president are from the same party and is included in all specifications. Columns (1)-(3) test each lag separately; column (4) includes all lags simultaneously. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A11: OLS estimates: Protests and recurrent expenditure components

Outcome:	Pensions	Personnel	Overhead
	(1)	(2)	(3)
Protest	−0.113	−0.035	−0.034
	(0.086)	(0.029)	(0.036)
Protest × GP Aligned	0.268***	−0.025	0.021
	(0.085)	(0.054)	(0.072)
Mean of outcome	14.756	16.412	14.988
Observations	134	429	425
Clusters	36	36	36
State FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Notes: Clustered standard errors by state in parentheses. Dependent variables are components of recurrent expenditure: log real pensions (column 1), personnel costs (column 2), and overhead/administrative costs (column 3). Protest: z-score of ACLED protest events. GP Aligned = 1 if governor and president are from the same party and is included in all specifications. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

A.5 Robustness

Table A12: Dynamic effects of protests on VAT transfers, testing leads

Outcome:	VAT Transfers	
	(1)	(2)
Protest (t+1)	0.003	0.006
	(0.007)	(0.006)
Protest (t+1) × GP Aligned	0.002	−0.004
	(0.009)	(0.010)
Protest	−0.013**	−0.009
	(0.006)	(0.006)
Protest × GP Aligned	0.032***	0.025**
	(0.011)	(0.009)
Protest (t-1)		−0.003
		(0.003)
Protest (t-1) × GP Aligned		0.014***
		(0.005)
Protest (t-2)		−0.010
		(0.007)
Protest (t-2) × GP Aligned		0.022***
		(0.008)
Mean of outcome	22.488	22.535
Observations	576	504
Clusters	36	36
State FE	Yes	Yes
Year FE	Yes	Yes

Notes: Clustered standard errors (state) in parentheses. Dependent variable: log real VAT transfers. Protest: z-score of ACLED protest events. GP Aligned = 1 if governor and president are from the same party. Column (1) includes one-year lead protest as a placebo/falsification test; column (2) includes full dynamic specification with lead, contemporaneous, and two lags. State and year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A13: OLS estimates: Protest and intergovernmental transfers (VAT, Allocation) excluding most populous and urbanized states

Sample:	No Lagos		No Kano		No Anambra	
Outcome:	VAT	Allocation	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)	(5)	(6)
Protest	−0.007*	−0.003*	−0.006*	−0.002	−0.005*	−0.002
	(0.004)	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)
GP Aligned	0.018**	0.003	0.025**	0.001	0.022**	−0.000
	(0.008)	(0.004)	(0.010)	(0.005)	(0.010)	(0.005)
Protest × GP Aligned	0.013**	0.003**	0.017***	0.0001	0.016***	−0.0001
	(0.006)	(0.001)	(0.005)	(0.003)	(0.005)	(0.003)
Mean of outcome	20.066	21.912	20.107	21.909	20.120	21.726
Observations	6,510	6,510	6,510	6,510	6,510	6,510
Clusters	35	35	35	35	35	35
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT (columns 1, 3, 5) and log real statutory allocation transfers (columns 2, 4, 6) at the state-month-year level. Protest is the continuous z-score measure from the ACLED data based on monthly data. GP Aligned is an indicator that equals one if the president and governor belong to the same political party. Columns (1)-(2) exclude Lagos, Nigeria's most populous state and commercial capital. Columns (3)-(4) exclude Kano, Nigeria's second most populous state. Columns (5)-(6) exclude Anambra, which together with Lagos has the highest population density among Nigerian states; Lagos and Anambra are Nigeria's most urbanized states by population density. State and month-year fixed effects included in all regressions. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

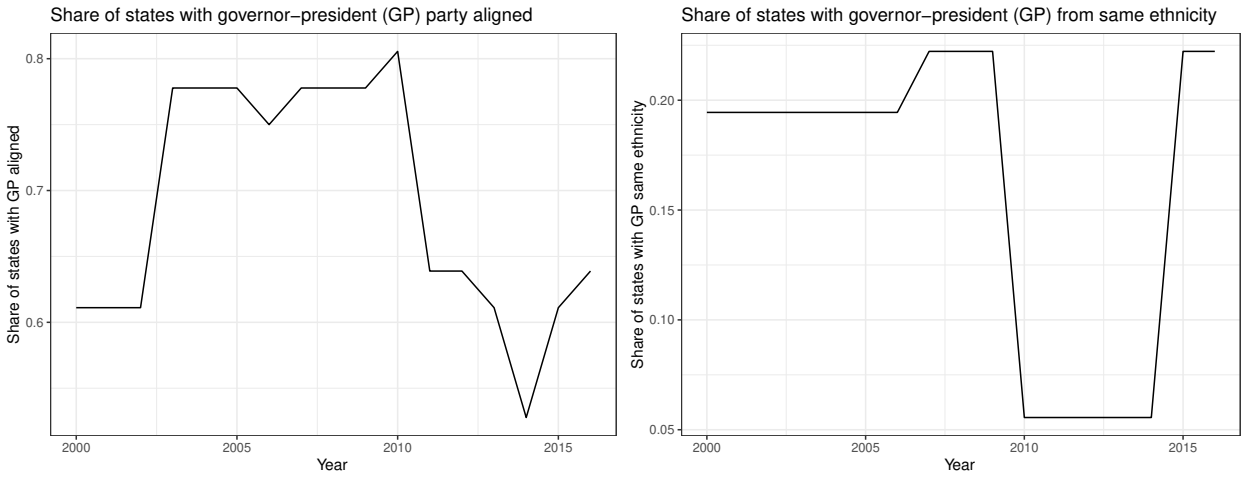


Figure A11: Share of state governors sharing the same political party (left) and same ethnicity (right) as the president, 2000–2016.

Table A14: OLS estimates: Protest and intergovernmental transfers (VAT, Allocation) dropping most populous and urbanized states, yearly outcomes

Sample:	No Lagos		No Kano		No Anambra	
Outcome:	VAT	Allocation	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)	(5)	(6)
Protest	−0.011*	−0.004*	−0.015**	−0.002	−0.015**	−0.002
	(0.006)	(0.002)	(0.006)	(0.002)	(0.007)	(0.002)
GP Aligned	0.021**	0.002	0.028***	−0.001	0.025**	−0.002
	(0.009)	(0.004)	(0.009)	(0.005)	(0.009)	(0.005)
Protest × GP Aligned	0.028**	0.004	0.037***	−0.002	0.038***	−0.002
	(0.013)	(0.003)	(0.012)	(0.004)	(0.012)	(0.005)
Mean of outcome	22.434	24.089	22.434	24.089	22.488	24.098
Observations	595	595	595	595	595	595
Clusters	35	35	35	35	35	35
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT (columns 1, 3, 5) and log real statutory allocation transfers (columns 2, 4, 6) at the state-year level. Protest is the continuous z-score measure from the ACLED data based on annual data. GP Aligned is an indicator that equals one if the president and governor belong to the same political party. Columns (1)-(2) exclude Lagos, Nigeria's most populous state and commercial capital. Columns (3)-(4) exclude Kano, Nigeria's second most populous state. Columns (5)-(6) exclude Anambra, which together with Lagos has the highest population density among Nigerian states; Lagos and Anambra are Nigeria's most urbanized states by population density. State and year fixed effects included in all regressions. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A15: OLS estimates: Other protest measures and intergovernmental transfers (VAT, Allocation)

Outcome:	**Panel A: Other Protest Measures and State Revenue Outcomes**			
	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)
Protests per cap.	0.014	−0.031		
	(0.104)	(0.064)		
Total Protests			0.004	−0.004***
			(0.007)	(0.001)
Mean of outcome	20.120	21.726	20.120	21.726
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
Outcome:	**Panel B: Other Measures and State Revenue Outcomes, by GP Alignment**			
	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)
Protests per cap.	−0.097	−0.012		
	(0.129)	(0.064)		
Total Protests			−0.00001	−0.004***
			(0.008)	(0.001)
Governor-President (GP) Aligned	0.018*	0.001	0.017*	0.001
	(0.010)	(0.004)	(0.009)	(0.004)
Protests per cap. × GP Aligned	0.296**	−0.035		
	(0.146)	(0.056)		
Total Protests × GP Aligned			0.010**	−0.001
			(0.005)	(0.002)
Mean of outcome	20.120	21.916	20.120	21.916
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are intergovernmental transfers: log real VAT and state allocations at the state and month-year level as described in text. Protests per cap. is total numbers of protests per 100,000 population (2016 population). Total protests is the total number of protests. Governor-President (GP) Aligned is an indicator that equals one if the president and governor of the state come from the same political party. State and month-year fixed effects included in all regressions. Observations are monthly outcomes. The negative association between total protests and allocation transfers persists in Panel B (column 4) after controlling for alignment status and the alignment interaction, confirming that it reflects a mechanical population-driven correlation rather than a strategic federal response: larger states generate more raw protest events and receive proportionally less from the equal-share allocation formula regardless of political alignment. The z-score measure used in the main specifications removes this size-driven variation by standardizing protest counts relative to the national monthly mean, isolating relative protest intensity from population-driven variation in absolute counts. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A16: OLS estimates: Protest and intergovernmental transfer shares relative to state historical means

Outcome:	Protest (Continuous)		Protest (Indicator)	
	VAT Share	Allocation Share	VAT Share	Allocation Share
	(1)	(2)	(3)	(4)
Protest	−0.499*	−0.177*		
	(0.274)	(0.104)		
Protest (Indicator)			−1.203	−0.746*
			(0.978)	(0.342)
GP Aligned	2.358**	0.102	1.818*	0.022
	(0.924)	(0.458)	(0.938)	(0.461)
Protest × GP Aligned	1.627***	0.021	2.714**	0.354
	(0.505)	(0.258)	(1.219)	(0.528)
Mean of outcome†	2.763	2.763	2.763	2.763
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are each state's VAT share and allocation share relative to its own historical mean, expressed as percentage point deviations: $100 \times (s_{it}/\bar{s}_i - 1)$, where s_{it} is state i's share of national transfers in period t and $\bar{s}_i$ is its time-series mean. This normalization removes size weighting and identifies whether states receive more or less than their usual share in response to protests. †Mean of outcome refers to the mean of the underlying transfer share (percent of national total); the normalized outcome $100 \times (s_{it}/\bar{s}_i - 1)$ is zero by construction. Protest (Continuous) is the within-period z-score of state protest counts relative to the national monthly mean. Protest (Indicator) equals one if state protest counts exceed the national monthly mean. GP Aligned equals one if the state governor and federal president belong to the same political party. State and month-year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A17: Signed decomposition of protest intensity: above- vs. below-mean response

Outcome:	VAT		Allocation	
Model:	Pooled	By Alignment	Pooled	By Alignment
	(1)	(2)	(3)	(4)
	Panel A: Signed continuous decomposition			
Protest above mean (z^+)	0.006**	−0.003*	0.000	0.000
	(0.003)	(0.002)	(0.001)	(0.001)
Protest below mean (z^-)	−0.015	−0.018	−0.015**	−0.016**
	(0.017)	(0.016)	(0.006)	(0.008)
Governor-President (GP) Aligned		0.021*		0.001
		(0.011)		(0.005)
Protest above mean × GP Aligned		0.017***		−0.000
		(0.005)		(0.002)
Protest below mean × GP Aligned		0.014		0.003
		(0.016)		(0.008)
	Panel B: Above-/below-mean indicators			
Protest above mean (=1)	−0.015	−0.032	−0.005	−0.007
	(0.019)	(0.024)	(0.007)	(0.007)
Protest below mean (=1)	−0.017	−0.019	0.000	0.000
	(0.016)	(0.016)	(0.007)	(0.007)
Governor-President (GP) Aligned		0.015		−0.000
		(0.013)		(0.005)
Protest above mean × GP Aligned		0.031**		0.004
		(0.015)		(0.006)
Protest below mean × GP Aligned		0.003		0.001
		(0.006)		(0.002)
Mean of outcome	20.120	20.120	21.726	21.726
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are log real VAT transfers (columns 1–2) and log real statutory allocation transfers (columns 3–4) at the state-month-year level. Panel A decomposes the protest z-score into its above-mean part ($z^+ = \max(z,0)$) and below-mean part ($z^- = \min(z,0)$), a piecewise-linear specification with a kink at the mean that nests the single-slope linear model. Panel B enters separate indicators for state-months above and below the national monthly mean; the omitted reference group is state-months at the national mean (12% of observations), so coefficients are relative to that group. For VAT the response is concentrated on the above-mean margin in the alignment specification: the Protest-above × GP Aligned interaction is positive and significant in both panels, while the below-mean interaction is not. Allocation transfers show no above-mean and no alignment-contingent response in either panel, consistent with the transparency mechanism; the small negative below-mean allocation coefficient in Panel A is not alignment-contingent. State and month-year fixed effects included in all specifications. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A18: Robustness: Excluding oil-producing states

Sample:	Excluding Oil States		Full Sample
Frequency:	Monthly	Annual	Monthly
	(1)	(2)	(3)
Protest	−0.002	−0.012**	−0.002
	(0.001)	(0.006)	(0.001)
GP Aligned	0.012	0.014	0.013
	(0.008)	(0.008)	(0.009)
Protest × GP Aligned	0.012*	0.028**	0.012*
	(0.006)	(0.013)	(0.006)
Protest × Oil State			−0.018*
			(0.010)
GP Aligned × Oil State			0.035
			(0.023)
Protest × GP Aligned × Oil State			0.020
			(0.014)
Mean of outcome	20.127	22.494	20.120
Observations	5,022	459	6,696
Clusters	27	27	36
State FE	Yes	Yes	Yes
Month-Year FE	Yes		Yes
Year FE		Yes	

Notes: Robust standard errors in parentheses clustered by state. Dependent variable is log real VAT transfers. Protest is the continuous z-score measure from the ACLED data. GP Aligned is an indicator that equals one if the president and governor belong to the same political party. Oil-producing states are defined as the nine states comprising the Niger Delta region under the Niger Delta Development Commission (NDDC) Act (2000): Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo, and Rivers. These states receive derivation funds under Section 162(2) of Nigeria's 1999 Constitution. Columns (1)-(2) exclude oil states entirely. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A19: Wild-cluster bootstrap inference for the main results

Specification	Key coefficient	Bootstrap p-value
		(1)
Table 1: Monthly VAT	Protest × Aligned	0.017
Table 2: Yearly VAT	Protest × Aligned	0.021
Table 3: Occupy (parsimonious)	Protest × Post × Aligned	0.044
Table 3: Occupy (saturated)	Protest × Post × Aligned	0.117
Table 4: 2015 (full)	Protest × Gained × Post	0.011
Table 4: 2015 (excl. Lagos)	Protest × Gained × Post	0.084

Notes: Wild-cluster bootstrap p-values (Cameron, Gelbach, and Miller, 2008) for the key coefficient in each specification, with 9,999 replications clustered by state (36 clusters) and the null imposed. Tables 1–3 use Rademacher weights; the 2015 alignment-switch design (Table 4) uses Webb weights, recommended when the number of treated clusters is small (MacKinnon and Webb, 2018). Point estimates are identical to those in the corresponding main tables, where analytic cluster-robust standard errors are reported. The main interactions in the monthly and yearly specifications (Tables 1–2) and in both quasi-experiments retain their significance under the bootstrap.

Table A20: Robustness: Driscoll-Kraay standard errors

Frequency:	Monthly		Annual	
Outcome:	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)
Protest	−0.005	−0.002*	−0.015*	−0.002
	(0.003)	(0.001)	(0.008)	(0.002)
GP Aligned	0.023***	0.001	0.026**	−0.001
	(0.006)	(0.003)	(0.013)	(0.005)
Protest × GP Aligned	0.016***	0.0001	0.037***	−0.002
	(0.005)	(0.001)	(0.013)	(0.003)
Observations	6,696	6,696	612	612
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes		
Year FE			Yes	Yes

Notes: Driscoll-Kraay standard errors in parentheses, robust to both cross-sectional dependence and serial correlation (Driscoll and Kraay, 1998). Lag bandwidth follows the rule of thumb $\lfloor T^{1/4} \rfloor$: lag = 3 for monthly specifications (columns 1–2) and lag = 2 for annual specifications (columns 3–4). Protest is the continuous z-score measure. GP Aligned is an indicator that equals one if the president and governor belong to the same political party. The key interaction coefficient (Protest × GP Aligned) remains significant at the 1% level for VAT transfers in both monthly and annual specifications, confirming that clustered standard error inference is robust to cross-state dependence. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A21: Spatial diffusion: zone protest spillovers and zone-by-period fixed effects

Outcome:	Protest (z-score)	VAT	VAT	VAT
	(1)	(2)	(3)	(4)
Protest		0.004	−0.005*	−0.004**
		(0.002)	(0.003)	(0.002)
Zone Protest Mean	0.118**	−0.002	0.002	—
	(0.034)	(0.006)	(0.006)	
GP Aligned			0.023**	0.016
			(0.010)	(0.014)
Protest × GP Aligned			0.016***	0.015***
			(0.005)	(0.005)
Zone Protest × GP Aligned			−0.003	—
			(0.010)	
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes
Zone × Month-Year FE	No	No	No	Yes

Notes: Robust standard errors in parentheses clustered by state. Columns (1)–(3) test for spatial protest diffusion directly. Column (1) tests whether zone-level protest intensity predicts own-state protest intensity, confirming within-zone protest correlation consistent with regionally coordinated labor union networks. Columns (2) and (3) test whether zone protest intensity predicts VAT transfers independently of own-state protest intensity. Zone Protest Mean is the leave-one-out mean of protest intensity among states in the same geopolitical zone. In column (2), zone protest intensity has no significant effect on VAT transfers ($p = 0.667$) conditional on own-state protest intensity. In column (3), the zone protest-alignment interaction is also null ($p = 0.785$), while the own-state Protest × GP Aligned interaction remains significant ($p = 0.003$) and quantitatively unchanged relative to the main specification in Table 1. Column (4) instead absorbs regional confounders nonparametrically, adding zone × month-year fixed effects so that identification comes only from within-zone, within-month variation across states; this absorbs any shock common to a geopolitical zone in a given month, including regional conflict, commodity, and electoral cycles. The Protest × GP Aligned interaction is essentially unchanged (0.015 versus 0.016), indicating that the result is not driven by regionally clustered shocks or protest waves. Together, columns (1)–(4) confirm that spatial protest diffusion does not drive the main findings. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level

Table A22: OLS estimates: All conflict events and intergovernmental transfers (VAT, Allocation)

	Panel A: All Events and State Revenue Outcomes			
	All Events (Continuous)		All Events (Indicator)	
Outcome:	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)
All Events	0.002	0.001*	0.001	0.0002
	(0.005)	(0.001)	(0.005)	(0.001)
Mean of outcome	20.120	21.726	20.120	21.726
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
	Panel B: All Events and State Revenue Outcomes, by GP Alignment			
	All Events (Continuous)		All Events (Indicator)	
Outcome:	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)
All Events	−0.012	0.003*	−0.020	0.003
	(0.013)	(0.001)	(0.016)	(0.003)
Governor-President (GP) Aligned	0.024**	0.001	0.015**	0.002
	(0.010)	(0.004)	(0.006)	(0.004)
All Events × GP Aligned	0.021	−0.002	0.031	−0.004
	(0.015)	(0.002)	(0.021)	(0.005)
Mean of outcome	20.120	21.916	20.120	21.916
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are intergovernmental transfers: log real VAT and state allocations at the state and month-year level as described in text. All Events is the continuous z-score measure of all conflict events from the ACLED data in columns (1) to (2) and the indicator that equals one if the total number of events is greater than the national mean in that month and year in columns (3) to (4) as described in text and based on monthly data. Governor-President (GP) Aligned is an indicator that equals one if the president and governor of the state come from the same political party. State and month-year fixed effects included in all regressions. Observations are monthly outcomes. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A23: OLS estimates: Protest and intergovernmental transfers (VAT, Allocation) and internally generated revenue (IGR), military period

	Protest and State Revenue Outcomes, Military Period							
	Protest (All data years)				Protest (1994-1996)			
Outcome:	VAT	Allocation	Total Transfers	IGR	VAT	Allocation	Total Transfers	IGR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Protest	0.026*	0.015	0.046***	0.014	0.026*	0.045***	0.046***	0.012
	(0.014)	(0.030)	(0.016)	(0.042)	(0.014)	(0.014)	(0.016)	(0.076)
Mean of outcome	21.551	23.773	23.361	22.050	21.551	23.177	23.361	21.738
Observations	96	224	96	251	96	96	96	96
Clusters	36	36	36	34	36	36	36	34
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are intergovernmental transfers: log real VAT and state allocations, log real total transfers (VAT+ allocation transfers), and log real internally generated revenue (IGR) at the state-year level as described in text. VAT data is available from 1994-1996. Allocation data is available from 1990-1996, and IGR data is available from 1988-1996. Protest is the continuous z-score measure of protests from the GDELT data as described in text. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A24: OLS estimates: Protest effects on transfers (military period)

	Protest (Indicator) and State Revenue Outcomes, Military Period							
	Protest (All data years)				Protest (1994-1996)			
Outcome:	VAT	Allocation	Total Transfers	IGR	VAT	Allocation	Total Transfers	IGR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Protest	0.051	0.042	0.145***	0.016	0.051	0.138***	0.145***	−0.054
	(0.053)	(0.114)	(0.041)	(0.153)	(0.053)	(0.035)	(0.041)	(0.271)
Mean of outcome	21.551	23.773	23.361	22.050	21.551	23.177	23.361	21.738
Observations	96	224	96	251	96	96	96	96
Clusters	36	36	36	34	36	36	36	34
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are intergovernmental transfers: log real VAT and state allocations, log real total transfers (VAT+ allocation transfers), and log real internally generated revenue (IGR) at the state-year level as described in text. VAT data is available from 1994-1996. Allocation data is available from 1990-1996, and IGR data is available from 1988-1996. Protest is the indicator that equals one if the total number of protests is greater than the national mean in that year from the GDELT data as described in text. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A25: OLS estimates: Protest and intergovernmental transfers (VAT, Allocation) by close election vote margin

Outcome:	**Protest (Continuous)**		**Protest (Indicator)**		**Vote Margin**	
	VAT	Allocation	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)	(5)	(6)
Protest	0.001	−0.001	−0.050*	−0.010		
	(0.006)	(0.004)	(0.029)	(0.011)		
Vote Margin (Close Election, CE)	−0.020	−0.003	−0.033	−0.004	−0.019	−0.005
	(0.031)	(0.014)	(0.038)	(0.014)	(0.030)	(0.015)
Protest × CE	0.007	−0.007	0.096*	−0.005		
	(0.013)	(0.007)	(0.053)	(0.023)		
Mean of outcome	20.120	21.916	20.120	21.916	20.120	21.916
Observations	1,039	1,039	1,039	1,039	1,039	1,039
Clusters	36	36	36	36	36	36
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are intergovernmental transfers: log real VAT and state allocations at the state and month-year level as described in text. Protest is the continuous z-score measure of protests from the ACLED data in columns (1) to (2) and the indicator that equals one if the total number of protests is greater than the national mean in that month and year in columns (3) to (4) as described in text and based on monthly data. Vote Margin is 1 minus the vote margin, which is the difference between the share of votes by the winner of the gubernatorial elections and the 2nd place party when the incumbent president's party (PDP) is running in elections, and generally placed within the top 2 candidates in the 2007, 2011 and 2015 elections. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A26: OLS estimates: Battles and policing, share of other major actors in events

Outcome:	Police Share		Military Share		Party Share		Union Share	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Battles	0.023**	0.038***	0.012	0.004	0.008	0.004	−0.004	−0.006
	(0.010)	(0.010)	(0.011)	(0.006)	(0.010)	(0.005)	(0.003)	(0.004)
Governor-President (GP) Aligned		−0.033		−0.003		−0.021		0.021
		(0.027)		(0.013)		(0.018)		(0.013)
Battles × GP Aligned		−0.021		0.012		0.008		0.001
		(0.015)		(0.012)		(0.016)		(0.005)
Mean of outcome	0.151	0.151	0.026	0.026	0.074	0.074	0.032	0.032
Observations	352	352	352	352	352	352	352	352
Clusters	36	36	36	36	36	36	36	36
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are shares of police, military, political party or labor union actors in all battles events over 2000 to 2016 years of available data as described in text. Battles is the continuous z-score measure of battles from the ACLED data as described in text. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.

Table A27: OLS estimates: Protests and intergovernmental transfers (VAT, Allocation), by shared governor-president ethnicity

Outcome:	Protest (Continuous)		Protest (Indicator)	
	VAT	Allocation	VAT	Allocation
	(1)	(2)	(3)	(4)
Protest	0.009	−0.002	0.011	−0.006**
	(0.006)	(0.001)	(0.011)	(0.003)
Governor-President (GP) Same Ethnicity	−0.010	0.018***	−0.0001	0.017***
	(0.023)	(0.004)	(0.022)	(0.005)
Protest × GP Same Ethnicity	−0.035**	0.003	−0.076*	0.008
	(0.014)	(0.002)	(0.040)	(0.006)
Mean of outcome	20.120	21.916	20.120	21.916
Observations	6,696	6,696	6,696	6,696
Clusters	36	36	36	36
State FE	Yes	Yes	Yes	Yes
Month-Year FE	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses clustered by state. Dependent variables are intergovernmental transfers: log real VAT and state allocations at the state and month-year level as described in text. Protest is the continuous z-score measure of protests from the ACLED data in columns (1) to (2) and the indicator that equals one if the total number of protests is greater than the national mean in that month and year in columns (3) to (4) as described in text and based on monthly data. Governor-President (GP) Same Ethnic is an indicator that equals one if the president and governor of the state share the same ethnicity. State and month-year fixed effects included in all regressions. Observations are monthly outcomes. ***Significant at the 1 percent level, **Significant at the 5 percent level, *Significant at the 10 percent level.