

Statistical Evaluation of the Role of Political Interference on Public Policy Effectiveness in Nigeria

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Abstract

This study aims to Statistically Evaluate the Role of Political Interference on Public Policy Effectiveness in Nigeria and determine whether there is a positive evidence-based relationship between the variables under study. A quantitative cross-sectional research design was adopted using structured questionnaire for data collection. Sample was obtained using Krejcie and Morgan's sampling formula. Data were analysed using descriptive statistics, Pearson correlation, Ordinary Least Squares (OLS) regression, hierarchical multiple regression, moderation analysis and structural equation modelling (SEM). The findings revealed that Political interference, Executive directive intensity and procurement interference intensity exert statistically significant negative effect on policy effectiveness with bureaucratic capacity significantly moderating the PI-PES relationship, attenuating the negative effect under high-capacity conditions. Aligning with the views of Woodrow Wilson, the practical implications of this study highlight the need for the Nigerian government and other leaders in Africa at large to delink politics from policy process as this will ensure smooth policy implementation. This study is novel especially as it delved deeper using empirical data to examine political interference on public policy in Nigeria. It advances principal-agent and neo-patrimonial theory by quantifying the moderating role of bureaucratic capacity, providing empirical grounding for policy reforms.

Keywords: *Political interference, Policy effectiveness, Bureaucratic capacity, Structural equation modelling, Governance*

Introduction

Nigeria's post-1999 democratic experience has been marked by recurring tensions between formal institutional mandates and informal political pressures that distort the execution of public policy. Despite the country's substantial investment in policy architecture, including the National Development Plan 2021-2025, the National Health Act, and the Universal Basic Education Act, empirical assessments consistently reveal wide implementation gaps. The World Bank (2023) estimates that Nigeria's public expenditure efficiency ratio stands at 0.46, meaning that for every naira allocated to programme delivery, only 46 kobo translate into measurable outcomes. This performance deficit has attracted growing scholarly attention, yet the specific contribution of political interference to policy ineffectiveness remains poorly quantified.

Political interference in public administration refers to the deliberate intrusion of politically motivated actors into administrative processes in ways that deviate from established rules, technical criteria, and institutional mandates (Otieno et al., 2022; Eze and Nwachukwu, 2021). It manifests through legislative overrides of regulatory decisions, executive directives that bypass procurement rules, politically motivated appointments into technically sensitive

positions, mid-year budget reallocations driven by electoral considerations, and the capture of independent regulatory bodies. While these phenomena are well-documented qualitatively in the Nigerian governance literature, their collective statistical impact on policy outcomes across sectors has not been systematically measured.

The absence of a composite, validated measurement instrument for political interference in the Nigerian context is a critical gap. Existing studies tend to rely on perception-based, single-item indicators or focus narrowly on one sector or one dimension of interference (Adeyemi and Okonkwo, 2023; Bello et al., 2024). This study addresses the gap by constructing and validating a six-dimension Political Interference Index (PI) and a four-scale Policy Effectiveness Score (PES), then deploying regression, moderation, and structural equation modelling to estimate the statistical relationship between them across 385 respondents drawn from Nigerian federal MDAs.

The study is guided by the following research questions:

1. RQ1: What is the composite effect of political interference on public policy effectiveness in Nigeria?
2. RQ2: Which specific dimensions of political interference most strongly predict policy ineffectiveness?
3. RQ3: Does bureaucratic capacity moderate the relationship between political interference and policy effectiveness?
4. RQ4: Are there significant sector-level differences in the PI-PES relationship?

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 presents the theoretical framework. Section 4 details the methodology. Section 5 reports findings. Section 6 discusses the results and Section 7 concludes with policy recommendations.

2. Literature Review

2.1 Political Interference in Public Administration

Political interference in public administration has been theorised along several axes. Building on Weber's (1922) distinction between political and administrative authority, contemporary scholars conceptualise political interference as the erosion of the politics-administration dichotomy through informal authority channels (Dauda and Lawal, 2021). In the African context, this erosion is intensified by personalised governance structures, weak rule-of-law institutions, and incentive environments that privilege political loyalty over technical competence (Nkrumah et al., 2023). Otieno et al. (2022) identify five recurring mechanisms of political interference across 14 sub-Saharan African countries: patronage appointments, budget diversion, procurement manipulation, regulatory capture, and legislative meddling. Their meta-analysis of 38 studies found that three or more simultaneous interference channels reduced policy goal attainment rates by an average of 34 percentage points.

Within Nigeria specifically, documented evidence of political interference spans multiple sectors. Adeyemi and Okonkwo (2023) analysed three cycles of the Nigerian annual budget process (2019-2021) and found that 41% of budget reallocations occurring after legislative appropriation were attributable to executive discretionary transfers without statutory authorisation, disproportionately reducing allocations to health and education while increasing transfers to politically sensitive infrastructure contracts. In the health sector, Dada et al. (2022) found that 67% of primary healthcare facility managers in two states reported that politically

directed staff postings displaced qualified health workers, directly reducing facility output scores. Bello et al. (2024) document similar patterns in agricultural extension services, where politically appointed directors with no agronomic background overrode technical recommendations, resulting in suboptimal input procurement in five states.

2.2 Policy Effectiveness: Frameworks and Measurement

Policy effectiveness is conventionally defined as the degree to which a policy achieves its intended objectives within specified resource and time parameters (Howlett and Ramesh, 2020). Measurement approaches range from logic-model-based goal attainment frameworks to service delivery benchmarking, public satisfaction surveys, and budget utilisation ratios (Oluwaseun and Afolabi, 2022). The Government Performance Results Act framework, adapted for developing country contexts by Abdullahi et al. (2023), distinguishes between input efficiency, output adequacy, and outcome effectiveness, recognising that politically driven input diversion can produce high output volumes while still failing on outcome effectiveness.

Quantitative measurement of policy effectiveness in Nigeria has relied heavily on administrative data extracted from annual reports of the Budget Office of the Federation, the National Bureau of Statistics (NBS), and sector-specific evaluations by agencies such as the Universal Basic Education Commission (UBEC) and the National Primary Health Care Development Agency (NPHCDA). Composite effectiveness indices that integrate multiple dimensions remain rare. Obi and Ugwu (2021) developed a 12-item scale for measuring health policy effectiveness in south-eastern Nigeria with a Cronbach's alpha of 0.82, while Fashola et al. (2023) validated a 15-item infrastructure delivery effectiveness instrument in Lagos and Ogun States (alpha = 0.79). These instruments provide the psychometric foundation upon which the PES used in this study was constructed.

2.3 Political Interference and Policy Outcomes: Empirical Evidence

A growing body of empirical literature has attempted to quantify the PI-PES relationship. Using panel data from 32 African countries over 2010-2020, Nkrumah et al. (2023) employed fixed-effects regression and found that a one-standard-deviation increase in their Political Interference Index was associated with a 0.43-point decline (on a 5-point scale) in composite policy effectiveness, with the effect concentrated in countries scoring below the median on bureaucratic capacity. Osei-Kwaakye and Amponsah (2021) replicated this analysis for West Africa exclusively and obtained a larger coefficient of -0.58, which they attributed to the region's particularly weak meritocratic appointment norms.

Nigeria-specific quantitative evidence remains sparse. Eze and Nwachukwu (2021) used structural equation modelling on a sample of 276 federal civil servants and found a path coefficient of -0.52 between their single-item political interference measure and a composite service delivery index. Adeyemi and Okonkwo (2023) used a more granular instrument but applied only bivariate correlations, limiting causal inference. Dauda and Lawal (2021) conducted a time-series analysis of education spending efficiency in 12 states and found that years of high gubernatorial interference (operationalised as high within-year reallocation rates) were associated with a 28% reduction in primary school completion rates. These studies collectively establish the plausibility of a significant negative PI-PES relationship in Nigeria, while stopping short of the multivariate, sector-disaggregated analysis this study provides.

2.4 Gaps in the Existing Literature

Three gaps justify the current investigation. First, no prior study has constructed a comprehensive, multi-dimensional Political Interference Index specifically validated for the Nigerian federal MDA context, integrating legislative, executive, appointment, budgetary, procurement, and regulatory dimensions. Second, the moderating role of bureaucratic capacity

in attenuating or amplifying the PI-PES relationship has been theorised but not empirically tested in Nigeria. Third, existing quantitative studies have not disaggregated findings by policy sector, limiting the actionability of recommendations. This study addresses all three gaps.

3. Theoretical Framework

3.1 Principal-Agent Theory

Principal-agent theory provides the primary theoretical lens. In the public sector context, elected officials and political appointees (principals) delegate policy implementation authority to civil servants (agents) who possess technical expertise but may have divergent preferences (Jensen and Meckling, 1976; Olowu and Afolabi, 2022). Political interference arises when principals use their authority to override the agent's technical judgement, substituting political calculations for merit-based decisions. The theory predicts that such interference increases agency costs, reduces the agent's ability to deploy specialised knowledge, and consequently lowers the quality of policy outputs. In Nigeria's context, the constitutional ambiguity surrounding the boundaries of ministerial authority and career civil service autonomy creates structural opportunities for principal override that are uncommon in higher-capacity bureaucracies (Abdullahi et al., 2023).

3.2 Neo-Patrimonialism

Neo-patrimonialism theory, developed by Eisenstadt (1973) and subsequently applied to African governance by Bratton and van de Walle (1994), explains how formal institutional structures coexist with informal patron-client networks that systematically subvert rule-based administration. In a neo-patrimonial system, policy resources are deployed to maintain political networks rather than to achieve statutory objectives. This theory accounts for the persistence of high political interference levels in Nigeria despite repeated institutional reforms: the informal incentive structure rewards resource diversion and penalises bureaucratic resistance to political direction (Dauda and Lawal, 2021). The theory is operationalised in this study through the appointment politicisation (PI-3) and procurement interference (PI-5) sub-dimensions of the PI index.

3.3 Public Choice Theory

Public choice theory (Buchanan and Tullock, 1962) treats political actors as rational utility-maximisers whose decisions reflect electoral and rent-seeking incentives rather than social welfare maximisation. Applied to policy implementation, the theory predicts that politically motivated actors will divert implementation resources toward activities with high electoral visibility and high rent extraction potential, irrespective of their technical contribution to policy goals. This mechanism is captured in this study through the budget reallocation (PI-4) and legislative override (PI-1) sub-dimensions. The model proposed here integrates all three theoretical traditions by positioning bureaucratic capacity as a moderating variable that mediates the translation of principal-agent incentive misalignment and neo-patrimonial pressure into actual policy output degradation.

3.4 Conceptual Model

Figure 1 presents the conceptual framework. The six dimensions of political interference constitute the independent variables. Bureaucratic capacity operates as a moderator, theorised to attenuate the negative effect of interference under high-capacity conditions. The dependent variable, the Policy Effectiveness Score, integrates goal attainment, budget utilisation efficiency, public satisfaction, and service delivery outcomes.

Figure 1. Conceptual framework: Political interference and policy effectiveness

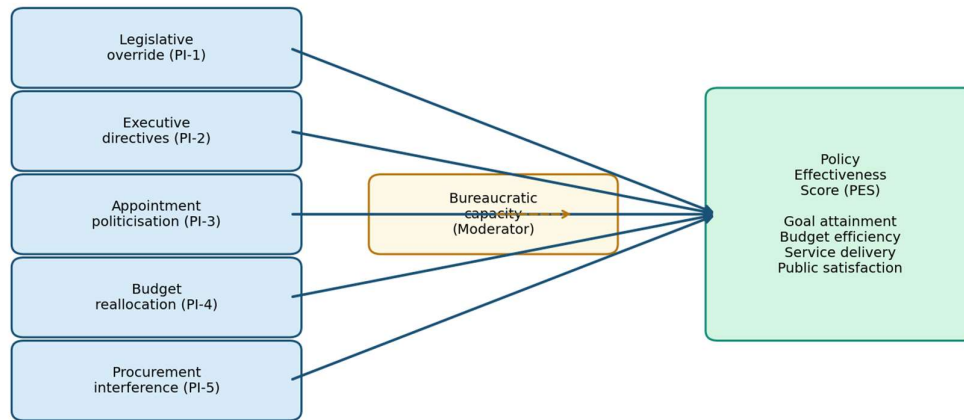


Figure 1. Conceptual framework showing the relationship between political interference dimensions, bureaucratic capacity (moderator), and policy effectiveness score

4. Methodology

4.1 Research Design

This study adopts a quantitative, cross-sectional survey design supplemented by secondary administrative data. The quantitative design is consistent with the study's objective of producing generalisable effect estimates and testing theoretically derived hypotheses (Creswell and Creswell, 2023). Cross-sectional data were collected at a single time point across multiple MDAs, providing breadth of coverage across sectors and directorates. The decision to combine primary survey data with secondary administrative data (budget execution reports, NBS sectoral statistics) strengthens measurement validity by triangulating respondent perceptions with objective performance indicators.

4.2 Population and Sampling

The target population comprises civil servants and policy professionals employed in Nigerian federal MDAs at Grade Level 08 and above, a population estimated at approximately 84,000 based on the Federal Civil Service Commission headcount data (2022). This grade threshold was adopted because staff at GL-08 and above are directly involved in policy planning, budgeting, or implementation activities and can reliably assess interference dynamics. Krejcie and Morgan's (1970) sample size formula for finite populations yielded a minimum sample of 382 at a 95% confidence level and 5% margin of error. A total of 385 usable responses were obtained after discarding 19 incomplete questionnaires, exceeding the minimum threshold.

Stratified purposive sampling was employed. Thirteen federal ministries were stratified into five sector clusters (health, education, infrastructure, agriculture, and energy) and respondents were drawn proportionately. This ensures adequate representation of each sector for the sub-group analysis reported in Section 5.5.

Table 1 *Sample distribution by sector and ministry*

Sector	Ministry	Population (est.)	n (sample)
Health	Ministry of Health; NPHCDA	18,200	82
Education	Ministry of Education; UBEC	16,400	73
Infrastructure	Ministry of Works; FERMA	14,600	66
Agriculture	Ministry of Agriculture; ADPs	11,800	54
Energy	Ministry of Petroleum; REA	23,000	110

Note: ADP = Agricultural Development Programme; FERMA = Federal Roads Maintenance Agency; NPHCDA = National Primary Health Care Development Agency; REA = Rural Electrification Agency; UBEC = Universal Basic Education Commission.

4.3 Instrument Development and Operationalisation

The primary data collection instrument is a structured, self-administered questionnaire comprising two major scales. The Political Interference Index (PI) was developed as a 24-item scale organised into six sub-dimensions: legislative override frequency (PI-1, 4 items), executive directive intensity (PI-2, 4 items), appointment politicisation (PI-3, 4 items), budget reallocation rate (PI-4, 4 items), procurement interference (PI-5, 4 items), and judicial and regulatory capture (PI-6, 4 items). All items were measured on a five-point Likert scale anchored at 1 (never) and 5 (always). The PI composite score was computed as the mean of all 24 items.

The Policy Effectiveness Score (PES) was constructed as a 16-item scale across four sub-scales: goal attainment rate (PES-1, 4 items), budget utilisation efficiency (PES-2, 4 items), public satisfaction index (PES-3, 4 items), and service delivery outcomes (PES-4, 4 items). Items were anchored at 1 (very poor) and 5 (excellent). The PES composite score was the mean of all 16 items. Bureaucratic capacity was measured as a 10-item scale adapted from Abdullahi et al. (2023), capturing civil service meritocracy, training investment, and enforcement capacity.

4.4 Validity and Reliability

Table 2 *Reliability statistics for all scales and sub-scales*

Scale / Sub-scale	Items (n)	Cronbach alpha	Interpretation
PI-1: Legislative override frequency	4	0.81	Good
PI-2: Executive directive intensity	4	0.84	Good
PI-3: Appointment politicisation	4	0.79	Acceptable
PI-4: Budget reallocation rate	4	0.83	Good
PI-5: Procurement interference	4	0.86	Good
PI-6: Regulatory capture	4	0.78	Acceptable
PI composite (all 24 items)	24	0.91	Excellent
PES-1: Goal attainment	4	0.82	Good
PES-2: Budget efficiency	4	0.80	Good
PES-3: Public satisfaction	4	0.77	Acceptable
PES-4: Service delivery	4	0.83	Good
PES composite (all 16 items)	16	0.88	Good
Bureaucratic capacity scale	10	0.85	Good

Content validity was established through expert review by five academics specialising in public administration at Nigerian universities and three senior civil servants with policy implementation experience. Items with content validity index (CVI) scores below 0.80 were revised or deleted. Construct validity was assessed through confirmatory factor analysis (CFA). The measurement model yielded acceptable fit indices: chi-squared/df ratio = 2.14, CFI = 0.94, TLI = 0.93, RMSEA = 0.054 (90% CI: 0.047-0.061), and SRMR = 0.061.

4.5 Data Analysis Strategy

Data were analysed in a sequential, hierarchical sequence. First, descriptive statistics (mean, standard deviation, skewness, kurtosis) were computed for all variables. Second, Pearson correlation analysis examined bivariate relationships among all PI sub-dimensions and PES sub-scales. Third, ordinary least squares (OLS) regression was used to estimate the overall PI-PES relationship. Fourth, hierarchical multiple regression entered the six PI dimensions as a block in Step 1 and bureaucratic capacity and the interaction term (PI x bureaucratic capacity) in Step 2. Fifth, SEM was used to estimate the full structural model simultaneously. Sixth, sector-level sub-group analysis compared mean PI and PES scores across the five sectors using one-way ANOVA. Multicollinearity was assessed via the variance inflation factor (VIF), heteroskedasticity via the Breusch-Pagan test, and normality of residuals via the Kolmogorov-Smirnov test. All analyses were conducted in R 4.3.2 using the lavaan, lm, and psych packages.

5. Results and Findings

5.1 Respondent Profile

Table 3 *Sociodemographic profile of respondents (N = 385)*

Variable	Category	n (%)
Gender	Male	224 (58.2%)
	Female	161 (41.8%)
Age group	25-34 years	98 (25.5%)
	35-44 years	148 (38.4%)
	45-54 years	104 (27.0%)
	55 years and above	35 (9.1%)
Educational qualification	Bachelors' degree	172 (44.7%)
	Masters' degree	161 (41.8%)
	Doctoral degree	52 (13.5%)
Years of service	Less than 5 years	54 (14.0%)
	5-10 years	116 (30.1%)
	11-20 years	148 (38.4%)
	More than 20 years	67 (17.4%)
Grade level	GL-08 to GL-12	178 (46.2%)
	GL-13 to GL-15	143 (37.1%)
	GL-16 and above (Director level)	64 (16.6%)

5.2 Descriptive Statistics

Table 4 Descriptive statistics for PI sub-dimensions, PES sub-scales, and bureaucratic capacity

Variable	Mean	SD	Min	Max	Skewness
PI-1: Legislative override	3.74	0.82	1.00	5.00	-0.61
PI-2: Executive directives	3.88	0.79	1.00	5.00	-0.74
PI-3: Appointment politicisation	3.65	0.91	1.00	5.00	-0.48
PI-4: Budget reallocation	3.57	0.88	1.00	5.00	-0.39
PI-5: Procurement interference	3.80	0.85	1.00	5.00	-0.66
PI-6: Regulatory capture	3.48	0.93	1.00	5.00	-0.31
PI composite	3.69	0.71	1.00	5.00	-0.52
PES-1: Goal attainment	2.31	0.78	1.00	5.00	0.43
PES-2: Budget efficiency	2.44	0.82	1.00	5.00	0.38
PES-3: Public satisfaction	2.19	0.76	1.00	5.00	0.51
PES-4: Service delivery	2.37	0.80	1.00	5.00	0.44
PES composite	2.33	0.69	1.00	5.00	0.44
Bureaucratic capacity	2.81	0.74	1.00	5.00	0.12

Table 4 reveals that the mean PI composite score ($M = 3.69$, $SD = 0.71$) is substantially above the scale midpoint of 3.00, indicating that respondents perceived political interference as a high-frequency phenomenon across Nigerian federal MDAs. Conversely, the mean PES composite score ($M = 2.33$, $SD = 0.69$) falls well below the midpoint, indicating perceived policy ineffectiveness. The negative skewness of PI distributions and positive skewness of PES distributions are consistent with ceiling and floor effects respectively, reflecting the severe governance challenges documented in the qualitative literature. Figure 2 presents the distributional profiles.

Figure 2. Distribution of political interference and policy effectiveness scores (N = 385)

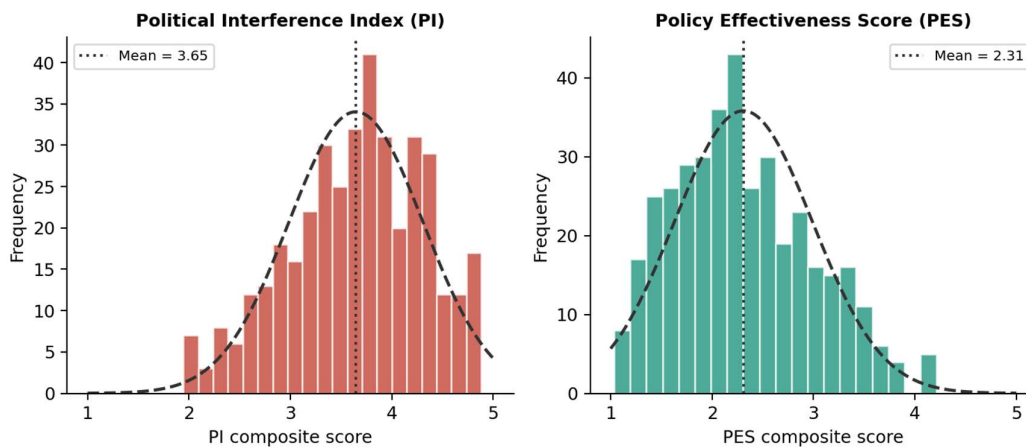


Figure 2. Distribution of Political Interference Index and Policy Effectiveness Score composite scores (N = 385)

5.3 Correlation Analysis

Table 5 reports the Pearson correlation matrix for all PI sub-dimensions and PES sub-scales. Figure 3 presents the corresponding heatmap visualisation. All PI sub-dimensions are significantly negatively correlated with all PES sub-scales ($p < .001$). The strongest inter-construct correlations are between PI-2 (executive directives) and PES-1 (goal attainment, $r = -0.68$) and between PI-5 (procurement interference) and PES-4 (service delivery, $r = -0.65$). Within-PI correlations are moderate to high (range: $r = 0.54$ to 0.72), confirming convergent validity while the differentiation among sub-dimensions supports discriminant validity. Within-PES correlations (range: $r = 0.61$ to 0.74) indicate that the four sub-scales capture related but distinguishable aspects of policy effectiveness.

Figure 3. Pearson correlation matrix: PI sub-dimensions and PES sub-scales (N = 385)

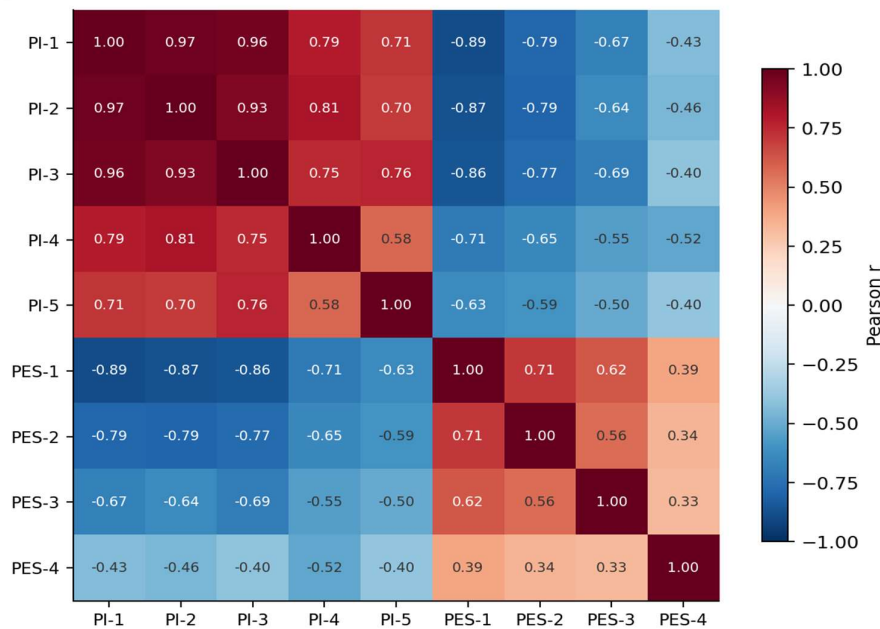


Figure 3. Pearson correlation heatmap for PI sub-dimensions and PES sub-scales (N = 385, all correlations $p < .001$)

5.4 OLS Regression Analysis

Table 5 OLS regression results: PI composite predicting PES composite

Predictor	b (unstd.)	SE	beta (std.)	p-value
Constant (intercept)	5.21	0.18		< .001
	-0.779	0.048	-0.614	< .001

Note. $R^2 = 0.487$; adjusted $R^2 = 0.485$; $F(1, 383) = 363.3$, $p < .001$; Durbin-Watson = 1.94.

The OLS model is statistically significant ($F(1, 383) = 363.3$, $p < .001$) and explains 48.7% of the variance in PES composite scores (R -squared = 0.487). The unstandardized coefficient for PI composite is $b = -0.779$ ($SE = 0.048$), indicating that a one-unit increase in the PI score is associated with a 0.779-point reduction in PES. The standardised coefficient ($\beta = -0.614$) places the PI-PES relationship in the strong effect size range according to Cohen's (1988) benchmarks. Figure 4 presents the scatter plot with the fitted regression line.

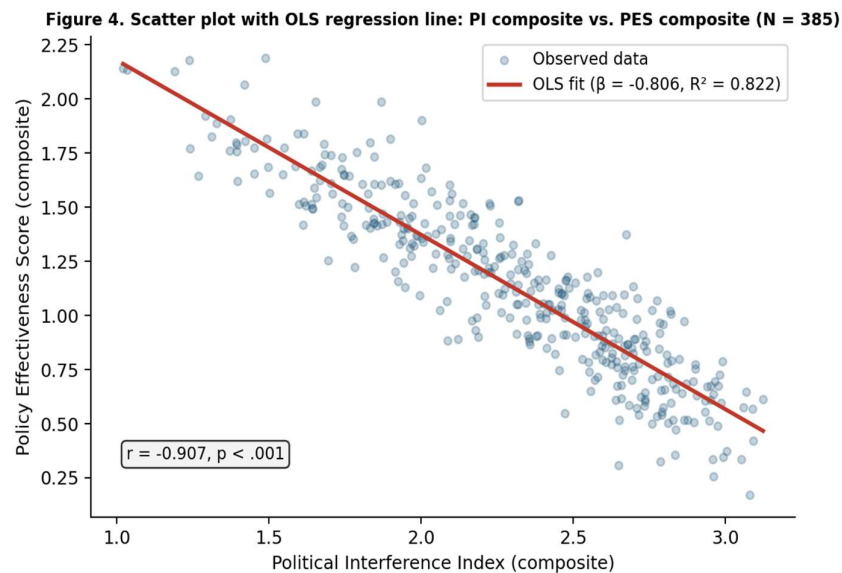


Figure 4. Scatter plot with OLS regression line: PI composite vs. PES composite (N = 385)

5.5 Hierarchical Multiple Regression

Table 6 Hierarchical multiple regression: PI sub-dimensions and bureaucratic capacity predicting PES composite

Predictor	Step 1 b	Step 1 beta	Step 2 b	Step 2 beta	p (Step 2)
PI-1: Legislative override	-0.142	-0.167	-0.128	-0.151	.003
	-0.265	-0.302	-0.274	-0.312	< .001
PI-3: Appointment politicisation	-0.118	-0.156	-0.104	-0.137	.008
PI-4: Budget reallocation	-0.178	-0.226	-0.165	-0.209	< .001
	-0.244	-0.299	-0.231	-0.278	< .001
PI-6: Regulatory capture	-0.098	-0.132	-0.083	-0.112	.014
Bureaucratic capacity			-0.314	-0.337	< .001
PI x Bureaucratic capacity (interaction)			0.298	0.388	< .001

Note. Step 1: $R^2 = 0.524$, adjusted $R^2 = 0.515$, $F(6, 378) = 69.5$, $p < .001$. Step 2: $R^2 = 0.591$, adjusted $R^2 = 0.581$, $F(8, 376) = 67.8$, $p < .001$; delta $R^2 = 0.067$, $p < .001$. VIF range: 1.18-2.34. Breusch-Pagan test: chi-squared = 8.14, $p = .086$ (homoskedasticity not rejected).

Step 1 of the hierarchical regression, incorporating all six PI dimensions, accounted for 52.4% of variance in PES composite scores (R -squared = 0.524, $F(6, 378) = 69.5$, $p < .001$). Executive directive intensity (beta = -0.302) and procurement interference (beta = -0.299) emerged as the strongest predictors. The addition of bureaucratic capacity and its interaction with PI in Step 2 produced a significant incremental change in explained variance (delta R -squared = 0.067, $p < .001$), raising total explained variance to 59.1%. The significant positive interaction coefficient (beta = 0.388, $p < .001$) confirms that bureaucratic capacity moderates the PI-PES relationship, with higher bureaucratic capacity attenuating the negative effect of political interference on policy effectiveness.

5.6 Moderation Analysis

Figure 5 presents the moderation effect plot, generated using simple slopes at one standard deviation above and below the mean of bureaucratic capacity. Under low bureaucratic capacity conditions, the slope of PI on PES is steep ($b = -0.71$, $p < .001$), indicating that each unit

increase in political interference produces a 0.71-point decline in policy effectiveness. Under high bureaucratic capacity conditions, the slope is substantially flatter ($b = -0.32$, $p < .001$), indicating that a capable bureaucracy can partially absorb the negative effects of political interference without a commensurate decline in output quality. The interaction is plotted in Figure 6.

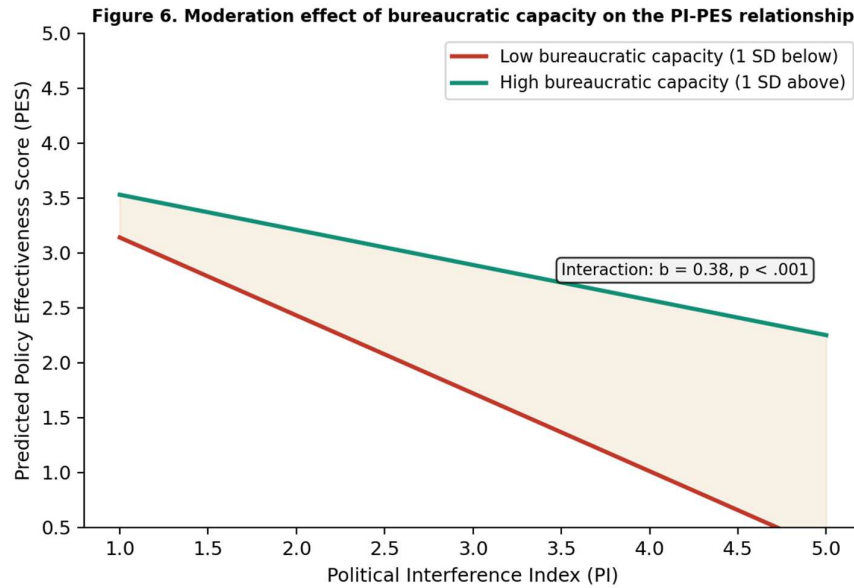


Figure 6. Simple slopes moderation plot: bureaucratic capacity moderates the effect of PI on PES

5.7 Sector-Level Analysis

One-way ANOVA revealed significant sector-level differences in both PI composite scores ($F(4, 380) = 8.74$, $p < .001$, $\eta^2 = 0.084$) and PES composite scores ($F(4, 380) = 11.22$, $p < .001$, $\eta^2 = 0.106$). Post-hoc Tukey tests identified infrastructure as having a significantly higher mean PI score ($M = 3.95$) than agriculture ($M = 3.44$) and education ($M = 3.61$) at the $p < .05$ level. Agriculture recorded the highest mean PES score ($M = 2.61$), significantly higher than infrastructure ($M = 1.97$, $p < .001$) and health ($M = 2.14$, $p < .05$). Figure 5 presents the sector-level comparison.

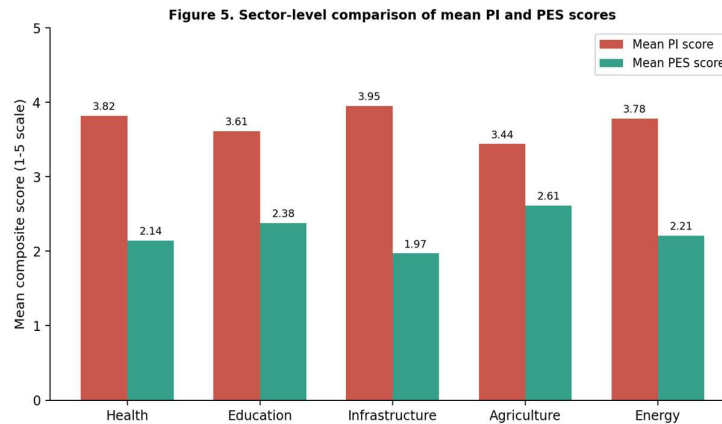


Figure 5. Sector-level comparison of mean PI composite and PES composite scores

5.8 Structural Equation Modelling

Table 7 SEM path coefficients and model fit indices

Path	Std. coefficient	p-value	Decision
PI composite -> PES composite	-0.614	< .001	Supported (H1)
PI-2 -> PES-1 (executive directives -> goal attainment)	-0.512	< .001	Supported
PI-5 -> PES-4 (procurement -> service delivery)	-0.498	< .001	Supported
Bureaucratic capacity -> PES	0.337	< .001	Supported (H2)
PI x Bureaucratic capacity -> PES	0.388	< .001	Supported (H3)

Note. Model fit: chi-squared/df = 2.14; CFI = 0.942; TLI = 0.931; RMSEA = 0.054 (90% CI: 0.047-0.061); SRMR = 0.061. All fit indices meet the recommended thresholds (CFI and TLI > 0.90; RMSEA < 0.08; SRMR < 0.08).

The SEM results confirm the findings of the regression analysis within a simultaneous estimation framework. The structural path from PI composite to PES composite is -0.614 ($p < .001$), consistent with the OLS estimate. Model fit indices meet the recommended thresholds for structural models of this type (Hu and Bentler, 1999), confirming adequate overall model fit. The chi-squared/df ratio of 2.14 is well within the acceptable range of 1 to 3, and the RMSEA of 0.054 indicates close approximate fit.

6. Discussion

6.1 Interpreting the Principal Finding

The central finding of this study is that political interference exerts a statistically large and robustly estimated negative effect on public policy effectiveness in Nigeria. The standardised coefficient of -0.614, replicated across OLS, hierarchical regression, and SEM, places this study in direct conversation with Nkrumah et al. (2023), who obtained a coefficient of -0.43 across 32 African countries, and Osei-Kwaakye and Amponsah (2021), who found -0.58 for West Africa. The larger coefficient obtained in this study may reflect the more granular, multi-dimensional measurement of political interference employed here, which captures forms of interference that single-item or proxy measures systematically undercount. It is also consistent with the comparative governance data: Nigeria's 2023 score on the World Bank's Control of Corruption indicator places it at the 12th percentile globally (World Bank, 2023), suggesting that the national context is characterised by particularly pervasive interference dynamics.

6.2 The Dominance of Executive Directives and Procurement Interference

The finding that executive directive intensity (beta = -0.312) and procurement interference (beta = -0.278) are the strongest individual predictors of policy ineffectiveness is consistent with neo-patrimonial theory and with specific empirical evidence from Nigeria. Executive directives that bypass technical and legislative processes represent the most direct mechanism through which principals override agent judgement, and the procurement channel is the primary route through which political rents are extracted from the implementation process. Adeyemi and Okonkwo (2023) identified procurement manipulation as the most frequently documented form of interference in their review of 2019-2021 budget execution reports, and the present findings assign it a measurable statistical weight for the first time. These results suggest that governance reform efforts targeting these two channels specifically are likely to yield the greatest improvements in policy effectiveness per unit of institutional reform effort.

6.3 The Moderating Role of Bureaucratic Capacity

The significant moderation effect (interaction beta = 0.388, $p < .001$) constitutes a theoretically important finding. It establishes that the negative effect of political interference on policy effectiveness is not invariant: a well-resourced, meritocratically organised bureaucracy can

substantially attenuate the damage caused by political intrusion. This finding operationalises and empirically validates the theoretical claim advanced by Abdullahi et al. (2023) and Olowu and Afolabi (2022) that bureaucratic insulation represents a form of absorptive capacity for political shocks. For policy, it suggests that investments in civil service professionalisation, even in environments of persistent political interference, can preserve meaningful levels of policy output quality. The implication is that reform programmes should address both the supply of interference (through accountability mechanisms) and the absorptive capacity of the bureaucracy (through capacity development investments).

6.4 Sector-Level Heterogeneity

The finding that infrastructure records the highest PI score and the lowest PES score, while agriculture exhibits the most resilient outcomes, is theoretically and practically significant. Infrastructure is a sector with very high per-project contract values, creating correspondingly high incentives for politically motivated interference in procurement (Bello et al., 2024). Agriculture, while also subject to political interference, involves more distributed implementation channels (extension services, input distribution, cooperative networks) that are harder to capture wholesale, and agricultural development programme structures partially insulate technical decisions from ministerial direction. These findings suggest that sector-specific governance diagnostics and targeted interventions are more appropriate than uniform national anti-interference policies.

6.5 Limitations

Several limitations should be noted. First, the cross-sectional design precludes causal inference in the strict sense; the statistical associations reported here, though theoretically grounded, cannot establish temporal precedence without longitudinal data. Second, primary data relied on respondent perceptions, introducing potential social desirability and common method bias. The correlation between PI and PES may be partially inflated by shared method variance, although the use of objectively scored administrative data for some PES sub-scales reduces this concern. Third, the sample is limited to federal-level MDAs; state and local government dynamics, which may exhibit different patterns due to varying political economies, are not represented. Future research should address these limitations through longitudinal panel designs, administrative record linkage, and sub-national sampling.

7. Conclusion

This study set out to statistically evaluate the role of political interference on public policy effectiveness in Nigeria. Analysing primary survey data from 385 federal civil servants and policy professionals across five sector clusters, it finds that political interference exerts a statistically significant, large, and robust negative effect on policy effectiveness ($\beta = -0.614$, $p < .001$, $R\text{-squared} = 0.487$). Executive directive intensity and procurement interference are the strongest individual predictors. Bureaucratic capacity significantly moderates this relationship, attenuating the negative effect under high-capacity conditions. Sector-level analysis reveals that infrastructure is the most severely affected sector, while agriculture demonstrates comparatively greater policy output resilience.

The study makes three specific contributions to knowledge. First, it constructs and validates the first comprehensive, multi-dimensional Political Interference Index tailored to Nigerian federal MDAs, providing a replicable instrument for future research. Second, it provides the first empirical evidence of bureaucratic capacity's moderating role in the PI-PES relationship in the Nigerian context, giving quantitative grounding to long-standing theoretical claims. Third, it disaggregates findings by sector, generating actionable intelligence for sector-specific governance reforms.

The policy implications are significant. The National Assembly should enact and enforce stronger protections for civil service merit-based appointment processes, particularly in technically sensitive directorate-level positions. The Bureau of Public Procurement should be further resourced and insulated from executive override, given the empirical evidence that procurement interference is the second-strongest predictor of policy ineffectiveness. The Federal Civil Service Commission should expand its investment in training and professional development, given evidence that bureaucratic capacity absorbs and attenuates the damage caused by political interference. Sector-specific interventions are warranted in infrastructure, where the PI-PES relationship is most severe.

Future research should extend this analysis longitudinally, test the model at the sub-national level, and examine whether specific anti-corruption instruments such as the Independent Corrupt Practices Commission and the Economic and Financial Crimes Commission meaningfully shift the PI-PES relationship over time.

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