

Governance Quality, Ethical Leadership and Human Development in West Africa: Dynamic Panel Evidence from ECOWAS Member States

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Abstract: This study investigates the dynamic relationship between governance quality, ethical leadership, and human development across the fifteen ECOWAS member states over the period 2000–2022. Drawing on institutional economics, principal-agent theory, and ethical leadership literature, the study constructs a Responsible Governance Index (RGI) from Worldwide Governance Indicators and an Ethical Leadership Index (ELI) from Ibrahim Index of African Governance sub-indices. Employing System Generalised Method of Moments estimation with robustness checks using Driscoll–Kraay and PCSE estimators, the findings reveal that governance quality significantly improves human development outcomes, while ethical leadership exerts both an independent and reinforcing effect on the governance-development nexus. The results further demonstrate substantial heterogeneity across resource-rich/resource-poor and Anglophone/Francophone economies. The study concludes that sustainable development in West Africa depends not only on institutional quality but also on ethical public leadership.

Keywords: Governance Quality, Ethical Leadership, Human Development, Institutional Quality, Responsible Governance

Introduction

West Africa presents a striking developmental paradox to observers of the global political economy. The sub-region commands substantial reserves of natural resources, enjoys one of the fastest-expanding working-age populations on the continent, and has registered an emergent middle-class consumer base across several of its economies, yet persistent institutional deficiencies continue to undermine its long-run development potential in ways that resource endowments and demographic dividends alone fail to explain. Data from the 2023 edition of the Ibrahim Index of African Governance indicate that the fifteen economies belonging to the Economic Community of West African States recorded an aggregate governance score of 47.4 out of 100, falling below the Africa-wide average of 50.2 and revealing that consistent institutional progress over the decade spanning 2013 to 2022 was confined to just three member states (Mo Ibrahim Foundation, 2023). The UNDP Human Development Report for the same reference year classified eleven ECOWAS economies within the low human development tier, with average per capita income approximating 1,870 United States dollars at 2017 purchasing power parity. These observations transcend statistical description; they point to a governance-driven trap whose institutional and behavioural antecedents warrant rigorous empirical interrogation.

The scholarly literature on institutions and economic development has deepened considerably over the past three decades. Foundational contributions by North (1990), Acemoglu and Robinson (2012), and Kaufmann et al. (2010) have collectively established that the configuration of formal rules, enforcement mechanisms, and informal norms shapes resource allocation and long-run prosperity across societies. Nevertheless, much of the available empirical evidence operationalises governance through broad aggregated indices without attending sufficiently to the ethical and behavioural processes through which institutional rules are translated into practical governance outcomes. Ethical leadership, which encompasses the capacity of public officials to personify, institutionalise, and

sustain normatively appropriate conduct in the exercise of public authority, has consequently remained an underexamined variable within the governance-development discourse, particularly in Sub-Saharan Africa and the West African sub-region specifically.

This omission carries both theoretical and empirical costs. Findings by Brown and Trevino (2006) establish that ethical leadership exerts measurable influence on institutional trust, organisational compliance, and the perceived credibility of public policy. Walumbwa et al. (2011) and Eze, Anowor and Ukpere (2025) demonstrate that ethical leadership behaviour attenuates principal-agent inefficiencies by more closely aligning bureaucratic incentives with the objectives of public welfare. In the African governance context, Rotberg (2014) contends that leadership quality functions as the most consequential predictor of governance performance, exercising an effect that exceeds those attributable to institutional architecture, natural resource wealth, or inherited historical conditions. Despite these insights, no published study has applied a dynamic panel framework to trace the combined pathway from governance quality and ethical leadership norms to multidimensional development outcomes across the full ECOWAS membership. This study is designed to address that gap.

Three interrelated research questions structure the empirical inquiry: (i) Does governance quality, operationalised through rule of law, corruption control, and government effectiveness, generate statistically significant improvements in human development performance across ECOWAS member states over the 2000–2022 period? (ii) Does ethical leadership operate as a meaningful transmission channel through which governance quality converts into higher HDI scores, elevated real per capita income, and lower poverty incidence? (iii) Is the governance-development relationship systematically differentiated across resource-abundant versus resource-scarce ECOWAS economies and across Anglophone versus Francophone institutional environments? Four distinct scholarly contributions follow from addressing these questions.

The study contributes to the governance and development literature along four dimensions. Conceptually, it synthesises institutional economics, principal-agent analysis, and ethical leadership theory within an integrated analytical framework attuned to the political economy of West Africa. Empirically, it constructs a novel composite governance-leadership index drawing on WGI and IAG sub-indicators across all fifteen ECOWAS member states over a twenty-three-year panel, providing temporal and cross-sectional breadth beyond comparable existing studies. Methodologically, it deploys System GMM with Windmeijer (2005) finite-sample corrected standard errors, augmented by Driscoll–Kraay and PCSE estimators, to accommodate endogeneity, dynamic state dependence, and cross-sectional interdependence in regional governance panels. From a policy standpoint, the study derives institutionally grounded and leadership-oriented reform pathways for ECOWAS governments, regional bodies, and development financing institutions.

Literature Review and Theoretical Framework

Governance and Development: Conceptual and Empirical Foundations

Institutional economics, as systematically articulated by North (1990), situates governance institutions, comprising formal regulatory structures, enforcement apparatuses, and informal normative codes, at the centre of explanations for long-run economic performance differentials. Within this tradition, economies that sustain secure property rights, credible rule enforcement, and low transaction costs exhibit superior prospects for sustained development. Acemoglu et al. (2001) furnished influential empirical corroboration through instrumental variable analysis employing colonial settler mortality rates, demonstrating a robust causal link between historical institutional quality and contemporary income levels across a broad sample of countries. Extending this logic, Acemoglu and Robinson (2012) argue that inclusive political institutions shape both the distribution of economic surpluses and the incentive structures facing political authorities, thereby determining whether productivity-enhancing activities or rent-extracting behaviour characterise a given political economy.

Kaufmann et al. (2010) conceptualise institutional quality through six analytically distinct but interrelated dimensions within the Worldwide Governance Indicators: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Cross-country evidence consistently associates superior performance

across these dimensions with higher per capita income, improved social outcomes, and stronger private investment, even as scholarly debate persists regarding causal ordering and reverse feedback from income to governance (Kurtz and Schrank, 2007; Anowor & Ukpere, 2025; Iloafunsi & Anowor, 2026). Fukuyama (2013) adds a further analytical distinction by disaggregating governance into state capacity, rule of law, and democratic accountability, emphasising that each component exerts distinctive influences on institutional performance and development trajectories.

Within the West African context, Asongu and Nwachukwu (2016) and Agbarakwe et al. (2018) show that governance quality significantly moderates the relationship between natural resource dependence and development, operating primarily through corruption control and rule of law channels. Mlachila et al. (2017) report that African economies with stronger institutional frameworks achieve per capita growth rates roughly 1.2 percentage points above those of their weaker-governance counterparts annually. Fosu (2015) and Nwonye et al. (2023) further attribute a meaningful share of Africa's post-2000 per capita income expansion to improvements in governance quality. Although these contributions provide compelling evidence for the governance-development association, they allocate insufficient attention to the ethical leadership mechanisms that determine how governance norms are enacted and enforced within public institutions on a day-to-day basis.

Ethical Leadership: Theoretical Foundations and Empirical Evidence

Brown et al. (2005) define ethical leadership as the active demonstration and promotion of normatively appropriate conduct through personal behaviour, interpersonal relations, and decision-making processes, accompanied by the institutional reinforcement of ethical standards through formal incentive structures and accountability mechanisms. This conceptualisation integrates elements from social learning theory (Bandura, 1977), social exchange theory, and virtue ethics, underscoring the role of leaders as behavioural exemplars whose conduct shapes the normative orientation of subordinates and public institutions. Ethical leadership remains analytically distinguishable from transformational, authentic, and servant leadership frameworks by virtue of its explicit normative emphasis on institutional accountability for ethical conduct.

Walumbwa et al. (2011) establish that ethical leadership suppresses opportunistic behaviour within public organisations by reinforcing employees' moral self-concept and elevating the reputational consequences of misconduct and corrupt conduct. Trevino et al. (2003) document that when employees perceive their leaders as ethically credible, they are substantially more disposed to report wrongdoing, adhere to professional codes of conduct, and contribute to organisational citizenship outcomes, all of which mitigate principal-agent losses within public administration. Lasthuizen (2008), drawing on survey evidence from Dutch municipalities, demonstrates that ethical leadership by senior officials reduces integrity violations by between 30 and 40 percent relative to institutional units that lack ethical role models at leadership levels.

In the African governance literature, Matsiliza (2012) positions ethical leadership as a 'governance accelerator' that transforms formally codified institutional rules into lived organisational practice, and argues that its absence explains why formally well-designed institutions so frequently underperform in the African setting. Awortwi and Walter-Drop (2018) provide evidence from Ghana and Senegal showing that communities governed by leaders with high ethical credibility achieve substantially better public service delivery than communities governed by leaders with equivalent formal authority but lower perceived ethical standards. These findings confirm that ethical leadership is an empirically tractable determinant of governance performance, not merely a normative aspiration confined to management scholarship.

The Governance–Development Nexus in Sub-Saharan Africa and West Africa

Empirical inquiry into governance and development within Sub-Saharan Africa has intensified substantially since 2010. Ibrahim and Adams (2015), analysing 38 African countries, identify government effectiveness and corruption control as the governance dimensions exhibiting the strongest elasticities with respect to poverty reduction. Using ECOWAS panel data, Nkurunziza (2018) and Ochinanwata et al. (2020) confirm a stable long-run association between institutional quality and human development, finding that governance improvements systematically raise HDI outcomes. Anyanwu and Erhijakpor (2014) additionally demonstrate that governance quality

modifies the development impact of foreign direct investment in ECOWAS economies, with more capable institutional environments amplifying the growth returns from FDI inflows.

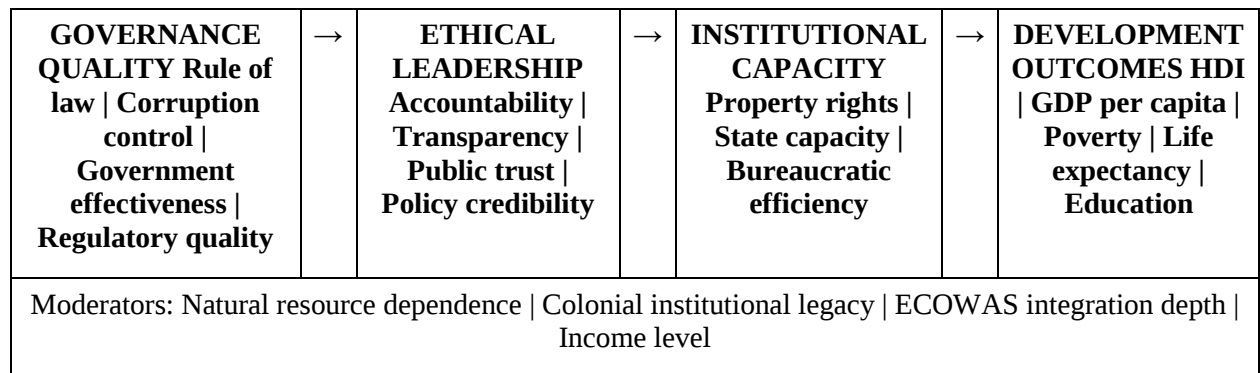
The existing literature is, however, characterised by three significant analytical limitations. First, the majority of studies rely on static or unidirectional panel specifications that fail to account adequately for the bidirectional interdependence between governance and development, since a country's development level itself conditions institutional capacity. Second, governance tends to be treated as a uniform structural variable, obscuring the leadership and behavioural mechanisms through which institutional norms are enacted and enforced. Third, the considerable heterogeneity across ECOWAS member states, encompassing variation in natural resource dependence, inherited colonial institutional frameworks, and regional integration depth, is frequently masked by pooled estimation strategies. The present study addresses all three limitations through its analytical design, estimation strategy, and heterogeneity analysis.

Three testable hypotheses emerge from the foregoing theoretical and empirical review. Hypothesis 1: governance quality, operationalised through composite WGI sub-indices, exerts a positive and statistically significant effect on human development outcomes across ECOWAS member states. Hypothesis 2: ethical leadership, proxied through Mo Ibrahim Foundation sub-indices for participation and rights, foundations for economic opportunity, and safety and rule of law, mediates the relationship between governance quality and development outcomes. Hypothesis 3: the governance-development nexus exhibits systematic variation across ECOWAS member states, particularly between resource-rich and resource-poor economies and between Anglophone and Francophone institutional environments.

Conceptual Framework

Figure 1 presents the analytical structure of the study. Development outcomes are modelled as the product of a sequential institutional process in which governance quality shapes the ethical leadership orientation of public officials, strengthens broader institutional capacity, and ultimately produces multidimensional development gains. Structural moderators condition the strength of these pathways across ECOWAS member states.

Figure 1. Conceptual Framework: Governance Quality, Ethical Leadership, and Development Outcomes in West Africa



Note: Arrows represent hypothesised directional pathways. Mediating channels include bureaucratic accountability, policy credibility, and civic trust. Structural moderators operate across all pathway stages.

At the foundational stage, governance quality, as reflected in rule of law, corruption control, government effectiveness, and regulatory quality within the WGI framework, establishes the institutional environment that governs political and administrative conduct. These structures define formal rules, specify enforcement obligations, and construct the accountability systems that regulate how state authority and public resources are allocated and managed across ECOWAS economies (North, 1990; Kaufmann et al., 2010).

At the intermediate stage, ethical leadership translates formal governance structures into observable institutional conduct. Drawing on Brown et al. (2005) and Walumbwa et al. (2011), this study conceptualises ethical leadership as the behavioural mechanism through which governance norms are internalised and reinforced within public organisations. By modelling principled conduct, communicating normative expectations, and sustaining accountability through institutional

incentives, public officials attenuate agency inefficiencies, bolster policy credibility, and strengthen administrative functionality.

At the outcome stage, the interaction between governance quality and ethical leadership deepens institutional capacity, particularly with respect to regulatory enforcement, bureaucratic efficiency, and property rights protection. Enhanced institutional capacity subsequently supports private investment expansion, more effective social service provision, and poverty alleviation, thereby generating the multidimensional development outcomes captured in the HDI and its components (Acemoglu and Robinson, 2012; Fosu, 2015; Anowor, Onodugo & Ichoku, 2020; Anowor et al., 2023). Three categories of structural moderators are incorporated: natural resource dependence, which may weaken accountability incentives; colonial institutional legacies, which shape baseline institutional quality and diverge between English common-law and French civil-law traditions (La Porta et al., 1999); and the depth of ECOWAS regional integration, which may amplify governance-development effects by raising the costs of institutional backsliding.

Research Methodology

Data Sources and Panel Composition

The empirical investigation draws on an unbalanced panel dataset assembled for the fifteen ECOWAS member states across the period from 2000 to 2022, yielding a maximum potential of 345 country-year observations prior to adjustment for missing values. Four principal data repositories provide the necessary information: the World Bank's Worldwide Governance Indicators, the Mo Ibrahim Foundation's Ibrahim Index of African Governance, the UNDP Human Development Report database, and the World Bank's World Development Indicators. The deliberate combination of multiple governance and development data repositories strengthens measurement reliability and curtails the systematic bias that would arise from exclusive dependence on any single institutional indicator framework (Asongu and Nwachukwu, 2016; Anowor, Onodugo & Ukpere, 2025; Anowor, Ukpere & Onodugo, 2025).

Variable Definitions and Measurement

The Human Development Index sourced from the UNDP Human Development Report database serves as the study's principal dependent variable. The HDI captures the multi-dimensional character of human progress through its integrated treatment of health attainment, educational achievement, and material living standards, offering analytical advantages over income-centric measures. Two supplementary outcome indicators are incorporated for robustness and subgroup estimation: logarithmically transformed real GDP per capita expressed in 2017 purchasing power parity US dollars, and the poverty headcount ratio at the international standard of USD 2.15 per day.

The core explanatory constructs are the Responsible Governance Index (RGI) and the Ethical Leadership Index (ELI). The RGI is computed as an equally weighted composite of four WGI sub-dimensions, namely rule of law, control of corruption, government effectiveness, and regulatory quality, each of which is standardised prior to aggregation, following the methodological conventions of Kaufmann et al. (2010) and Asongu and Nwachukwu (2016). The ELI is assembled from three Mo Ibrahim Foundation IAG sub-categories, specifically participation and human rights, foundations for economic opportunity, and safety and rule of law, which together closely approximate the normative accountability and behavioural leadership principles articulated by Brown et al. (2005).

Control variables are selected in accordance with established conventions in the governance-development panel literature and comprise real GDP per capita, trade openness, gross fixed capital formation, net official development assistance, population density, and a binary indicator for oil-exporting ECOWAS economies. Full variable definitions and measurement details are contained in Appendix A.

Table 1. Variable Definitions, Measurement, and Data Sources

Variable		Abbreviation	Measurement	Source
Human Development Index		HDI	Composite of health, education, and income dimensions (0–1 scale)	UNDP HDR
Real GDP per capita (log)		LGDPPC	Logarithm of GDP per capita, 2017 PPP USD	WDI/World Bank
Poverty headcount ratio		POV	Percentage of population below USD 2.15/day poverty line	WDI/World Bank
Responsible Governance Index		RGI	Unweighted mean of WGI: rule of law, corruption control, govt. effectiveness, regulatory quality	World Bank WGI
Ethical Leadership Index		ELI	Unweighted mean of IIAG sub-indices: participation & rights, economic opportunity, safety & rule of law	Mo Ibrahim Foundation
Trade openness		OPEN	(Exports + Imports) as percentage of GDP	WDI/World Bank
Gross fixed capital formation		GCF	Gross fixed capital formation as percentage of GDP	WDI/World Bank
Official development assistance		ODA	Net ODA receipts as percentage of gross national income	OECD/World Bank
Population density		POPD	Log of persons per square kilometre of land area	WDI/World Bank
Oil-exporter indicator		OIL	Binary: 1 = oil-exporting ECOWAS member; 0 otherwise	Author classification

Note: WDI = World Development Indicators; WGI = Worldwide Governance Indicators; UNDP HDR = United Nations Development Programme Human Development Report; IIAG = Ibrahim Index of African Governance. All WGI dimensions range from –2.5 to +2.5 and are standardised prior to index construction. IIAG sub-indices are scaled 0–100.

Empirical Specification

The baseline functional relationship estimated in this study takes the form:

$$HDI_{it} = \alpha + \beta_1 RGI_{it} + \beta_2 ELI_{it} + \beta_3 (RGI_{it} \times ELI_{it}) + \gamma X_{it} + \mu_i + \lambda_t + \varepsilon_{it} \dots\dots\dots (1)$$

In equation (1), HDI_{it} denotes human development in country i during year t ; RGI_{it} represents governance quality; ELI_{it} captures ethical leadership conditions; and the interaction term $RGI_{it} \times ELI_{it}$ reflects the combined influence of governance and ethical leadership on development outcomes. The vector X_{it} contains the control variables. Country-specific effects μ_i account for unobserved time-invariant heterogeneity, while time effects λ_t absorb period-specific shocks common across ECOWAS economies. The stochastic term ε_{it} captures residual variation.

Because economically more advanced countries tend to sustain stronger institutions, the governance-development relationship is susceptible to reverse causality. Additionally, the HDI exhibits pronounced dynamic persistence, with current outcomes strongly determined by prior conditions. These features render conventional OLS estimation inappropriate. The study therefore adopts the System Generalised Method of Moments estimator of Blundell and Bond (1998), which combines

level and first-differenced equations and exploits lagged internal instruments to address simultaneity, omitted variable bias, and unobserved heterogeneity simultaneously. Windmeijer (2005) finite-sample corrected standard errors are applied throughout to ensure valid inference in finite dynamic panel settings.

The dynamic System GMM specification incorporating lagged dependent variable is expressed as:

$$HDI_{it} = \alpha + \delta HDI_{i,t-1} + \beta_1 RGI_{it} + \beta_2 ELI_{it} + \beta_3 (RGI_{it} \times ELI_{it}) + \gamma X_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad \dots\dots\dots (2)$$

where $HDI_{i,t-1}$ captures the state dependence in human development and its coefficient δ measures the speed of convergence or persistence across ECOWAS economies.

Diagnostic Procedures and Robustness Strategy

The credibility of System GMM estimates rests on two diagnostic conditions: the differenced residuals must be free of second-order serial correlation, as assessed via the Arellano-Bond AR(2) test; and the validity of the instrumental variable set must be confirmed through the Hansen (1982) J-test for overidentifying restrictions. Consistent with Roodman (2009), instrument proliferation is curtailed by collapsing the instrument matrix and restricting lag windows to between two and four periods.

Given the susceptibility of regional macroeconomic panels to common external shocks, cross-sectional dependence is evaluated through the Pesaran (2015) CD test prior to model estimation. Stationarity properties are assessed using the Im, Pesaran, and Shin (2003) heterogeneous panel unit root procedure, and long-run equilibrium relationships are examined via the Westerlund (2007) bootstrap cointegration approach, which accommodates cross-sectional dependence. Robustness verification employs Driscoll-Kraay (1998) fixed-effects estimators, panel-corrected standard errors following Beck and Katz (1995), alternative outcome variables, and subgroup analyses across resource-rich/poor and Anglophone/Francophone country groupings.

Empirical Results

Descriptive Statistics and Bivariate Associations

Table 2 summarises the statistical properties of all variables in the ECOWAS panel. The mean HDI of 0.481 confirms that most member states remain within the low human development category, and the standard deviation of 0.091 indicates moderate dispersion across the sample. The average RGI of -0.52 on the standardised WGI scale signals persistently weak institutional performance across the sub-region, while the mean ELI of 42.3 out of 100 is broadly consistent with Mo Ibrahim Foundation assessments. Trade openness ranges from 32.4 to 131.8 percent of GDP, capturing the pronounced structural diversity across ECOWAS economies.

Table 2. Descriptive Statistics: Full ECOWAS Panel, 2000–2022

Variable	Obs.	Mean	Std. Dev.	Min.	Max.	Description
HDI	318	0.481	0.091	0.284	0.694	Human Development Index
LGDPPC	321	7.124	0.621	5.871	9.042	Log GDP per capita
POV (%)	287	52.3	17.6	8.4	82.7	Poverty headcount
RGI	339	-0.521	0.483	-1.721	0.842	Governance Index
ELI	335	42.3	11.8	17.4	69.2	Ethical Leadership Index

OPEN (%)	328	71.4	21.7	32.4	131.8	Trade openness
GCF (% GDP)	318	18.7	7.3	5.4	41.2	Fixed capital formation
ODA (% GNI)	322	8.4	8.1	0.2	42.1	Development assistance
POPD (log)	345	3.84	1.21	0.97	6.32	Population density

Note: HDI = Human Development Index; LGDPPC = log real GDP per capita (2017 PPP USD); POV = poverty headcount ratio at USD 2.15/day; RGI = Responsible Governance Index (standardised WGI composite); ELI = Ethical Leadership Index (IIAG composite, 0–100); OPEN = trade openness; GCF = gross fixed capital formation; ODA = official development assistance; POPD = population density (log). Sample: 15 ECOWAS member states, 2000–2022. Country-level disaggregated statistics appear in Appendix B.

Table 3 presents the pairwise correlation coefficients. The positive and highly significant correlations between RGI and HDI ($r = 0.612$, $p < 0.01$) and between ELI and HDI ($r = 0.574$, $p < 0.01$) provide preliminary bivariate support for the study's core hypotheses. The correlation between RGI and ELI ($r = 0.681$, $p < 0.01$) reflects their conceptual proximity while remaining well within acceptable bounds; variance inflation factors below 5.0 confirm that multicollinearity does not compromise the multivariate specifications.

Table 3. Pairwise Correlation Matrix

Variable	HDI	LGDPPC	RGI	ELI	OPEN	GCF	ODA
HDI	1.000						
LGDPPC	0.824***	1.000					
RGI	0.612***	0.587***	1.000				
ELI	0.574***	0.541***	0.681***	1.000			
OPEN	0.213***	0.198**	0.142**	0.131*	1.000		
GCF	0.318***	0.412***	0.224***	0.197***	0.283***	1.000	
ODA	-0.124*	-0.287***	-0.163**	-0.144**	-0.082	-0.196***	1.000

Note: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. Pearson product-moment correlations computed on the full available sample. The complete matrix including POV and POPD is reported in Appendix C.

Pre-Estimation Diagnostics

Table 4 summarises the preliminary diagnostic results. The Pesaran (2015) CD test rejects cross-sectional independence for all variables at the 1 percent level, confirming that common regional disturbances pervade ECOWAS economies and that estimators robust to cross-sectional dependence are required. The Im-Pesaran-Shin (2003) panel unit root tests indicate that HDI, log GDP per capita, and the governance indices are non-stationary in levels but stationary after first differencing, establishing $I(1)$ processes that align with earlier ECOWAS panel evidence (Asongu and Nwachukwu, 2016; Nkurunziza, 2018). The Westerlund (2007) bootstrap cointegration procedure subsequently confirms a statistically significant long-run equilibrium between governance quality and human development.

Table 4. Pre-Estimation Diagnostic Test Results

Test	Statistic	p-value	Decision
Pesaran (2015) CD test: HDI	18.42	0.000	Cross-sectional dependence
Pesaran (2015) CD test: RGI	21.17	0.000	Cross-sectional dependence
Pesaran (2015) CD test: ELI	16.83	0.000	Cross-sectional dependence
Im-Pesaran-Shin: HDI (level)	-1.214	0.112	Unit root present; I(1)
Im-Pesaran-Shin: HDI (first diff.)	-4.872	0.000	Stationary; I(0)
Im-Pesaran-Shin: RGI (level)	-1.483	0.069	Unit root present; I(1)
Im-Pesaran-Shin: RGI (first diff.)	-5.214	0.000	Stationary; I(0)
Westerlund (2007) bootstrap: Panel-t	-3.420	0.003	Cointegration confirmed
Westerlund (2007) bootstrap: Group-t	-2.871	0.008	Cointegration confirmed

Note: Westerlund (2007) p-values are bootstrap-corrected with 400 replications. Im-Pesaran-Shin tests include individual intercepts and trends. CD test null: cross-sectional independence. Unit root test null: panel contains unit roots.

Baseline System GMM Results

Table 5 reports the System GMM benchmark estimates with HDI as the dependent variable. Column (1) introduces the Responsible Governance Index alone; Column (2) adds the Ethical Leadership Index; Column (3) appends the governance-leadership interaction; and Column (4) incorporates the full control vector. The Arellano-Bond AR(2) statistics and Hansen J-test p-values across all specifications confirm the absence of second-order serial correlation and the validity of the instruments, respectively.

Table 5. System GMM Estimates: Governance Quality, Ethical Leadership, and HDI

Variable	(1)	(2)	(3)	(4)
HDI (t-1)	0.714*** (0.042)	0.689*** (0.038)	0.671*** (0.041)	0.643*** (0.044)
RGI	0.038*** (0.009)	0.031*** (0.008)	0.028*** (0.007)	0.024*** (0.008)
ELI		0.002*** (0.001)	0.002*** (0.001)	0.002** (0.001)
RGI × ELI			0.012** (0.005)	0.011** (0.005)
OPEN				0.0004* (0.0002)
GCF				0.001*** (0.0003)
ODA				0.0002 (0.0004)
POPD				-0.008* (0.004)

Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	303	298	298	283
Countries	15	15	15	15
Instruments	22	26	28	32
AR(2) p-value	0.314	0.287	0.301	0.268
Hansen J p-value	0.412	0.387	0.359	0.341

Note: Dependent variable: Human Development Index (HDI). System GMM estimates with Windmeijer (2005) finite-sample corrected standard errors in parentheses. Instruments: lagged levels (t–2 to t–4) for differenced equation; lagged differences (t–1) for levels equation; instrument matrix collapsed to limit proliferation. AR(2): Arellano-Bond test for second-order serial correlation; null: no serial correlation. Hansen J: overidentifying restrictions test; null: instruments valid. *** p < 0.01; ** p < 0.05; * p < 0.10.

The RGI coefficient is positive and statistically significant at the 1 percent level across all four specifications, providing empirical support for Hypothesis 1. In the fully controlled model reported in Column (4), a one-unit increase in the standardised RGI is associated with a 0.024 improvement in HDI, holding all other variables constant. Relative to the sample mean HDI of 0.481, this represents a substantively meaningful human development gain. The ELI similarly produces a positive and significant coefficient in all specifications in which it appears, indicating that stronger ethical leadership delivers an independent contribution to human development beyond its association with formal governance structures. The significant positive interaction term confirms that the development dividend of governance quality rises with the level of ethical leadership, lending empirical credence to the mediating mechanism proposed in Hypothesis 2.

The lagged HDI coefficient of 0.643 signals pronounced developmental state dependence, indicating that human development convergence across ECOWAS economies proceeds slowly and that governance reforms require sustained multi-year institutional commitment before materialising as measurable improvements. Among control variables, gross fixed capital formation (0.001, p < 0.01) and trade openness (0.0004, p < 0.10) exert the expected positive associations with HDI, while population density relates negatively to human development, consistent with congestion and service-delivery pressures in densely populated ECOWAS economies.

Heterogeneity Analysis

Table 6 disaggregates the baseline estimates across resource-rich versus resource-poor and Anglophone versus Francophone country groupings to evaluate Hypothesis 3.

Table 6. Subgroup Heterogeneity Analysis: System GMM Estimates

Variable	Resource-Rich	Resource-Poor	Anglophone	Francophone
RGI	0.016** (0.007)	0.031*** (0.009)	0.033*** (0.008)	0.019** (0.008)
ELI	0.001* (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.002** (0.001)
RGI × ELI	0.007 (0.006)	0.015*** (0.005)	0.014** (0.005)	0.009* (0.005)
Controls	Yes	Yes	Yes	Yes
Observations	88	195	161	122
AR(2) p-value	0.421	0.244	0.312	0.289
Hansen J p-value	0.387	0.329	0.358	0.317

Note: Dependent variable: HDI. Resource-rich = Nigeria, Niger, Côte d'Ivoire, Ghana. Resource-poor = remaining eleven ECOWAS members. Anglophone = Ghana, Liberia, Nigeria, Sierra Leone, The Gambia. Francophone = Benin, Burkina Faso, Côte d'Ivoire, Guinea, Guinea-Bissau, Mali,

Mauritania, Niger, Senegal, Togo. All specifications include the full control vector, country FE, and year FE. Standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

The subgroup results substantiate Hypothesis 3. The governance quality coefficient is considerably larger in resource-poor than in resource-rich ECOWAS economies, a difference that survives the Chow structural stability test. This pattern aligns with the rentier state argument (Ross, 2012), which holds that hydrocarbon and mineral revenues attenuate governmental accountability incentives and spawn parallel rent-distribution networks that bypass the formal institutional channels through which governance improvements normally convert into development outcomes. The Anglophone-Francophone differential, with governance effects stronger in English common-law environments, reflects the persistent institutional legacies identified by La Porta et al. (1999) and Acemoglu et al. (2001), who associate common-law systems with superior property rights enforcement and stronger constraints on executive discretion.

Robustness Checks

Table 7 subjects the principal findings to a battery of robustness tests. Columns (1) and (2) employ Driscoll-Kraay (1998) fixed-effects estimators with log GDP per capita and the poverty headcount ratio as dependent variables, while Columns (3) and (4) utilise panel-corrected standard errors after Beck and Katz (1995) with HDI and log GDP per capita. Across all specifications, the RGI and ELI coefficients retain their expected signs and statistical significance, confirming that the core findings are not an artefact of any particular estimation methodology. The negative association between RGI and poverty incidence in Column (2) further establishes that institutional improvements generate broad welfare gains by reducing the proportion of the ECOWAS population living below the international extreme poverty line.

Table 7. Robustness Checks: Alternative Estimators and Outcome Variables

Variable	DK-FE: LGDP (1)	DK-FE: POV (2)	PCSE: HDI (3)	PCSE: LGDP (4)
RGI	0.182*** (0.041)	-3.24*** (0.82)	0.026*** (0.007)	0.191*** (0.039)
ELI	0.012*** (0.004)	-0.31*** (0.09)	0.002** (0.001)	0.013*** (0.004)
RGI × ELI	0.067** (0.028)	-1.14** (0.51)	0.010** (0.005)	0.072** (0.031)
Controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	312	279	303	318
R ²	0.847	0.791	0.863	0.851

Note: DK-FE = Driscoll-Kraay (1998) fixed-effects with standard errors robust to cross-sectional dependence, heteroskedasticity, and autocorrelation. PCSE = panel-corrected standard errors after Beck and Katz (1995). Dependent variables as labelled. Standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

Discussion

The empirical results generate theoretical and policy insights that extend well beyond the econometric evidence. The uniformly positive governance quality-human development relationship across ECOWAS economies confirms and extends the institutional quality proposition within the West African development context, adding to a growing evidence base assembled by Asongu and Nwachukwu (2016), Nkurunziza (2018) and Eze et al. (2026). Of greater analytical significance, however, is the finding that governance does not automatically translate formal institutional arrangements into development outcomes. Rather, the developmental return to governance is substantially elevated when ethical leadership practices are present to activate, apply, and sustain institutional rules within public organisations. This insight deepens the existing governance literature

by pinpointing ethical leadership as an indispensable transmission channel that converts institutional quality into tangible development improvements, with consequential implications for the architecture of governance reform across ECOWAS member states.

The institutional economics perspective of North (1990) generates the prediction that formal rules alone are insufficient for institutional effectiveness, since the informal enforcement behaviours and normative codes that give rules their practical force are equally constitutive of institutional performance. The finding that ELI exercises an independent effect on HDI, and amplifies the development impact of RGI through their interaction, represents precisely the empirical signature this theoretical position anticipates: ethical leadership is the enforcement and internalisation mechanism that converts governance structures into human development outcomes. This reading is reinforced by Walumbwa et al. (2011), who show that ethical leadership reduces principal-agent costs, and by Rotberg (2014), who argues that African governance deficits are fundamentally leadership deficits that institutional design reforms alone cannot resolve without behavioural transformation at the level of public authority.

The differential governance-development effects across resource-rich and resource-poor ECOWAS economies illuminate the institutional channel of the resource curse. In hydrocarbon- and mineral-exporting states, the governance-development elasticity is appreciably smaller, consistent with Ross's (2012) argument that extractive resource revenues dampen citizen accountability demands, weaken incentives for ethical public leadership, and sustain parallel rent-distribution networks that circumvent formal institutional pathways. The policy implication is not that resource-rich states face immutable institutional constraints, but that accountability mechanisms must be deliberately constructed through institutional engineering, including independent oversight bodies, transparent extractive revenue management frameworks, and regional accountability standards, to compensate for the attenuation of the citizen-state accountability nexus that resource dependence induces.

The Anglophone-Francophone differential reflects the durable institutional path dependencies documented by La Porta et al. (1999) and Acemoglu et al. (2001). English common-law traditions associated with Anglophone ECOWAS states tend to afford stronger protections for private rights and impose more binding constraints on executive discretion, establishing a more conducive institutional environment for ethical leadership norms to take root. This does not imply institutional determinism: Senegal and Côte d'Ivoire demonstrate that meaningful governance gains are achievable within civil-law frameworks. However, it does indicate that governance reform agendas in Francophone ECOWAS states may need to target structural dimensions of executive accountability and judicial independence that diverge from the reform priorities relevant to Anglophone institutional environments.

Competing interpretations of the governance-development association deserve forthright consideration. The principal alternative is reverse causality: more developed economies may be better positioned to sustain stronger governance institutions, generating a correlation that System GMM only partially addresses. The consistency of results across Windmeijer-corrected System GMM, Driscoll-Kraay, and PCSE specifications offers reassurance about causal direction, and the cointegration evidence supports a bidirectional long-run relationship consistent with the virtuous spiral of governance and development documented by Acemoglu and Robinson (2012). Omitted variable bias from time-varying cultural, geographic, or demographic determinants that co-vary with both governance and development represents a second concern that country fixed effects partially but not fully resolve.

The findings further reveal systemic weaknesses in the ECOWAS institutional architecture. Although the ECOWAS Protocol on Democracy and Good Governance (2001) formally endorses democratic accountability, rule of law, and ethical public administration across member states, enforcement capacity remains uneven and institutionally fragile. The substantial intra-regional variation in human development outcomes, from the very low HDI scores recorded by Niger to the considerably higher levels achieved by Cabo Verde, indicates that regional integration has not produced meaningful convergence in institutional quality across the sub-region. Strengthening ECOWAS peer review structures, expanding compliance monitoring capacity, and conditionally linking regional development financing to measurable governance benchmarks, analogous to the African Development Bank's Country Policy and Institutional Assessment framework, would reinforce governance reforms and amplify their development dividends across member states.

Major Findings

This study examined the joint influence of governance quality and ethical leadership on human development across the fifteen ECOWAS member states from 2000 to 2022 using a dynamic System GMM estimator augmented by comprehensive robustness procedures. Three principal findings emerge. First, governance quality, captured through a standardised composite of WGI indicators, exerts a positive, statistically significant, and economically substantive effect on human development across the sub-region. Second, ethical leadership generates an independent contribution to development outcomes and simultaneously strengthens the development dividend from governance institutions, indicating that institutional quality and public leadership operate as mutually reinforcing rather than substitutable forces. Third, considerable heterogeneity characterises the governance-development nexus, with stronger effects registered in resource-poor and Anglophone member states, underscoring the importance of institutional context and structural variation in shaping reform pathways.

Conceptually, the study advances the literature by explicitly integrating ethical leadership theory into the institutional quality-development nexus, demonstrating that leadership behaviour is an empirically tractable mechanism rather than merely a normative addendum to institutional analysis. Methodologically, the construction of the ELI from IIAG sub-indices provides a replicable country-level proxy for ethical leadership quality that can serve future comparative governance research.

Policy Implications

Several actionable implications follow from the findings. For ECOWAS policymakers, the most urgent message is that governance reform must extend beyond institutional design, including the drafting of anti-corruption legislation and the establishment of regulatory agencies, to encompass the deliberate cultivation of ethical leadership cultures within public administration. Practical mechanisms include structured leadership development programmes that embed ethical conduct norms in public service training curricula, transparent performance management systems that reward integrity and penalise misconduct, and robust legal protections for whistleblowers and civil society oversight actors.

For national governments in resource-rich ECOWAS economies, where the governance-development dividend is weakest, priority attention should be directed toward independent natural resource governance institutions: sovereign wealth funds with transparent mandates, independent petroleum revenue monitoring boards, and open contracting platforms disclosing extraction agreements publicly. These instruments substitute for the eroded citizen-accountability linkage that resource rents generate, creating institutional channels through which ethical governance can still deliver development returns.

For international development institutions, the findings underscore the value of aligning financing with measurable governance performance. External support conditioned on improvements in institutional accountability, rule of law, and anti-corruption performance is more likely to produce durable development gains when accompanied by programmes that strengthen ethical leadership and public sector integrity. The evidence additionally suggests that the ECOWAS regional framework can serve as a more effective collective accountability mechanism by embedding governance compliance indicators in the allocation criteria for regional development funding, particularly within the commitments established under the ECOWAS Protocol on Democracy and Good Governance.

Limitations and Future Research Directions

Four limitations merit acknowledgement and motivate future inquiry. First, the ELI, constructed from IIAG sub-components, captures institutional outcomes associated with ethical leadership rather than direct behavioural measures of leadership conduct. Future research should develop survey-based instruments tailored to West African public institutions, potentially adapting the Ethical Leadership Scale of Brown et al. (2005) to sub-national governance contexts. Second, the structural distinctiveness of Cabo Verde as a small island economy within the ECOWAS panel may introduce heterogeneity not fully addressed by country fixed effects, suggesting merit in separate comparative analyses. Third, while the System GMM estimator mitigates endogeneity concerns, complete causal identification remains elusive given the impossibility of perfect instrument validity verification; future research employing natural experiments or quasi-experimental strategies would strengthen

causal inference considerably. Fourth, despite the twenty-three-year panel coverage, the longitudinal depth may be insufficient to capture the full long-run institutional dynamics in ECOWAS economies disrupted by military coups, armed conflict, and post-pandemic fiscal instability.

West Africa's development trajectory will ultimately be shaped not by the resources embedded in its natural endowments or the policies promulgated in its legislative chambers, but by the ethical quality of the public leadership that determines how those endowments are governed and those policies enacted. This study furnishes the first dynamic panel evidence that this proposition is as empirically defensible as it is normatively compelling.

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Appendix A. Variable Definitions and Data Sources

Table A1. Detailed Variable Definitions and Sources

Variable	Definition and construction	Source URL
HDI	UNDP composite of life expectancy index, mean and expected years of schooling index, and GNI per capita (2017 PPP). Annual values, 2000–2022.	hdr.undp.org

RGI	Unweighted average of standardised WGI sub-dimensions: Rule of Law (RL), Control of Corruption (CC), Government Effectiveness (GE), Regulatory Quality (RQ). Each component standardised to zero mean and unit variance prior to aggregation.	info.worldbank.org/governance/wgi/
ELI	Unweighted average of three Mo Ibrahim IIAG sub-categories: (i) Participation, Rights and Inclusion; (ii) Foundations for Economic Opportunity; (iii) Safety and Rule of Law. Expressed on 0–100 scale.	mo.ibrahim.foundation/iiag
LGDP	Natural logarithm of real GDP per capita in 2017 international PPP USD. WDI series NY.GDP.PCAP.PP.KD.	databank.worldbank.org
POV	Poverty headcount ratio: share of population below USD 2.15/day at 2017 PPP. WDI series SI.POV.DDAY.	databank.worldbank.org
OPEN	Total exports plus imports of goods and services as a percentage of GDP. WDI series NE.TRD.GNFS.ZS.	databank.worldbank.org
GCF	Gross fixed capital formation as percentage of GDP. WDI series NE.GDI.FTOT.ZS.	databank.worldbank.org
ODA	Net official development assistance and aid received as percentage of gross national income. WDI series DT.ODA.OATL.GN.ZS.	databank.worldbank.org
POPD	Natural logarithm of population density (persons per sq. km of land area). WDI series EN.POP.DNST.	databank.worldbank.org
OIL	Binary indicator coded 1 for ECOWAS states where petroleum extraction exceeded 5% of GDP on average over 2000–2022: Nigeria, Niger, Côte d'Ivoire, Ghana. WDI series NY.GDP.PETR.RT.ZS.	databank.worldbank.org

Appendix B. Country-Level Descriptive Statistics

Table B1. Country-Level Mean Values: Principal Variables, 2000–2022

Country	HDI Mean	RGI Mean	ELI Mean	LGDP Mean	POV Mean (%)
Benin	0.512	-0.41	46.8	7.21	49.4
Burkina Faso	0.432	-0.48	44.1	6.89	64.7
Cabo Verde	0.626	0.54	61.2	8.47	18.6
Côte d'Ivoire	0.503	-0.53	41.9	7.84	46.1
The Gambia	0.488	-0.44	43.7	7.11	51.2
Ghana	0.591	0.21	54.3	8.09	28.4
Guinea	0.437	-0.88	35.2	6.72	67.3
Guinea-Bissau	0.421	-0.79	36.8	6.54	72.1
Liberia	0.443	-0.38	41.4	6.63	61.8

Mali	0.411	-0.62	38.7	6.81	71.4
Mauritania	0.521	-0.31	45.2	7.44	43.6
Niger	0.331	-0.54	37.4	6.41	82.7
Nigeria	0.534	-0.71	38.9	8.14	55.3
Senegal	0.514	-0.12	50.4	7.38	45.7
Sierra Leone	0.428	-0.47	42.1	6.67	66.4
Togo	0.498	-0.58	40.3	6.97	52.8

Note: All values are unweighted country-level means over available annual observations, 2000–2022. RGI is the standardised WGI composite. ELI is the IIAG sub-index composite (0–100 scale). POV = poverty headcount at USD 2.15/day. LGDPPC = log real GDP per capita (2017 PPP USD). Sources: UNDP, World Bank WGI, Mo Ibrahim Foundation IIAG, World Bank WDI.

Appendix C. Sensitivity Analysis

Table C1. Sensitivity Analysis: Excluding Cabo Verde and Endogeneity Tests

Test / Specification	Coefficient / Statistic	p-value	Decision
RGI (excl. Cabo Verde, System GMM)	0.022*** (0.008)	<0.01	H1 confirmed
ELI (excl. Cabo Verde, System GMM)	0.002** (0.001)	<0.05	H2 confirmed
RGI × ELI (excl. Cabo Verde)	0.010** (0.005)	<0.05	H2 confirmed
Hausman test: RGI endogenous?	Chi ² = 14.82 (df = 1)	0.001	Endogenous; GMM warranted
Hausman test: ELI endogenous?	Chi ² = 9.47 (df = 1)	0.008	Endogenous; GMM warranted
AR(1) test (full model)	z = -3.12	0.002	As expected
AR(2) test (full model)	z = 0.84	0.401	No 2nd-order serial correlation
Hansen J-test (full model)	J = 18.42 (df = 14)	0.341	Instruments valid

Note: Sensitivity analysis employs the full control vector, country FE, and year FE. Standard errors in parentheses where applicable. Hausman test compares System GMM and fixed-effects estimates to determine whether governance regressors should be treated as endogenous. *** p < 0.01; ** p < 0.05.