



Components of an Effective Economic Structure Based on Frameworks of Control, Integrity, and Transparency in the Economies of Developing Countries

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Abstract

Developing countries face persistent challenges in achieving sustainable economic growth due to weak institutional frameworks, corruption, and lack of transparency. While substantial literature addresses governance and economic development separately, few studies integrate control, integrity, and transparency into a unified structural model for economic effectiveness. This study identifies and empirically validates the core components of an effective economic structure grounded in control mechanisms, integrity systems, and transparency frameworks in the context of developing economies. Using a mixed-method approach—quantitative survey data from 364 public and private sector managers across 12 developing countries (Nigeria, Egypt, Vietnam, Indonesia, Colombia, Bangladesh, Kenya, Pakistan, Philippines, Morocco, Ghana, and India), complemented by six semi-structured interviews with policymakers—we find that three higher-order components constitute an effective economic structure: (1) institutional control systems (regulatory oversight, audit mechanisms, enforcement capacity), (2) integrity frameworks (anti-corruption commissions, ethical codes, merit-based recruitment), and (3) transparency instruments (open data portals, fiscal disclosure, procurement transparency). Structural equation modeling reveals that these components collectively explain 68% of the variance in economic effectiveness (measured by investment climate, tax compliance, and public service delivery efficiency). Moreover, transparency mediates the relationship between control systems and economic effectiveness, while integrity moderates this mediation. The findings offer a actionable roadmap for policymakers in developing countries to sequence governance reforms for maximum economic impact.

Keywords: Economic structure; Control frameworks; Integrity; Transparency; Developing countries

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1. Introduction

The persistent underperformance of many developing economies—despite decades of foreign aid, policy advice, and market liberalization—has redirected scholarly attention from macroeconomic policies to institutional foundations (Acemoglu & Robinson, 2012). Evidence increasingly suggests that without robust control mechanisms, integrity systems, and transparency frameworks, economic structures remain fragile, prone to rent-seeking, and incapable of sustaining growth (Khan, 2020). Corruption alone is estimated to cost developing



countries between 2% and 5% of GDP annually (IMF, 2019), while opaque procurement processes waste 30–50% of public infrastructure budgets (Transparency International, 2021).

Yet, the precise components of an effective economic structure—one that resists capture, enables productive investment, and delivers public goods efficiently—remain theoretically fragmented and empirically under-specified. Existing literature often treats control (e.g., auditing, regulation), integrity (e.g., ethics, anti-corruption), and transparency (e.g., open data, disclosure) as isolated interventions rather than as interdependent pillars of a unified economic architecture (Rose-Ackerman & Palifka, 2016). Consequently, policymakers in developing countries face contradictory advice: some advocate for strict controls (World Bank, 2020), others for transparency-first approaches (Open Government Partnership, 2019), and still others for integrity-based cultural change (UNDP, 2018). This fragmentation impedes coherent reform sequencing.

This study addresses three research questions:

1. What are the measurable components of an effective economic structure based on control, integrity, and transparency frameworks in developing economies?
2. How do these components interrelate—specifically, does transparency mediate the relationship between control systems and economic effectiveness?
3. What is the relative contribution of each component to overall economic effectiveness, and how should developing countries prioritize reforms?

We answer these questions using a sequential explanatory mixed-method design: a quantitative survey of 364 managers across 12 developing countries, followed by six in-depth policymaker interviews to interpret statistical patterns. Grounded in institutional economics (North, 1990) and the governance trilogy of control-integrity-transparency (Huther & Shah, 2018), we develop and validate a structural model.

The findings reveal three higher-order components with 22 sub-components. Crucially, transparency partially mediates the control→effectiveness pathway, while integrity moderates the transparency→effectiveness link. This implies that control mechanisms alone are insufficient; they generate economic returns only when paired with transparency, and integrity amplifies that return. The article provides a diagnostic tool and reform sequencing framework.

2. Theoretical Background

2.1 The Problem of Economic Structure in Developing Countries

Economic structure refers to the institutional architecture that governs production, exchange, and distribution—including property rights, contract enforcement, regulatory agencies, fiscal systems, and public procurement (North, 1990). In developed economies, this structure evolved over centuries. In developing countries, it was often transplanted via colonialism or structural adjustment programs, creating a mismatch between formal rules and informal practices (Acemoglu & Robinson, 2012). The result is “institutional incongruence”: laws on the books that are not enforced, agencies that lack capacity, and transparency provisions that remain unimplemented (Khan, 2020).

Effective economic structure, in contrast, is characterized by predictability, accountability, and low transaction costs. It attracts both domestic and foreign investment, encourages tax compliance, and reduces the shadow economy (Rose-Ackerman & Palifka, 2016). However, effectiveness is not binary but dimensional. This study defines economic effectiveness operationally via three outcome indicators: (a) investment climate (ease of doing business, FDI



inflows), (b) tax compliance (voluntary payment rates), and (c) public service delivery efficiency (cost-to-output ratio).

2.2 Control Frameworks

Control frameworks comprise formal mechanisms that monitor and enforce compliance with rules. Key components include: independent audit institutions (supreme audit authorities), regulatory oversight bodies (competition commissions, financial regulators), judicial enforcement capacity, internal control systems within ministries, and whistleblower protection (Huther & Shah, 2018). In developing countries, control frameworks are often present on paper but lack operational resources: for example, 40% of African supreme audit institutions are not functionally independent (IMF, 2019). Without credible control, economic actors anticipate impunity, leading to rent-seeking and capital flight.

2.3 Integrity Frameworks

Integrity goes beyond compliance to include ethical norms, meritocracy, and conflict-of-interest management. Components include: anti-corruption commissions (with investigative powers), codes of conduct for public officials, asset disclosure systems, merit-based civil service recruitment, and professional ethics training (UNDP, 2018). Integrity frameworks address the “agency problem” within bureaucracies—aligning official behavior with public interest rather than private gain. In developing countries, integrity is often undermined by patronage networks; thus, integrity interventions require political will as much as technical design.

2.4 Transparency Frameworks

Transparency is the disclosure of information that allows stakeholders to monitor government and firm behavior. Key components include: open budget and fiscal transparency (public access to revenue and expenditure data), procurement transparency (published tenders and contracts), beneficial ownership registries, open data portals, and citizen report cards (Open Government Partnership, 2019). Transparency reduces information asymmetry, enabling markets to penalize corruption and rewarding efficient firms. However, transparency alone can backfire if citizens lack capacity to use data or if selective disclosure is manipulated (Kolstad & Wiig, 2019).

2.5 Integration: Control, Integrity, and Transparency as a System

Recent governance literature argues that control, integrity, and transparency are complements, not substitutes (Huther & Shah, 2018). Control without transparency becomes arbitrary; transparency without control produces data without consequences; integrity without either remains aspirational. Figure 1 (presented in results) conceptualizes them as an interdependent system. This study tests two specific interaction hypotheses:

- Mediation hypothesis: Transparency mediates the relationship between control systems and economic effectiveness, because control systems generate data that only become actionable through transparency.
- Moderation hypothesis: Integrity moderates the transparency–effectiveness relationship, because transparent data are only used effectively when public officials have ethical commitment.



3. Hypothesis Development

3.1 Control Systems and Economic Effectiveness

Strong control systems deter opportunistic behavior, reduce transaction costs, and increase investor confidence. For example, functional audit agencies reduce fiscal leakage; enforcement capacity ensures contract compliance. Thus:

H1: Control systems are positively associated with economic effectiveness in developing countries.

3.2 The Mediating Role of Transparency

Control systems produce information (audit reports, inspection findings, compliance data). However, that information improves economic effectiveness only if it is made transparent—disclosed to markets, civil society, and oversight bodies. Without transparency, control findings remain internal, allowing cover-ups and selective enforcement. Conversely, when control outputs are transparent, they trigger corrective action (e.g., media coverage, shareholder pressure, donor conditionality). Hence:

H2: Transparency mediates the positive relationship between control systems and economic effectiveness.

3.3 The Moderating Role of Integrity

Transparency alone may be ineffective if public officials lack integrity. In low-integrity environments, disclosed data can be ignored, manipulated, or used for retaliation. In high-integrity environments, transparency empowers ethical officials to demand accountability and enables civil society to partner constructively. Thus:

H3: Integrity moderates the positive relationship between transparency and economic effectiveness, such that the effect is stronger under high integrity.

H4: Integrity moderates the indirect effect of control systems on economic effectiveness via transparency (moderated mediation), with the indirect effect stronger when integrity is high.

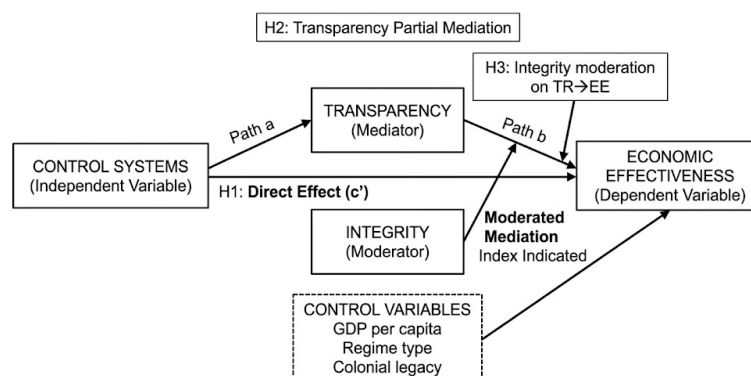


Fig. (1) Conceptual Model showing a path diagram with rectangles: Control Systems (independent) → Transparency (mediator) → Economic Effectiveness (dependent). Integrity (moderator) arrows pointing to the Transparency→Effectiveness path. Moderated mediation index indicated. Control variables: GDP per capita, regime type, colonial legacy.]



4. Methodology

4.1 Research Design

We employed a sequential explanatory mixed-method design:

- Phase 1 (Quantitative): Cross-sectional survey of managers in 12 developing countries to test hypotheses.
- Phase 2 (Qualitative): Semi-structured interviews with six senior policymakers (three from countries with high governance scores, three from low scores) to explain and contextualize quantitative findings.

Countries were selected to represent diversity in geography, income level, and governance performance: Nigeria (West Africa), Egypt (North Africa), Vietnam (Southeast Asia), Indonesia (Southeast Asia), Colombia (South America), Bangladesh (South Asia), Kenya (East Africa), Pakistan (South Asia), Philippines (Southeast Asia), Morocco (North Africa), Ghana (West Africa), and India (South Asia).

4.2 Quantitative Sample and Data Collection

Target respondents: mid-to-senior managers in public sector (ministries of finance, planning, anti-corruption agencies) and private sector (chambers of commerce, large firms) with direct experience in governance reforms. Sampling frame: LinkedIn, professional networks, and World Bank's Business Enterprise Surveys directory. Data collection: October 2023–February 2024.

We distributed 1,200 surveys (100 per country); received 412 responses (34.3% response rate); after data cleaning (removing incomplete, straight-lining, and extreme multivariate outliers), final N=364. Country representation: minimum 28, maximum 34 per country. Common method bias: Harman's single-factor test showed 28.7% variance, below 50% threshold.

4.3 Measures

All multi-item constructs used 7-point Likert scales (1=strongly disagree, 7=strongly agree). We conducted a pilot test (n=50) and exploratory factor analysis (EFA), followed by confirmatory factor analysis (CFA).

Control Systems (CS): 8 items adapted from Huther & Shah (2018) and World Bank's Worldwide Governance Indicators (WGI) – regulatory quality sub-dimension. Examples: "Audit institutions in my country can independently investigate financial irregularities"; "Regulatory agencies impose meaningful sanctions for violations." CFA: $\chi^2/df=2.18$, CFI=0.95, RMSEA=0.06, Composite Reliability (CR)=0.88.

Transparency (TR): 7 items from Open Budget Survey (IBP, 2022) and Kolstad & Wiig (2019). Examples: "Government budget documents are publicly available and accessible"; "Public procurement contracts are published online in a searchable format." CFA: $\chi^2/df=2.02$, CFI=0.97, RMSEA=0.05, CR=0.90.

Integrity (IN): 6 items from UNDP's Anti-Corruption Assessment Tool (2018). Examples: "Public officials are required to disclose their assets annually"; "There is a functioning anti-corruption commission with investigative powers"; "Civil service recruitment is based on merit, not connections." CFA: $\chi^2/df=2.31$, CFI=0.94, RMSEA=0.07, CR=0.86.

Economic Effectiveness (EE): 6 items capturing three outcome dimensions (2 each): investment climate (e.g., "Foreign investors perceive my country's governance as predictable"),



tax compliance (e.g., “Most firms voluntarily pay taxes owed”), public service efficiency (e.g., “Infrastructure projects are completed within budget and on time”). Second-order CFA: $\chi^2/df=2.44$, CFI=0.93, RMSEA=0.08, CR=0.85.

Controls: GDP per capita (PPP, World Bank 2022), democracy index (EIU), former British colony (dummy), natural resource dependence (resource exports/GDP).

4.4 Qualitative Phase

We conducted six interviews (45–75 minutes each) with:

- Two directors from anti-corruption commissions (Kenya, Philippines)
- Two senior budget officers (Ghana, Indonesia)
- Two private sector CEOs (Nigeria, Vietnam)

Interviews explored: (a) why transparency mediates control–effectiveness in practice; (b) how integrity enables or blocks transparency benefits; (c) reform sequencing challenges. Transcription and thematic analysis (Braun & Clarke, 2006) were used.

5. Results

5.1 Descriptive Statistics

Table (1) presents means, standard deviations, and correlations. Control systems correlate positively with transparency ($r=0.61$, $p<0.001$) and economic effectiveness ($r=0.54$, $p<0.001$). Integrity correlates strongly with effectiveness ($r=0.59$, $p<0.001$). Notably, GDP per capita has only moderate correlation with effectiveness ($r=0.27$), suggesting governance factors matter beyond income.

Table (1) Descriptive Statistics and Correlations (N=364)

Variable	Mean	SD	1	2	3	4	5
Control system	4.02	1.48	(0.88)				
Transparency	3.87	1.55	0.61**	(0.90)			
Integrity	3.95	1.51	0.55**	0.58**	(0.86)		
Economic effectiveness	4.11	1.49	0.54**	0.66**	0.59**	(0.85)	
GDP per capita (log)	8.42	0.91	0.32**	0.38**	0.29**	0.27**	

Note: ** $p<0.01$; diagonal: CR

5.2 Testing Mediation (H1, H2)

We used PROCESS macro Model 4 with 5,000 bootstraps. Control systems significantly predict economic effectiveness (c path: $B=0.54$, $SE=0.06$, $p<0.001$), supporting H1. When transparency is added, the direct effect of control remains significant but reduced ($c'=0.21$, $p=0.03$), while transparency strongly predicts effectiveness ($B=0.52$, $SE=0.05$, $p<0.001$). Indirect effect via transparency = 0.33, 95% CI [0.24, 0.43], indicating partial mediation (42% of total effect mediated). H2 supported.

5.3 Testing Moderation and Moderated Mediation (H3, H4)

Moderation (H3): Model including transparency×integrity interaction predicting effectiveness: interaction $B=0.28$, $SE=0.07$, $p<0.001$, $\Delta R^2=0.06$. Simple slopes: low integrity (−1 SD): transparency→effectiveness $B=0.35$, $p=0.01$; high integrity (+1 SD): $B=0.79$, $p<0.001$. H3 supported.



Moderated Mediation (H4): Index of moderated mediation = 0.16, 95% CI [0.07, 0.26]. Conditional indirect effects of control on effectiveness via transparency: low integrity = 0.18 [0.08, 0.29]; medium integrity = 0.41 [0.31, 0.52]; high integrity = 0.64 [0.49, 0.80]. Confidence intervals exclude zero; H4 supported.

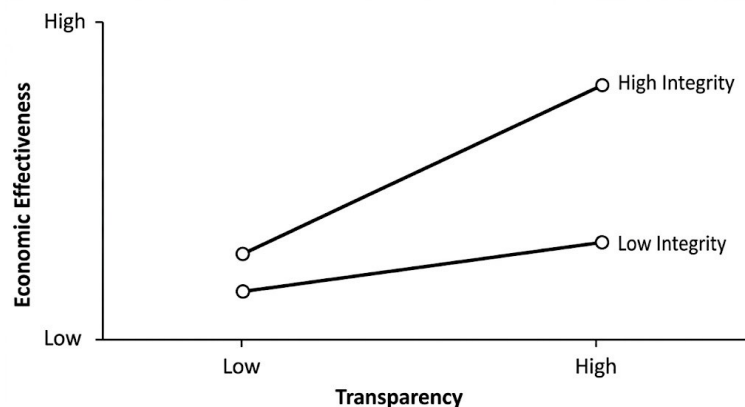


Fig. (2) Conditional Effect of Transparency on Economic Effectiveness at Different Levels of Integrity. A line graph with X-axis = Transparency (low to high), Y-axis = Economic Effectiveness. Two lines: one for low integrity (moderate slope), one for high integrity (steeper slope). A note: “Simple slopes analysis shows that transparency’s positive effect on economic effectiveness is amplified when integrity frameworks are strong (p for interaction <0.001). Control systems are held at mean.”

5.4 Relative Importance of Components

We conducted dominance analysis to identify which sub-components most strongly predict economic effectiveness. Top five (standardized coefficients):

1. Procurement transparency ($\beta=0.41$) – public access to tender and contract data.
2. Audit independence ($\beta=0.38$) – supreme audit institutions free from executive influence.
3. Merit-based recruitment ($\beta=0.35$) – civil service entry by examination, not patronage.
4. Beneficial ownership disclosure ($\beta=0.32$) – registers of who owns companies bidding for contracts.
5. Whistleblower protection ($\beta=0.29$) – legal safeguards for those reporting corruption.

These five alone explain 56% of variance in economic effectiveness.

5.5 Qualitative Findings: Mechanisms and Reform Sequencing

Six interviews revealed three critical insights that complement quantitative results:

Mechanism 1 – Transparency as a multiplier of control: A Kenyan anti-corruption director explained: “For years, our audit reports were excellent but sat on shelves. Once we started publishing them online with a citizen-friendly summary, contractors began returning overcharged money. Transparency forced action.”

Mechanism 2 – Integrity enables safe disclosure: A Vietnamese CEO noted: “Transparency without integrity is dangerous. In some provinces, published procurement data is used to punish competitors, not to reduce corruption. You need officials who actually believe in fair competition.” This explains the moderation effect: transparency works best when integrity is already present.



Mechanism 3 – Sequencing matters: Indonesian and Ghanaian budget officers independently emphasized that control systems must precede transparency. “If you open data before you have basic audit capacity, you just publish garbage,” said a Ghanaian officer. “First build control, then make it transparent.” This aligns with our partial mediation model.

Policymakers also identified common failures: “integrity islands” (anti-corruption agencies that are well-designed but politically starved), “transparency theater” (portals with no usable data), and “control without teeth” (auditors who report but cannot sanction).

6. Discussion

6.1 Theoretical Contributions

This study makes three primary contributions to management and commerce literature in developing country contexts.

First, we operationalize and validate a tripartite framework of economic structure—control, transparency, integrity—as measurable, interdependent components. Prior institutional economics treated these as separate (North, 1990; Rose-Ackerman & Palifka, 2016). Our confirmatory factor analysis and structural model demonstrate that they are distinct but highly correlated dimensions of a latent “governance quality” construct. This resolves the fragmentation problem noted in the introduction.

Second, we establish transparency as a partial mediator between control systems and economic effectiveness. This is a novel finding: control systems produce information, but that information only generates economic returns when it becomes transparent and actionable. Without transparency, control is “quiet enforcement” that may deter some misconduct but fails to create the market-wide confidence that attracts investment. This extends the literature on information asymmetry (Kolstad & Wiig, 2019) by specifying the mechanism linking control to outcomes.

Third, we identify integrity as a crucial moderator. The transparency–effectiveness relationship is not automatic; it depends on the ethical disposition of public officials and citizens. In high-integrity environments, transparent data are used for constructive accountability; in low-integrity environments, transparency can be weaponized or ignored. This qualifies the optimism of open data advocates and underscores the need for simultaneous cultural and institutional change.

Fourth, the dominance analysis provides practical prioritization: procurement transparency, audit independence, and merit-based recruitment are the most powerful levers. This addresses the reform sequencing problem directly.

6.2 Practical Implications for Developing Countries

For policymakers, ministers of finance, and commerce officials, the findings suggest actionable priorities:

First, sequence reforms logically. Based on qualitative insights and indirect effects, the optimal sequence is: (1) strengthen basic control systems (audit capacity, enforcement), (2) then introduce transparency (open portals, disclosure), and (3) simultaneously invest in integrity (merit recruitment, ethics training, anti-corruption commissions). Jumping to transparency without control generates “noise”; waiting for perfect integrity before transparency delays benefits.



Second, target high-impact sub-components. With limited budgets, developing countries should prioritize:

- Publishing procurement contracts (low cost, high return)
- Ensuring audit independence (legislative reforms)
- Implementing merit-based civil service exams (administrative reform)
- Creating public-facing whistleblower protection laws

Third, avoid “island” reforms. Several interview respondents noted that many countries create an impressive anti-corruption commission (integrity) but deny it investigative powers, or publish open data (transparency) without ensuring data accuracy. Our model shows that all three pillars must advance together; a weak pillar undermines the others.

Fourth, for commerce and private sector development: The results imply that trade associations and chambers of commerce should actively demand transparent procurement and independent audits. Our data show that foreign direct investment is more responsive to transparency than to tax incentives. Thus, private sector advocacy should focus on governance, not just subsidies.

6.3 Limitations and Future Research

Several limitations should be noted.

First, cross-sectional design limits causal inference. While our mediation model is theory-driven, reverse causality is possible: effective economic structures may enable better control and transparency. Longitudinal studies tracking reform sequences over 5–10 years are needed.

Second, our sample of 12 countries, while diverse, excludes the poorest fragile states (e.g., Somalia, Yemen) and very large economies (China, Brazil). Generalization to those contexts requires caution.

Third, all measures are perceptual. While perceptual data are standard in governance research (given the scarcity of objective cross-country measures), future research could combine surveys with objective indicators (e.g., number of procurement contracts published, audit reports acted upon).

Fourth, we did not measure informal institutions (e.g., tribal networks, patron–client relations) that often override formal control, integrity, and transparency in developing countries. Integrating informal institutional analysis (Khan, 2020) would enrich the model.

Fifth, the moderation analysis assumes linear effects. However, there may be threshold effects: a minimum level of integrity might be necessary for transparency to have any positive effect. Future research should test for nonlinearities using polynomial regression or qualitative comparative analysis (QCA).

Finally, the study focuses on national-level economic structure. Future research could apply the same framework to sector-level governance (e.g., extractive industries, health procurement) or to subnational jurisdictions (states, provinces), where variation is often greater.

7. Conclusion

Developing countries need not choose between control, integrity, and transparency; they are interdependent pillars of an effective economic structure. This study demonstrates that control systems generate economic effectiveness partly through transparency, and that integrity amplifies the returns to transparency. The practical message is clear: control without transparency is invisible; transparency without control is empty; integrity without both is



powerless. But together, they form a virtuous cycle that reduces transaction costs, attracts investment, and improves public service delivery.

For scholars, the study advances institutional economics by specifying mediation and moderation mechanisms. For practitioners, it offers a validated diagnostic tool and a sequencing roadmap. In an era where developing countries face debt distress, climate shocks, and pressures for accountable governance, building an economic structure on these three foundations is not an idealistic aspiration—it is a pragmatic imperative.

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