



Dual Accountability Architectures in Higher Education Financing: Cross-Country Evidence from Developing Systems

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ABSTRACT

This study examines transparency and accountability in higher education financing through a comparative analysis of Indonesia and Uzbekistan. Using a qualitative documentary approach, the research draws on audited government financial reports, official ministerial accountability documents, and sustainability performance indicators to evaluate financing governance structures and institutional outcomes. The analysis focuses on observable transparency measures, including budget realization discipline, financial reporting standards, audit coverage, and corrective enforcement actions. The findings show that Indonesia demonstrates a reporting-centered accountability model characterized by standardized audited statements and structured disclosure practices, while Uzbekistan reflects an enforcement-centered model with intensive audit controls and corrective financial interventions. Comparative results indicate that stronger reporting transparency and integrated accountability mechanisms are associated with higher institutional sustainability performance and better international ranking positions, as reflected in UI GreenMetric indicators. The study concludes that accountability architecture, rather than funding volume alone, plays a decisive role in translating public financing into measurable institutional performance and global competitiveness in higher education. This study contributes to the literature by providing a novel comparative framework that links public financing governance structures to measurable sustainability outcomes in emerging higher education systems.

ABSTRAK

Studi ini mengkaji transparansi dan akuntabilitas dalam pembiayaan pendidikan tinggi melalui analisis komparatif antara Indonesia dan Uzbekistan. Dengan menggunakan pendekatan dokumenter kualitatif, penelitian ini memanfaatkan laporan keuangan pemerintah yang telah diaudit, dokumen akuntabilitas resmi kementerian, serta indikator kinerja keberlanjutan untuk mengevaluasi struktur tata kelola pembiayaan dan hasil kelembagaan. Analisis difokuskan pada ukuran transparansi yang dapat diamati, termasuk disiplin realisasi anggaran, standar pelaporan keuangan, cakupan audit, dan tindakan korektif pengawasan. Temuan penelitian menunjukkan bahwa Indonesia menampilkan model akuntabilitas yang berpusat pada pelaporan, yang ditandai dengan laporan audit yang terstandarisasi dan praktik keterbukaan informasi yang terstruktur, sementara Uzbekistan mencerminkan model yang berpusat pada penegakan, dengan pengendalian audit yang intensif dan intervensi korektif keuangan. Hasil komparatif menunjukkan bahwa transparansi pelaporan yang lebih kuat dan mekanisme akuntabilitas yang terintegrasi berkaitan dengan kinerja keberlanjutan institusi yang lebih tinggi serta posisi peringkat internasional yang lebih baik, sebagaimana tercermin dalam indikator UI GreenMetric. Studi ini menyimpulkan bahwa arsitektur akuntabilitas, bukan semata-mata besaran pendanaan, berperan menentukan dalam menerjemahkan pembiayaan publik menjadi kinerja institusional yang terukur dan daya saing global dalam pendidikan tinggi.

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INTRODUCTION

Discussions surrounding higher education policy across developing and emerging economies increasingly place dual accountability architectures at the forefront of global debates. As governments ramp up public investments in tertiary education, mounting pressure exists to guarantee that financial resources are deployed, administered, and scrutinized efficiently and transparently (Kosor, 2023). Global precedents reveal that robust accountability structures do more than safeguard financial integrity; they actively foster superior institutional performance, bolster sustainability outcomes, and elevate universities' global standing (Effendi & Sirait, 2025).

Examining this dynamic, Indonesia and Uzbekistan provide compelling and highly comparable case studies. Both nations dedicate substantial portions of their national budgets to education and have implemented reforms to optimize higher education financial governance. Indonesia has embedded transparent budgetary practices, routine external audits, and performance-driven metrics into its tertiary framework (Effendi & Sirait, 2025). Meanwhile, Uzbekistan has recently scaled up public financing for higher education, reinforcing fiscal oversight and institutional accountability via national budget frameworks and sectoral roadmaps (Gafurov, 2017). Recent ministerial and audited financial reports further underline why transparency and accountability in higher education financing require closer comparative examination. Evidence from audited education sector financial statements shows that budget realization rates, audit coverage, and corrective financial controls vary not only across countries but also across governance models. For example, audited reports from the Indonesian education sector demonstrate high budget realization discipline and standardized multi-statement financial disclosure structures, while sectoral oversight reports from Uzbekistan reveal intensive audit activity, large-scale financial control procedures, and measurable recovery of misused funds through corrective enforcement mechanisms. These developments indicate that accountability is increasingly operationalized through both formal reporting standards and active audit intervention practices (Ferrero et al., 2018).

Concurrently, international sustainability and governance rankings for universities increasingly integrate metrics tied to financial governance quality, transparency, and accountability capacity. Performance disparities observed in global benchmarks such as the UI GreenMetric ranking imply that structured reporting environments and governance transparency significantly shape both financial integrity, institutional sustainability, and international competitiveness (Cesar & Makiya, 2026). This generates an urgent demand for an integrated analytical approach linking financing transparency, audit accountability, and institutional performance metrics under a unified cross-country framework. From academic and policy standpoints, the nexus connecting financing governance to tangible institutional performance remains underexplored within comparative studies of emerging education sectors. While prior literature frequently examines funding scales or policy reforms in isolation, very few studies systematically bridge documented transparency practices, audit evidence, and performance metrics across different countries. Consequently, a structured comparative evaluation utilizing documentary financial data, audit records, and sustainability indicators yields critical empirical and methodological contributions to higher education finance literature.

Rooted in this context, this study investigates dual accountability architectures in higher education financing by contrasting the experiences of Indonesia and Uzbekistan. By synthesizing official budget records, audited statements, scholarly literature, and sustainability indices like UI GreenMetric, this article delivers empirical insights into how distinct financial governance models shape institutional results and international positioning. Despite extensive scholarly focus on higher education funding, a critical gap persists: while existing research frequently evaluates funding volume



or reform strategies separately (Czarnecki & Korpi, 2026), few studies systematically link documented financial transparency practices, audit accountability evidence, and performance indicators across national systems. Specifically, the mechanisms through which diverse governance architectures translate public financing into measurable international performance outcomes remain underexplored in cross-country comparative studies. The novelty of this study lies in its integrated comparative framework combining documentary financial analysis, institutional audit accountability metrics, and sustainability performance indicators (UI GreenMetric) across two contrasting emerging systems: Indonesia and Uzbekistan. By evaluating how reporting-centered versus enforcement-centered models operate, this research moves beyond traditional input-based funding evaluations. This study contributes to the literature by establishing a dual-accountability comparative perspective, offering methodological integration of documentary financial audits with sustainability metrics, and providing actionable governance insights for emerging higher education systems.

LITERATURE REVIEW

Agency Dynamics and Public Choice Pressures in University Governance

Higher education financing systems are undergoing a structural transition from traditional input-driven allocation models toward governance frameworks prioritizing transparency, accountability, and performance measurement (Gori et al., 2024; Bornmann et al., 2023). To critically evaluate these transformations, institutional financial governance must be analyzed through the lens of theoretical tensions between Agency Theory and Public Choice Theory. Grounded in Agency Theory, contemporary scholarly literature posits that the financial relationship between governing authorities acting as principals and higher education institutions acting as agents is inherently fraught with information asymmetries and divergent organizational objectives (Yallew et al., 2018; Kivistö, 2008; Huisman & Burgoa, 2024). Within this principal-agent architecture, recent governance studies emphasize that robust accountability instruments such as public financial disclosure, performance-based budgeting, and independent external audits serve as essential mechanisms to mitigate agency costs, deter resource misallocation, and preserve public trust (Alinda et al., 2026; Khursheed et al., 2025).

Conversely, Public Choice Theory introduces a critical counter-perspective by conceptualizing public sector actors and institutional managers as utility-maximizing entities who may prioritize budgetary expansion, bureaucratic self-interest, or operational slack over economic efficiency (Coccia, 2009; Bekir & Dogan, 2022). From this theoretical standpoint, relying purely on expanded public funding without rigorous oversight architectures often generates systemic inefficiencies and rent-seeking behaviors within higher education institutions (Friedha et al., 2026). Recent empirical scholarship on public sector governance highlights that political and administrative interactions within universities are frequently distorted by weak institutional constraints and asymmetric power dynamics, which compromises optimal resource allocation (Alberto et al., 2026). Consequently, governance models lacking stringent internal and external controls fail to align managerial outputs with societal expectations.

Bridging these two theoretical perspectives reveals why modern higher education financing requires a delicate balance between hierarchical regulatory compliance and autonomous performance incentives. As recent public administration literature argues, increased financial investment alone is insufficient to elevate institutional competitiveness unless fully institutionalized transparency standards constrain opportunistic managerial actions. Modern university accountability structures must therefore



combine ex-post oversight mechanisms with structured reporting environments to reconcile the principal-agent divide while curbing bureaucratic inefficiencies (Corrala et al., 2025; Yallew et al., 2018; Coccia, 2009).

Comparative Financial Transparency and Sustainability Frameworks in Higher Education

Expanding upon these theoretical paradigms, empirical applications across international higher education sectors demonstrate diverse approaches to managing financing transparency and institutional accountability. Recent comparative fiscal analyses establish that structured public disclosure frameworks and independent auditing practices are foundational to maintaining fiscal integrity and optimizing educational resource allocation (Effendi & Sirait, 2025). Complementing this perspective, empirical policy evaluations emphasize that transparent budgeting infrastructure directly enhances institutional responsiveness and policy effectiveness across diverse economic settings (Corrala et al., 2025; Friedha et al., 2026). Recent scholarly studies further affirm that strong internal control frameworks and standardized reporting practices significantly boost stakeholder confidence and organizational performance in higher education (Fissi et al., 2021; Nikolaou et al., 2023).

In the context of emerging economies, country-specific empirical studies indicate that centralized yet transparent funding architectures, paired with routine auditing and evaluation, positively influence university governance and long-term sustainability outcomes (Hickey, 2024; Priyono & Ahmad, 2018). Effective policy execution requires close synchronization between national budgeting mandates and institutional financial management to secure high predictability and planning capacity (Czarnecki & Korpi, 2026). Conversely, recent academic evaluations demonstrate that systems exhibiting limited public disclosure or fragmented oversight struggle to translate funding increases into tangible institutional improvements, highlighting the critical role of standardized accountability frameworks (Salmi, 2016; Chankseliani & Mccowan, 2020; Ferrero et al., 2018).

Furthermore, the integration of sustainability performance into higher education governance has redefined how institutional accountability is evaluated globally. Sustainability assessment instruments, such as the UI GreenMetric ranking, incorporate metrics that capture governance transparency, infrastructure management, and resource efficiency (Cesar & Makiya, 2026; Sato et al., 2025). Recent governance literature demonstrates a bidirectional relationship wherein global sustainability rankings not only reflect institutional operational outcomes but also actively incentivize internal governance reforms (Burmman et al., 2021; Khursheed et al., 2025). Aligning financial transparency with standardized performance indicators thus provides universities with a strategic mechanism to enhance international visibility and long-term institutional sustainability (Chankseliani & Mccowan, 2020).

RESEARCH METHODOLOGY

This study employs a qualitative comparative design to examine transparency and accountability in higher education financing. To ensure robust cross-country comparison, Indonesia and Uzbekistan were strategically selected as they represent major emerging economies undergoing significant structural reforms in higher education financing while exhibiting contrasting governance traditions specifically, Indonesia's reliance on standardized public reporting versus Uzbekistan's emphasis on centralized administrative control and regulatory enforcement. To evaluate the institutional outcomes of these differing governance models, UI GreenMetric is utilized as an outcome-based performance proxy. The selection of UI GreenMetric is justified because its holistic indicators capture



institutional sustainability governance, infrastructure management, and operational efficiency, reflecting the broader organizational capacity resulting from effective resource management.

Data collection relies exclusively on secondary documentary data and official reports, including national budget laws, audited financial statements, ministerial accountability documents, and international ranking metrics. To enhance research rigor and mitigate potential biases inherent in secondary data, data triangulation was implemented by cross-verifying national budget legislation, independent ministerial audit findings, and international institutional ranking metrics, thereby ensuring high internal consistency and reliability of the documentary evidence. Finally, regarding methodological boundaries, several limitations must be acknowledged. Because this study relies exclusively on secondary documentary data and official reports, the analysis is inherently bounded by the availability, scope, and reporting formats of public disclosures in both countries. Furthermore, while observable associations between financial governance practices and UI GreenMetric outcomes are established, the qualitative comparative design captures institutional association rather than direct statistical causality.

To operationalize the comparative design, this study examines dual accountability architectures referring to the two distinct yet complementary governance models identified across the sampled systems: a reporting-centered model and an enforcement-centered model. Methodologically, these architectures are evaluated through specific, observable empirical dimensions derived from official secondary data. Specifically, Indonesia's reporting-centered architecture is measured through standard audited financial statement disclosures, budget realization discipline, and multi-layered reporting compliance (Indonesian Ministry of Education, 2024). In contrast, Uzbekistan's enforcement-centered architecture is measured through operational audit frequency (entity coverage count), irregularity detection metrics (volume of financial discrepancies in UZS), corrective recovery actions, and digital monitoring integration (Ministry of Higher Education, Science and Innovation of Uzbekistan, 2024). By systematically tracking these contrasting governance metrics alongside institutional sustainability outcomes (UI GreenMetric scores), the methodology bridges documentary financial auditing with outcome-based performance analysis across emerging higher education systems.

RESULT AND DISCUSSION

The analysis reveals significant structural variations between Indonesia and Uzbekistan concerning transparency, accountability, and institutional outcomes in higher education financing. Moving beyond purely descriptive summaries, the empirical findings demonstrate that differences in institutional outcomes stem from distinct accountability architectures rooted in governance theory. Specifically, Indonesia implements a reporting-centered model anchored in standardized financial disclosures and multi-layered accounting compliance, whereas Uzbekistan operationalizes an enforcement-centered model driven by intensive audit controls, digital tracking, and active corrective interventions. While both nations exhibit a strong national commitment to higher education funding, allocating approximately 18% to 20% of their state budgets, the mechanisms translating financial inputs into performance vary substantially.



Table 1: Comparative Overview of Higher Education Financing and Accountability

Indicator	Indonesia	Uzbekistan
Education budget share	20% (2024)	18–20% (2024)
Audit report availability	Fully audited and publicly disclosed	Available, limited public accessibility
Financial autonomy	Moderate to high	Moderate
External oversight	Strong and regular	Present, strengthening
Performance indicators	Explicit (incl. sustainability metrics)	Emerging

Source: Compiled by the author based on audited financial reports and official ministerial governance reports of Indonesia and Uzbekistan (2024)

The comparative indicators in Table 1 indicate that Indonesia has developed a mature, institutionalized system of public financial disclosure and external accountability, reinforced by routine public audits. Conversely, Uzbekistan’s governance framework prioritizes centralized fiscal control and regulatory compliance, where transparency mechanisms are actively developing through digital transformation. Documentary financial analysis based on audited ministerial reports shows that both countries formally comply with public sector accounting standards but differ significantly in the depth of their transparency instruments and accountability enforcement mechanisms.

In Indonesia, the 2024 audited financial report of the Ministry of Education indicates a high level of structured financial reporting aligned with Government Accounting Standards. Budget realization reached 95.56% of allocated expenditure, while non-tax state revenue exceeded projections at 120.82% realization, suggesting strong revenue monitoring and expenditure control discipline. Furthermore, the report includes multi-layered statements such as budget realization, balance sheets, operational reports, and equity change reports, which support methodological indicators of transparency, completeness, and standardized reporting structures.

In contrast, ministry-level reporting in Uzbekistan shows a rapid expansion of financial governance controls through digital monitoring systems, centralized billing platforms, and integrated audit tracking, though with a stronger emphasis on reform progress reporting rather than traditional audited financial statements. Aligned with the accountability dimension defined in the methodology, Uzbekistan’s higher education governance system demonstrates high audit frequency and corrective intervention. To provide a clearer breakdown of these enforcement metrics, the specific dimensions of Uzbekistan's education audit and governance systems are detailed in Table 2 below.

Table 2: Uzbekistan’s Education Audit & Governance Systems

Audit & Governance	Metric / Indicator	Value / Scope
Audit Coverage	Audited Entities	270 entities
Violation Detection	Irregularities Detected	97.1 billion UZS
Corrective Action	Financial Recovery to Budget	20.9 billion UZS
Administrative Control	Disciplinary Actions	Imposed on responsible officials
Preventive Measure	Preventive Budget Savings	76.1 billion UZS

The empirical findings detailed in the table above illustrate the multi-dimensional structure of audit oversight and financial governance within Uzbekistan’s higher education sector. First, regarding Audit Coverage, the evaluation encompasses 270 audited entities, which indicates a high intensity and



broad operational oversight scope applied across national higher education institutions. This extensive coverage ensures that systemic vulnerabilities are captured across a wide institutional network. Second, in terms of Violation Detection, audits successfully identified 97.1 billion UZS in financial irregularities, reflecting robust ex-post enforcement transparency and the capacity of oversight bodies to uncover budget inefficiencies and instances of non-compliance. Third, addressing financial rectification and accountability, the Corrective Action dimension demonstrates a successful recovery of 20.9 billion UZS back to the state budget, showcasing active corrective accountability mechanisms aimed at reclaiming misused or mismanaged public funds. Fourth, this accountability is further reinforced through Administrative Control, where formal disciplinary actions were imposed on responsible officials, highlighting the institutional enforcement of internal discipline and strict administrative compliance. Finally, looking at prospective financial protection, Preventive Measures yielded 76.1 billion UZS in preventive budget savings. This underscores the proactive and preventive effectiveness of institutional audits not merely as retrospective punitive tools, but as vital safeguards in mitigating potential future budget leakages and optimizing resource allocation.

Table 3: Financial Transparency and Accountability Indicators

Indicator	Indonesia (Audited Report)	Uzbekistan (Ministry Report)
Budget realization rate	95.56%	Not unified — program-based
Revenue realization	120.82%	Program revenue growth reported
Audit structure	Standard audited statements	Expanded audit controls
Audit coverage	Financial statements for all entities	270 entity audits
Irregularities detected	Not emphasized	97.1 billion UZS detected
Financial digitalization	Accounting system based	HEMIS, Edu Billing, and integrations
Corrective recovery	Not specified	20.9 billion UZS recovered

Source: Compiled by the author based on audited financial reports and official ministerial governance reports of Indonesia and Uzbekistan (2024)

The indicators in Table 3 are derived from documentary analysis of audited financial statements and official ministerial reports. The comparison shows that Indonesia demonstrates stronger standardized reporting transparency, while Uzbekistan exhibits higher audit enforcement intensity and corrective accountability actions. These differences reflect two distinct operational models of financial accountability in higher education governance. Based on the fiscal performance and accountability comparison between Indonesia and Uzbekistan, there are striking methodological differences between macro-financial structures and operational controls. In terms of fiscal performance, Indonesia demonstrates strong fiscal discipline and revenue monitoring, reflected by a budget realization rate of 95.56% and a revenue realization of 120.82% managed through standardized financial reporting. Conversely, Uzbekistan implements a flexible, program-based approach rather than a unified traditional structure. Regarding oversight frameworks, Indonesia relies on a standard audit structure focused on comprehensive financial statement compliance, whereas Uzbekistan deploys expanded audit controls with specific operational reach, covering 270 entity audits. This divergence in accountability models also shapes enforcement transparency; Uzbekistan explicitly highlights fiscal irregularities by detecting 97.1 billion UZS and successfully recovering 20.9 billion UZS, aspects that are not heavily emphasized in the Indonesian reporting format. Finally, in financial digitalization, Uzbekistan exhibits advanced

digital ecosystem integration through unified platforms like HEMIS and EduBilling, while Indonesia's approach remains primarily anchored on core accounting system-based frameworks.

To complement the documentary financial transparency analysis, institutional sustainability performance indicators were additionally examined using UI GreenMetric 2025 ranking data. Based on the comparative indicator approach defined in the methodology, cumulative sustainability scores and corresponding global ranking positions of representative universities from Indonesia and Uzbekistan were compiled and visualized to illustrate outcome-level performance differences.

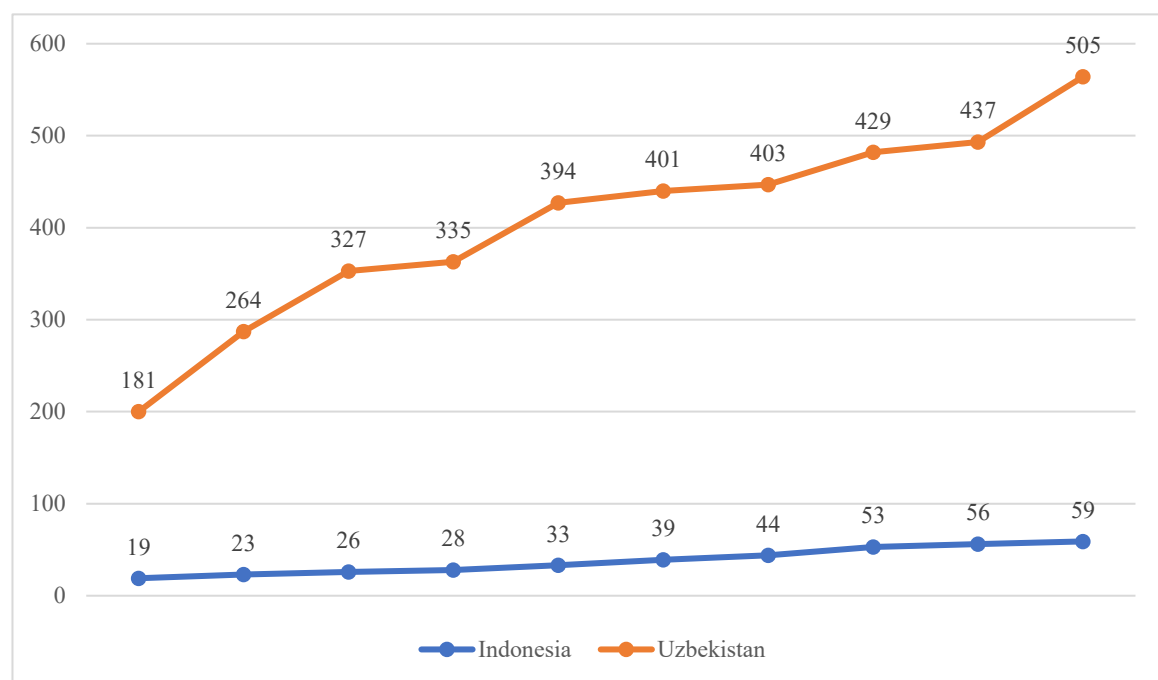


Figure 1: Relationship between UI GreenMetric Scores and Ranking Positions (2025)

Figure 1 shows a consistent positive association between sustainability scores and global ranking positions across the sampled institutions. Indonesian universities demonstrate higher score levels and correspondingly stronger ranking positions, while Uzbek universities show gradual improvement but remain in lower ranking bands. This pattern supports the results indicating that more structured transparency and accountability environments are associated with stronger institutional sustainability outcomes. This empirical pattern confirms that transparent reporting, sustainability investment, and accountability mechanisms are closely associated with international visibility and ranking outcomes.

The findings suggest that financial transparency and accountability function as critical enabling factors for institutional performance and international recognition in higher education. Indonesia's experience demonstrates that clear budget disclosure, audited reporting, and performance-linked financing contribute not only to governance quality but also to measurable institutional outcomes, including sustainability rankings and global competitiveness. In Uzbekistan, recent reforms in higher education financing and governance have produced positive upward trends, particularly in sustainability-related indicators. However, the results indicate that limited public disclosure and weaker integration of performance-based accountability mechanisms constrain the full impact of increased



funding. This aligns with comparative policy literature, which emphasizes that funding volume alone is insufficient without transparent allocation, monitoring, and evaluation frameworks.

In addition, the comparative documentary evidence suggests that transparency and accountability operate through different institutional pathways rather than a single uniform model. The Indonesian case reflects a reporting-centered accountability structure built on standardized audited financial statements and formal disclosure architecture, whereas the Uzbek case demonstrates an enforcement-centered model characterized by frequent audits, irregularity detection, and corrective financial interventions. This distinction indicates that accountability maturity may develop either through reporting standardization or through active control enforcement, but long-term institutional performance gains are more strongly associated with systems where reporting transparency and audit accountability operate in an integrated manner rather than separately.

From a governance perspective, the results also imply that sustainability performance indicators and international ranking outcomes can serve as indirect outcome measures of financing transparency quality. When accountability mechanisms are embedded in routine reporting, audit traceability, and budget execution discipline, institutions appear better positioned to convert financial inputs into measurable performance outputs. This supports recent governance research arguing that higher education finance effectiveness depends on accountability architecture, not only on funding scale or reform intensity. Therefore, policy strategies aimed at improving higher education competitiveness should prioritize disclosure quality, audit standardization, and performance-linked reporting frameworks alongside financial expansion measures. Overall, the comparative analysis confirms the methodological assumption that accountability structures mediate the relationship between public financing and institutional performance. Strengthening transparency mechanisms such as publicly accessible audits, standardized financial reporting, and sustainability-based performance metrics could significantly enhance the effectiveness of higher education financing reforms in Uzbekistan, drawing on lessons from the Indonesian model.

Furthermore, balancing the enforcement-centered model with enhanced reporting transparency offers a strategic pathway for systems like Uzbekistan. While rigorous audit controls and corrective interventions (such as those reflected in Uzbekistan's 270 entity audits and financial recovery metrics) successfully deter fiscal non-compliance, over-reliance on ex-post enforcement can sometimes lead to reactive administrative burdens. By integrating Indonesia's reporting-centered strengths, particularly standardized multi-statement financial disclosures and public accessibility frameworks, into their advanced digital ecosystem (such as HEMIS and EduBilling), Uzbek higher education institutions could bridge the gap between internal regulatory control and external transparency. This synthesis would allow institutions to maintain robust administrative oversight while simultaneously improving stakeholder visibility, long-term strategic planning, and global sustainability standing without compromising internal control effectiveness.

CONCLUSION

This study examined transparency and accountability in higher education financing through a comparative analysis of Indonesia and Uzbekistan, drawing on official budget documents, audited financial reports, academic literature, and international sustainability indicators. The findings demonstrate that while both countries have increased public investment in higher education, the governance quality of financing systems, particularly transparency, reporting practices, and accountability mechanisms, plays a decisive role in determining institutional outcomes. Indonesia's



more institutionalized framework of financial disclosure, external audits, and performance-oriented indicators has contributed to stronger institutional performance and higher international visibility, as reflected in global sustainability rankings. In contrast, Uzbekistan's higher education financing system remains largely centralized, with transparency and performance-based accountability mechanisms still in a formative stage. Although recent reforms and increased funding have produced positive trends, especially in sustainability-related initiatives, the analysis suggests that limited public accessibility of financial information and weaker integration of outcome-based monitoring constrain the effectiveness of these investments. The disparity observed in UI GreenMetric ranking positions further reinforces the conclusion that funding levels alone are insufficient without robust accountability structures that link financial inputs to measurable institutional performance.

Overall, the comparative evidence confirms that transparency and accountability act as mediating factors between public financing and higher education performance. Strengthening open financial reporting, independent auditing, and performance-based evaluation, particularly through sustainability and governance indicators, can significantly enhance the impact of higher education financing reforms. For Uzbekistan, adopting selected elements of the Indonesian model may support more effective resource utilization and improved global competitiveness of universities, while for Indonesia, continued refinement of accountability mechanisms remains essential to sustaining long-term institutional excellence.

Beyond the country-specific implications, this study also contributes methodologically by demonstrating the analytical value of combining documentary financial reports, audited accountability evidence, and sustainability performance indicators within a unified comparative framework. The results show that measurable transparency indicators, such as budget realization discipline, audit coverage, corrective recovery actions, and reporting standardization, can be operationalized as practical governance metrics in higher education finance research. This integrated approach helps bridge the gap between financial governance analysis and institutional performance assessment.

Despite its theoretical and empirical contributions, this study is subject to several methodological limitations that must be explicitly acknowledged. First, the research relies exclusively on secondary documentary data, official state budgets, and published ministerial reports. Consequently, the depth and scope of the analysis are inherently bounded by the reporting formats, frequency, and public accessibility of disclosures provided by government authorities in both countries. Second, while the qualitative comparative design successfully establishes observable associations between financial governance structures and institutional performance outcomes such as UI GreenMetric rankings, it captures institutional correlation rather than direct statistical causality. Future empirical studies could integrate mixed-method designs or longitudinal econometric models to validate causal pathways.

Drawing from the comparative insights, several actionable recommendations can be offered for policymakers and academic institutions. For emerging higher education systems resembling the Uzbek model, policymakers should prioritize enhancing public data accessibility, standardizing financial statement disclosures, and embedding outcome-oriented metrics into routine administrative frameworks. For systems akin to the Indonesia model, focus should be directed toward optimizing digital financial tracking and reinforcing proactive audit feedback loops. Finally, future higher education finance research should move beyond expenditure volume comparisons toward comprehensive accountability architecture analysis, where reporting systems, audit structures, and enforcement mechanisms are examined together as primary drivers of global competitiveness and long-term institutional sustainability.



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