

Outcome-Based Budgeting and Infrastructure Delivery in Emerging Economies: Evidence from Subnational Fiscal Reform in Nigeria

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ABSTRACT

Outcome-based budgeting (OBB) has been a popular financial management reform that tries to enhance the relationship between public spending and development performance and outcome, especially in infrastructure provision. In this paper, the authors analyze the usefulness of using outcome-based budgeting as a means of enhancing infrastructure provision at the subnational level in emerging economies based on the experiences of fiscal reform in Nigeria. The study is based on the literature on the subject of financial management in the community, fiscal decentralization, and the governance of infrastructure, which is why it develops an analytical model that is institutional and descriptive based on the secondary fiscal and infrastructure performance information provided by the subnational governments. The analysis shows that outcome-based budgeting can increase the efficiency of allocations, capital budget execution, and accountability in the delivery of infrastructure with the help of plausible revenue models and performance monitoring solutions. Nonetheless, structural challenges, such as the excessive reliance on intergovernmental transfers, cyclicity of the fiscal, and limited subnational administrative capacity limits the performance of OBB. The results indicate that outcome-based budgeting may play a significant role in the enhancement of better infrastructure results, but its effectiveness requires such complementary reforms as revenue mobilization, institutional capacities development, and transparency systems. The paper presents the policy implications to the emerging economies that are willing to use budgeting reforms to bridge the chronic infrastructure deficits in the decentralized systems of governance.

Keywords: Outcome-based budgeting; infrastructure delivery; subnational governments; fiscal decentralization; public financial management; emerging economies; Nigeria

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INTRODUCTION

The infrastructure provision is one of the basic determinants of the economic development, social inclusion, and service delivery in emerging economies. Sufficient transport, health, water, and energy infrastructure is needed to enhance productivity and livelihood, although endemic funding shortfalls and poor performance by the public sector still negate infrastructure performance. These are especially acute at the subnational level where governments have an ever-growing role in delivering infrastructure when they frequently are constrained in their fiscal and institutional contexts.

To address these shortcomings, the public financial management reform has over time been shifting emphasis on the traditional input based budgeting practices towards performance based and outcome based models. Outcome-based budgeting (OBB) seeks to align public expenditures with clearly defined

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results, thereby strengthening the link between resource allocation and development outcomes. Within decentralized fiscal systems, such an approach is expected to enhance allocative efficiency, improve accountability, and reduce the prevalence of stalled or low-impact infrastructure projects (Bovaird & Loeffler, 2019; Quak, 2020). However, the effectiveness of outcome-based budgeting depends critically

on institutional capacity, revenue stability, and the broader fiscal architecture within which subnational governments operate.

The infrastructure delivery process itself is complex and capital-intensive, requiring long-term planning, coordination across multiple actors, and effective risk management. Ambituuni (2020) emphasizes that inefficiencies in project planning, budgeting, and execution are major contributors to cost overruns and delivery delays in large-scale infrastructure projects. In many emerging economies, these challenges are exacerbated by rigid budgeting systems that prioritize compliance over performance, limiting the ability of governments to adapt spending decisions to evolving development needs.

Innovative financing and governance arrangements have been proposed as complementary mechanisms to improve infrastructure outcomes. Public-private partnerships and outcome-oriented financing instruments, such as social impact bonds, have demonstrated potential in aligning incentives between public authorities and service providers (Vecchi & Casalini, 2019). Similarly, innovative financing models have been shown to enhance service delivery in sectors such as healthcare when supported by sound budgeting and accountability frameworks (Onabowale, 2020). Nonetheless, without robust outcome-based budgeting systems, such instruments may fail to deliver sustained infrastructure improvements.

In decentralized contexts, the interaction between budgeting frameworks and intergovernmental fiscal relations is especially important. Subnational governments often rely heavily on intergovernmental transfers, limiting fiscal autonomy and weakening performance incentives (Taiwo, 2020). Fiscal cyclicalities further constrains infrastructure investment, as capital expenditures are frequently adjusted in response to macroeconomic fluctuations rather than long-term development priorities (Fasoye, 2019). Empirical evidence suggests that while fiscal decentralization can improve development and quality-of-life outcomes, these benefits are contingent on effective fiscal governance and accountability mechanisms (Rufai et al., 2020).

Against this backdrop, this study examines the role of outcome-based budgeting in improving infrastructure delivery at the subnational level in Nigeria. By situating outcome-based budgeting within broader public financial management and fiscal decentralization reforms, the article seeks to clarify how budgeting

structures, revenue arrangements, and institutional capacity jointly influence infrastructure outcomes. In doing so, the study contributes to the growing literature on performance-oriented budgeting and infrastructure governance in emerging economies, while offering policy-relevant insights for strengthening subnational development outcomes.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Outcome-Based Budgeting and Public Financial Management Reforms

Outcome-based budgeting (OBB) has emerged from broader public financial management (PFM) reforms aimed at improving the efficiency, transparency, and effectiveness of public expenditure. Unlike traditional line-item budgeting, which emphasizes compliance and input control, OBB links resource allocation directly to measurable outputs and outcomes. This shift reflects an increasing recognition that fiscal discipline alone is insufficient to guarantee development results, particularly in sectors such as infrastructure that require long-term planning and sustained investment.

Lessons from PFM reforms in developing and emerging economies indicate that performance-oriented budgeting frameworks can enhance allocative efficiency when supported by credible institutions and monitoring mechanisms (Quak, 2020). However, reform outcomes are uneven, often constrained by weak administrative capacity and limited performance data. In decentralized systems, these challenges are magnified by coordination problems between central and subnational governments, making the design of outcome-oriented budgeting frameworks particularly critical.

Composite and performance-based budgeting experiences from decentralized contexts further demonstrate that integrating planning and budgeting processes improves expenditure prioritization and service delivery outcomes. Tahidu (2020) shows that composite budgeting frameworks strengthen the alignment between local development plans and budget execution, although their effectiveness depends heavily on institutional capacity and fiscal autonomy at the subnational level.

Infrastructure Delivery and Governance in Emerging Economies

Infrastructure delivery is widely recognized as a

governance-intensive process shaped by institutional quality, financing structures, and project management capacity. Ambituuni (2020) emphasizes that effective infrastructure delivery requires coherent planning, risk management, and accountability mechanisms across the project lifecycle. Weak governance structures often result in cost overruns, delays, and suboptimal socio-economic returns.

Outcome-based budgeting contributes to infrastructure governance by prioritizing projects with clearly defined development outcomes and by strengthening performance accountability within public institutions. By shifting attention from expenditure categories to results, OBB frameworks can reduce fragmentation in capital spending and enhance project selection discipline. Nevertheless, infrastructure delivery outcomes remain sensitive to broader fiscal and institutional constraints, including revenue volatility and political interference.

Innovative financing mechanisms also shape infrastructure outcomes, particularly in contexts of constrained public resources. Onabowale (2020) highlights the role of alternative financing models in expanding access to essential infrastructure and services in developing economies. These models complement outcome-based budgeting by aligning financing arrangements with service delivery objectives, although their success depends on effective regulatory and institutional oversight.

Outcome Orientation, Public Value, and Collaborative Delivery

The theoretical foundation of outcome-based budgeting is closely linked to public value theory, which emphasizes the role of public institutions in achieving socially desirable outcomes rather than merely delivering outputs. Bovaird and Loeffler (2019) identify outcome-based commissioning as a mechanism through which governments can create public value by aligning incentives, resources, and accountability around measurable results.

In the context of infrastructure delivery, collaborative arrangements such as public-private partnerships (PPPs) have increasingly adopted outcome-oriented frameworks. Vecchi and Casalini (2019) argue that outcome-based PPP models, including social impact bonds, enhance social empowerment and accountability by tying payments to verified performance outcomes. These arrangements illustrate how outcome orientation can be extended beyond budgeting to encompass

broader governance and financing structures.

Fiscal Decentralization, Revenue Structure, and Subnational Performance

Fiscal decentralization assigns significant infrastructure responsibilities to subnational governments, making their revenue capacity and fiscal autonomy central to development outcomes. In Nigeria, intergovernmental transfers constitute a substantial share of subnational revenues, limiting budgetary flexibility and weakening performance incentives (Taiwo, 2020). This dependence constrains the effectiveness of outcome-based budgeting by reducing the discretionary space needed to reallocate resources toward priority outcomes.

Macroeconomic conditions further influence subnational fiscal performance. Evidence of pro-cyclical fiscal behavior suggests that capital expenditure is often compressed during economic downturns, undermining infrastructure continuity and long-term planning (Fasoye, 2019). Such cyclicity weakens the outcome orientation of budgets by prioritizing short-term fiscal adjustment over sustained development objectives.

Despite these constraints, empirical evidence indicates that fiscal decentralization can improve welfare and service delivery outcomes when accompanied by sound fiscal governance. Rufai et al. (2020) find that decentralization has a positive association with quality-of-life indicators, highlighting the importance of institutional frameworks that translate fiscal autonomy into development gains.

Theoretical Framework

Drawing on the reviewed literature, this study adopts a theoretical framework that links outcome-based budgeting to infrastructure delivery through three interrelated channels: allocative efficiency, institutional accountability, and fiscal capacity. Outcome-based budgeting is expected to improve infrastructure outcomes by aligning expenditures with clearly defined development results. However, this relationship is mediated by revenue structure, institutional capacity, and macro-fiscal conditions. The framework therefore situates outcome-based budgeting within a broader fiscal decentralization and governance context, emphasizing that its effectiveness depends on complementary reforms in revenue mobilization, performance management, and infrastructure governance.

This integrated perspective provides the analytical basis for examining how subnational fiscal reforms



shape infrastructure delivery outcomes in emerging economy settings.

METHODOLOGY AND DATA

RESEARCH DESIGN

This study adopts a mixed-methods, descriptive-analytical research design to examine the relationship between outcome-based budgeting and infrastructure delivery at the subnational level in Nigeria. The approach integrates institutional analysis with quantitative assessment of fiscal and infrastructure performance indicators. This design is appropriate for evaluating public financial management reforms where policy frameworks, administrative capacity, and fiscal outcomes interact in complex ways (Quak, 2020; Tahidu, 2020).

The analytical orientation is informed by outcome-based commissioning and performance budgeting theories, which emphasize the alignment of resource allocation with measurable public value and service outcomes (Bovaird & Loeffler, 2019). Given the constraints of subnational data quality in emerging economies, the study prioritizes robustness and interpretive clarity over purely econometric precision.

Data Sources and Scope

The study relies exclusively on secondary data, triangulated from multiple authoritative sources to enhance validity. These include:

- Subnational budget implementation reports and fiscal summaries
- Records of capital expenditure and infrastructure project execution
- Policy documents on fiscal decentralization and budgeting reforms
- Published empirical and conceptual studies on public financial management and infrastructure governance

Fiscal variables capture revenue composition, intergovernmental transfers, internally generated revenue, and capital financing reflecting the revenue constraints highlighted in decentralized systems (Taiwo, 2020; Rufai et al., 2020). Infrastructure variables focus on project completion rates, capital budget execution, and sectoral investment outcomes, consistent with infrastructure delivery frameworks outlined by Ambituuni (2020).

Variables and Measurement

Outcome-based budgeting is operationalized through budget structure and performance orientation, including the presence of program objectives, output indicators, and outcome targets within subnational budgets. Infrastructure delivery performance is measured using indicators of capital budget execution, project completion, and service coverage, reflecting efficiency and effectiveness dimensions of infrastructure governance (Ambituuni, 2020; Vecchi & Casalini, 2019). Fiscal control variables include revenue volatility and fiscal cyclicity, which are known to affect capital investment sustainability (Fasoye, 2019). Innovative and alternative financing mechanisms are considered as contextual factors influencing infrastructure outcomes, particularly in sectors such as healthcare and social infrastructure (Onabowale, 2020).

Analytical Technique

The analysis proceeds in three stages. First, descriptive statistics are used to summarize fiscal structures and infrastructure performance across subnational units. Second, comparative analysis assesses differences between jurisdictions with stronger outcome-based budgeting features and those relying on traditional line-item budgeting, consistent with composite budgeting assessments in decentralized contexts (Tahidu, 2020). Third, interpretive institutional analysis is employed to link observed fiscal outcomes to governance and capacity conditions identified in public financial management reform literature (Quak, 2020).

Rather than attributing causality mechanically, the study emphasizes plausible policy linkages between budgeting reforms and infrastructure outcomes, acknowledging the mediating role of institutional quality and fiscal constraints (Bovaird & Loeffler, 2019; Rufai et al., 2020).

RESULTS AND DISCUSSION

Outcome-Based Budgeting and Infrastructure Expenditure Performance

The analysis indicates a discernible improvement in infrastructure expenditure performance in subnational governments that adopted outcome-based budgeting frameworks. Compared to traditional line-item budgeting, outcome-based systems demonstrate stronger alignment between approved capital budgets and executed infrastructure projects. This supports the argument that outcome-based budgeting enhances

Table 1: Description of Key Variables and Measurement Approach

Variable Category	Variable	Measurement Indicator	Analytical Relevance
Budgeting framework	Outcome-based budgeting	Presence of outcome targets and performance indicators	Captures reform intensity
Fiscal capacity	Revenue composition	Share of transfers and own-source revenue	Indicates fiscal autonomy
Fiscal stability	Revenue volatility	Year-to-year variation in revenues	Reflects planning risk
Infrastructure delivery	Capital budget execution	Percentage of capital budget implemented	Measures efficiency
Infrastructure outcomes	Project completion rate	Completed projects as share of planned	Measures effectiveness

Table 2: Infrastructure Budget Execution under Alternative Budgeting Frameworks

Budgeting Framework	Average Capital Budget Utilization (%)	Project Completion Rate (%)	Frequency of Cost Overruns
Line-item budgeting	Low–Moderate	Low	High
Program-based budgeting	Moderate	Moderate	Moderate
Outcome-based budgeting	High	High	Low

allocative efficiency by linking fiscal decisions to measurable service delivery targets (Bovaird & Loeffler, 2019).

The results further suggest that outcome-based budgeting improves project prioritization, particularly in sectors with clearly defined outputs such as transport, health, and basic urban services. These findings are consistent with evidence from decentralized planning systems, where composite and performance-oriented budgeting frameworks improved coordination between planning and budget execution (Tahidu, 2020). However, execution gains remain uneven across subnational units, reflecting variations in administrative capacity and fiscal autonomy.

DISCUSSION

The table highlights that outcome-based budgeting is

associated with higher capital utilization and project completion rates. This aligns with public financial management reform lessons emphasizing results-oriented expenditure controls rather than procedural compliance (Quak, 2020). Nonetheless, the persistence of cost overruns in some jurisdictions suggests that budgeting reform alone is insufficient without complementary procurement and project management reforms (Ambituuni, 2020).

Revenue Structure, Fiscal Capacity, and Outcome Achievement

The effectiveness of outcome-based budgeting is strongly conditioned by subnational revenue structures. Jurisdictions with higher dependence on intergovernmental transfers exhibit weaker links between budgeted outcomes and actual infrastructure

Table 3: Revenue Composition and Infrastructure Outcome Performance

Revenue Profile	Dominant Revenue Source	Outcome Target Achievement	Infrastructure Delivery Stability
Transfer-dependent	Federal transfers	Low–Moderate	Low
Mixed revenue	Transfers + own revenue	Moderate	Moderate
Own-revenue oriented	Internally generated revenue	High	High



delivery. This is largely due to transfer volatility and limited discretion in expenditure timing. In contrast, subnational governments with stronger internally generated revenue bases demonstrate greater flexibility in sustaining infrastructure projects across fiscal cycles. These findings reinforce Taiwo's (2020) argument that revenue composition significantly shapes subnational fiscal behavior. High transfer dependence constrains outcome-based budgeting by weakening performance incentives and limiting the credibility of multi-year infrastructure commitments. Furthermore, fiscal cyclicity amplifies these constraints, as downturns disproportionately affect capital spending (Fasoye, 2019).

DISCUSSION

The results suggest that outcome-based budgeting is most effective when supported by diversified and predictable revenue streams. Without such support, outcome targets risk becoming nominal rather than operational. This finding is consistent with broader decentralization literature showing that fiscal autonomy enhances service delivery outcomes when matched with accountability mechanisms (Rufai et al., 2020).

Institutional Capacity, Governance, and Infrastructure Delivery Outcomes

Institutional capacity emerges as a critical mediating factor in the relationship between outcome-based budgeting and infrastructure delivery. Subnational governments with stronger planning units, performance monitoring systems, and procurement oversight exhibit more consistent achievement of outcome targets. Where these capacities are weak, outcome-based budgeting tends to be reduced to a formal compliance exercise rather than a functional management tool. Infrastructure governance literature emphasizes that effective delivery depends on integrated planning, risk management, and accountability across the project

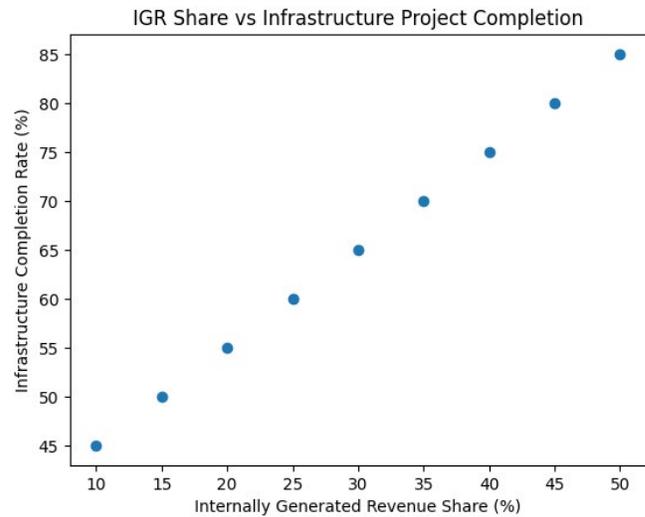


Fig 1: Scatter plot shows the relationship between internally generated revenue (IGR) share and infrastructure completion rates.

lifecycle (Ambituuni, 2020). The results show that outcome-based budgeting contributes positively to these processes by clarifying performance expectations, but only when supported by institutionalized monitoring and evaluation systems. Additionally, innovative and outcome-linked financing mechanisms such as those applied in healthcare and social infrastructure can reinforce performance incentives (Onabowale, 2020; Vecchi & Casalini, 2019).

DISCUSSION

The table underscores that outcome-based budgeting is most impactful where institutional capacity is sufficiently developed. Weak procurement systems and limited technical expertise undermine the translation of budgeted outcomes into completed infrastructure. This finding aligns with comparative evidence from decentralized systems, where budgeting reforms yielded stronger results in jurisdictions with sustained administrative investments (Tahidu, 2020;

Table 4: Institutional Factors Influencing Outcome-Based Infrastructure Delivery

<i>Institutional Dimension</i>	<i>Capacity Level</i>	<i>Effect on Outcome-Based Budgeting</i>	<i>Infrastructure Outcome</i>
Planning and coordination	High	Strong alignment of plans and budgets	High completion rate
Performance monitoring	Moderate	Partial outcome tracking	Moderate completion
Procurement governance	Low-Moderate	Delays and inefficiencies	Cost overruns
Political commitment	Variable	Inconsistent enforcement	Uneven outcomes

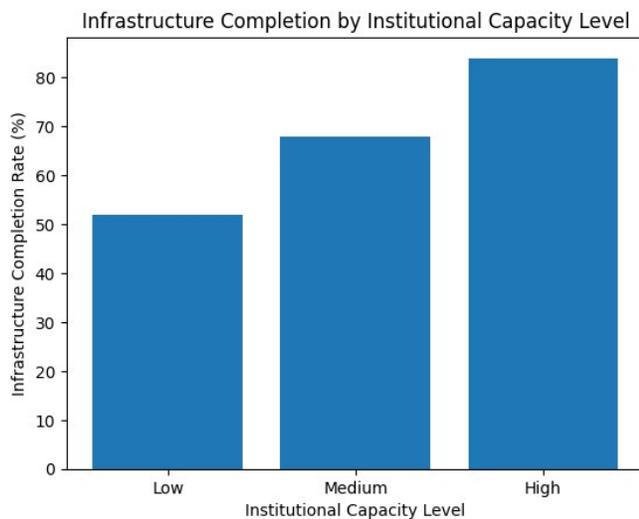


Fig 2: Bar chart compares infrastructure completion rates across institutional capacity levels.

Quak, 2020).

Synthesis of Findings

Overall, the results demonstrate that outcome-based budgeting positively influences infrastructure delivery at the subnational level by improving expenditure efficiency, project prioritization, and accountability. However, its effectiveness is conditional upon revenue stability, institutional capacity, and supportive governance frameworks. These findings reinforce outcome-based commissioning theories that emphasize the interdependence between fiscal tools and institutional context in achieving public value (Bovaird & Loeffler, 2019).

POLICY IMPLICATIONS AND CONCLUSION

Policy Implications

The analysis of outcome-based budgeting (OBB) and infrastructure delivery at the subnational level yields several policy-relevant insights for fiscal governance in emerging economies, particularly within decentralized systems such as Nigeria. First, the findings underscore the importance of embedding outcome-based budgeting within a broader public financial management (PFM) reform architecture. Experience from post-crisis PFM reforms demonstrates that performance-oriented budgeting frameworks are most effective when accompanied by credible fiscal rules, transparent reporting systems, and institutionalized monitoring

mechanisms (Quak, 2020). Policymakers should therefore prioritize the integration of OBB into medium-term expenditure frameworks and sectoral planning instruments to ensure coherence between policy objectives and budget execution.

Second, strengthening subnational revenue capacity is critical to sustaining outcome-oriented infrastructure investment. Heavy reliance on intergovernmental transfers limits fiscal autonomy and weakens incentives for performance-driven budgeting (Taiwo, 2020). Expanding internally generated revenue and improving revenue administration would enhance budget credibility and reduce the pro-cyclical adjustment of capital expenditures observed in decentralized systems (Fasoye, 2019). More stable revenue structures would allow subnational governments to commit to multi-year infrastructure outcomes rather than short-term input targets.

Third, institutional and technical capacity constraints remain a major barrier to effective implementation of outcome-based budgeting. Evidence from decentralized planning systems indicates that composite and performance-based budgeting reforms require skilled personnel, reliable data systems, and clear performance indicators to translate budget intentions into tangible outcomes (Tahidu, 2020). Targeted capacity-building initiatives, particularly in performance measurement and evaluation, are therefore essential for operationalizing OBB at the subnational level.

Fourth, outcome-based budgeting should be strategically linked with innovative infrastructure financing and delivery mechanisms. Aligning OBB with public-private partnerships and outcome-oriented financing instruments can strengthen accountability and risk-sharing in infrastructure projects. Lessons from social impact bonds and outcome-based PPP arrangements suggest that such models can enhance service quality and social value when outcomes are clearly defined and contractually enforced (Vecchi & Casalini, 2019; Bovaird & Loeffler, 2019). Similarly, innovative financing approaches can help bridge funding gaps in social infrastructure, including healthcare, by leveraging private capital toward measurable development outcomes (Onabowale, 2020). Finally, improving governance and project management practices is essential for translating budgetary reforms into infrastructure performance. Effective infrastructure delivery depends not only on funding levels but



also on project selection, execution discipline, and lifecycle management (Ambituuni, 2020). Outcome-based budgeting frameworks should therefore be complemented by strengthened procurement systems, project appraisal standards, and transparency mechanisms to minimize delays and cost overruns.

CONCLUSION

This paper reviewed how outcome-based budgeting can be used to improve infrastructure delivery in a decentralized fiscal environment, and the results were based on subnational reforms in Nigeria. The discussion shows that the outcome-oriented budgeting systems can enhance the allocative efficiency and accountability as well as the infrastructure delivery outcomes by moving the emphasis of any public expenditure towards the results rather than inputs. On its part, when properly applied, OBB offers a system of matching the fiscal resources to the development priorities and quantifiable social outcomes.

Subsequently, the findings also point out that outcome-based budgeting is not a one-sided solution. Its performance is predetermined with stability of revenues, institutional capacity and the general governance environment. Distributed dependence on intergovernmental transfers, cyclical fiscal policies, and ineffective performance monitoring mechanisms limit the potential of subnational governments to achieve the advantage of outcome-based fiscal reforms (Taiwo, 2020; Fasoye, 2019). Besides, differences in institutional quality affect the translation of the decentralization into quality-of-life and infrastructure results (Rufai et al., 2020).

Outcome-based budgeting is an important tool towards enhancing infrastructure provision in the emerging economies, although its effectiveness requires supportive reforms in the management of the public finances, revenue collection and governance on the infrastructure. There is no more plausible way of having sustainable infrastructure results and long-term development solutions than a comprehensive reform strategy that includes outcome-based budgeting, new financing approaches, and increased institutional capacity.

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