

Analysis of Project Performance and the Selection of Mitigation Strategies for Fiscal Disruptions Due to Government Budget Relaxation Policies

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Keywords	Abstract
fiscal disruption; earned value management; project performance; project financing; national strategic project.	Changes in budget allocation mechanisms and delays in fund disbursement have adversely affected project schedules, cost efficiency, and cash flow stability. This study aims to quantitatively evaluate the impact of fiscal disruption on project performance using Earned Value Management (EVM) indicators—namely the Schedule Performance Index (SPI) and Cost Performance Index (CPI)—and to identify the most feasible managerial mitigation strategy under constrained fiscal conditions. The research adopts a quantitative-dominant mixed-methods approach utilizing secondary data derived from official project documents, including S-curves, progress reports, cash flow statements, and government fiscal policy regulations. Project performance is assessed through EVM, while financial conditions are evaluated using Net Cash Flow (NCF) and Net Profit (NP) analysis. Several alternative funding strategies are analyzed using Discounted Cash Flow (DCF) techniques such as Net Present Value (NPV), Internal Rate of Return (IRR), Discounted Payback Period (DPP), and Debt Service Coverage Ratio (DSCR). The alternatives are subsequently ranked using a Multi-Criteria Decision Making (MCDM) approach based on a Weighted Scoring Model (WSM). The results indicate that fiscal adjustment policies significantly deteriorated project performance, as reflected by an SPI of 0.669 and a CPI of 0.957 as of June 2025. Among the evaluated mitigation strategies—internal funding, external funding, partial PPP, and a combination of internal–external funding—the combined strategy yields the most balanced technical and financial performance. Although it does not generate the highest profit, this strategy demonstrates superior overall feasibility and resilience under fiscal pressure.

INTRODUCTION

The relocation of Indonesia's National Capital City (IKN) to East Kalimantan represents a strategic national policy with long-term political, economic, and social implications. The development of a new capital city requires not only political commitment but also strong readiness in basic infrastructure and sustainable financing mechanisms to ensure successful implementation (Ghalib et al., 2021). Shimamura and Mizunoya (2020) emphasize that the sustainability of capital city relocation projects is highly dependent on the availability and performance of transportation infrastructure, particularly toll roads that support connectivity to the Core Government Area (KIPP).

Within this context, the IKN Toll Road Section 3A.2 serves as a critical infrastructure component aimed at enhancing logistics efficiency and inter-area accessibility. As a National Strategic Project (PSN), the project is subject to priority execution and direct oversight by the

central government. However, despite its strategic importance, the project encountered significant fiscal challenges entering early 2025.

Fiscal disruption in this study refers to substantial and sudden changes in state budget allocation and disbursement mechanisms that directly affect project financing continuity (Ahinsah-Wobil, 2024; Khanh, 2026). Such disruptions emerged following the implementation of key fiscal efficiency policies, including Presidential Instruction of the Republic of Indonesia Number 1 of 2025, Circular Letter of the Minister of Public Works Number 6/SE/M/2025, and the Letter of the Minister of Finance of the Republic of Indonesia Number S-37/MK.02/2025. These policies restructured budget allocations across fiscal years and delayed disbursements, thereby affecting contractors' cash flows, productivity levels, and project schedules (Hartono, 2025; Instruksi Presiden RI No. 1 Tahun 2025).

From a project management perspective, fiscal disruption necessitates the formulation of clear and measurable managerial strategies to maintain project continuity under constrained financial conditions (Harake, 2025). Managerial strategy in construction projects encompasses decision-making and control actions aimed at anticipating risks, optimizing resource utilization, and stabilizing performance based on actual project data (Project Management Institute, 2017). Previous studies have demonstrated that financing delays significantly influence time and cost performance in infrastructure projects (Saputra et al., 2021). However, these studies generally focus on conventional projects and do not explicitly address National Strategic Projects operating under dynamic fiscal policy pressure.

Research on financial risks in toll road projects, particularly under Public–Private Partnership (PPP) schemes, has identified critical risk factors affecting financial feasibility (Fahira Rhomianti Putri et al., 2023; Arditi et al., 2016). Nonetheless, the existing literature largely concentrates on risk identification at the planning stage and lacks empirical evaluation of practical mitigation strategies during the construction phase under fiscal constraints. Furthermore, studies on IKN toll road projects have primarily emphasized technical and economic feasibility during the planning phase, leaving a gap in understanding how fiscal shocks affect project performance and financing decisions during execution.

The research gap is further evident when comparing this study with existing literature. Fahira Rhomianti Putri et al. (2023) identified critical risks affecting the financial aspects of PPP toll road projects, but their study was limited to risk identification without quantifying the impact on schedule and cost performance using Earned Value Management (EVM). Arditi et al. (2016) examined PPP from the perspective of large construction companies; however, their research did not address the specific context of fiscal policy changes imposed by the government during project execution. Hartono (2025) analyzed the urgency of Presidential Instruction Number 1 of 2025 on APBN implementation, but the study focused on policy interpretation rather than empirical project performance data. Thus, this study fills the gap by providing empirical evidence from an ongoing PSN project experiencing real-time fiscal disruption and by offering a practical, replicable framework for selecting mitigation strategies under budget constraints.

The novelty of this research is fourfold. First, this study integrates three analytical methods—Earned Value Management (EVM) for technical performance, Discounted Cash Flow (DCF) for financial feasibility, and Multi-Criteria Decision Making (MCDM) for strategy selection—into a unified framework specifically designed for fiscal disruption contexts.

Second, unlike previous studies that rely on simulated or hypothetical data, this research uses actual secondary data from an ongoing National Strategic Project experiencing real-time fiscal policy changes, thereby providing empirical validity to the findings. Third, this study explicitly evaluates four alternative mitigation strategies (internal funding, external funding, partial PPP, and a combined internal–external approach) using objective quantitative criteria derived from project documents rather than relying solely on subjective expert judgment. Fourth, this research focuses on the construction execution phase under fiscal pressure, a phase that has received limited attention in the literature compared to planning and feasibility stages.

This research addresses the identified gap by integrating technical performance analysis using Earned Value Management (EVM) with financial feasibility evaluation and multi-criteria decision-making. Unlike prior studies, this research focuses on an ongoing National Strategic Project experiencing real-time fiscal disruption, providing empirical evidence on the effectiveness of alternative funding strategies. Therefore, the study aims to (1) evaluate the impact of fiscal disruption on project schedule, cost, and liquidity performance, and (2) determine the most feasible managerial mitigation strategy to sustain project execution under budget constraints.

METHOD

This study applied a quantitative-dominant mixed-methods approach, in which quantitative analysis formed the core of the evaluation, supported by structured qualitative judgment for decision-weighting purposes. Secondary data were utilized exclusively and were obtained from official project documents, including S-curves, physical and financial progress reports, cost and cash flow statements, project schedules, contract addenda, and government fiscal policy regulations.

The research object was the IKN Toll Road Project Section 3A.2 for the 2023–2025 fiscal years. The units of analysis included project schedule and cost performance, liquidity and profitability indicators, and the financial feasibility of alternative mitigation strategies.

Project performance was evaluated using the Earned Value Management (EVM) method, which integrates scope, schedule, and cost performance into a unified analytical framework (PMI, 2017; Fleming & Koppelman, 2020). Key indicators included Planned Value (PV), Earned Value (EV), Actual Cost (AC), Schedule Performance Index (SPI), and Cost Performance Index (CPI). The interpretation of SPI and CPI followed established EVM standards, in which values below 1.0 indicate schedule delays and cost inefficiencies, respectively (Vanhoucke, 2012; Batselier & Vanhoucke, 2015).

Financial performance was assessed through Net Cash Flow (NCF) and Net Profit (NP) analyses to evaluate liquidity and profitability conditions. Liquidity pressure was identified based on mismatches between cash inflows and outflows during the construction period, consistent with construction finance theory (Brigham & Houston, 2019).

The financial feasibility of mitigation strategies was evaluated using Discounted Cash Flow (DCF) methods, including Net Present Value (NPV), Internal Rate of Return (IRR), Discounted Payback Period (DPP), and Debt Service Coverage Ratio (DSCR). These indicators were applied to assess long-term viability and debt service capacity under alternative funding structures (Brigham & Houston, 2019; Kasmir, 2016).

The selection of mitigation strategies was conducted using a Multi-Criteria Decision Making (MCDM) approach with a Weighted Scoring Model (WSM). Technical and financial criterion values were derived from quantitative analyses, while criterion weights were determined through structured expert judgment involving project stakeholders. The use of WSM was justified as a transparent and widely applied method for integrating quantitative performance indicators with managerial judgment (Jato-Espino et al., 2014).

RESULT AND DISCUSSION

Project Performance under Fiscal Disruption

EVM analysis up to the June 2025 cut-off date indicates a significant deviation from the original baseline. The Schedule Performance Index (SPI) of 0.669 demonstrates that project progress lagged approximately 33.1% behind the planned schedule, while the Cost Performance Index (CPI) of 0.957 indicates reduced cost efficiency. According to EVM standards, SPI and CPI values below unity signify unfavorable performance conditions requiring corrective managerial action (Fleming & Koppelman, 2020).

Financial Condition and Liquidity Analysis

Despite recording a cumulative net profit of IDR 142 billion (5.53% margin), the project experienced substantial liquidity pressure due to delayed budget disbursements. Net cash flow analysis reveals deficits of IDR 12.66 billion in November 2026 and IDR 121.91 billion in December 2026. This condition confirms that the primary issue lies in short-term cash flow management rather than long-term profitability, consistent with construction financing theory (Kenley, 2003).

Evaluation of Mitigation Strategies

Three mitigation strategies—internal funding, external funding, and partial PPP—were evaluated, along with a combined internal–external funding strategy. DCF analysis shows that the combined strategy yields a positive NPV, an IRR exceeding the Weighted Average Cost of Capital (WACC), and a DSCR above the minimum threshold, indicating strong financial feasibility.

The MCDM results further indicate that although the combined strategy does not maximize profit, it provides superior overall performance by balancing technical continuity, financial stability, and risk exposure (Abdel-Basset et al., 2020; Yu et al., 2020; Zhao et al., 2018). This finding aligns with previous studies emphasizing integrated technical–financial decision-making in infrastructure projects under uncertainty (Yescombe & Farquharson, 2018).

CONCLUSION

This study found that the 2025 fiscal adjustment policy adversely affected the schedule, cost efficiency, and liquidity performance of the IKN Toll Road Section 3A.2 project, with Earned Value Management (EVM) indicating significant delays and declining cost performance, while financial analysis showed that liquidity constraints—rather than profitability—were the primary challenge under fiscal disruption. Among the evaluated mitigation options, the combined internal–external funding strategy was identified as the most feasible, as it provided stronger cash flow stability, maintained technical performance, and achieved the highest overall ranking in the Multi-Criteria Decision Making (MCDM)

assessment, making it the most adaptive and sustainable solution for National Strategic Projects under fiscal pressure. This study contributes by integrating EVM, financial feasibility analysis, and MCDM into a unified, empirically grounded framework, offering practical insights for project managers and policymakers; future research is recommended to expand this framework by incorporating real-time primary data, broader project comparisons, and dynamic modeling approaches to better capture long-term impacts of fiscal policy changes across different infrastructure sectors.

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