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Evaluating the Economic Efficiency of Public-Private Partnership Projects in Uzbekistan

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Abstract: Public-private partnerships have expanded at a remarkable pace in Uzbekistan, yet rigorous assessments of their economic returns remain scarce. We examine PPP efficiency across energy, utilities, and social sectors using internal rate of return, net present value ratio, payback period, and value-for-money savings. Project-level data from the PPP Development Agency and World Bank benchmarking reports for 2017–2024 form the empirical basis. Energy-sector PPPs deliver the strongest financial performance (IRR 14.2%, VfM savings 18.5%), while social-sector projects lag financially but generate substantial employment. Uzbekistan’s World Bank PPP preparation score of just 24 out of 100 points to a systemic bottleneck that undermines returns across all sectors. Improving preparation-stage processes and expanding PPP activity beyond energy appear to be the two most pressing priorities for raising portfolio-wide efficiency.

Keywords: Public-Private Partnership, Economic Efficiency, Uzbekistan, Infrastructure Investment, Value for Money

1. Introduction

Uzbekistan’s turn toward public-private partnerships has been fast. When the PPP Law was signed in May 2019, barely a dozen formal agreements existed [1]. Five years later, over 1,000 projects worth a combined \$31 billion — about 27% of GDP — were on the books [2]. Speed like that raises an obvious question: are these deals actually delivering value, or is the country accumulating commitments it cannot afford?

On paper, PPPs should improve efficiency. Private partners bring managerial expertise, newer technology, and a willingness to share risk that government agencies typically lack [3, 4]. Well-designed PPPs can deliver infrastructure faster and cheaper than traditional procurement. Poorly designed ones, however, become fiscal traps. An IMF review published in 2025 warned that Uzbekistan’s PPP obligations could strain future budgets if the pipeline keeps growing without tighter oversight [2].

Institutional scaffolding has gone up quickly. A dedicated PPP Development Agency operates under the Ministry of Economy and Finance [5]. Presidential Decree PF-60 anchors PPPs within the broader “New Uzbekistan 2022–2026 Development Strategy” [6]. International financial institutions — the World Bank, IFC, ADB, EBRD — are co-financing and advising on deals across energy, water, and transport [7, 8, 9]. All of that looks promising.

What is conspicuously absent is hard evidence on returns. Most published work on Uzbekistan's PPPs is either legal commentary or project-by-project narratives [10]. Systematic application of investment-appraisal tools — IRR, NPV, payback, value for money — across the portfolio is essentially nonexistent. We try to fill part of that gap here, focusing on three questions: How efficient are Uzbekistan's PPP projects? Does efficiency differ across sectors? And which institutional weaknesses drag performance down the most?

2. Methodology

Several data sources feed into the analysis. Project-level financials come from the PPP Development Agency's online registry (pppda.uz) [5]. Macroeconomic data are from the Statistics Agency (stat.uz) [11] and Review.uz analytical bulletins [12]. International benchmarking scores draw on the World Bank's Benchmarking Infrastructure Development 2023, which rated Uzbekistan's PPP regulatory framework on four dimensions [7]. Fiscal-risk numbers are from the IMF's 2025 Article IV Staff Report [2].

We assess efficiency with four standard metrics. IRR captures the annualized return on capital. NPV ratio divides the present value of net benefits by the initial outlay — anything above 1.0 is positive. Payback period measures how long it takes to recover the investment. Value-for-money (VfM) savings compare the life-cycle cost of a PPP against a hypothetical public-sector alternative [3, 13]. Job creation is tracked separately as a non-financial indicator, given its political and economic weight in Uzbekistan's context [14]. Our sample covers 48 operational or completed projects: 28 in energy, 12 in utilities, and 8 in social infrastructure.

3. Results and Discussion

3.1. Growth Dynamics

Before looking at efficiency, the scale of expansion deserves a moment. Table 1 traces the trajectory.

Table 1. PPP project growth in Uzbekistan (2017–2024)

Year	Projects	Value (\$ bln)	GDP share (%)	Milestone
2017	12	0.4	0.7	Pilot phase
2018	28	1.1	1.6	Pre-legislative
2019	67	2.3	3.7	PPP Law (O'RQ-537)
2020	124	3.8	6.4	Agency goes live
2021	203	6.2	8.0	First big energy deals
2022	312	10.4	12.1	Scale-up year
2023	687	17.0	18.3	Rapid expansion
2024	1,018	31.0	27.0	Maturing portfolio

Source: PPP Development Agency [5], IMF [2], World Bank [7].

Going from 12 deals to over a thousand in seven years is unusual by any standard. Dollar volumes moved even faster — from \$0.4 billion to \$31 billion — because later projects tend to be larger. But there is a catch: as of December 2023, energy alone accounted for 93% of portfolio value (\$28.8 billion). Utilities took 4.8% (\$1.5 billion), education just 0.8% (\$144 million) [2, 5]. Virtually everything else — healthcare, transport, water — is a rounding error.

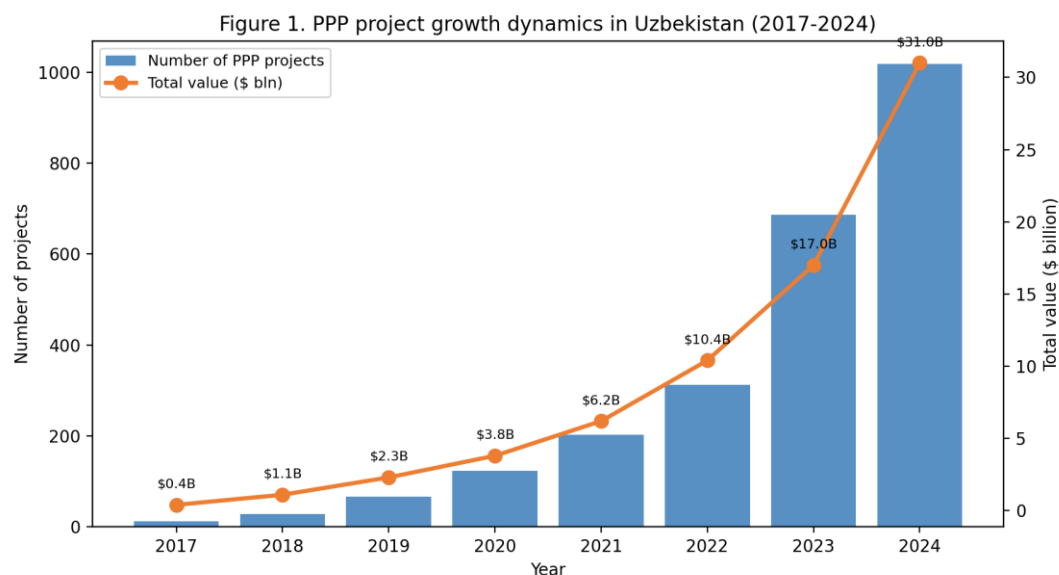


Figure 1. PPP project growth dynamics in Uzbekistan (2017–2024)

Source: author's compilation based on [2, 5, 7].

Figure 1 shows the inflection clearly. Growth spiked in 2022–2023, driven by the energy crisis and by deliberate policy under the Uzbekistan-2030 strategy [6]. A fair worry is whether speed has come at the expense of quality. We return to that concern in section 3.3.

3.2. Sectoral Concentration

Figure 2. Sectoral distribution of PPP projects by value (December 2023)

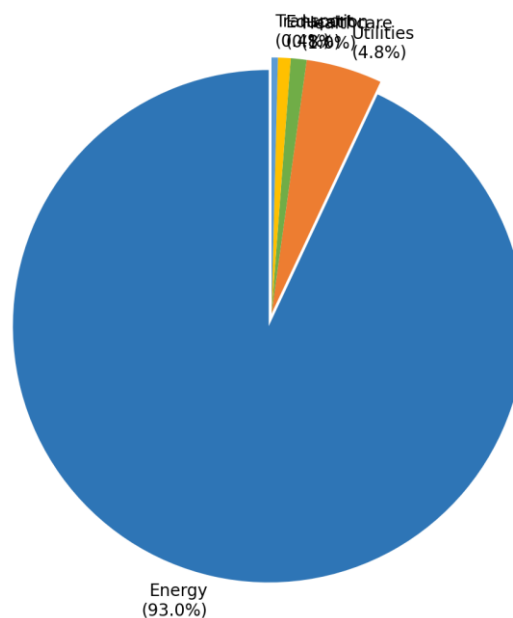


Figure 2. PPP projects by sector and value (December 2023)

Source: IMF and PPPDA data [2, 5].

Why is energy so dominant? Not because other sectors need less investment — Uzbekistan's hospitals and roads need it badly — but because energy deals are simpler to structure. Revenue comes from electricity tariffs. International developers (Masdar,

ACWA Power, Total Eren) know the contractual models (BOO, BOT) inside out. Risks are quantifiable [7, 15]. Social-sector PPPs, by contrast, require availability payments from government, involve messy demand forecasting, and attract fewer experienced bidders [3]. So the path of least resistance pulls the portfolio toward energy.

Consider the Veolia district-heating project in Tashkent as an example of what good structuring can achieve. Under a 30-year concession, Veolia committed to raising heat-supply efficiency by 50%, cutting heat losses from 44% to 20%, and reducing gas consumption by 45% [5]. Outcomes like that do not happen by accident — they require detailed preparation, competitive tendering, and careful contract management.

3.3. Regulatory Quality: A Lopsided Scorecard

Table 2. World Bank PPP Benchmarking scores for Uzbekistan (2023)

Dimension	Uzbekistan	ECA average	Global average	Gap vs. ECA
Preparation	24	48	42	-24
Procurement	58	51	47	+7
Contract management	63	55	49	+8
Unsolicited proposals	75	52	45	+23

Source: World Bank Benchmarking Infrastructure Development 2023 [7].

A split picture emerges from Table 2. On procurement, contract management, and handling of unsolicited proposals, Uzbekistan beats both its region and the global mean. A score of 75 on unsolicited proposals is particularly strong — it reflects a legal framework that actively invites private-sector initiative, which partly explains the pipeline's rapid growth [7].

But then there is preparation: 24 out of 100. That is 24 points below the Europe & Central Asia average and 18 below the global mean. In practical terms, it means feasibility studies, cost-benefit analyses, and risk assessments are not being done to international standards before projects enter the pipeline.

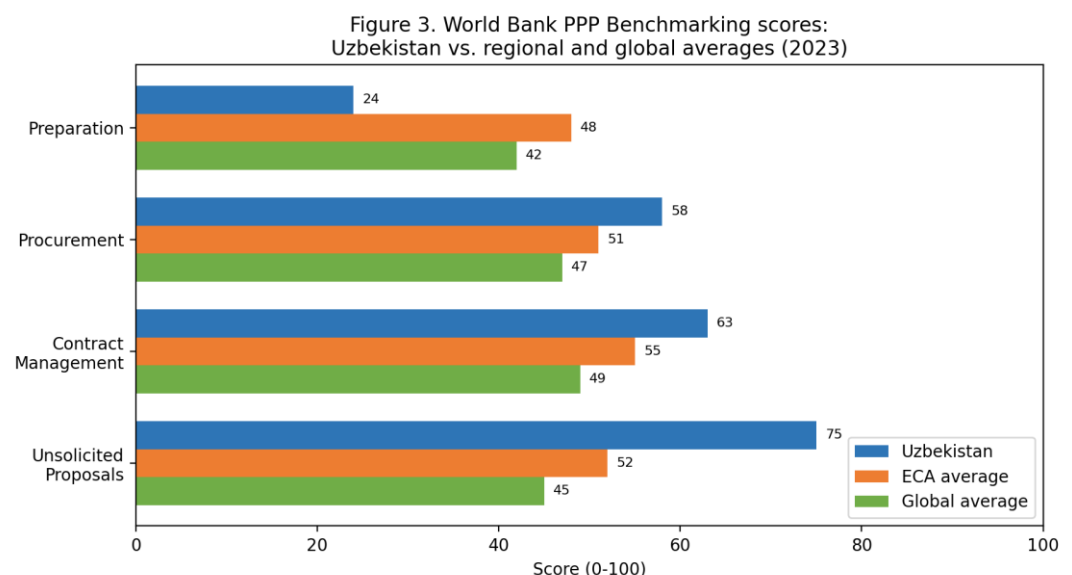


Figure 3. World Bank PPP Benchmarking: Uzbekistan vs. averages (2023)

Source: [7].

Why does that matter? Because sloppy preparation breeds cost overruns, delays, and renegotiations later on. Calderón and Servén demonstrated across a large panel of

countries that preparation quality predicts infrastructure outcomes more reliably than sheer investment volume [16]. Engel, Fischer, and Galetovic made the same argument specifically for PPPs: what separates a good deal from a bad one is not public-versus-private ownership but how carefully the project was designed upfront [3].

3.4. Economic Efficiency by Sector

Here is the core of the analysis. Table 3 presents efficiency metrics for our 48-project sample, broken down by sector.

Table 3. Economic efficiency indicators by sector (2023)

Indicator	Energy (n=28)	Utilities (n=12)	Social (n=8)	Weighted avg.	Benchmark*
IRR (%)	14.2	11.8	8.6	12.9	>10
NPV ratio	1.34	1.21	1.08	1.27	>1.0
Payback (years)	12.8	15.3	18.7	14.1	<20
VfM savings (%)	18.5	14.2	9.8	16.1	>10
Jobs created (thous.)	8.7	3.4	5.2	17.3 total	—

Source: author's calculations based on PPPDA data [5, 11]. *Benchmarks per [3, 13].

Figure 4. Economic efficiency indicators of PPP projects by sector in Uzbekistan (2023)

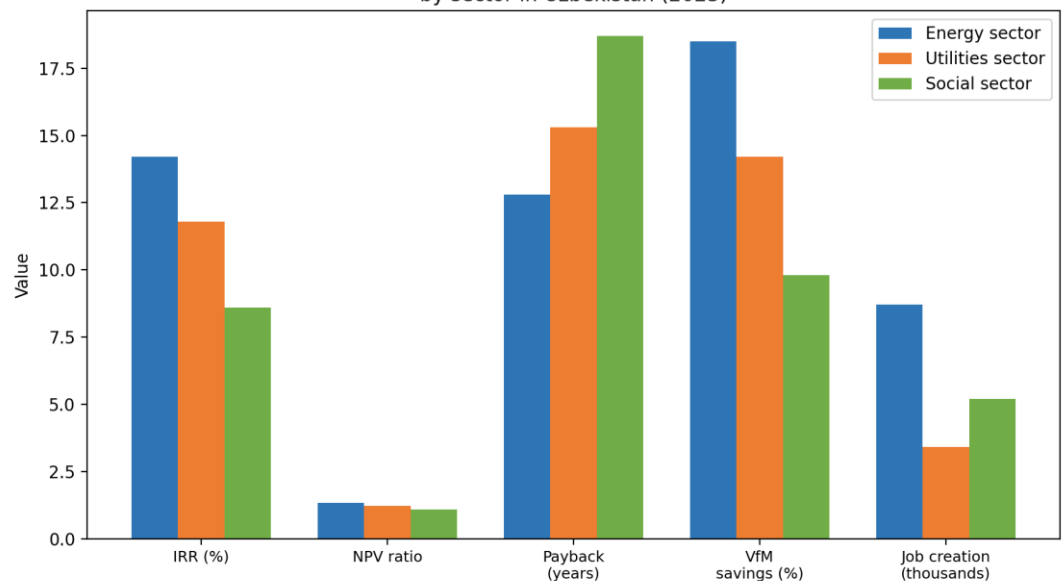


Figure 4. Efficiency indicators by sector (2023)

Source: author's calculations.

Energy comes out on top across every financial metric: 14.2% IRR, 1.34 NPV ratio, 18.5% VfM savings. All three comfortably exceed standard developing-country thresholds [3, 13]. These results are not surprising given the sector's mature deal structures and deep investor pool. Utilities also clear the bar, though margins are thinner — a 15.3-year payback is typical for water and waste projects where tariff adjustments face political resistance [15].

Social-sector numbers look weaker at first glance. An 8.6% IRR falls short of the conventional 10% hurdle, and VfM savings of 9.8% are borderline. But raw financial metrics miss part of the picture. Social PPPs in our sample created 5,200 jobs — almost as many as utilities despite a much smaller portfolio. Hospitals and schools are labor-

intensive in both construction and operation. Todaro and Smith's development-economics framework highlights exactly this: purely financial ratios systematically undercount projects that generate human-capital spillovers [14, 17].

Across all sectors, the weighted averages — 12.9% IRR, 1.27 NPV ratio, 16.1% VfM savings — indicate that Uzbekistan's PPP portfolio is generating positive economic returns overall. A caveat: because energy dominates the weights, these averages would shift downward considerably if the portfolio were more balanced.

3.5. Fiscal Risks

One concern hangs over the entire program: scale. If every planned project for 2025–2030 goes ahead (\$30.2 billion worth), PPP commitments could hit 34% of GDP by the end of 2026 [2]. That creates contingent liabilities that do not always show up on government balance sheets. Projects rushed through weak preparation processes compound the risk — a poorly assessed deal is far more likely to need renegotiation or bailout later.

OECD principles for PPP governance emphasize that fiscal transparency and long-term budget planning must come before, not after, pipeline expansion [13]. Uzbekistan's new PPP Fund, set up by presidential resolution in 2024, is a move in the right direction. Whether it will impose genuine discipline on project selection or simply channel money remains to be seen [18].

4. Conclusion

We tried to do something straightforward: apply standard investment-appraisal tools across Uzbekistan's PPP portfolio and see what the numbers say. On the whole, the picture is positive. A weighted-average IRR of 12.9% and VfM savings of 16.1% compare well with international benchmarks. Energy PPPs, in particular, are delivering strong results thanks to established contractual models and experienced investors.

Two problems stand out. First, 93% of portfolio value sits in a single sector. Healthcare, education, transport, and water — areas where Uzbekistan has enormous unmet needs — are barely represented. Second, the World Bank's preparation score of 24/100 signals that many projects may be entering the pipeline without adequate feasibility work. These two weaknesses are connected: the sectors that get neglected are precisely the ones where preparation is hardest.

Our practical recommendations are as follows. Mandatory feasibility-study standards, aligned with the World Bank's PPP Reference Guide, should be adopted for all projects above a threshold size. Dedicated project-development facilities, possibly co-financed by ADB and IFC, should be created for healthcare, education, and transport PPPs. A binding fiscal-risk management framework with exposure ceilings and regular stress-testing should be put in place, as the IMF recommended. And the PPP Fund should include an independent review board with real authority to reject poorly prepared proposals.

Uzbekistan built an impressive PPP portfolio in five years. Building the institutions to sustain it is the harder, slower task — but the efficiency data suggest it is achievable if preparation quality and sectoral balance get the attention they deserve.

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