

## EFFICIENCY OF PUBLIC-PRIVATE PARTNERSHIP IN INFRASTRUCTURE DEVELOPMENT: ANALYSIS AND PROSPECTS

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**Abstract:** In 2022, the magnitude of investments in Public-Private Partnerships (PPP) within the infrastructure sector demonstrated a gradual resurgence. Beyond the well-established practice of attracting significant PPP investments in developed nations, there has been a notable increase in the engagement of middle-income countries in the utilization of public-private collaborative mechanisms for the advancement of their infrastructure. Among the sectors, transportation, and communications have consistently maintained a prominent position in terms of both investment influx and the quantity of successfully executed infrastructure projects on a global scale. Quantitative performance indicators within the sphere of PPP projects, encompassing metrics such as the count, monetary volume, and the proportion of different agreement types, manifest encouraging trends in the execution of infrastructure PPP initiatives. Conversely, the qualitative outcomes of this investigation reveal a spectrum of issues that are intrinsically linked to CSFs. These CSFs represent the principal benchmarks that exert a direct influence on the efficiency of PPP projects concerning their established objectives, processes, and management framework. The research undertaken by the authors has successfully identified a range of disparities in the challenges faced during the implementation of PPP projects across diverse nations, notwithstanding the similarity in the underlying mechanisms of cooperation.

**Keywords:** Public-private partnership, Infrastructure projects, PPP projects, PPP efficiency, Efficiency assessment methods.

### 1 Introduction

In the year 2022, there witnessed a resurgence of private sector involvement in the execution of global Public-Private Partnership (PPP) projects. During this period, private sector commitments to PPP investments reached a total of \$91.7 billion, channeled into 263 projects. This represented a notable 23% upswing in comparison to the preceding year, and a 4% increment when compared to the average of the previous five years (2017-2021). Predominantly, these investments were concentrated in the transportation and infrastructure sectors. Notably, this shift in the dynamics of PPP investments is also reflected in regional investment patterns for private-sector project implementation. In 2022, countries within the Asia and Pacific region recorded substantial investments, amounting to \$43.4 billion in PPPs, signaling a 17% rise when contrasted with the period from 2017 to 2021. In stark contrast, the Europe and Central Asia region experienced a relatively meager investment of \$3.3 billion, marking the lowest sum observed from 2012 to 2022, representing a significant 77% reduction in comparison to prior years (The World Bank, 2022).

Investments in infrastructure, with a particular emphasis on transportation, play a pivotal role in delivering social and economic advantages that extend to the general public, the private sector, and the broader society. Infrastructure development catalyzes augmenting productive capacity, bridging connectivity disparities, mitigating trade and distribution expenses, and promoting the equitable sharing of advantages across various sectors. In a broader perspective, the implementation of infrastructure projects through PPPs exhibits a propensity to alleviate poverty and enhance the accessibility of public services within communities (Singh & Kathuria, 2016). Furthermore, infrastructure development contributes substantially to the attainment of inclusive growth at regional levels, both within and between nations, a pursuit that invariably necessitates substantial investments (Llanto, 2016). Given these considerations, it is imperative to undertake a comprehensive evaluation of the efficiency and effectiveness of PPPs in the context of infrastructure development.

The primary objective of this article is to conduct an in-depth analysis of the efficacy of PPPs in the sphere of infrastructure development. Furthermore, the article endeavors to delineate the potential avenues for enhancing the socio-economic and environmental outcomes resulting from such collaborative ventures.

### 2 Literature Review

The intricacy inherent in the assessment of the efficiency of PPP projects can be attributed to the varying political and economic conditions that exert influence on their execution. Additionally, distinctions arise from the diverse project structures and the variations in planning and implementation approaches. The World Bank has outlined a comprehensive framework that encompasses key structural components within the project cycle, aimed at facilitating the effective implementation of PPPs:

1. Implementation policy, institutional framework, and legal structure, which includes methodologies for the evaluation and management of fiscal risks and liabilities.
2. A curated list of PPP projects deemed suitable for execution and financing, determined through well-defined procedures and processes for the selection of priority projects.
3. Project structuring, involves a meticulous preparation that takes into account commercial feasibility, viability, government support, risk allocation, and affordability.
4. The capacity for contract management and the provision of transaction support for project financing (The World Bank, 2023a).

The effective structuring of PPP projects is pivotal in influencing their financing, the judicious allocation of risks among stakeholders, and ensuring the dependability of managing both public and private investments. Conventionally, the legal framework and institutional capabilities have been regarded as primary factors contributing to the successful execution of PPPs. However, the World Bank has determined that various other performance factors also exert a significant influence. In addition to a well-established primary and secondary PPP legal framework, it is imperative to adopt a holistic approach to establishing a conducive environment for project implementation. It is noteworthy that the impact of PPP legislation and governing bodies may vary among different countries. The successful realization of projects hinges upon a confluence of factors, including the adherence to investment commitments by both the public and private sectors. Moreover, it necessitates the reformation of governance institutions, the formulation of sectoral development strategies, and a comprehensive consideration of political and macroeconomic variables. To this end, the establishment of effective institutional mechanisms is imperative, fostering harmonious coordination and oversight among key entities such as the Ministry of Finance or the relevant public authority, PPP implementation units (inclusive of staffing and the provision of requisite resources), procurement organizations, and the general public.

Drawing from the experiences of both the Philippines and Indonesia, it is evident that a series of reform initiatives have been undertaken to address the challenges associated with the execution of infrastructure projects within the framework of PPPs. In the case of the Philippines, these reforms encompass the reconfiguration of budgetary processes, enhancements in the fiscal and regulatory environment, the refinement of the PPP mechanism, and the bolstering of political coordination to mitigate issues linked to the expansion of communication and infrastructure projects (Llanto, 2016). Similarly, Indonesia's experience underscores the imperative of addressing problems linked to government regulation and elevating policy coordination as essential steps toward promoting increased investments in infrastructure development through PPPs (Sandee, 2016).

The assessment of Public-Private Partnership project performance assumes a pivotal role in advancing the objectives and interests of stakeholders. This is especially salient within the context of contemporary strategies that underscore sustainability and sustainable development, encompassing economic, social, and environmental dimensions (Liang & Wang, 2019).

Consequently, the evaluation of PPP performance is founded upon the utilization of indicators, methodologies, and approaches aimed at comprehensively scrutinizing all facets of sustainable development.

The framework for measuring the performance of PPP should be designed to account for disparities in the assessment of productivity and efficiency, as well as the incorporation of Critical Success Factors (CSFs) and project performance criteria. CSFs, as recognized in the literature (Zhang, 2005; Cui et al., 2019), represent the principal indicators that exert direct influence on project performance concerning their established objectives. Extensive research on the CSFs of PPP projects has unveiled a plethora of success indicators spanning various dimensions, including political, technical, financial, managerial, human, environmental, and cultural factors (Liu et al., 2015; Yuan et al., 2018). Many of these studies underscore the significance of both identifying and effectively managing CSFs during the initial phases of PPP design (Liu et al., 2015; Liu et al., 2018).

The efficacy of PPP projects is contingent upon the synchronization of project objectives with the interests and expectations of relevant stakeholders and participants. The following fundamental principles are to be applied when ascertaining the effectiveness of PPP projects:

1. During the project's preparatory and rationale stage, it is imperative to conduct a comprehensive evaluation, encompassing revenue assessment, expenditure projection, and the forecasting of future cash flows throughout the project's entire life cycle. The development of a financial model for the project is essential in this context.
2. A comparative analysis of alternative project options is indispensable to facilitate informed decision-making.
3. The exploration of potential positive economic, social, environmental, and community impacts should be conducted, with active engagement of public opinion.
4. Time considerations must be factored into the assessment of economic efficiency and financial viability of the project, recognizing the temporal dynamics.
5. The assessment should also incorporate the evaluation of market conditions and major risks, to achieve their optimal distribution among the involved stakeholders.

Within the global context, the assessment of the effectiveness of PPP projects is informed by various prevalent approaches (Dutko, 2020):

1. One such approach is the utilization of the Value for Money (VFM) indicator, which provides a comprehensive means to gauge the project's overall cost, the quality of delivered goods and services, the alignment of price and quality, adherence to predefined objectives, and the efficient utilization of resources (Helby Petersen, 2019). It is noteworthy that the interplay of VFM factors significantly influences the enhancement of PPP project VFM. Moreover, the financial stability or sustainability of a project serves as a pivotal determinant influencing both its efficiency and cost-effectiveness. The broader cooperative environment also exerts a notable impact on the efficacy of public-private collaborations, and macroeconomic indicators have a comprehensive influence on cooperation in the broader context (Cui et al., 2019).
2. The utilization of the Public Sector Comparator (PSC) indicator plays a pivotal role in evaluating the feasibility of implementing Public-Private Partnership (PPP) projects. This approach involves a comparative analysis of the methods for executing investment projects, making a contrast between traditional public procurement and PPP implementations.
3. A methodological approach grounded in the analysis of revenues and benefits relative to costs, known as Cost-Benefit Analysis (CBA), has been well-established (Nasto & Sulillari, 2021).

4. An alternative methodological approach rooted in cost-effectiveness analysis (CEA) is employed to select the optimal alternative based on the costs associated with producing a unit of a product or service.
5. A methodological approach founded on multi-criteria analysis (MCA) is used to consider qualitative consequences that may not be comprehensively captured through cost-based indicators.
6. The evaluation and analysis of risks constitute a critical dimension of PPP projects, where the judicious allocation of risks between the public and private sectors holds substantial influence over the augmentation of VFM in infrastructure development (Wibowo & Sundermeier, 2020). The formulation of effective risk-sharing strategies in public-private collaborations for PPP projects serves to enhance the efficiency of the contract negotiation process and concurrently curtails the incidence of disputes throughout the concession period (Ke, Wang & Chan, 2010).
7. The assessment of residual value risk (RVR) assumes significance when contemplating the transfer of PPP assets to the public sector upon the conclusion or premature termination of a PPP contract. This risk pertains to the possibility that upon project completion, the asset, be it tangible or intangible, may deviate from the initially estimated value assigned by the government at the time of transfer to the private sector. Consequently, the public sector may incur a loss in terms of residual value, while private partners may encounter losses necessitating compensation from the government to account for variations in residual value (Yuan et al., 2015).
8. The evaluation of the private sector's financial capacity, financial feasibility, project viability, profitability, and overall project attractiveness represents a pivotal factor in ensuring the successful implementation of PPP projects (Nguyen et al., 2020).
9. Additional approaches encompass both general and specialized analytical methods, including ecological analysis, the Quality Function Deployment (QFD) method, multimodal analysis, resolution factor assessment, and resolution index measurement (Tsimoshynska et al., 2021).

### 3 Methods and Data

To assess the effectiveness of Public-Private Partnerships (PPPs) in the domain of infrastructure development, an analysis of investment dynamics within the transport sector was undertaken, stratified by project types. These project types include management and lease contracts, operation and management contracts entailing significant capital outlays, and new facilities projects that encompass the construction or operation of new assets, either by the private sector or through collaborative efforts in the public-private domain. The indicator utilized to gauge public-private partnerships within the transport sector serves as a metric to estimate commitments made to infrastructure projects related to transportation, which are utilized for public benefit and have secured the requisite funding for their realization. It is important to note that this indicator does not encompass movable assets or financing arrangements for small-scale projects, commercial initiatives, or projects slated for subsequent sale (The World Bank, 2023b).

The analysis encompasses a focus on China, examining the elements contributing to the efficiency of PPP in infrastructure development. This study extends to a consideration of the principal risks associated with project implementation and their allocation between the public and private sectors. Further, recognizing the burgeoning implementation of PPP projects in middle-income and upper-middle-income countries, the investigation extends its purview to encompass additional nations. Specifically, Bulgaria, Serbia, and Albania were selected for a detailed examination of PPP efficiency. These European countries have demonstrated a positive trajectory over the past two decades about infrastructure investments, and PPP projects have proven to be particularly effective within their contexts. Moreover, these countries have established and

cultivated comprehensive frameworks for PPP project implementation and have devised methodologies for assessing their efficiency during the preparatory phase.

#### 4 Results and Discussion

From 1990 to 2022, the transportation sector observed the most substantial inflow of financing via Public-Private Partnerships (PPP) in upper-middle-income and middle-income countries, accumulating USD 565.144 billion and USD 424.870 billion, respectively. Notably, the most significant investments in PPP projects within this timeframe were allocated to specific countries, as follows: China with USD 155.646 billion, Brazil with USD 145.811 billion, India with USD 130.217 billion, Turkey with USD 79.145 billion, Mexico with USD 40.672

billion, Colombia with USD 32.060 billion, Indonesia with USD 22.278 billion, Malaysia with USD 18.411 billion, Peru with USD 16.739 billion, Philippines with USD 14.522 billion, and Argentina with USD 14.383 billion (The World Bank, 2023b).

Between 1990 and 2022, there has been a notable increase in the number of countries engaging in infrastructure development projects, with a pronounced impact on the attainment of financial objectives and the realization of project goals (Table 1). Notably, Brownfield and Greenfield projects dominate the landscape of PPP project types, constituting a significant share of between 40% to 65%, contingent upon the nature of the infrastructure. In terms of project volume, Brownfield and Greenfield projects similarly hold sway among PPP types, representing a share ranging from 56% to 75%.

Table 1. Private Sector Investment in Global Infrastructure Development Projects, 1990-2022.

Indicator	Airports	Seaports	Railroads	Roads
Number of countries making private investments	52	71	44	38
Projects that have reached funding closure	208 The investment totaled \$137.724 million.	495 The investment totaled \$96,933 million.	157, The investment totaled \$146,531 million.	1 318, The investment totaled \$415,036 million.
Regions with the highest share of investment	Europe and Central Asia (44.13%)	Latin America and the Caribbean (26.77%)	Latin America and the Caribbean (43.22%)	Latin America and the Caribbean (33.11%)
PPI type with the highest share of investment	Brownfield project (42.75%)	Greenfield project (57.82%)	Greenfield project (64.65%)	Brownfield (50.71%)
PPI type with the highest share of projects	Brownfield project (64.71%)	Greenfield project (56.05%)	Greenfield project (74.04%)	Brownfield project (70.93%)
Canceled projects, units, and %.	15 or 4.77% of the total investment	13 or 1.73% of the total investment	20 or 13.42% of the total investment	72 or 8.45% of the total investment

Source: compiled by the author based on data from The World Bank (2023m).

Commencing from the early 1990s, China has embarked on an extensive and substantial investment drive within the realm of transportation infrastructure. This undertaking has yielded substantial consequences for the nation's connectivity with other countries. The growth of infrastructure investment has been markedly expedited by an array of project financing mechanisms, stemming from the national government, private sector, and local authorities. Empirical investigations have substantiated the efficacy of PPP investments and mechanisms. They have demonstrated the affirmative contributions of PPP initiatives to economic growth, their influence on the distribution of economic activities, their role in poverty reduction, and their impact on economic integration (Qin, 2016).

Simultaneously, the proliferation of PPP in China has engendered fervent discussions regarding their underlying objectives and efficacy. Notably, Tan and Zhao (2019) have meticulously examined the fluctuations in the volume of PPP investments and their pivotal role within China's infrastructure investment landscape, primarily as a response to the challenges posed by budget deficits and mounting public debt. The overarching aim of PPP projects in the country is twofold: firstly, to address the infrastructure development gap and secondly, to mitigate the adverse ramifications of escalating local debt. However, it is essential to acknowledge that in many instances, the anticipated objectives of these partnerships have not been fully realized (Tan & Zhao, 2019). In 2021, the aggregate volume of public and publicly guaranteed debt service in China amounted to UAH 49.83 billion. This encompassed both the repayment of principal amounts and the actual interest paid in foreign currency, goods, or services, about long-term obligations of public debtors and long-term private obligations guaranteed by public organizations (The World Bank, 2023c).

The inability to attain PPP objectives in China can be attributed to the fundamental reliance on state-owned enterprises as the cornerstone of China's collaborative ventures. This reliance results in investment obligations that impose an increasingly burdensome financial strain on the government. In response to

this challenge, the central government has initiated measures to stimulate private sector investments, with a particular focus on mitigating financial risks. Nonetheless, the future trajectory of PPP development in China remains marked by uncertainty (Tan & Zhao, 2019). It is noteworthy that China has assumed a leadership position in terms of investments in transportation development through PPPs. Nevertheless, the rapid expansion of PPPs in the country has been accompanied by several instances of cost overruns and project failures. These occurrences stem from unforeseen conflicts between the public and private sectors during project operations, unpredictability, and the inadequacy of risk mitigation measures (Liang & Wang, 2019).

Empirical investigations focusing on the risks associated with PPP implementation have highlighted certain key factors as most significant. These factors include government interference, governmental corruption, and deficiencies in government decision-making processes. In the context of China's infrastructure development, the primary impediments to PPP effectiveness are recognized as government interference and corruption. The underlying reasons for these risks can be attributed, in part, to the ineffectiveness of the legislative and supervisory framework governing the implementation of PPP projects within China (Chan et al., 2011).

Furthermore, studies examining risk allocation strategies in China and Hong Kong have demonstrated that the public sector exhibits a preference for retaining a majority of political, legal, social, micro-level, and force majeure-related risks. In contrast, the public sector in the United Kingdom tends to be more inclined to transfer risks to the private sector when executing PPP projects (Ke, Wang & Chan, 2010).

Concurrently, empirical findings on risk allocation within the Chinese context between the public and private sectors substantiate a consensus between these entities regarding the majority of recognized risks. Notably, the public sector has assumed ownership of systematic risks, with a pronounced focus on political, legal, and social dimensions. In contrast, the private

sector has taken on the responsibility for project-specific risks, particularly those associated with construction, operations, relational aspects, and economic considerations within the category of systematic risks. Risks related to ecology and the environment are seen to be more effectively distributed across both sectors (Chan et al., 2011). It is noteworthy that within the European context, the implementation of Public-Private Partnership (PPP) projects in Bulgaria, Serbia, and Albania has demonstrated a notable degree of effectiveness. The cumulative investment in these countries over the period spanning 1990 to 2022 stood at USD 1.507 billion, USD 1.118 billion, and USD 769 million, respectively (The World Bank, 2023d). Furthermore, research conducted by Nasto and Sulillari (2021) underscores the substantial scale of investments in PPP projects within Albania during the years 2004 to 2020, with these investments accounting for a significant portion of the nation's Gross Domestic Product (GDP). Notably, in 2020, PPP investments constituted 35% of Albania's GDP. Commencing in 2004, and in line with its pursuit of alignment with the European Union, Albania has introduced new legislation governing PPP development and has established a dedicated state entity known as the Concession Agency (Keçi, 2020). However, it is important to recognize that challenges persist in achieving the intended goals of PPP initiatives, particularly in the context of sustainable development objectives. These difficulties are exemplified by issues related to the cost of energy borne by the Albanian population (Nasto & Sulillari, 2021).

In Albania, among the infrastructure projects deemed highly effective, two prominent examples include the Dures port project (The World Bank, 2023e) and the concession about the development of the international airport in the capital, Tirana. The overall investment in Tirana Airport reached USD 308 million, with private investment accounting for 79% of this total. The concession agreement was executed under the framework of the Brownfield contract type, specifically the subtype Build, Rehabilitate, Operate, and Transfer (BROT). This contract encompassed improvements in runway and terminal technology. The contract was awarded via a competitive bidding process and entailed a twenty-year duration. It was supported by a national grant agreement for financing. Upon the conclusion of the project, ownership was transferred to a consortium comprising the Albanian-American Enterprise Fund (22% ownership, USA), the German Deutsche Investitions und Entwicklungsgesellschaft (31% ownership), and the German Hochtief AG (47% ownership). The project also secured multilateral financing in the form of a \$76 million loan in 2005 and a \$16 million loan from the European Bank for Reconstruction and Development (EBRD) in 2008 (The World Bank, 2023f).

Albania exhibits a commendable level of efficiency in PPP implementation for infrastructure projects, as underscored by the benchmarking scores provided by the World Bank. The project preparation stage garnered a rating of 65 points, the procurement stage received 86 points, the contract management stage earned 66 points, and the supplementary proposals stage was accorded 75 points. In the context of deciding whether to advance with a PPP project in Albania, a series of performance evaluations were undertaken, as outlined by The World Bank (2023g):

1. Socioeconomic Analysis: This involved a comprehensive evaluation encompassing revenue and benefit analysis along with cost analysis. The objective was to gain insights into the PPP project's influence on the socioeconomic landscape within the region of its implementation.
2. Financial Affordability Assessment: This evaluation was geared towards ascertaining the financial feasibility of the project, which included the determination of the necessary long-term public commitments, both direct and contingent, explicit and implicit. It is worth noting that a specifically developed methodology was not employed in the assessment process.
3. Risk Identification and Assessment: This aspect entailed the identification and evaluation of potential risks, culminating in the creation of a risk matrix. It is important to note that no distinct methodology was employed in this process.
4. Comparative Analysis and Evaluation: This involved a comprehensive comparative assessment of the PPP project concerning other potential alternatives, encompassing methodologies such as the "public sector comparator" and "value for money analysis." A specialized methodology was employed for this comparative evaluation.
5. Financial Viability Assessment: This evaluation was directed at assessing the financial feasibility and profitability of the project.
6. Market Assessment: A comprehensive examination of the market landscape, encompassing market research, probing, and an analysis of the potential interests of private sector entities and contractors, as well as an assessment of market capacity.
7. Environmental Impact Assessment: This evaluation included the application of a developed methodology for the assessment of environmental impacts. It should be noted that the results of public consultations with communities were incorporated into this assessment.
8. Social Impact Assessment: A systematic methodology was employed for conducting consultation processes with the relevant communities to assess the social impact of the project.

In comparison to Bulgaria and Serbia, Albania employs a more comprehensive approach when evaluating the performance of Public-Private Partnership (PPP) projects, even though the funding levels are lower (refer to Table 2). Nevertheless, in a broader context, Bulgaria has garnered higher scores about the effectiveness of the different project implementation stages. Specifically, Bulgaria's performance ratings are as follows: 54 points for the project preparation stage, 87 points for the procurement stage, 84 points for the contract management stage, and 83 points for the supplementary bids stage. This indicates that, given the substantial disparity in PPP investments between Bulgaria and Albania, the stages of procurement, contract management, and supplementary proposals assume greater importance than the preparatory stage of evaluation. Serbia, on the other hand, exhibits slightly lower scores across the project implementation stages: a rating of 48 points for the project preparation stage, 90 points for the procurement stage, 68 points for the contract management stage, and 67 points for the supplementary proposals stage.

Table 2. Methods of performance evaluation for project selection at the stage of preparation and decision-making on PPP contracting in Albania, Bulgaria, Serbia

Evaluation method	Albania	Bulgaria	Serbia
Socioeconomic analysis (CBA or other methods)	+	+	+
Assessment of financial inclusion	+	+	+
Risk identification and allocation	+	+	+
Comparative assessment (with other projects)	+	-	+
Financial solvency	+	+	+
Market research tailored to meet the needs of private investors	+	-	-
Market research of technological solutions	-	-	-
Environmental impact assessment	+	-	+
Social impact assessment	+	+	+

The volume of PPP investments in the transport sector infrastructure, USD billion.	0,769	1,507	1,118
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Source: compiled by the author based on data from World Bank (2023g; 2023h; 2023i; 2023j).

Within the landscape of Public-Private Partnerships (PPPs) in Albania, the identification and selection of the appropriate PPP project emerge as critical Critical Success Factors (CSFs) (Berisha, Kruja & Hysa, 2022). Specifically, the Public Sector Comparator (PSC) indicator and the methodological approach grounded in cost-effectiveness analysis (CEA) play pivotal roles in assessing project performance during the preparation stage. Other identified CSFs in PPPs encompass factors such as trust, financial solvency, transparency, and fairness between the involved parties, as well as the negotiation process and the estimation of revenue and expense values, and cash flows (Berisha, Kruja & Hysa, 2022). The study outcomes emphasize the necessity of establishing an accountability mechanism for the public sector to ensure the fulfillment of public requirements (Berisha, Kruja & Hysa, 2022). Consequently, in alignment with the benchmarking of PPP implementation in Albania (The World Bank, 2023g), none of the results derived from the evaluation of project performance have been disseminated or made publicly accessible.

In spite of the successful execution of PPPs in Albania, the practical implementation of such partnerships is not without its challenges. These issues encompass the infringement upon free market principles and the necessity to uphold principles of competition. Moreover, they involve the management of diverse risks and the challenge of ensuring the quality of public services. It is notable that the revenues generated from service provision often fall short of covering financial and operational costs and may not adequately ensure a satisfactory return on investment. Furthermore, unfavorable factors have been identified in Albania's PPPs, including the subpar quality of the organizational structure within the public partner. Inadequate communication, a dearth of internal capacity, a lack of clarity, suboptimal PPP structuring, deficient planning, and a limited understanding of the concept of "value for money" contribute to the complexities surrounding PPP implementation in Albania (Spahiu, 2020).

In Bulgaria, an example of a PPP project is the concession agreement for the enhancement of the Oryakhovo ferry crossing. This project was initiated in 2005 and involved an investment of USD 2.12 million, entirely funded by private capital. The concession agreement was established for 25 years, with the primary objective of advancing port terminal technologies within the transportation sector. This particular PPP project adheres to the Brownfield PPP type and operates under the subtype of "Rehabilitate, Operate, and Transfer" as outlined in the contract. The agreement was formalized following a competitive tender process (The World Bank, 2023k).

In practical scenarios, a variety of methodologies are employed to evaluate the effectiveness of PPP projects. The implementation of concession agreements in France illustrates the utilization of the following performance assessments at the PPP preparation stage (The World Bank, 2023l):

1. An economic analysis-based assessment, conducted without the application of a dedicated methodology.
2. A risk identification assessment, performed without reliance on a specialized methodology.
3. A comparative assessment of PPPs and traditional public procurement, executed without the application of a specific methodology.

It is noteworthy that during the preparation stage of concession agreements in France, assessments pertaining to fiscal affordability, financial capacity, and market analysis were not incorporated into the evaluation process. However, during the public procurement phase in France, a financial model for the PPP project is constructed and subsequently presented (The World Bank, 2023l).

The management of PPP contracts in France encompasses the following structural components (The World Bank, 2023l):

1. Absence of a dedicated PPP contract performance management system.
2. Implementation of a monitoring and evaluation system, which includes periodic updates provided by the private partner regarding the status of the PPP project, data collection by the contracting authority, the presence of risk mitigation mechanisms, and the availability of information related to the effectiveness of the PPP project on the Internet.
3. Establishment of procedures and a system to regulate changes in the structure, specifically in terms of the shareholder composition of the private partner, following the legal qualifications mandated for such organizational modifications.
4. There is a structured procedure for overseeing changes or renegotiations of the PPP agreement after its signing. It is important to note that constraints are imposed on modifying the scope and/or the object of the contract and on altering the distribution of risks.
5. A well-defined procedure exists for regulating situations that may arise during the duration of the PPP agreement. Such situations include force majeure events, substantial adverse actions by the government, and changes in relevant legislation.
6. Established dispute resolution mechanisms are integrated into the contract, governing how disputes are to be addressed.
7. There are stipulated grounds for the termination of the PPP agreement, with clear regulations outlining the consequences of such termination.
8. Provisions are in place to enable creditors to become involved in PPP financing.

## 5 Conclusions

Quantitative metrics reflecting the performance of PPP initiatives, such as the number, volume, and distribution of various agreement types, reveal favorable trajectories in the execution of infrastructure-related PPP projects. Conversely, the qualitative findings of this investigation have highlighted several issues related to CSFs within various nations. Notably, these findings underscore disparities in the challenges encountered during the implementation of PPP projects across different countries, even though they employ similar collaborative mechanisms.

China has grappled with the escalating fiscal responsibilities of the government, a consequence of extensive participation by state-owned enterprises in PPP initiatives. Furthermore, project execution challenges in China encompass issues like cost overruns, conflicts between public and private sectors during operational phases, unpredictability, and inadequacy in risk mitigation measures. In this context, key risks affecting PPP implementations in China encompass government interference, corruption within the government, and suboptimal quality in government decision-making processes. In contrast, when considering the implementation of PPP projects in Albania, essential CSFs include the identification and selection of suitable PPP projects, fostering trust, ensuring financial capacity, promoting transparency and equity among stakeholders, meticulous negotiation, and the meticulous evaluation of revenue and expense projections, and cash flow assessment. Despite the overall success of PPP endeavors in Albania, practical challenges persist, such as infringements on principles of competition, issues in managing risks effectively, concerns regarding the quality of public services, and shortfalls in generating revenues from service provision that adequately cover financial and operational costs, thereby jeopardizing return on investment.

In practice, Albania, Bulgaria, and Serbia have adopted a comprehensive approach, utilizing various methodologies to assess the effectiveness of PPP projects at the preparatory stage. However, as observed from Albania's experience, this approach has not contributed significantly to an increased number of projects or their financing, nor has it proven effective in resolving issues encountered during subsequent stages. On the other hand, Bulgaria's experience underscores the critical importance of the procurement and contract management stages in PPP implementation. The effectiveness of these stages can be measured by their ability to achieve the predetermined goals at each phase. It is worth noting that existing methodologies for assessing PPP project effectiveness during the preparatory phase do not adequately quantify the socio-economic impacts of project implementation. In light of these observations, it is advisable to reconsider the quantitative performance indicators for PPP projects at each stage of implementation, while also considering contemporary influencing factors, their potential fluctuations, and existing risk factors. This comprehensive approach is expected to provide a more holistic understanding of project performance and its socio-economic consequences.

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**Primary Paper Section: A**

**Secondary Paper Section: AE, AG, AL**