

## 7. Theory-Based Evaluation of Public-Private Partnership Projects and Programmes<sup>193</sup>

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### INTRODUCTION

This paper discusses theory-based evaluation of public-private partnership (PPP) projects/programmes and proposes an intervention logical framework. It aims to draw attention to the need to go beyond the measurement of project/programme results to address not only the question of *whether or not* the project/programme worked but also the *how* and *why* questions. Specifically, it describes a theory-based analytical framework that portrays an explicit path toward ultimate impacts so as to assess, in a more systematic and integrated way, the success or failure of a PPP.

In the current practice, evaluation of PPPs generally follows the traditional approach of the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) criteria. The relevance, effectiveness, efficiency, impact and sustainability of PPP programmes/projects are commonly assessed based on the *whether* question. However, as PPPs include additional complexities as compared to traditional procurement, expanding this perspective to assess *how* and *why* questions can provide a more detailed and complete representation of the success and/or failure channels of a project/programme.

Assessing *how* and *why* questions is particularly useful in developing countries, in which PPPs have been a very common way of service provision to achieve ambitious infrastructure programmes in the face of constraints on public budgets.

To this end, the main driving force in this paper for exploring theory-based approaches in the context of PPP evaluation is to expand the toolbox of the evaluator. This expansion is

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particularly relevant and would be beneficial given the complex nature of PPPs along with their attractive economic and financial potential as well as their exploding popularity in the provision of services in developing countries.

## THEORY-BASED EVALUATIONS

Even though its origins go as far back as 1930s, theory-based evaluation has become a well-known approach after Chen's influential book in 1990, *Theory-Driven Evaluations*.<sup>194</sup> Weiss<sup>195</sup> also contributed substantially to the prominence of this approach in the evaluation community. After Chen<sup>196</sup> and Weiss, a rich body of literature has developed on theory-based evaluations.<sup>197</sup>

Chen's<sup>198</sup> main argument was that theory, which plays an important role in research to analyse and understand the significance of research findings, had been thus far neglected in programme evaluation. Most of the evaluation studies were lacking a sound theory development and were characterized by the prevalence of input/output type of approaches. This type of evaluation, he argues, focuses mainly on the overall relationships between

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194 Coryn, C. L., L.A. Noakes, C.D. Westine and D.C. Schröter, 'A systematic review of theory-driven evaluation practice from 1990 to 2009', *American Journal of Evaluation*, 32(2), 199-226, 2011.

195 Weiss, C., H., 'Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives for children and families', *New approaches to evaluating community initiatives: Concepts, methods, and contexts*, 1, 65-92, 1995.

196 Chen, H. T., *Theory-driven evaluations*. Sage, 1990.

197 Lipsey, M. W., 'Theory as method: Small theories of treatments. *New Directions for Program Evaluation*, 1993(57), 5-38; Scriven, M., 'Minimalist theory: The least theory that practice requires', *American Journal of Evaluation*, 19(1), 57-70, 1998; Sidani, S. and L. Sechrest, 'Putting program theory into operation', *American Journal of Evaluation*, 20(2), 227-238, 1999; Birckmayer, J. D. and C.H. Weiss, 'Theory-Based Evaluation in Practice: What Do We Learn?' *Evaluation Review*, 24(4), 407-431, 2000; Mercier, C., M. Piat, N. Peladeau and C. Dagenais, 'An application of theory-driven evaluation to a drop-in youth center', *Evaluation Review*, 24(1), 73-91, 2000; Rogers, P. J., A. Petrosino, T.A. Huebner and T.A. Hacsí, Program theory evaluation: Practice, promise, and problems. *New Directions for Evaluation*, 2000(87), 5-13; Weiss, C. H., 'Which links in which theories shall we evaluate?' *New directions for evaluation*, 2000(87), 35-45; Stame, N., 'Theory-based evaluation and types of complexity', *Evaluation*, 10(1), 58-76, 2004; Ton, G., 'The mixing of methods: A three-step process for improving rigour in impact evaluations', *Evaluation*, 18(1), 2012; Van der Knaap, P., *Theory-based evaluation and learning: possibilities and challenges*, 2004; Donaldson, S. I., Using program theory-driven evaluation science to crack the Da Vinci Code. *New Directions for Evaluation*, 106, 65, 2005; Chen, H. T., 'A theory-driven evaluation perspective on mixed methods research', *Research in the Schools*, 13(1), 75-83, 2006; Rogers, P. J., 'Theory-based evaluation: Reflections ten years on', in S. Mathison (Ed.), *Enduring issues in evaluation: The 20th anniversary of the collaboration between NDE and AEA* (pp. 63-67), New Directions for Evaluation, No.114, San Francisco, CA, Jossey-Bass, 2007; Rogers, P. J., Using programme theory to evaluate complicated and complex aspects of interventions. *Evaluation*, 14(1), 29-48, 2008; White, H., 'Theory-based impact evaluation: principles and practice', *Journal of development effectiveness*, 1(3), 271-284, 2009; Astbury, B. and F.L. Leeuw, 'Unpacking black boxes: mechanisms and theory building in evaluation', *American Journal of Evaluation*, 31(3), 363-381, 2010; Coryn, C. L., L.A. Noakes, C.D. Westine and D.C. Schröter, 'A systematic review of theory-driven evaluation practice from 1990 to 2009', *American Journal of Evaluation*, 32(2), 199-226, 2011; Chen, H. T., 'Theory-driven evaluation: conceptual framework, application and advancement', *Evaluation von Programmen und Projekten für eine demokratische Kultur* (pp. 17-40), Springer Fachmedien Wiesbaden, 2012.

198 Chen, 1990.

the inputs and outputs of a programme, neglecting the “transformational processes in the middle”. Therefore, classical evaluation approaches are not able to answer the how and why questions that enlighten the cause-effect relations in the micro stages of a programme. Such black-box types of evaluations do not provide insights about the relationships between delivered/planned treatment, between official/operative goals or between intended/unintended effects.

As much as Chen, Weiss<sup>199</sup> has also contributed to the prominence of the theory-based evaluation concept. Although Weiss’s focus was on comprehensive community initiatives for children and families in her seminal work, the principles are still valid for PPP projects/programmes. Weiss supports the idea of basing evaluation on explicit or implicit theories about how and why a programme will (or will not) work.

Despite their promising potential, theory-based evaluations do not come without limitations. Weiss mentions problems of theorizing, measurement, testing and interpretation as drawbacks of theory-based evaluations.

## PUBLIC-PRIVATE PARTNERSHIPS

Infrastructure is of crucial importance for growth, development, competitiveness and combating poverty in developing countries. Growing population and increasing demand along with budget constraints, however, have limited the avenues for financing and provision of costly infrastructure projects. This challenging situation calls for mobilizing alternative financing sources. PPPs, to this end, are an alternative way of infrastructure service provision, making use of private finance, expertise and efficiency and combining public and private sector strengths.

PPPs can be generally defined as risk-sharing contractual agreements between public and private sector on the realization of a public-mission project through the dominant use of private sector resources which is extended beyond construction to operation and management stages that constitutes the basis for the private partner to cover its costs by either user charges and/or government’s purchasing of the services.

While the philosophy underlying PPPs looks appealing, the relative complexity of processes and widely differing objectives and capabilities on the public and private sides make the method a challenging endeavour. Not a few PPP arrangements in developing countries have yielded sub-optimal results; even the developed world has experienced unsatisfactory PPP arrangements, sometimes casting doubt on the rationale of using PPPs in infrastructure and highlighting the importance of their careful evaluation, ex-ante and ex- post.

## THE THEORY OF PROJECT FINANCE

The theoretical underpinnings of a PPP arrangement are strongly connected to the project finance concept. “Project finance is a method of raising long-term debt financing for major

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199 Weiss, 1995.

projects through ‘financial engineering,’ based on lending against cash flow generated by the project alone; it depends on a detailed evaluation of a project’s construction, operating and revenue risks, and their allocation between investors, lenders and other parties through contractual and other arrangements.”<sup>200</sup>

Project finance is basically characterized by the presence of a non-recourse (or limited recourse) debt which is to be serviced solely by the cash flows of the project itself, represented by a special purpose entity (project company) established along with the start of the project, in turn isolating the parent company from the project risks.

There are rational reasons for the development of the concept of project financing as an alternative to corporate financing in capital investment projects. First, project financing counters the underinvestment problem.<sup>201</sup> Originally developed by Myers,<sup>202</sup> the underinvestment problem arises when a firm has a highly leveraged capital structure. Myers showed that high leverage creates an incentive, to the detriment of shareholders, to forgo positive net present value projects that would increase the firm value. Passing up positive net present value projects creates agency costs, because lenders demand higher interest rates from these firms as monitoring widely dispersed security holdings in large corporations is costly. Project financing counters this bias by the establishment of a separate entity, which enables creditors to make lending decisions clearly on a project-by-project basis.<sup>203</sup>

In addition, project financing reduces asymmetric information, which arises when corporate managers have valuable information that they cannot communicate unambiguously (or do not want to communicate) to the capital market.<sup>204</sup>

Finally, project financing reduces the “agency costs” of Jensen and Meckling<sup>205</sup> arising from the conflicts of interests between shareholders and lenders. To deal with such costs lenders include a variety of covenants in loan agreements and monitor the borrower’s performance. Since it is much easier to design a debt contract for a specific project than for the entire firm, in which it is much difficult to monitor performance, project financing can reduce these agency costs.<sup>206</sup>

## THE THEORY OF PUBLIC INVESTMENT IN RELATION TO PPPs

PPPs are generally used in public infrastructure projects. Although PPPs are sometimes seen as private investment ventures, they have fundamental public interest elements

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200 Yescombe, E., R., *Principles of Project Finance*, Academic Press, 2014.

201 Finnerty, J., D., *Project Financing: Asset-Based Financial Engineering*, Wiley, 2007.

202 Myers, S. C., Determinants of Corporate Borrowing, *Journal of Financial Economics*, November 1977, 147-176. (EB).

203 Finnerty, 2007.

204 Ibid.

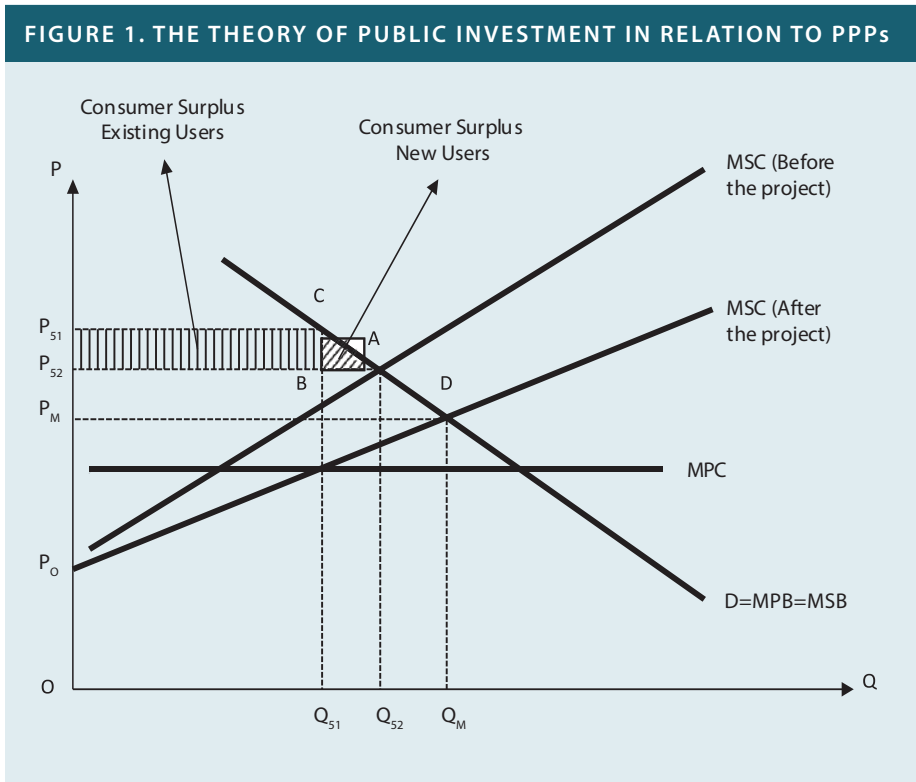
205 Jensen, M., and W. Meckling, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics*, 1976, 305-360.

206 Finnerty, 2007.

from an outcome perspective. However, while the private partner is interested in *net incremental financial* benefits, the public side is interested in *net incremental economic* benefits. Here, by economic benefits we mean benefits to the society, including social and environmental.

Financial benefits are measured by market prices, which is basically the intersection between marginal private cost and marginal private benefit curves on a classical price-quantity graphical representation (Figure 1). In a similar vein, economic benefits are measured by economic prices (also called “shadow prices”), which is basically the intersection between marginal social cost and marginal social benefit curves (Figure 1).

The private partner, who would bear the project cost in a typical PPP project, would be interested in the present value of expected future incremental net financial cash flows throughout the contract period (represented by the present value of the area  $P_0DP_M$  in Figure 1). On the other hand, the public side would be interested in the present value of the future incremental economic cash flows (represented by the sum of the present value of the existing users’ consumer surplus, the area  $BP_{s_2}P_{s_1}C$  in Figure 1, and new users’ consumer surplus, the area ABC in Figure 1) throughout the project life as a result of the project implementation. If, and only if, the expected net financial and net economic incremental benefits



Source: The Authors

are both positive at any time throughout the contract period, the PPP deal would be a sustainable partnership. Otherwise, there would be some instability in the PPP, in which case a contract negotiation or even a failure would be probable.

## SYNTHESIS: THE NORMATIVE INTERVENTION LOGICAL FRAMEWORK

As discussed in the preceding sections, theory-based evaluations are based on “intervention theories” about a programme or project. Therefore, the aim of this section is to construct a “PPP theory” that will constitute the basis for an intervention logical framework on evaluation of PPPs. The proposed framework is shown in Figure 2 (see page 260).

The proposed PPP theory draws on basically two main pillars: First is project finance theory and the second is the theory of public investments in relation to PPPs (Figure 1). The main reason for basing the theory on these two pillars is the fact that PPPs remain to be public investments that use project financing as the financing method.

The framework includes inputs, activities, outputs, outcomes and impacts as the hierarchical steps that in combination build-up the ultimate results of a PPP project or a programme. The theory of project finance and the theory of public investments in relation to PPPs help define each of these steps and causal connections among them.

Inputs are the resources that the PPP project or programme will need to achieve its intended results. Activities are the actions that are taken to bring about a desired end.<sup>207</sup> Utilizing the inputs available and as a result of the activities, project and programme outputs are expected.

Outcomes are direct or indirect changes that are expected from a project or programme as a result of inputs, activities and outputs.<sup>208</sup> While outcomes can be initial, intermediate and long-term,<sup>209</sup> this study is more interested in long-term outcomes that are related to the needs of a PPP project/programme’s target population.

It is necessary to note that outcomes in this study are assessed as compared to a counterfactual. A counterfactual is the state that would prevail in the absence of the project/programme in question. In a sense, it is the “without project or programme” situation.

On the impact level, the PPP project or programme with the described outcomes contributes to increased mobility and reduced logistic costs as a result of increased system efficiency and effectiveness. Such a transport system supports higher economic growth and improved international competitiveness. A more efficient transport system with improved service delivery and spatial development will lead to better environment and cleaner air. Ultimately, the transport system would contribute increased user utility, quality of life and welfare.

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207 Coryn, et al., 2011.

208 Ibid.

209 Ibid.

To accommodate the DAC criteria, some example questions are provided under each criterion. There are two important points here: First, the relevance criterion is assessed based on the normative intervention framework; therefore, the evaluator first needs to construct a normative log-frame about the programme and project and compare it with the framework in place to assess whether they are consistent. Second, the remaining criteria are assessed as compared to counterfactual so as to disentangle the incremental contribution that the PPP project or programme brings.

In order to minimize measurement errors to the extent possible, the framework includes benchmark definitions of achievements under each element of the change model. Finally, a critical path is defined with red boxes and arrows; any missing element along this path would most probably lead to the failure of the project or programme.

### THE IMPACT VALUE CHAIN OF A PARTNERSHIP

Within the configuration of the impact value chain, it is fundamental to depart from the social issue to be addressed with the partnership, the framework of the partnership and the key roles taken on by partnerships. This leads to the overall mission of the partnership, which has to be identified and consensualized.

If the partnership is problem driven, it can take the form of a longer term and more strategic type of arrangement. If it is more solution or opportunity driven, it can be of a more temporary and tactical nature (for instance once the ambition of one party has been achieved, the partnership can be terminated). The inputs have to be assessed against the roles and capacities of each partner (e.g., public, private, non-governmental organizations), as well as the activities which must take into account the number and nature of participants, their roles, the degree to which the partnership is institutionalized in participating institutions and the level of internal dependencies and the position of each participant as primary or secondary stakeholders (Figure 3).

Within the outputs, beyond the traditional fulfilment of individual objectives, it is important to add questions about the benefits to each of the participants and the extent to which the partnership brought about goal-alignment, and consequently scale-up or termination of the project. Input, activities and output type of questions translate into a first level of efficiency, that is operational efficiency. The efficiency dimension of a partnership can be seen as the internal value-added of the partnership, which may be assessed using a cost-benefit analysis by looking at the total costs of the partnership and at specific costs (transaction costs, operation costs) attributed to the partnership.

Moving on to external domain of the impact results chain we now look at outputs and impacts. These are now within the domain of effectiveness, which links the whole results chain, from the social issue to the impact, where considerations have to be made concerning the added value and the impact of the partnership compared to individual activities of the different partners.

Within the outcome level of the result chain, an assessment of the added value and the impact of the partnership compared to individual activities of the different partners needs to be considered (by measuring these goals at the level of involved organizations, the partners, the stakeholders and the system). Additional relevant questions to ask include whether the partnership has provided additional ways of achieving the societal ambitions that would not have been possible otherwise, whether other objectives were possible to have been achieved, if the partnership triggered other activities relevant for obtaining societal goals, and to what extent the experience is reproducible. Other possible questions are featured in Figure 3. In linking inputs to outcomes, a broader type of efficiency can be considered, at the tactical level.

Most studies do not empirically cover the ultimate impacts of a partnership.<sup>210</sup> In general, they take a learning perspective, through employee engagement, issue sense-making or education (often called first-level impacts). The complexity of the exercise of measuring impact increases with the complexity of issues at stake and with the types of partnership configurations.

Evaluation questions have to be refined to the point that they are most relevant for the various stakeholders involved. In the case of PPPs, with actors with different types of engagements, it is better to focus on top-priority learning questions for insider institutions that are engaged with the partnership, and on the critical points where causality or attribution claim related to the impact of interventions on key outcome indicators might be more challenged by outsiders or by less engaged institutions.

Tulder et al.<sup>211</sup> consider four scales of impact: the first-order impact loops analyses impacts at the level of the individual partner (attribution through inputs and activities); the second at the level of the organization or partner (attribution through outputs); the third at the partnership level (attribution through outputs); and the fourth impact loop considers impacts at the societal level (attribution at the level of longer-term outcomes). These can be used as an initial framework for the assessment of impacts.

## CONCLUSION

This paper investigates theory-based approaches in evaluating PPP projects/programmes and proposes an intervention logical framework. The aim is to draw attention to the need to go beyond the measurement of project/programme results to address not only the question of *whether* or not the project/programme worked but also the *how* and *why* questions

The paper formulates a PPP theory, based on which a normative intervention logical framework is constructed. The framework includes inputs, related activities, outputs, outcomes and impacts, collectively forming a change model which describes the causal

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210 van Tulder, R., M. May Seitanidi, A. Crane and S. Brammer, 'Enhancing the Impact of Cross-Sector Partnerships Four Impact Loops for Channeling Partnership Studies', *Journal of Business Ethics*, 135, 1–17, 2016 and Ton, G., 'The mixing of methods: A three-step process for improving rigour in impact evaluations', *Evaluation*, 18(1), 2012.

211 van Tulder, et al., 2016.

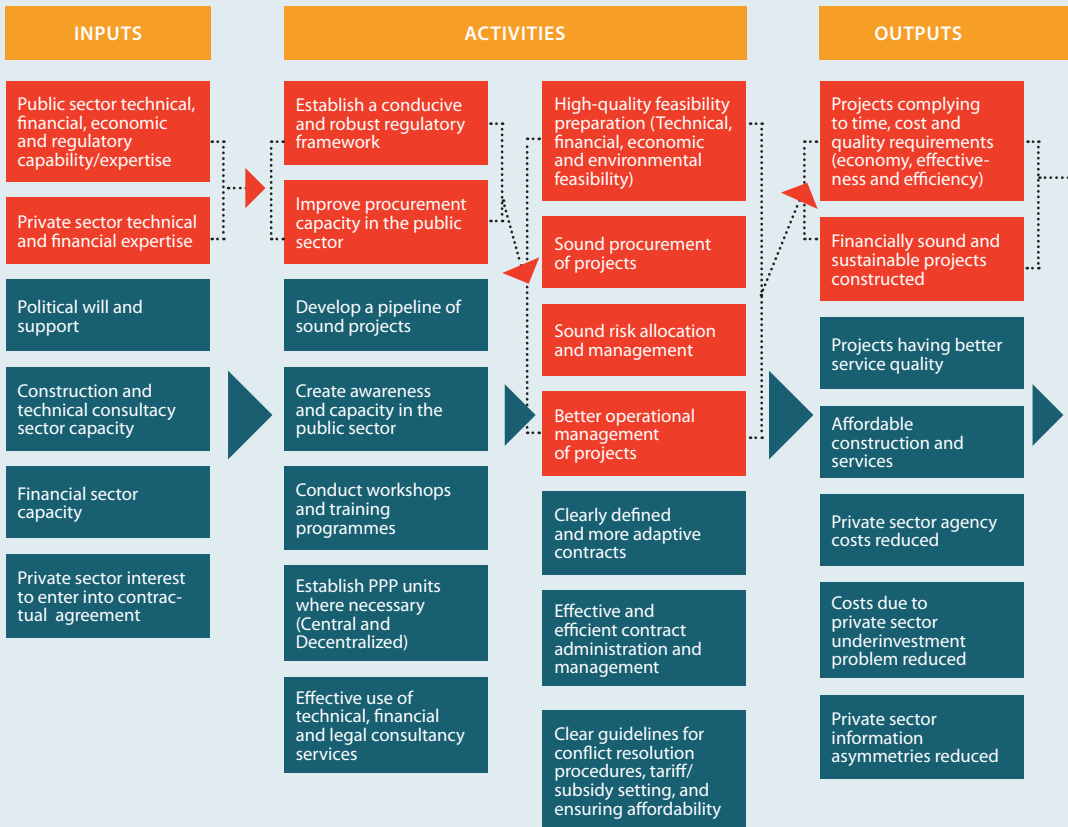


processes in a PPP intervention. The causal processes mainly draw on a combination of project finance theory and the theory of public investments in relation to PPPs, which altogether make it possible to define the micro stages of cause-effect relations in as fine detail as possible. The proposed framework is designed for a representative sector, transport, but can easily be adapted to other sectors.

In this rich field, rapidly growing in sophistication, there is a need for partnership research to pay greater attention to the monitoring, reporting, and evaluation of outcomes and impacts. This is necessary to inform and support the legitimacy and credibility of partnerships as an effective and efficient approach to solving complex social and environmental issues.

These discussions illustrate the challenges that lie ahead in merging the areas of partnership research and impact assessment. Researchers have tried to complement each other, rather than enter into a productive conversation as to issues of theoretical or methodological disagreement. Research in this area is clearly open to improvements. In this context, theory-based evaluation is a promising approach that could help solve some of the complexities of PPP projects/programmes and expand the available toolbox of evaluators. The complexities inherent in both PPPs and theory-based evaluations can be dealt with by designing normative intervention logical frameworks that include critical cause-effect channels, backed by theoretical and empirical foundations.

FIGURE 2. NORMATIVE INTERVENTION LOGICAL FRAMEWORK FOR A PPP PROGRAMME



R E L E V A N C E

E F F I C I E N C Y

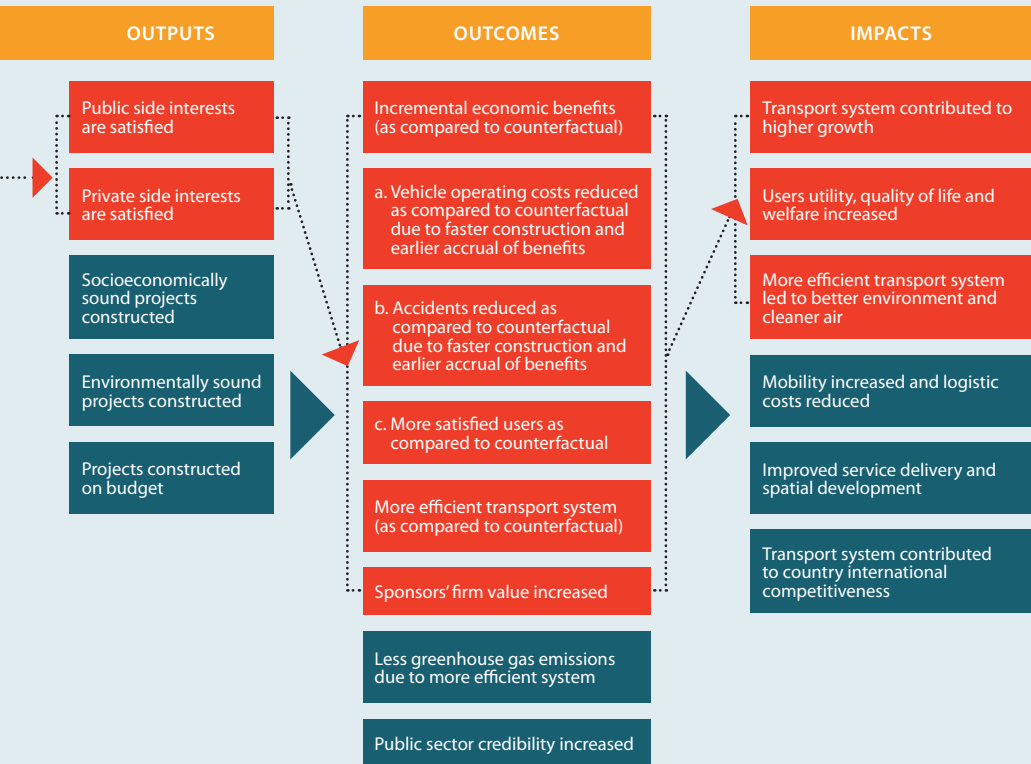
**Assumptions:**

1. Political support is objective, not interventive.
2. Creating capacity in the public sector leads to sound project management.
3. Flexible contracts facilitate better project management.
4. Project financing reduces agency costs and asymmetric information and solves the underinvestment problem.
5. The counterfactual is direct public administration subcontracting.

**External Factors:**

1. Global financial situation
2. Global economic growth
3. Global interest rates

IN THE TRANSPORT SECTOR



R E L E V A N C E

E F F E C T I V E N E S S

I M P A C T

S U S T A I N A B I L I T Y

## THE DAC CRITERIA

1. **RELEVANCE** (To assess the relevance criterion, the evaluator first constructs a “normative intervention logical framework” for the programme or project in question)
  - Whether the intervention logic of the program evaluated is consistent with the “normative intervention logic”?
  - Are there elements lacking in the evaluated programme’s logic with reference to the “normative intervention logic”?
  - Whether the evaluated logic’s objectives are consistent with sectoral policies?
2. **EFFECTIVENESS**
  - Were the objectives of the evaluated logic achieved (e.g., reduced vehicle operating costs, accidents, happier users, increased firm value, more efficient system, reduced greenhouse gases)?
3. **EFFICIENCY**
  - Were the achieved objectives cost efficient, in other words, whether the PPP programme achieved value-for-money as compared to the counterfactual?
  - Value of faster construction and earlier start of operations as compared to counterfactual;
  - Value of additional time savings as compared to counterfactual;
  - Value of additional accident reduction as compared to counterfactual;
  - Value of vehicle operating cost savings as compared to counterfactual.
4. **IMPACT**
  - What are the real changes, (positive, negative, intended, unintended, direct, indirect) as a result of the PPP project/programme?
  - Whether the PPP project/programme has decreasing effects on logistic costs;
  - Whether the PPP project/programme contributes to increased mobility;
  - Whether the PPP project/programme contributes to growth and international competitiveness;
  - Whether the PPP project/programme contributes to increased service delivery and spatial development;
  - Whether the PPP project/programme contributes to cleaner air and better environment; what are the environmental effects?
  - Whether the PPP project/programme contributes to increased quality of life and welfare.
5. **SUSTAINABILITY**
  - Whether the system is financially sustainable;
  - Whether the system is economically sustainable;
  - Whether the system is socially sustainable;
  - Whether user charges are affordable;
  - Whether the special-purpose vehicle’s financial situation is sustainable.

## BENCHMARK DEFINITIONS

### Activities

**Pipeline of sound projects:** A list of projects that have been tested for pre-feasibility and prioritized based on their respective net benefits and contributions to the collective transport system.

**High-quality feasibility:** A report that includes objective and scientific analysis of a PPP project from technical, legal, financial, economic, environmental and political perspectives; an assessment of incremental benefits, costs and their distribution among key stakeholders; analysis of uncertainties, risks and their allocations among parties involved.

**Sound procurement:** Procurement that is consistent with the needs of the procuring authority and with the approved feasibility of a PPP project.

**Sound risk allocation and management:** Allocation of risks among stakeholders of a PPP project such that each party is responsible for the risk that it is best able to manage.

**Conducive and robust regulatory framework:** A legal framework that clearly defines mandates, responsibilities and accountables in PPP project and programme implementation; includes necessary procedures to ensure economy, effectiveness and efficiency; embraces clear guidelines for contract administration, conflict resolution, tariffs, subsidies, affordability and termination.

**Adaptive contract:** A PPP contract that is able to accommodate changes in variables that critically affect the feasibility of a PPP project during its economic life without compromising the overall feasibility, interests of key stakeholders and fair competition conditions at the procurement stage.

### Outputs

**Economic, effective and efficient project:** Projects constructed on time (also entering into the operational stage faster as compared to the counterfactual—direct public administration subconstructing—as a result of the incentives that engage private sector to do so) and on budget and are able to function according to the intended purpose with an optimal cost-benefit balance.

**Better service quality:** Better provision of services as a result of private sector efficiency and competence.

**Affordable construction and services:** Cost of construction and services that are reasonably priced and commensurate with the level of provision they offer.

**Financially sound and sustainable projects:** Projects having current and future cash inflow generation capacity and ability that are reasonably greater than cash outflows at a margin commensurate with international standards.

**Reduced agency costs:** Reduced conflicts of interest between shareholders of a sponsor and the management, as a result of the establishment of a separate special-purpose vehicle in PPPs (and thus increased value of the firm).

**Reduced underinvestment problem:** Sponsors not forgoing low-risk projects so as to maximize the wealth of shareholders at the cost of debt holders, as a result of the establishment of a separate special-purpose vehicle in PPPs (and thus increased value of the firm.)

**Reduced asymmetric information:** Reduced differences in information between sponsors and creditors as a result of the establishment of a separate special-purpose vehicle in PPPs.

**Socioeconomically sound project:** Projects having present value of social and economic benefits outweigh the present value of social and economic costs.

**Environmentally Sound Project:** Projects having negative environmental externalities eliminated, minimized or reasonably compensated for.

**On-budget construction:** Ex-post construction costs being in line with expected costs.

**Public side interests:** Interests spanning through general public welfare.

**Private side interests:** Interests of the sponsors and creditors.

## Outcomes

**Incremental economic benefits:** Economic benefits net of economic costs (such as time savings, vehicle operating cost savings, accident avoidance) generated by the project throughout its useful life.

**Efficient transport system:** A transport system in which alternative modes operate in harmony with each other at their financial and economic optimal.

**Increased firm value of sponsors:** Increased share price of a sponsor as a result of reduced agency costs, elimination of underinvestment problem and asymmetric information.

**Increased public sector credibility:** Sense of success among citizens about public administrations due to increased satisfaction of users as a result of faster construction of project; and affordable and high-quality services.

## Impacts

**Increased mobility:** More efficient and comfortable movement of people and goods as a results of the PPP project's (or PPP programme's) incremental contributions to the system.

**Reduced logistics costs:** Reduced cost of logistic services as a result of a more efficient transport system due to the PPP project's (or PPP programme's) incremental contributions to the system.

**Growth-supporting transport system:** A transport system facilitating economic operations and thus contributing to value added in the economy.

**Competitiveness-supporting transport system:** A more efficient transport system as compared to competitors, facilitating economic operations and thus contributing to increased competitiveness.

FIGURE 3. IMPACT VALUE CHAIN



Source: Based on van Tulder et al. (2016) and Ton (2012)

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