Photo Credit

Construction worker

Weak Management

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A common rationale for involving the private sector in infrastructure provision is that the private sector is more efficient and effective at managing infrastructure construction projects, and at managing service delivery once the assets are in place.

The quality of infrastructure service delivery by government entities is often constrained by limited capacity and weak management incentives. Training, retaining, and leading qualified professionals is often harder in the public sector. This increases the cost of infrastructure. For example, the **World Bank's Africa infrastructure diagnostic study** (IMF and WB 2016, 71–74) estimates that inefficiencies in state-owned utilities and infrastructure providers in Sub-Saharan Africa cost around $6 billion a year. It also reduces the benefits users get from the service.

Studies comparing PPPs and publicly-procured or run infrastructure have found that PPPs can achieve better results in both construction of new infrastructure assets, and in infrastructure service delivery. Still, achieving these benefits, and ensuring they translate into lower infrastructure costs for taxpayers and users, depends on the government structuring, procuring, and implementing the PPP effectively; and could be undermined where weak government or private sector capacity results in poorly-run tender processes or poorly drafted contracts, and frequent renegotiation.

How PPPs can help—improved construction of new assets

PPPs have been found to reduce construction time and cost overruns for new infrastructure assets compared to traditional public procurement.

Evidence suggests that the proportion of PPP projects coming in over budget or late is lower than in traditionally-procured projects. In Australia, two studies have broken down the project development process to allow more detailed comparison. As evidenced in Comparing PPP and Public Procurement in Australia, PPPs consistently performed better in achieving lower project cost over-runs. Comparing the timing of project delivery, both PPPs and traditionally-procured projects both took longer than expected. These studies support the claim that the cost estimates embedded in PPP contracts tend to be more accurate than those prepared for traditional procurement. However, they are inconclusive on whether the PPPs projects are necessarily more economical than traditionally procured projects. The studies suggest delays occur at different stages of the process. The complex contracting process means PPPs can experience delay at an earlier stage in the process, but tend to come in on time once contracted. Publicly-procured projects may be contracted more quickly, but this is more than offset, on average, by delays in implementation.

Some practitioners suggest that government agencies engaging in PPP procurement are improving their overall practices by focusing on whole-life cost and benefits. According to the **House of Lords' review of the PPP program** (UK 2009, 19–20), improvements in public procurement in the United Kingdom may be narrowing the gap with PPPs.

Comparing PPP and Public Procurement in Australia

Source	Comparison	Average Over Budget (% of original cost estimate)	Average Time Overrun (% of original time estimate)

PPP	Public	PPP	Public		
Infrastructure Partnerships Australia, 2007 (Duffield and Raisbeck 2007)	Original approval to final	12	35	13	26
	Contract to final	1	15	-3	24
Duffield review of PPP performance, 2008 (Duffield 2008)	Original announcement to final	24	52	17	15
	Budget approval to final	8	20	12	18
	Contract to final	4	18	1.4	26

Construction companies interviewed by the United Kingdom National Audit Office indicated that PPPs "impose a greater discipline" on project cost. This is because PPPs usually do not allow for contract modification due to changes in costs, and private financiers have greater scrutiny over the specifications of the project. That is, private companies' returns on a PPP depend on completing the project on time and on budget—creating stronger incentives than under public procurement, where changes to project cost are often at the expense of the contracting authority. In turn, this means private companies make more careful and conservative estimates of costs in the first place, helping reduce the optimism bias described in Poor Planning and Project Selection.

How PPPs can help—improved service delivery and management

There have been relatively few studies on the impact of private sector participation on infrastructure operation. Nonetheless, available evidence suggests that private sector participation can improve service delivery and management efficiency, compared to government-run infrastructure services.

For example, a **comprehensive 2009 World Bank study** (Gassner et al. 2009) analyzed the effect of introducing private sector participation through concessions or full privatization of utilities. The study used econometric analysis to assess performance of over 1,200 water and electricity utilities, in 71 developing and transition countries. The study found significant efficiency gains when private sector participation was introduced—including reduced water losses and increased staff efficiency. These gains came alongside improvements in service delivery, with increased coverage and daily hours of service. A study by **Marin of private participation in urban water utilities** (Marin 2009), also in 2009, analyzed the performance of 65 large water PPPs and similar contracts (including management contracts) in developing countries worldwide. Marin also found that introducing a private operator consistently improved operational efficiency and service quality.

The **Transportation Research Board's report on highway life-cycle costs** (Flannery et al. 2016) discusses life-cycle cost analysis for highways and presents the approaches utilized by government agencies and PPP bidders/operators.

PPP limitations and pitfalls—PPP implementation failures

PPPs can achieve efficiency improvements in the delivery of infrastructure, as described above. However, creating the incentives to achieve efficiency gains, and ensuring the public and users reap the benefit, depends on the government effectively structuring, procuring, and managing the PPP project over its lifetime. This achieves competitive tension, real risk transfer, and ensures anticipated performance improvements materialize in practice. This can be difficult where low public sector capacity means that governments lack the resources and skill to structure and manage PPPs well.

A PPP program may also present a short-term negative impact on public sector capacity—**a NAO audit report on the British prison PPP program** (NAO 2003a) notes that PPP prison directors were generally recruited from the ranks of experienced Prison Service governors, benefiting from the experience and skills of former public sector employees. Other PPP programs experienced the same effect. Implementing a PPP program requires active measures to create or retain enough expertise for managing the PPP contracts themselves.

Implementing a competitive procurement process for PPPs can be difficult. As described in detail in PPP Cycle of this *Reference Guide*, governments need to approach the market with a well-structured PPP project under an appropriate tender process. Where this is not the case, bidders may simply not participate; or may make bids that are either incomparable with each other (as based on varying assumptions) or deliberately low, with a view to resolving uncertainties through post-bid negotiation. This can be a challenge even in countries with long PPP experience. For example, the **House of Lords' Review of PPPs** in the United Kingdom (UK 2009, 20–21) describes how negotiations at the preferred bidder stage led to price increases in many PPP projects.

Guasch's comprehensive review of PPP experience in Latin America (Guasch 2004) highlights a further challenge with achieving the benefits of competition—the incidence of renegotiation of PPP contracts. Of a sample of over 1000 concessions granted in the Latin America and Caribbean between 1985 and 2000, Guasch found that 10 percent of electricity concessions, 55 percent of transport concessions, and 75 percent of water concessions were renegotiated. These renegotiations took place an average of 2.2 years after the concessions were awarded.

Guasch suggests this high incidence of renegotiation soon after concession award may reflect flaws in the initial tender processes, weak regulation, or opportunism on the part of the private party or government. Most renegotiations were favorable to the operator—for example, resulting in increased tariffs, or reduced or delayed investment obligations. In these cases, the efficiency savings from cost discipline may not have been passed on to the public sector.

Abrantes de Sousa's review of the PPP program in Portugal (Sousa 2011, 9–10) describes a similar tendency. Abrantes de Sousa notes that the government's apparent willingness to renegotiate contracts undermines the competitive process, with bidders engaging in strategic bidding to win the contract, to renegotiate it later without competition.

Moreover, effective management of a PPP transaction is only the start of the process. For a PPP to be sustainable over the long term requires a consistent level of commitment and capacity from the government and private parties over time. Where this is not the case, whether due to changing government priorities or external pressures, the PPP may ultimately fail—as described in When PPPs fail—The case of the 1993 water concession in Buenos Aires.

When PPPs fail—The case of the 1993 water concession in Buenos Aires

In the 1990s Argentina implemented a major concessions program in the water sector. Water and sanitation concession agreements with private operators were signed in 28 percent of the country's municipalities covering 60 percent of the population. The more widely-known contract was the concession for public water and sewerage services for Greater Buenos Aires, signed in 1993 with a consortium led by the French firm Suez. The concession soon showed positive results—labor productivity almost tripled, service coverage increased, reliability and responsiveness improved, and the price of service fell. However, teething problems also appeared—poor availability of information to users and the public, lack of transparency in regulatory decisions, and the ad hoc nature of government interventions. Consumers were not reassured that their welfare was being protected, and the sustainability of the concession was in doubt.

There is evidence that the private operator increased investment, and that it expanded access—Suez claims it extended access to water to two million people, and access to sanitation to one million people. In 1999, it started programs to provide access to slums—but soon the Argentinian economic crisis disrupted the plans.

After the 2001 economic crisis, the Argentinian government froze water tariffs, condemning most concessions to renegotiation, and several of them to early termination—as was the case of the Buenos Aires concession, which was terminated in 2006.

Sources: (Crampes and Estache 1996); (Estache et al. 1999); (Alcazar et al. 2000)

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- **ESTABLISHING THE PPP FRAMEWORK**
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