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Public-Private Partnerships and Efficiency: A Short Assessment

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Introduction

Over the last 35 years or so, governments around the world have enhanced the participation of private agents to deliver a wide variety of goods and services, traditionally delivered by the public sector. The development of public–private partnerships (PPPs) has been, and continues to be, one of the most popular contractual forms this increased private sector role has taken. Despite this long lasting interest, robust theoretical and empirical research on the efficiency of such partnerships has, however, only emerged relatively recently.

Theoretical frameworks designed to tackle "make or buy" issues and contracting strategies between private firms may have provided some of the clearest insights into issues related to contracting with governments. To many economists, PPPs may indeed be seen as a simple extension of vertical disintegration or contracting out by governments (de Bettignies and Ross 2009). But many also recognize that the political dimensions of PPPs call for further theoretical adaptations to give a fuller picture of the drivers of their efficiency (Spiller 2009; Williamson 1999). Despite the recent theoretical progress in identifying the necessary conditions for PPPs' efficiency, non-specialist analysts continue to focus on their ideological dimensions and interpretations. The rest of this brief assessment shows that the biases introduced by ideological discussions of PPPs are in sharp contrast to the more balanced theoretical and empirical research on the topic.

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What are we really talking about?

The notion of PPP is multifaceted and covers a wide diversity of contractual agreements characterized by different risk sharing and financing schemes, as well as different organizational forms. A broad definition of PPPs is that they are long-term contractual agreements between a private operator / company (or a consortium) and a public entity (both at the central or local level) under which a service is provided, generally with related investments. More precisely, PPPs can be defined as global contracts (bundling both investments and service provision) with delayed payments. For instance, in the case of concession contracts, these payments are financed through user fees and/or subsidies. In the case of PFI (private finance initiative) contracts, they are financed through public payments, which serve as reimbursements.[3]

The world enjoys fairly longstanding experience with these contracts. Concession contracts or their equivalents have existed for several hundred years. PFI contracts, by contrast, are relatively new. They were launched in the early 1990s in the UK and have enjoyed regular improvements, often to upgrade their efficiency payoffs. Figure 1 gives a sense of their importance in Europe, where the leader in their use continues to be the UK. In the past, they financed 12 to 30 billion euros of European public investments annually, reaching a peak just before the beginning of the recent crisis.

Promises and threats of PPPs

The lower degree of political interference (Boycko, Shleifer and Vishny 1996), risk transfers and the more up-to-date technical and management knowledge of private agents dealing with a global contract bundling investment and service provision (Hart, 2003) are widely viewed as the three main drivers of improvements in efficiency that PPPs can contribute to the delivery of public services. But research also shows that reality is a lot more subtle and the efficiency outcome of PPPs should be expected to be less predictable than often assumed.

[3] Hybrids may exist with payments depending on both user fees and public payments.

Figure 1

The unpredictability mainly stems from the incomplete nature of PPP contracts resulting from the fact that they do not specify what the contracting parties should do in every future situation. This generates transaction costs – i.e. difficulties in implementing and enforcing these contracts (Williamson 1985) and hence threats to PPPs.

Theoretical research justifies the cases made to push public authorities to improve their ability to: (i) identify projects to be financed through PPPs (i.e. projects creating social value); (ii) specify the characteristics of the service they commission; (iii) deal properly with the award stage; (iv) work through the contractual details, and (v) invest in the enforcement of the contract. (See the other papers of this journal issue for more details about what theory suggests at every step of PPP implementation). Any government mistake on any of these fronts is a threat to the efficiency promises of a PPP. How important these threats are is ultimately an empirical matter and this evidence is also complex, as discussed below.

Empirical evidence: what do we know?

Empirical evidence confirms that PPPs can indeed lead to improvements in efficiency, but do not necessarily do so. The econometric evaluation of various types of PPP experiences indeed shows that the careful choice of control variables, the proper framing of the PPPs' institutional and sectoral context and the careful avoidance of selection biases in sample choices matter to the conclusions reached by empirical tests of the impact of PPPs on efficiency. Recognizing the relevance of these factors allows the identification of the circumstances under which PPPs are likely to enhance efficiency, and those under which they will not. This section briefly reviews the empirical lessons on the circumstances that may limit the efficiency payoffs of PPPs for a wide range of infrastructure public services.

The risks of optimism biases in project selection

Failures to improve efficiency with a PPP start with the extent to which a project meets a need. Ideally, a careful demand study needs to reveal the willingness to pay for the project and in cases where externalities are relevant, the state has to make sure that they can be dealt with not only equitably for users and taxpayers, but also efficiently from a technological viewpoint. This identification is not as simple as it sounds and strategic overestimations of demand are common practice (Trujillo, Quinet and Estache 2002, Flyvbjerg 2014). Such manipulation can be carried out at the initiative of the public or the private sector. It turns out that who actually identifies the need and initiates the case for a project is not an important driver of the large number of cases of optimism bias observed around the world. White elephants can benefit both politicians and private providers. They do not seem to be reduced by PPPs.

Let us consider the case of Spain. The recent experience of PPPs in Spanish transports reveals how a systematic large-scale ex-ante overestimation of demand can lead to an oversized or misallocated transport network (e.g. Bel, Estache and Fourcart 2014). The optimism bias in transport riding on a country growth strategy anchored in the construction industry has been costly. Spain has ended up closing a large number of recently built regional airports and train stations due to a lack of demand. Many of its toll roads, also built under PPPs, are just as financially unsustainable.

A basic sense of the relevance of cost functions allowed a fair number of economists to raise concerns about the quality of project sizing for a much larger number of countries and many of these papers pointed to the cost

inefficiency in ports (Gonzàlez et al. 2009), airports (Oum, Yan and Yu 2008) or roads (Bel et al. 2014). This is not to say that all PPPs have failed. To the contrary, many have indeed been quite effective. But it serves to show that project selection biases happen, probably too often, and that the suppliers of PPPs may not have an incentive to raise red flags early on. This problem is even more central in PFI-like contracts for which private firms' revenues are not conditioned to future demand. If value for money reports are generally mandatory, they are susceptible to manipulations (House of Commons 2011).

As suggested by Bel et al. (2014) in the Spanish case, the mis-targeting of demand can be consistent with either incompetence or collusion between public and private actors. Either way, efficiency is not the outcome of the initial need identification phase, whether a private partner is present or not.

The failures of the procurement process

The second driver of the efficiency of PPPs for which empirical evidence is quite robust is the quality of the procurement process. In countries in which public procurement is poorly organized or corrupt, PPPs offer an opportunity to reform procurement processes to cut costs by increasing competition for a project or a market. They represent a way of circumventing the inertia of procurement practices inherited from times in which governments were trusted to deliver public services in the interest of consumers.

Although significant improvements have been achieved in recent years, the challenge remains both in developed and in developing countries. A recent survey conducted by PwC and Ecorys (2013) on behalf of the EU shows that corrupt procurement processes continue to be a significant issue, particularly in infrastructure. In a sample of eight EU countries, the survey finds that the highest probabilities of corruption are the staff development services (23–28 percent) and the construction of wastewater plants (22–27 percent). The probability of corruption is lower for rail (15–19 percent), for road (11–14 percent), and airport runway construction works (urban & utility construction) (11–13 percent). The overall direct costs of corruption in public procurement in 2010 ranged from EUR 1.5 billion to EUR 2.3 billion, with about 19 percent of the estimated value of tenders for public expenditure on works, goods and services published in the EU electronic tendering system in the eight EU member states covered by the survey.

Although corruption is a serious problem, it should not hide the fact that the design of procurement itself often seriously limits the extent to which governments can make the most of the opportunities offered by PPPs. For a large sample of developing countries benefiting from World Bank and Japanese aid, Estache and Iimi (2011) show how public sector procurement rules often tend to limit or distort competition in public markets to deliver infrastructure needs, such as roads or water and sanitation facilities. The inefficiency associated with the limitations of the process represents at least eight percent of the infrastructure needs of the developing world—and much more in countries in which corruption and incompetence combine to allow inflated costs.

The upshot is that PPPs help, but they are not a sufficient condition to ensure improvements in efficiency as compared to pure public provision. The recent European Concession Directive voted in February 2014 highlights that these problems are also present in PPPs to a large extent (Directive 2014/23/UE). Indeed, the Commission justified the need for a new European Directive because many concession contracts where directly awarded, without any prior notification or call for tenders (Saussier 2012).

Theory suggests that designing procurement procedures when the risks of corruption or collusion are serious demands a willingness to adopt somewhat counter-intuitive processes to optimize efficiency prospects, including granting some discretionary power to public authorities. For instance, Bajari et al. 2009, using a data set of contracts awarded in the building construction industry in Northern California from 1995–2001 by private authorities, found that more complex projects – for which ex ante design is hard to complete and ex post adaptations are expected – are more likely to be negotiated, while simpler projects are awarded through competitive bidding. Furthermore, buyers rely on past performance and reputation (Spagnolo 2012) to select a contractor when deciding to award the contract through direct negotiations. This suggests that it is recommendable to leave open the possibility of negotiating to a certain extent, especially for PPPs that are complex and may not rely automatically on weighted criteria to define the best economic offer.

The extent to which a PPP "skims the cream" off a sector

The third driver of the impact of PPP on efficiency identified in the empirical literature requires some refocusing of the discussion. Most of the empirical literature

Table 1

Selected studies on the frequency of renegotiations in PPPs

Geographical area	Sector	% of renegotiated contracts	References
Latin and Caribbean America	All sectors	68%	(Guasch 2004)
	Electricity	41%	
	Transport	78%	
	Water	92%	
United States	Highways	40%	(Engel, Fischer and Galetovic 2011)
France	Highways	50%	(Athias and Saussier 2007)
	Car Parks	73%	Beuve et al. (2013)
United Kingdom	All sectors	55%	NAO (2001)

Source: The authors.

tends to look at the extent to which PPPs can influence efficiency in the context of a specific project. From a sector perspective, however, this does not necessarily guarantee efficiency. If cream skimming takes place, economies of scale or scope can result in higher aggregate costs for the sector, i.e. the aggregate performance of a highly effective PPP and of a poorly efficient residual sector can lead to a lower aggregate efficiency level (Estache and Wren-Lewis 2009). This concern helps to explain the differences in the degree of unbundling in sectors observed from the mid-1990s to the mid-2000s and ever since.

When Cameroun decided to concession its electricity company, it opted not to unbundle the vertically integrated public company. Part of the argument was that it reduced the perception of risks by the investors. But it was also because there was a risk that the fiscal costs of the non-competitive segments of the client basis would be excessive since serving them would have to rely on higher cost techniques. Similar observations can be made concerning the packaging of water concessions in Argentina for instance, or in discussions on the regionalization of ports and railway services in both developed and developing countries.

The challenges of matching the contractual choice with the institutional context

The fourth efficiency driver is the institutional context in which the PPP takes place. This institutional context has several dimensions, including the approach adopted to supervise and/or regulate the sector and the specific nature of the PPP contract (i.e. concession, constructions, maintenance, management etc.). PPPs tend to embed the basic regulatory framework that will guide their evolution, which relates to basic features such as prices, quality, penalties, termination etc.. Very often, the regulatory framework is embedded within the formal contract and there is no regulator. However, empirical evidence suggests that contracts are not always a good tool for regulating PPPs, especially when the project is complex and the contract very incomplete.

The fact that PPPs are long-term contracts means that they need to be adapted over time. This gives rise to frequent renegotiations (see Table 1). Those renegotiations can be viewed as evidence of opportunistic behaviours from contracting parties. As stated by Guasch, Laffont and Straub 2008 "High rates of contract renegotiation have raised serious questions about the viability of the concession model … in developing countries" (p.421). Others suggest that such renegotiations are "renegotiations without any hold-up" highlighting corruption and political issues at stake in some countries concerned by PPPs (Engel, Fisher and Galetovic 2006). However, because renegotiations are sometimes useful, in a sense, it is possible to say that the frequency of contract renegotiation may provide concessions 'relational' quality (Spiller 2009; Beuve 2013). Whatever the reason why PPPs are renegotiated, one central message is that renegotiations are the rule, not the exception and this has an impact on efficiency. The institutional framework in which PPPs are evolving are not neutral to explain their efficiency.

There is an abundance of econometric evidence demonstrating that effective regulators can allow PPPs to improve total factor productivity and labour productivity, even if this evidence varies across sectors and across regions. Although it has been quite positive for the telecoms sector and positive in many cases for transport (largely because competition works well in these two sectors), the story is a lot more complex for electricity and water and sanitation (Erdogdu 2011, 2013). For electricity, public-private investments in generation and large-scale investments such as distribution and transmission concessions has generally lead to significant improvements in efficiency. In water and sanitation, the

evidence of increased efficiency due to private sector participation (e.g. von Hirschhausen et al. 2009 for a recent survey) is less clear, even if empirical evidence in France shows that the prices charged by PPPs are not higher than those levied in cases of direct public management for French big cities without any national regulator (Chong, Saussier and Silverman 2014). Moreover, the evidence is neither particularly clear for airports (Oum et al. 2006) nor for ports (González and Trujillo 2009, Vasigh and Howard 2012).

Sustainability

The final dimension deals with the sustainability of any efficiency gain achieved by a PPP. Both economists and political scientists have been very effective in recent years in increasing our collective awareness of the various dimensions of governance, from weak institutions surrounding PPP to the overwhelming politics of PPP. Berg et al. (2012) point out in their study of telecoms that it affects more private firms than government-owned firms. For transports, Galilea and Medda (2010) suggest that corruption is not just about procurement. Governance and democratic accountability also matter to the impact of a PPP on the sustainability of the sectoral efficiency gains they may have delivered. Galilea and Medda (2010) find a positive association between a low accountability level and a PPP's success for all transport sectors except toll roads. Less accountable governments "seem more willing to fulfil the long-term requirements" or are perhaps easier to make accountable when the PPP process increases the transparency of transactions in the sector.

Conclusion

One of the more general conclusions to be derived from this short theoretical and empirical overview of research on PPPs' efficiency is that they deal with specific hazards that are not present for private contracts, and that understanding the drivers of these hazards is essential to understanding the extent to which PPPs will help or hurt efficiency. Spiller (2009) wisely argues that: "the perceived inefficiency of public or governmental contracting is simply the result of contractual adaptation to different inherent hazards, and as such is not directly remediable". Those different hazards linked to institutional context are now well-identified and increasingly well documented. They are, however, still waiting for a general theory (Estache and Wren-Lewis 2009) to guide and structure empirical research. This is particularly important as politicians continue to make efficiency commitments on behalf of PPPs that do not really determine ways to improve PPPs' efficiency. In this context, the evidence also shows that regulators and competition agencies have a stronger role to play than they are credited for by policymakers betting on PPPs. And so do regulation, liability rules, and authorized contractual provisions, even if their optimal design is likely to differ from one country to another due to differences in institutional constraints and history.

More theoretical developments and empirical investigations should obviously be developed to understand how economic agents tentatively deal with the various hazards identified with PPPs, and whether this could be enhanced by innovation in contractual and/or institutional design. This should be a top-priority on the research agenda, especially since the problems that plague PPPs are increasingly recognized and are also present in traditional procurement contracts in a business that represents on average 13 percent of the OECD GDP (OECD 2013). In other words, getting PPPs wrong is unlikely to be cheap.

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