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IPPP – RISKS AND OPPORTUNITIES
AN ECONOMIC PERSPECTIVE

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Abstract

This article analyzes some of the issues raised by institutionalized public-private partnerships in an economic perspective. We demonstrate that although they may address some of the main limits of purely contractual public-private partnerships, such as the issues of control, know-how transfer, or additional financial cost, they may induce some intrinsic risks, related to alterations of the contractual incentive structure and judicial challenges. Based on economic theory, we stem some recommendations and comments about the adequacy of legal requirements with economic normative views.

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Keywords: Public-private partnerships, hybrid structures, incentives.

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I. Introduction

The "trillion-dollar gap" represents the need for infrastructure all over the world for the coming decade, according to the World Economic Forum (2012). Be they greenfield infrastructure in developing countries, or brownfield projects in developed economies, and whether they are at a local level or at a national or regional one, the investment gap in infrastructure is a major issue for governments. The issue is in fact multidimensional. Finding new sources of investment, contracting with reliable partners to build or renovate the infrastructure and deliver the services, determining credible enforcement mechanisms, avoiding corruption, looking for allocative efficiency are at the very core of public decision makers' challenges.

By default, the delivery of public infrastructures and services has been provided internally by governments, through in-house provision. The core interest of this delivery mode is to answer market failures, as social return of these goods and services is superior to the financial return. There are no incentives to reduce costs at the expense of quality (Hart and al., 1997). In the special case of natural monopolies, prices charged to citizens can be set at a close level to those charged in a perfect competition situation, although they induce losses for the public producer. Indeed, the economic optimum can only be reached if the producer charges a price equal to its marginal cost. However, as a natural monopoly is characterized by increasing scale returns (a unique firm is always more efficient than several ones), this marginal cost (the one of the last unit produced) is always below the average cost. As a consequence, an optimal pricing does not allow covering production costs.

At the opposite, providing public goods and services privately without any public regulation would induce higher prices, once the producer benefits from monopoly power. This would be harmful for social concerns (capture of wealth from consumer to producer). Beyond re-distributional concerns, monopoly prices are harmful in terms of global welfare because they induce a dead weight loss for the economy due to prices above perfect competition prices. Moreover, fully private provision of public goods and services is likely to induce poor quality investments, at the expense of consumers and citizens. It is also likely to impair adaptations of the service features to changing contingencies and to users' quality expectations. Thus, pure privatization of public services, without any public property rights, control or regulation, is not a satisfactory delivery mode.

A priori, governments are thus best placed to provide public goods and services. However, public delivery meets several limits: (i) governments face strong budget constraints at a time when there are more and more complex and costly requirements and when public entities have difficulties to raise capital (impaired by budgetary rules and a lack of confidence of financial markets concerning their capacity to repay debt). Taxpayers are also reluctant to increasing levels of taxation. This is called a margin-squeeze phenomenon (Lüder, 1994). This strong budget constraint on the availability of funds does not reflect the second limit of public delivery which consists in a soft budget constraint (ii) benefiting to public managers (Kornai and al., 2003). Indeed, in-house provision is equivalent to cost reimbursement schemes in public procurement, i.e. there are no incentives to prevent cost overruns and to invest in cost reduction (Laffont and Tirole, 1993). But, the difficulties encountered in public delivery of services are not only related to budgetary and incentive dimensions. Indeed, the increasingly complex social needs are confronted to a more and more limited public expertise (iii). This is due to the weak remuneration schemes and un-attractive career prospects for engineers in the public sector and to the fact that innovations are more frequently pulled by the market than they are pushed by public initiatives (Burmeister, 1994).

In order to tackle the limits of both polar delivery modes (in house delivery and privatization), public-private partnerships (hereafter PPPs) can appear as a relevant solution. PPPs are long term contracts between a public authority and a partner (traditionally a fully private entity) to finance, design, build, operate and maintain infrastructure and associated public services. Indeed, PPPs make it possible to raise private pre-financing (that is later refunded directly by users or indirectly by taxpayers[3]). Before the 2008 subprime crisis, commercial banks had low risk aversion to lend money in this kind of long-term contract, limiting the spread compared to direct sovereign financing[4]. Following the 2008 crisis, investment in public infrastructure has kept an attractive profile for other types of long term investors, such as insurance funds and pension funds (Blanc-Brude, 2013). Either before or after the crisis, the PPP delivery mode partly answers to the strong budget constraint faced by governments. Let us note that the availability type of PPPs have been regularly considered as a way to circumvent budgetary

[3] PPPs encompass two types of contractual schemes. The first one corresponds to concessions in which payments are made by final users. The second one corresponds to availability payment schemes for which payments are made by the contracting public authority. The main difference between these two PPP models relies on the demand risk, borne by the private partner in the case of concessions.

[4] Theoretically, governments are bankrupt-proof, so there is no risk on the debt reimbursement for treasury bills subscribers. Consequently, government bonds are issued without risk premium, contrary to private sector issuers. The additional cost of private funding is called the spread.

rules (Maskin and Tirole, 2008; Engel and al., 2010), so as to avoid recognizing public investment (and the corresponding liabilities) on the public balance sheet. However, the increasing trend towards implementation of accounting rules based on IFRS largely prevent from this off-balance sheet strategy (see for example the UK case Hodges and Mellet (2012)). As a result, more than financial and accounting advantages, the core advantages of PPP schemes are related to project management and contract performance. Indeed, PPPs are structures creating appropriate incentives addressing the soft budget constraint issue. As fixed-price contracts, the private partner is at risk concerning costs, so that the public authority is covered against cost overruns[5]. Moreover, the private partner is the residual claimant who provides strong incentives to reduce cost or increase productivity. As bundled contracts, PPPs incentivize the private partner to optimize construction costs in the long run, and not to minimize them as it is the case in spot contracts. This results in rigorous cost control all over the contractual life (Hart, 2003; Iossa and Martimort, 2012). Finally, as calls for tenders are based on a functional program (often reinforced by a competitive dialogue), and as payment to the private partner is conditional to the contracted performance (output-oriented contracts), the private is fully incentivized to use (or develop) the most appropriate technics and technologies to fulfill his objectives. As a result, public authorities benefit from the private sector's know-how, skills, expertise and R&D capacities, while retaining control over the asset and the performance of the services.

Therefore, the use of PPPs (both concessions and availability contracts) worldwide has skyrocketed for more than two decades and the financial crisis has not altered this trend dramatically (Burger and Hawkesworth, 2011).

Nonetheless, the PPP model has not always been so successful. They have been mainly criticized in IT projects and in the health sector. The value for money they generate has been regularly challenged (Froud, 2003; Shaoul, 2005). On the theoretical side, PPPs are not the silver bullet either (Coulson, 2008). The incompressible over-cost of private funding and transaction costs induced by such contracts have not always proved to be outweighed by productive efficiency gains. Moreover, as all long term contracts dealing with complex projects, PPPs are inherently incomplete. In order to minimize the uncertainty on the environment as well as moral hazard[6] issues, public authorities have shown they prefer

[5] Alternatively, cost and delays overruns are two very common problems of traditional public procurement schemes (Flyvbjerg, 2002 and 2014).

[6] A moral hazard phenomenon corresponds to a situation in which an economic Agent can behave opportunistically with its Principal. Opportunism may arise from the fact that specific investments are already

writing over-detailed contracts to manage unforeseen contingencies and to prevent from opportunism. In this framework, PPPs have become rigid contracts that are difficult and costly to renegotiate in a way that allows fitting the ever-evolving social needs, public partner requirements and technologic progress (Vangen and Huxham, 2003). Besides, PPPs have been criticized by the British Treasury, considering them as "too costly, to opaque and too rigid" (House of Commons, 2012).

Interestingly, more and more countries have recently developed new forms of PPPs. Such PPPs do no link a public authority to a private partner, but a public authority with a public-private join-venture, also called mixed companies. The public and private partners co-share the ownership and management (ie. investment and operational risk (Moszoro, 2014a)). According to the European Commission (2005), this kind of arrangement corresponds to Institutional PPP (hereafter iPPP), by opposition to contractualized PPPs (hereafter cPPP) that have been described previously. They are widespread in Spain and Portugal, through *Empresas Mixtas* (Castro and Janssens, 2011; Da Cruz and Marques, 2012), as well as in Italy (Marra, 2007), but also in South America (Marin, 2009). In the UK, the longstanding PFI model (corresponding to cPPP) is evolving towards a PF2 model (HM Treasury, 2012), corresponding to iPPP and allowing equity co-participation in dedicated structures (Special Purpose Vehicle, hereafter SPV[7]). In the French legal framework, mixed companies have existed for long, though *Sociétés d'Economie Mixte*, in which the public authority must be the major shareholder. Another form of mixed companies is currently being discussed by the French Parliament to create *SEM à Opération Unique* (hereafter SEMOU), in which the private partner can be the majority shareholder. In spite of this prolific development of iPPPs, one should note that they are not developed in a legal vacuum, considering the EU regulation and the European courts case law (European Commission, 2008). They define some requirements about the founding process of the iPPP, the selection of the private partner, and the award of the contract to this structure. There is an extensive literature in the field of procurement law on the impacts of these requirements for public authorities that are willing to commit in such contractual schemes (Indèn, 2011). Considering this diversity of contractual

realized (case of the contractual hold-up) or from the fact that the Principal cannot assess the real level of effort produced (case of information asymmetries).

[7] In a PPP deal, the funds can be directly raised by the company selected through the tendering process (corporate finance scheme) or by a dedicated entity (project finance scheme). This last financial model has two main advantages. A first one is to allow an off-balance sheet treatment for the company that might preserve its financial ratios and limit its funding cost. A second one is to make possible to gather in a single entity all the companies that formed the consortium constituted to answer the public tender for a global service.

and governance forms, our purpose is to wonder, in an economic perspective, to what extent iPPPs can address the pitfalls of cPPPs. We also question whether iPPPs worsen the complexity of public-private arrangements and *in fine* whether they do not hold, per se, intrinsic inefficiencies and risks in terms of public service value.

There is an emerging but increasing theoretical literature relative to the economics and management of iPPPs. To the best of our knowledge, three theoretical patterns can be identified.

First, Mozsoro (2014b) sheds lights on the trade-off between public monopoly, private monopoly, regulated private monopoly and PPPs defined as iPPPs. He uses the agency theory and also relies on transaction costs economics. He theoretically finds that iPPPs are more relevant than regulated private monopoly when they allow the public authority to minimize its monitoring costs. Indeed, these latter can be high due to information asymmetries in favor of the private sector. He also underlines another term in the trade-off, which basically consists in the "participation constraint". Indeed, the private partner would accept to commit to such a deal provided that his share is sufficient to benefit from a satisfactory level of financial return. The more important shares the public partner has, the lower the informational differential, but also the lower the incentives of the private shareholder to perform efficiently.

Second, a more prolific pattern of the literature is based on case studies and discusses whether iPPPs allow to shift from a contractual relationship to a relational one, i.e. more flexible, and theoretically more efficient. Indeed, relational contracts allow coping with unforeseen circumstances without the need for costly renegotiation (Spiller, 2008). In this perspective, Da Cruz and al., (2014) insight is the most comprehensive one, but also critical. They show that iPPP do not hold their promises in terms of protection of public interest. Their case studies suggest that local governments use iPPPs to avoid on-balance sheet treatment and also to remove the burden of daily management and accountability to the private shareholder. By extension, they point out the fact that the public-private joint-venture faces conflicting and poorly defined objectives, which results in governance difficulties. 'No one can serve two masters" (Da Cruz and Marques, 2012).

The last identified branch of the literature goes even beyond this view, by assuming the public shareholder abdicates its own values (social welfare) and endorses private profit-based values about public services (Peters and al., 2014). As a result, iPPP gather the worse of the two worlds and can lead to more inefficiency than public organization.

In this article, we also adopt an economic perspective, but we do not only study the relative advantage of iPPPs compared to cPPPs (Section 2); in Section 3, we highlight some specific risks associated to iPPP. In particular, we shed light on the deterioration of the incentive structure both for the private partner (Section 3.1) but also for the lenders to the project (Section 3.2) and also by taking into account the judicial risks induced by internalized renegotiation within the iPPP in case of third party opportunism (Section 3.3). Finally, in Section 4, we derive some conclusive public governance recommendations.

II. Do iPPPs solve cPPPs inconsistencies?

II.1. The cost of capital and debt

Before the 2008 crisis, the funding of PPPs was possible in very favorable conditions, because the spread between the cost of private funding and sovereign bonds was limited. This was due to a low degree of risk aversion and to the availability of financial instruments allowing to provide additional guarantees on debt repayment for lenders (as monoline insurances). Consequently the additional financial cost of PPP compared to other traditional procurement modes was easily absorbed by superior productive efficiency.

After the crisis, financial closes of PPP have become harder to reach. One of the main reasons relies on the increasing cost of commercial banks resources. This increase was not only cyclical, but structural because of the prudential requirements induced by Basel III regulation. As project loans have become more difficult and costly to raise, one solution could be found by the substitution of equity to project debt. While the financial underlying principle of PPPs before the 2008 crisis was to maximize the leverage to limit the spread, the challenge has become to minimize the gearing.

Nonetheless, financial return required by private equity providers is high, due to the risks incurred for the reimbursement: it occurs late (after debt reimbursement) and not with certainty. Moreover private companies can be reluctant to invest equity in long term projects. This makes private equity by far more costly than debt.

This point is the most challenging issue with cPPPs. They are indeed put in doubt because their cost of financing may impair the capacity of many cPPP deals to reach value for money. The additional funding cost has been accused of outbalancing potential efficiency gains (NAO, 2010).

One of the solutions to solve this cost of equity problem was highlighted by the British Treasury in December 2012 with PF2 (HM Treasury, 2012): it is proposed that public equity can be directly invested within the SPV to limit both the need for private equity and for loans. iPPPs follow the same principle, and in this way, they solve one of the main limitations of cPPPs. Indeed, by limiting the additional financial cost of the public-private arrangement, iPPPs lead to reduce the charge paid by final users or the annual payment of the public contractor. Such a funding might increase the value for money and the affordability of the PPP scheme for the grantor.

One can note that this change carries a substantial modification in the way PPPs are analyzed: they are no longer a "private finance initiative" and their advantage does not only rely on pure private pre-funding. Private participation is now seen as a way to induce productive efficiency in public management, resulting in a public-private joint venture.

II.2. Asymmetry of information

In addition to critics related to the additional cost of private finance, cPPPs are often challenged because they induce important transaction costs (Düdkin and Välilä,2005). Transaction costs can be split into two categories:

The first ones appear ex ante, until the signature of the contract. They correspond to search costs (assessing the relevancy to opt for a PPP and running the competition process) and to ink costs (negotiating and writing very detailed contracts). Incurring these costs is essential to ground the public decision on rational basis and to limit the effect of information asymmetry between the public authority and the private bidders. In economic terms, ex ante information asymmetry problems correspond to an adverse selection phenomenon.

The second type of transaction costs appears ex post, during the execution of the contract. They correspond to monitoring costs. Indeed, monitoring is essential, since the public authority bases the payments to the private partner on performance and quality criteria. Such monitoring can imply important costs, due to, once more, asymmetry of information between the public authority and the private partner. This ex post asymmetry is called moral hazard. A trade-off can be put in evidence: the higher the resources invested in monitoring costs, the more transparent contract execution is, but resulting in lower total surplus for the public partner because of these additional costs. Several examples show that public authorities commonly fail to invest sufficient resources in monitoring (EPEC, 2014).

Facing these challenges, one can note that iPPPs provide an answer to ex post transaction costs, by internalizing the monitoring. The public partner being part of the SPV reduces asymmetry of information concerning daily management (Da Cruz and Marques, 2012) and financial returns. In a nutshell, iPPPs establish a regulation of the SPV from inside. As an equity holder, the public partner has control rights and participates to the board of directors, without bearing additional costs.

II.3 Rigidity problems

The third limitation of cPPPs underlined by the British Treasury (HM Treasury, 2012) is that they are excessively rigid. Indeed, taking information asymmetries into account leads public contractors to prefer excessively detailed contracts, with the illusion they can forecast contingent duties of their partner, whatever the evolution of the environment. Relying on complete contracts for long term projects is however a very costly illusion. It is indeed costly because this supposes important ex ante transaction costs. But it is also useless, since adaptations are often necessary for complex public services.

In addition to legitimate regular adaptations, there can also be some opportunistic behavior, be it from the private or the public side. This implies costly and potentially unbalanced renegotiation (Estache, 2006). As a result, renegotiations are often analyzed as PPP failures, notably as an evidence of the Public authority's naivety. It is to be hoped that iPPPs allow avoiding formal renegotiation. Adjustments in real time are then possible as parties do not have to organize forecasted and formal rendez-vous clauses. Moreover, writing an initially incomplete contract makes it possible to implement a relational approach of the PPP governance (Reeves, 2008). This should the main advantage of iPPPs: a relational approach allows coping with unforeseen events and avoiding costly and legally risky renegotiations (Da Cruz and Marques, 2012). In doing so, the iPPP is a solution to overcome the cPPP main weakness: its excessive rigidity (Spiller, 2008). By creating the opportunity of a more stable contractual relationship or other advantages in lateral-contracts with his public partner (de Brux, 2010), iPPPs ensure that public management does not have a short-term basis. As an illustration of the long-term alignment of views, in Spain, the *Empresa Mixta*'s cash flow growth can create capital appreciation by being invested back into the company (Castro and Janssens, 2011).

II.4 Absence of know how transfer

As already underlined, the interests of cPPPs for the public partner rely on budgetary motives (leveraging private funds), on value for money allowed by efficiency incentives and on benefiting from private sector expertise to tackle complex projects.

Such features also induce a risk for the public authority who may be stuck in a lock-in effect: contrary to privatization, cPPPs remain controlled by the public authority during contract execution and they have a finite time horizon. As a result, at the end of the contract lifespan, the public authority can choose between retendering the contracts and submit it to competition, or coming back to an in-house provision. However, if the public partner does not succeed in appropriating a part of its private partner's know-how and expertise, then re-insourcing is not a credible solution. Neither is the possibility for other bidders to compete fairly against the incumbent.

First mover advantage and the incapacity to appropriate know-how through contractual provisions stem from the specificity of assets injected in the project. By creating a joint venture, it is hoped that iPPPs make it possible to share know-how without contractual difficulties, on a relational basis.

III. Specific problems to iPPPs?

In order to analyze iPPPs intrinsic potential inefficiencies, it appears important to put in evidence the fact that PPPs in general can be analyzed as a more complex ecosystem than a simply bilateral relationship between one public authority and one private (cPPP) or a public-private (iPPP) partner. Even in this bilateral relationship, let us note that the partner (very often several companies group into a consortium) generally sets up a dedicated ad-hoc company, called SPV. The consortium that is awarded the contract and constitutes the SPV brings some equity. The companies of the SPV that bring some equity are also called the sponsors. Let us note that the SPV is not only responsible for bringing equity (not only an investor), but also for the construction, operation and maintenance of the infrastructure (industrial partner). In addition to the relationship between the public authority and the SPV, it is important not to ignore other stakeholders: first, there are the external financers that provide debt. These can be commercial banks or bond holders. They do not participate in the management of the SPV, but are looking for the reimbursement of their initial loan. Second, there are the stakeholders who are not implied in the project but for whom the project has an

implication, namely users, taxpayers, but also competitors and political challengers. We call them “third parties”.

In the following sub-sections, we study the impact of the set-up of iPPPS on each on these stakeholders: the industrial partners of the SPV, external financers, and third parties.

III. 1 A threatened incentive structure of the SPV

One of the main theoretical advantages of cPPPs relies on the incentive structure. It can be seen at two levels. The first one consists in a strong incentive to optimize cost efficiency all over the contract duration, which is due to the fixed price formula. For instance, if the investment during the construction phase is suboptimal, this may induce over costs in maintenance or operation. But the private contractor cannot expect to be compensated by the public client. Or if construction costs are not well anticipated, the private partner is at risk; not the public. By basing the calls for tenders on a functional program, cPPPs are a way to outsource the risk of faulty design and badly anticipated inputs to reach the output. The second incentive effect is due to bundling. Bundling forces to optimize construction investment, in order to deliver the best quality during operation phase. Indeed, cPPP are output oriented contracts, so that when performance and quality are not met, some penalties are applied.

In iPPPs, the private partner of the SPV may expect weaker probabilities that the public counterpart refuses to increase the level of its payment to compensate extra-cost linked to poor costs anticipation, as well as lower probabilities to apply penalties in case of poor operational performance. Indeed, this expectation is based on the fact that it would seem odd that the public authority could sanction herself, as she is also partner of the SPV. The public sector is not a banal shareholder.

Moreover, the fact that iPPPs are supposedly more flexible than cPPPs allows implementing mutual benefiting adaptations without costly formal renegotiations. At the same time, it opens the possibility of opportunistic strategies from the SPV. For example, poor operational performance could be compensated by increase in tariffs for final users. The public authority faces a possible conflict of interest as she is at the same time regulated and regulator. This conflict of interest can be translated into an over-tolerance in case of SPV lack of due effort. Then penalties are less likely to be applied and passing cost overruns through final users is

more likely to happen. This phenomenon is all the more likely than the public authority may be affected by fiscal illusion[8].

Consequently, the incentive structure of a mixed SPV, even in case of bundling, is seriously downgraded in iPPPs compared to cPPPs. Here is a paradox of iPPPs. It is as if the goal of obtaining more transparency and benefiting from more flexibility was at the expense of the incentive structure of the PPP.

Another advantage of iPPP relies on the reduction of information asymmetries. Once the information is produced it is impossible to assess its reliability as an outsider (Schmidt, 1996). Being an inside partner allows the public shareholder to control the information sources concerning financial and daily management. As a consequence, the capacity of the private partner to manipulate the information could become hugely limited (Da Cruz and al., 2014). Nevertheless it remains unclear that ownership is always sufficient to guarantee the access to pertinent information about the firm. If the shareholder doesn't invest for acquiring additional information through increasing expertise skills, he cannot in position evaluate to what extend the information delivered is true and fair.

In addition, some argue that a shift in values of the public partner is likely to occur when there are clear measurable objectives in terms of financial equilibrium of the SPV, but when the objectives in terms of social inclusiveness and access to public service are underweighted (Peters and al., 2014). Indeed, even in an iPPP, political accountability of the public authority can be passed through the private partner. For example, the assessment of Portuguese iPPPs reveals that when difficulties arose, both shareholders acknowledged increasing tariffs so as to preserve the financial equilibrium of the SPV (Da Cruz and Marques, 2011). They highlight that the situation may be worse than a state owned enterprise model (in which political accountability prevails) and worse than a cPPP in which the public contractor does not hesitate to apply contractual provision and to refuse tariff adjustments.

Even if regulation from inside may allow the public partner to decrease monitoring costs and to access better information, it makes no differences if the public partner behaves as a sleeping partner within the joint venture or abdicates its public values. For Peters and al. (2014) public values (equity, inclusiveness and democratic control) are more vulnerable than

[8] According to the economic theory, final users are subject to a *fiscal illusion* if they do not consider that the mixed enterprise is a separate entity from the government. Local government may use the mixed enterprise as a revenue source and take benefit from these revenues to reduce direct taxes. They might also privilege such iPPPs even if it would be unnecessary in terms of know-how transfer just for leveraging private capital, irrespectively of the value for money of the deal (Boardman and Vining, 2012).

private utilitarian ones[9]. Their view is that institutionalization of PPPs paradoxically reduces the publicness of the public sector and participates in "infusing a structure with values".

III.2 External financers are not firewalls anymore

We now consider external financers. Although they do not actively participate in the daily management and operations of the project, external financers have an interest in the sound financial equilibrium of the deal. This financial equilibrium relies on the economic and operational performance of the deal.

A PPP contract based on finance project structure (resulting in the creation of an SPV) is a limited recourse financial scheme in other words, except the equity injected by the sponsors, external financers have no additional guarantees on the debt repayment than the cash flow produced by the SPV through contract performance[10]. Consequently, the interests of external financers are aligned with those of the public partner (Marty and Voisin, 2008). As cash flows are conditional to the reach of performance and quality criteria, external financers are incentivized to perform ex ante due diligence processes in order to assess the financial credibility of the deal and to some extent, to monitor the SPV in order to evaluate its capacity to honor debt service during the contract life. Moreover, the due diligence process helps reducing the government's informational deficit and favours a contractual equilibrium between the partners, because they have proper incentives to acquire information about the contract. They have incentives in rejecting arrangements exposing the SPV to excessive hazards or deductions.

However, these due diligences and monitoring efforts imply a costly investment. Such an investment is not worth if the external financers anticipate that the public authority will not apply contractual penalties, and if the public partner is likely to behave within the SPV as a deep-pocket investor. This decreasing role of commercial banks may impair one of the positive effects of the project finance model.

Such a come-back to soft budget constraint can lead to a lack of confidence of external financers. This can have two damaging consequences. The first one is to disincentive external

[9] Even if public partner values are not excluded by private ones, profitability and welfare maximization remain two conflicting objectives. The former is easier to assess than the latter, as they are better defined and measurable. Whereas public values are more vague and difficult to define (Vining and al., 2014).

[10] In the worst cases, lenders can use a "step-in" clause included in the contract, allowing them to take control of the SPV. Implementing these kinds of procedures in an iPPP might certainly be more difficult than in a cPPP.

financers to perform due diligences as they are not at risk. As a result they are likely to behave as free-riders. And deep pocket behavior could deteriorate the management of public finance. The second consequence could be that external financers would be more reluctant to lend money because they may fear that enforcement of loan agreement is not respected.

The public side does not play the role of a credible counterforce anymore. Even worse, the participation of the public sector may prevent the private partner from accessing market finance due to the public partner's credit rating and from winning the confidence of external financiers.

III.3 Specific corruption problems and third party opportunism

iPPPs can be an answer to consumers' fears that water and sanitation supply is completely handed over to the private sector (Urrea and Camacho,2007), which may lead to a loss of votes in the next election. In spite of this, it has already been shown in several papers that users as third parties may suffer from iPPPs (Da Cruz and Marques, 2011), since renegotiation do not occur in a formal framework and may be settled at their expense in order to preserve the SPV financial equilibrium. In addition, local public services often lack an external regulator. The only regulation comes from the contract and from the control by the public authority. But as demonstrated, the public authority cannot be both regulated and regulator. Consequently, users might fear "little deals among friends".

Besides, the higher rigidity of public contracts compared to private contracts can be analyzed in terms of legal certainty (Spiller, 2008). Indeed, rigidity in public contracts can also be viewed as a guarantee against collusion between public and private contractors, against corruption and opportunistic decisions, to the detriment of public interest. In others words, contract completeness does not aim at foreseeing all contingencies, but at working out any possible external contestability. This is the reason why public contracts in general and cPPPs in particular are not relational contracts. In public procurement, controlling the compliance with legal rules appears as more important than obtaining the best value for money. Economic efficiency is a second order objective as soon as public money and transparent and fair accesses to public procurement are at stake.

However, the core advantage of iPPP is to restore the possibility of a relational approach, answering to the rigidity critics addressed to cPPP. At the same time, an increased flexibility may generate judicial suits, notably by competitors or even by political challengers. One possible answer could be to foster both flexibility and transparency about the contract and its

evolution through time to ensure accountability. But, some theoretical economic literature underlines that higher levels of transparency make it easier and less costly for third parties to engage in litigation. In other words, transparency would favor third party opportunism (Moszoro and Spiller, 2012). In a nutshell, iPPPs may face important legal uncertainty problems.

IV. Conclusion and recommendations

We have identified four areas of improvements for iPPPs. The first one deals with the project relevancy for an iPPP application. The second one concerns the contract features in order to conciliate flexibility with value for money as well as with public interest protection. Third, we highlight some requirements for the public partner both in terms of investments involvements and in terms of management capacities. Finally, our fourth point spots light on regulation issues by putting the accent on the necessity to prevent from conflicts of interest and to benefit from external expertise.

IV.1 Which public authorities and which projects for iPPPs?

It has been shown in Section 3 that iPPPs are not the silver bullet. Thus, one should question the conditions under which they are the most suitable governance structure.

First, they have to answer to the main limit of cPPPs, i.e. the cost of private finance. Injecting public equity appears as a solution to reduce the funding cost differential between PPPs and directly publicly funded projects. However, it supposes that two conditions are met: first, the public authority must be able to mobilize sufficient budgetary resources to invest in equity; so that the poorest local or national governments should not use iPPPs[11]. Second, the higher the up-front investment, the higher the savings allowed by the presence of a public shareholder. As a result, greenfield projects appear adapted to iPPP because they involve more equity. These are also the projects where the knowledge transfers are more important, as all the lifespan of the project is integrated. This facilitates further retendering of contracts or eventually the possibility to opt for an in-house provision at the end of the iPPP.

Other criteria to determine the relevancy of iPPPs can be based on the incomplete contract theory framework (Hart and al., 1997). In this framework, one of the problems associated with public private partnerships is that the private operator has strong incentives to invest in

[11] Empirically, mixed companies are more often created by local government characterized by severe financial constraints and for which contracting costs are a relevant concern (Bel and Fageda, 2010).

cost reduction at the expense of quality. Indeed, quality is not always contractible. This analysis can be transposed to our analytic view.

So, cPPP would be a more relevant structure for projects where quality is hardly contractible and verifiable, albeit a very important dimension. Having the public sector in the SPV would then limit investment in cost reduction (lower productive efficiency than cPPP), but it would also make it possible to protect hardly contractible values and quality.

Typically, an example of train station or subway station would fit our criteria. Due to important technical needs, interface, flow management, data collection about customer profiles and so on, it is interesting for the public authority to opt for a PPP, as the public authority is often not able to develop its own technologies, nor to manage the interoperability of numerous complex and evolving information systems. The public sector is also often interested in learning how the private sector cares about users' satisfaction. Consequently, a conventional allotted procurement scheme is out of reach. Taking this into account, a bundled contract appears as the solution. Even so, do an iPPP and a cPPP lead to the same result? We may assume that control rights kept by the public partner in an iPPP are preferable, for instance as regards privacy requirements concerning commuters data.

Finally, some bad experience in Latin America has shown that *Empresa Mixta* transactions have often been shrouded in secrecy with little input from consumers during the award phase, raising suspicions as to the public and private partners' intentions. Thus, in order to avoid later disputes, one could recommend involving civil society upfront and sensitizing them on the issues. This may slow down the initial process but may also help mitigate larger obstacles down the road.

IV.2 Contract features: ensuring flexibility, value for money and public interest

One of the main iPPPs advantages relies on the flexibility allowed by the possibility of day to day adjustments between partners. However, it does not mean that the commitment into an iPPP is possible without preparation and without a strong contractual framework.

As cPPPs, iPPPs suppose that the public establishes a functional program with the most clearly defined performance and output to reach. The fact that the French *SEM à opération unique* project proposes to organize the competition to become the private partner of the SPV (then there is no other competition for the SPV to be awarded the project), leads us to consider that the output specification should be dramatically upstream, before any negotiation with the private sector, which is perhaps too early for the public authority.

The non-discrimination, equality of treatment and transparency principles impose that there is competition to enter the SPV. According to our understanding, this allows discussing about by-laws, statutes and articles of association, the shareholder agreement and financial non discussable requirements, but it hardly makes it possible to discuss the technical content of a specific project. Yet, the clear definition of a functional program and of output specifications is the crucial dimension for the success of complex projects. This provides incentives to the partner to innovate and to be efficient. It also allows to control performance and to avoid judicial litigations about the quality of access.

Instead of that, being awarded the right to enter the SPV is centrally based on the shareholder agreement. This may prevent from a relational perspective to be implemented. Indeed, there is no reason for the shareholder agreement to leave vacuum concerning the duties and rewards of the partners. We can even wonder if the shareholder agreement does not create irreversible rigidity within the relationship especially if external financers are needed to provide loans.

The accent put by the European Commission (2008) on this competitive allocation of contract with transparence and non-discrimination requirements underlines some essential aspects of the iPPP. A competitive process in the partner selection is the only way to avoid further difficulties.

European Law provisions aim at enabling all interested economic operators to access to these kinds of contracts and concessions on a fair and transparent basis. The issue at stake is not only to protect the market order. This legal framework constitutes for the procuring authority both an additional guarantee to obtain value for money (through an increased competition for the contract) and a protection against legal challenges (European Commission, 2008).

However the more legal and prudential precautions set, the less flexible will be the contract. The Commission proposes a balanced solution. If the public contracting authority is bound to include in its call for tenders to form the iPPP "the basic information on the public contracts and/or concessions which are to be awarded to the future public-private entity, the statutes and articles of association, the shareholder agreement and all other elements governing the contractual relationship between the contracting entity and the private partner on the one hand, and the contracting entity and the future public-private entity on the other hand"; it remains recognized that some of these points may not need to be casted in stone at this upstream stage. The Commission considers that they "could be left to be identified and

defined during the dialogue or the negotiation with the candidates" (§2.3.5). Such a framework may conciliate to some extent the legal certainty with the required economic flexibility. However, it cannot be considered that in such iPPPs, contracts and legal documents become secondary (Vangen and Huxham,2003). Public contracts cannot and must not become as "relational" as private ones.

The consequences of the allocation of shares can also be analyzed through the incentives lens. Indeed, if the share of the private partner is set at low level, he is not incentivized to commit to the deal (Moszoro, 2014a). A conventional result of corporate finance literature is to stress that outside debt or equity may lower incentives to exert effort for the private industrial partner (Jensen and Meckling, 1976). Indeed, if the bundling of construction and operation stages in one contract creates proper incentives for the private partner (Hart, 2003), it appears that external finance and in our case, government direct investment, might deprive the private partner from a part of their potential rent. In an iPPP, the benefits in terms of incentives to productive efficiency, could be undone because the public participation might end up getting too much of the effort returns. The higher the share of public funding, the lower the incentives to improve productive efficiency.

A low level of private equity and return may also reduce the likelihood of know-how transfer to the public partner. Moreover, if the conditions required by the public authority are too restrictive for private partners, the competition for the market will not be sufficient and the PPP deal will have low probability to achieve value for money. Final users may be harmed by such a lack of competition (Mougeot and Naegelen, 2007).

Concerning external financers, the allocation of shares may also affect the incentives to perform due diligence. The higher the debt share in the financing and the better the credibility of the public partner, the more likely the banks will be to perform due diligence.

IV.3 Public shareholders' reward and expertise in management

The commitment of a public authority into an iPPP may also raise questions about the public authority requirements and its management practices.

First, the decision to invest in equity for the public sector might be based on very different principles compared to the private sector. For instance, the public sector's requirements in terms of risk and reward are theoretically very specific. On the one hand a public authority does not search a financial return on the short run, contrary to a private investor. On the other hand, its risk aversion is very different. According to classical public economics, a

government is a risk neutral agent, whereas a private investor is theoretically risk adverse (Dewatripont and Legros, 2005). Consequently, a public authority may accept a lower level of return than a private partner for a similar risk. Differences in terms on required return on investment (RoI) could be well understood in a public economic perspective.

However, this kind of public-private arrangement might also induce competition distortion among economic operators as regards State aids. Consequently, the private market investor principle requires that both public and private equity providers invest exactly in the same conditions. We might also consider that the concomitance of equity investment can change the private sector requirement as the private partner anticipates that the public shareholder is not a banal shareholder. Moreover, in terms of economic efficiency, we should tolerate different levels of returns between the shareholders, but in terms of competition law, this would induce prejudicial distortions.

Second, ex post, the regulation from inside the SPV will be fruitful if the public partner invests sufficient resources in terms of day to day management. Such an investment in human resources is the only way to catch expertise and skills from the private partner, to favor mutual understanding, and to implement a relational approach with the private partner, in order to limit moral hazard. As in cPPPs, management skills are at least as important as the contract itself (EPEC, 2014). However the Spanish experience shows that iPPPs are more frequently chosen by local government with low level of technical and managerial expertise and high financial constraints (Bel and Fageda, 2010).

As outlined by Castro and Janssens (2011), following their studies on *Empresas Mixtas*, the public-private operator must enjoy a full autonomy concerning staffing, outsourcing and daily operation. However, the control shall be exercised through a close and regular scrutiny both by the public partner and by external audits. Indeed, protection of the contractual position throughout the life of the contract is illusory without a vigilant and well informed counterpart.

IV.4 Who regulates the regulator?

The last issue at stake deals with the conflict of interests that arises from iPPPs.

In a cPPP, there is an inherent regulation produced by the contract (Spiller, 2008). For the internal regulation to be fully efficient and credible, and provided that regulation costs are not superior to the potential losses due to dispute, a neutral third party (regulator, judge, private arbitrator) can be selected to enforce this regulation.

On the contrary, in an iPPP, one cannot imagine contractual regulation between the public authority and the SPV to be done internally and efficiently. Indeed, not only is the public authority not anymore a "producer" but she is not yet in a position to be a regulator (Pollitt and Bouckaert, 2011). As a result external regulation seems unavoidable. For example, some theoretical papers highlight the fact that the cost overruns implied by the weak incentive schemes are transferred through the charges paid by final users or taxpayers. A tariff regulation should then be implemented to prevent such risk.

Therefore, due to the intrinsic situation of conflict of interests and to the lacks know-how and expertise of the public sector concerning complex projects, it might be interesting to promote firewalls. A Chinese wall between the government as a client and the government as a shareholder should be erected to prevent conflicts of interest. It could take the form of a centralized dedicated administrative body to ensure the management of public shares. This body would then be in position to capitalize experience from private behaviors and to implement a transparent and non-distortive policy of participation. This would prevent the misuse of mixed enterprise by governments. Indeed fiscal illusion could lead to consider that the mixed enterprise is not a separate entity from the government and to consider this structure as a revenue source or a way to get an off-balance sheet treatment (Boardman and Vinning, 2012). Instead, this public shares agency could elaborate a methodology in order to implement iPPPs for projects that are most at risk concerning private opportunism, while guaranteeing value for money and representation of civil society.

If this kind of solution is implemented for central governments as shown by the PF2 reform, it may be by far more difficult to implement for local governments, considering the principle of free administration. Again, economic recommendations are at odds with legal requirements. Indeed, relying on a dedicated public shares agency would be all the more economically recommendable for local governments lacking experience with private negotiation.

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