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**HEARING ON PUBLIC-PRIVATE PARTNERSHIPS**

-- Paper by Elisabetta Iossa --

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## COMPETITION ISSUES IN PUBLIC-PRIVATE PARTNERSHIPS<sup>1</sup>

*By Professor Elisabetta Iossa<sup>2</sup>*

**ABSTRACT:** Public Private Partnerships (PPPs) have been implemented widely around the world to build and manage public infrastructures in sectors such as water, transports, energy, and telecommunications and, more recently, education, health, prisons, and waste. Key aspects of their design are task bundling, long-term contracting, private finance and risk transfer.

In this paper, we briefly discuss how these characteristics constitute the main drivers behind the potential efficiency improvement that PPP may bring about, once an efficient private partner has been selected at competitive conditions. However, we also highlight why these very same factors may affect the extent to which competition for the market can function effectively.

**KEY WORDS:** Competition Issues, Concession Contracts, Incentives, Public Private Partnerships, Risk Allocation.

**JEL CLASSIFICATION:** D02, D20, D82, L33, L38.

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## 1. Introduction

1. Public-Private Partnerships (PPPs) are long-term (often 25-30 years) contractual arrangements between a public authority and a private contractor (typically a consortium of firms) for building and managing an infrastructure for the delivery of a public service. The traditional PPP sectors include transports, energy, telecommunications, and water; a growing number of PPP projects are taking place also in health, education, prison and waste (Hammami et al., 2006).

2. In Europe, PPPs have been implemented especially in the UK, Italy, France, Netherland Turkey and Spain. In a review of PPPs activity, the European PPP Expertise Centre (EPEC) of the European Investment Bank reported that in 2013 (EPEC, 2013), the value of PPP transactions reaching financial close in the European market amounted to EUR 16.3 billion, with an average transaction size of 203 million. PPP have also been widely implemented in the US. According to the World Bank's Private Participation in Infrastructure (PPI) database, USD 1530 billion were invested between 2002-2012 (in 2012 constant dollars).

3. In this paper we briefly discuss the main drivers behind the potential efficiency improvement that PPP may bring about, explaining why these factors may incentivize the private sector to take a long-term approach to the project, building better and more functional infrastructures that are also cheaper to operate and maintain. However, we also argue that these same drivers may work against the well-functioning of competition among private contractors, compromising the efficient selection of the private partner at tender stage and providing distorted incentives at implementation stage.

4. We shall start in Section 2 by discussing the main factors that characterize PPPs and then explain why these factors may help to deliver efficiency gain in the provision of public services. In Section 3, we shall take the same factors to discuss their potential anti-competitive effect, suggesting a number of red flags for PPP procurement and possible steps towards ensuring that instead the PPP potential is fully delivered. In Section 4 we briefly conclude.

## 2. The rationale for PPP provision when it all works well

5. There is no unanimous definition of PPP.<sup>3</sup> For the purpose of this paper, we shall refer to a PPP as a contractual arrangement between a public authority and a private contractor (or a consortium of firms) for the provision of public services with the following four main characteristics:

- Bundling of project phases
- Private Finance
- Long term contracting
- Risk transfer

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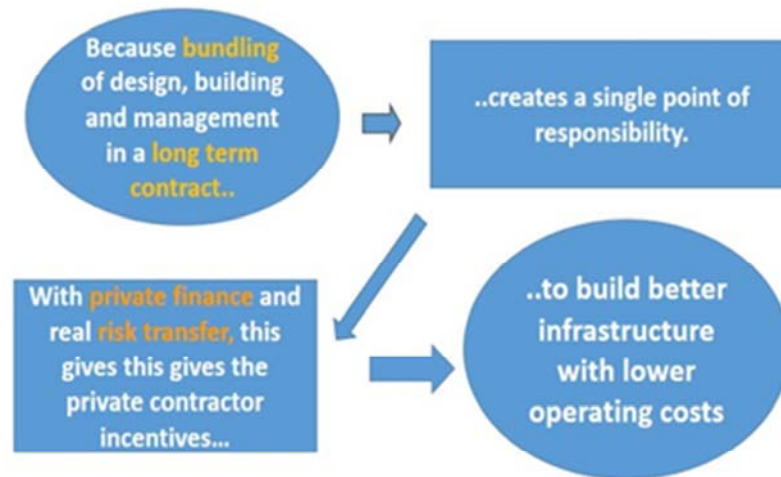
<sup>3</sup> There is no specific legal framework for PPPs at European level and no commonly agreed definition of a PPP. The EU Green Paper (2004) distinguishes between two forms of PPPs: the PPPs of purely contractual type, in which the relationship between the public and private partners is contractual (the general model of the concession and the Anglo-Saxon model of the Private Finance Initiative (PFI) fall within this framework and within the scope of the European Directives 2014/24/UE, 2014/23/UE, and the PPPs of institutionalized type, which imply cooperation between the public sector and the private sector within a legal entity, where the administration sits in a position of substantial supremacy. We focus here on PPPs of purely contractual type.

- **Bundling of project phases:** PPP contracts bundle together different stages of the project: from design, to building, managing, maintaining and financing the infrastructure for the provision of a public service. The private sector takes responsibility for these multiple stages of the project, which should provide an incentive for it to take into account the impact of its choices on revenues and costs in all stages of the project.



- **Private Finance:** the private sector finances all, or in large part, the infrastructure investment (typically via debt and equity) and then recoups this investment during the operational stage, via user charges, shadow tolls or government payments. The use of private finance should help to give the private contractor incentives to participate only in those projects which it believes bankable, that is, able to generate sufficient operational revenues to cover infrastructure investment and operational costs. This should help to avoid the risk that badly designed projects go ahead.
- **Long term contracting:** PPP contracts are generally long-term contracts where the contract duration is set to ensure that the private sector has sufficient time to recoup its initial investment through operational revenues (and government payments, if present). This long-term contracting should give the private party an incentive to take a long-term approach to the project.
- **Risk transfer:** PPP contracts are (meant to be) characterized by a relevant level of risk transfer to the contractor, which should give incentives to the contractor to manage risk appropriately. The risk allocation is reflected in how the payment mechanism (including the monetary deductions or premia) is designed and through the division of responsibilities between the private and public parties.

6. When taken together, these four characteristics of PPPs – bundling, private finance, long-term contracting, and risk transfer - give us the **rationale for using PPPs to build and manage infrastructures for the provision of public services**. The task bundling and the long-term duration of the contract imply that the private contractor is responsible for all, or most of all, the stages of the public service provision for a long time. If this responsibility is translated into an appropriate risk allocation, where the private contractor bears the consequences of its actions, suffering losses and making gains depending on the project success, then the private party will have incentives to ensure that the project is indeed successful. When designing and building the infrastructure, the private party will then take into account how its choices will impact on the cost of maintaining and managing the infrastructure. It will also take into account that better built infrastructures will be able to generate more project revenues from higher user demand. It will therefore have altogether greater incentives to build more functional and efficient infrastructures.



7. For example, the private sector will not have incentives to cut corners during construction, if this means to then have to pay more during maintenance. It will instead have incentives to spend a bit more upfront in a better infrastructure so as to reduce operational costs long term. In this respect the interest of the consumers and of the private contractor may be aligned: better quality infrastructure may be built at overall cheaper costs. The figure above summarizes this rationale, highlighting the link between the four main characteristics of PPPs.

8. We note that each of these characteristics needs to be present for the PPP potential to fully realize in practice. First, absent task bundling, it would be hard to make the private sector responsible for operations when low operational revenues may be due to problems with infrastructure construction, which was not undertaken by the private partner.

9. Second, absent long term contracting, the operational stage would last too little to give incentives to the private party to build better infrastructures in order to lower operational or management costs.

10. Third, absent private finance, the private sector would not have its money at stake and therefore it would be very difficult to effectively transfer risk to the private contractor.

11. Fourth, absent an appropriate risk transfer, the private sector would not be responsible for its choices. If for example, the government were to pay the contractor when costs have been underestimated, then the contractor would not have incentives to take appropriate actions to anticipate correctly future costs and minimize them.

12. Of course, even when it all works well, these four factors cannot suffice to ensure that PPP provision is preferable to alternative procurement methods in all sectors and under all circumstances. There are indeed aspects of performance that may not be easily verifiable and which the private sector may not have incentives to provide; there may be excessive uncertainty that make risk transfer too costly or financially unfeasible within a reasonable contract duration; there may be great uncertainty on user needs, which may make long-term contracting all together unreasonable; there may be weak institutions which do not ensure certainty of law and contractual conditions, and so on. We refer to Iossa and Martimort (2013)

for a discussion of these and other factors that may prevent PPP from working well, even when an efficient operator has been selected.

### 3. The other facet of PPP: competition issues

13. We have seen how PPPs have the potential to deliver better and cheaper infrastructures, thanks to the bundling of project phases, private finance, long term contracting, and risk transfer. In this section we highlight however how these very same factors may work against the **functioning of a competitive market** for the right to obtain a PPP contract. The following factors in particular raise concern:

- Limited competition;
- Limited participation of Small and Medium size Enterprise (SMEs);
- Market foreclosure: undue bundling and long-term contracting;
- Hidden barriers from legal uncertainty;
- Misallocation of contracts due to misallocation of risks.

#### 3.1 Issue 1. Limited Competition

14. Due to bundling of project phases (design, building, operation, maintenance), risk transfer and long term contracting, PPP contracts are typically rather complex: they have to cover all aspects of the project, from design to construction and operation, for may be 25-30 years. This implies that to prepare their bids, private firms must make a significant investment to plan their project, from undertaking a careful business case analysis, to calculating expected revenues and costs long term, predicting risks, undertaking project design and management, private banking arrangements, risk mitigation strategy and so on.<sup>4</sup>

15. This complexity may cause **limited participation** in the tender, especially by SMEs, and thus favour anticompetitive agreements among the few potential players. When the number of firms that participate to the tender is small, and the same players participate to the same PPP tenders (say, within the same sector), the **risk of collusion** is high, as coordination strategies become easier to sustain. It is not infrequent that the main players in PPP markets meet at annual conferences and industry meetings, where rogue deals can be easily agreed. To the extent that these deals may also be easier to sustain among national firms than at international level, lack of foreign firms participation should also raise a red flag.

16. Public authorities should keep an eye on tender participation, by collecting information on the number and type of firms participating to PPP tenders. Particular attention should be devoted to those PPP markets with few bidders, limited SMEs participation and limited participation from foreign firms. Lack of foreign firms participation should raise greater concerns, especially for high-value projects, where profit margins can be sufficiently high to compensate for the additional transaction, mobility and asymmetric information costs that foreign firm must bear, compared to national firms.

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<sup>4</sup> Practitioners have estimated bidding costs for firms in PPP projects as reaching 5% of the contract value (see Yescombe, 2007).

### PARTICIPATION IN PPP TENDERS

- How many firms participated to the PPP call?
- Are there new entrants?
- To which extent were SMEs among the participants?
- To which extent were foreign firms among the participants?
- Was there an in house provider competing for the contract?
- To which type of firm was the contract awarded?

17. Concerns should also arise when the public authority is in a situation of conflict of interest because it has some ownership share in one of the companies participating to the PPP tender.

18. Obviously, if the data revealed limited participation by SMEs, or by foreign firms and limited entry, one cannot automatically infer that there was distorted competition, as a number of factors affect participation; however, a red flag should be raised. Possible remedies include the harmonization of procedures and the standardization of tender documents and contracts, which reduce participation costs and the asymmetry of information among potential bidders. Partial reimbursement of bidding costs should also be considered.

### 3.2 *Issue 2. Limited Participation of SMEs*

19. PPP projects for large infrastructures are likely to discourage the participation of SMEs for at least three reasons. First, as we have seen above, there are the high bidding costs which are to large part sunk costs that decrease with the contractor's experience. This creates an advantage for large firms with many contracts, compared to new entrants or to SMEs.

20. Second, the use of private finance and the involvement of financiers in PPP projects may be a problem for SMEs whose access to finance is more constrained than for large corporations. Third, the high risk transfer that PPP projects require is less costly for those contractors that are able to diversify risks; these are typical large corporations rather than SMEs who may then be unable to make competitive bids at bidding stage.

21. Of course, a role remains for SMEs to operate as subcontractors in the PPP project, but, were possible, countries should consider the impact of a decision to do a PPP on SMEs.

### 3.3 *Issue 3. Market Foreclosure: Undue Bundling and Long Term Contracting*

22. Bundling and long term contracting in PPPs can cause market foreclosure. In practice, bundling may include both core services (that, is those services that constitute the core activities from the use of the infrastructure or the facility, e.g. clinical services in a PPP hospital) and ancillary services (that is, those services that are non-core, such as catering services, parking services in a PPP hospital). When there are clear synergies between the different tasks (so that doing one helps to reduce the cost or increase the quality of the other), bundling under long-term contracting is beneficial as it helps inducing the private

contractor to internalize the externalities among the different tasks, as we have discussed in Section 2. Bundling for example may give incentives to build better infrastructures that are associated with greater quality of services and lower maintenance costs, because of the incentives of the contractor to take into account the whole-life cost of the project.

**MARKET FORECLOSURE: UNDUE BUNDLING AND CONTRACT DURATION**

- Are both core and ancillary services included in the contract?
- Could some services be unbundled without creating efficiency losses?
- Is the contract duration appropriate?

23. The downside of this bundling under long term contracting is that it creates a **long-term monopoly** condition in the market for the services which were bundled together in the PPP contract, thus preventing competition during the life of the contract, and possibly also making it difficult for competing operators to remain active until the PPP contract expires.

24. This other facet of bundling and long-term contracting is particularly important to consider because sometimes bundling has taken place also with regard to activities for which no clear spillover effects exist (to justify bundling), and for which there was no significant capital cost invested ex ante (to justify long-term contracting). For these activities there is therefore no clear benefit from bundling and from having long-term contracting in place. In these cases bundling and long term contracting should be avoided as they may harm competition in these markets, foreclosing the market to other operators (especially small ones which have no role in PPPs). An example is constituted by ancillary services in PPP for the construction and management of hospitals, schools and prisons, which should therefore be tendered separately from the facilities' core services, and on a short-term basis.

25. Furthermore, regardless of whether or not the initial investment was significant or the externalities across stage were relevant, it is very difficult to justify **contract durations** that are beyond 25-30 years. Even if longer durations may be necessary in order to cover the initial investment and thus reward the private finance invested, it is very unlikely that there will be value for money from shielding the contractor from competition for such a long period of time.

### **3.4 Issue 4. (Un)fair Advantage in Unsolicited Proposals Procedures**

26. The treatment for **unsolicited infrastructure proposals** varies significantly across countries and issues of transparency and fair treatment arise. Unsolicited proposals are not requested by a government but instead originate within the private sector. They typically come from companies with ties to a particular industry—such as developers, suppliers, and financiers—that spend their own money to develop basic project specifications, and then approach governments to get the required official approvals (see Hodge and Dellacha, 2007).



27. In a number of countries, such as (at the time of Hodge and Dellacha's paper) Chile, the Republic of Korea, the Philippines, South Africa and Taiwan in detail, institutional mechanisms have been created to encourage the private sector to come forward with potentially beneficial project concepts. Common systems are the "bonus system," the "Swiss challenge system," and the "best and final offer system."

28. All systems grant an advantage to the original project proponent in the bidding procedure. Under a bonus system (Chile and Korea), the original project proponent obtains a "bonus," usually between 5 percent and 10 percent, which is credited to his bid in the open tender. In the Swiss Challenge System (Indian States of Andhra Pradesh and Gujarat, Italy, the Philippines, Taiwan, and the U.S. territory of Guam), the original proponent obtains the right to counter-match the best offer. Under the best and final offer system (Argentina and South Africa), the original proponent gets the advantage of automatically competing in the final tendering round. Other countries, including the EU, instead do not provide for a specific procedure to deal with unsolicited proposals.

#### THE ADVANTAGE OF ORIGINAL PROPONENT (OP)

- How to deal with unsolicited proposals?
- In countries where the original proponent has an advantage, do we observe adequate participation to second period tenders?
- And how often does the original proponent obtain the contract?

29. The issues at stake are not simple, as there is a trade-off between incentives to invest in innovative projects, and competition and transparency. In the absence of a specific procedure, when a proponent proposes a valuable idea, it cannot get rewarded for it. The only indirect reward it can obtain is through the right to participate to the tender for the refinement and implementation of the ideas proposed, should the public authority decide that the idea is worth pursuing. Whilst this approach guarantees competition and transparency, it may not provide sufficient incentives for firms to submit unsolicited proposals, due to the lack of a sufficient reward.

30. In the presence of a specific procedure that rewards the unsolicited proposal, incentives to innovate are higher, but at the same time, providing an advantage to the original proponent may result in **lack of transparency and a reduction in competitive pressure.**

31. First, as a result of being advantaged in the tender, unsolicited proposals lend themselves more easily to **corruption**. A public authority could privately inform a friendly firm about a project worth submitting, the firm could then submit the project as if it was unsolicited, thus obtaining a legal advantage under the unsolicited proposal procedure.

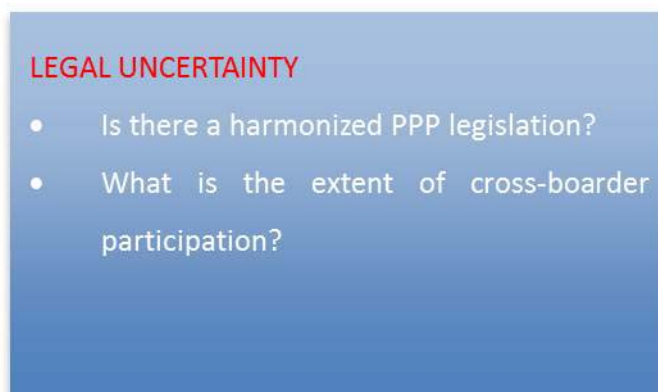
32. Second, as much as they help incentivizing firms to use their information and expertise to identify and submit valuable projects to a public authority, they also inevitably reduce the strength of competition for the implementation of the submitted project ex post. Competing firms will indeed take into account the advantage of the original proponent, and evaluate that they have little chance of winning, thus refraining from participating all together, especially when bidding costs are high. Che, Iossa Rey (2014)

analyse this trade off and noticed that whilst some form of advantage for the original proponent may be desirable, excessive reward will be counter productive, especially when the advantages of competition are greater, such as when the potential competition for the market is significant.

33. Furthermore, a problem of **winner's curse** may also arise. If the competitors expect the original proponent to hold some private information on project costs or future revenues, then they may fear that they will win the tender mainly when they have over-estimated revenues or under-estimated costs, as then the original proponent will not wish to counter-match the best offer or take advantage of its favoured position. Winning becomes bad news, discouraging participation.

### 3.5 *Issue 5. Hidden Barriers from Legal Uncertainty*

34. There is still a debate on the need for a specific legal framework for PPPs at European level. The European legislation on public procurement procedures in 2004 (DIR 2004/18) introduced a new procedure for awarding PPP contracts: the competitive dialogue. This procedure is designed so as to combine the benefits of competition and those of negotiation, by allowing for a parallel dialogue under competitive pressure to be used for awarding complex projects when the public authority knows its needs but not how to satisfy them. However, the emerging evidence is that the use in practice of competitive dialogue varies widely among Member States.



35. Different decisions are being made about the number of phases in the dialogue, the objectives of the dialogue sub-phases, how the phases are conducted, the time to be allowed for the dialogue phase, the information to be requested from bidders in the dialogue sub-phases, whether or not elimination of solutions should occur during the dialogue phase and, crucially, the position which the contracting authority needs to arrive at, by the end of the dialogue phase. This **lack of harmonization** causes legal uncertainty that may prevent **cross boarder participation**, that is the participation of foreign firms to PPP tenders. The issue of course also applies to non-EU countries.

### 3.6 *Issue 6. Misallocation of Contracts due to Misallocation of Risks*

36. In a PPP contract, the risk allocation between the public and private parties should provide incentives for the private party to undertake efficient actions to reduce the long-term cost of the project, to complete the project in time and within budget, and to deliver the service at agreed standards. Whilst the specific criteria as to how to allocate project risks depend on the sector characteristics, in general the optimal risk allocation in PPPs requires to transfer significant risks to the private contractor, including design risk, construction risks and operational risks (demand risk may or may not be transferred depending on which factors affect users demand).

37. However, the risk allocation often implemented in practice differs from what the theory of optimal risk allocation recommends (see Iossa, Spagnolo and Vellez, 2014).<sup>5</sup> First, there is the issue of whether governments are able to commit to the risk allocation specified in the contract. In complex PPPs for essential services, this is not always the case, because the public sector is the provider of last resort. If an essential facility were found to be massively behind schedule and over budget during the construction stage, the public sector might have to cover costs to ensure project completion. Renegotiation is indeed a widespread phenomenon in concession contracts, as reported in Guasch (2004), among others.

38. The consequences of **renegotiation** are twofold: (i) they weaken the incentives of the contractor to perform, and (ii) they may create serious distortions at tender stage, giving incentives to bidders to act strategically.<sup>4</sup> Bajari, Houghton and Tadelis (2013) show that bidders bid very aggressively to get the contract, in expectation to recoup their profit margin via ex post renegotiations.



39. Second, PPP contracts have raised important issues on their accounting treatment. In particular, the public sector has often used PPPs in order to finance the construction of infrastructures ‘**off the balance sheet**’, biasing decisions in favour of PPPs (as opposed to more traditional procurement arrangements) with the purpose of avoiding constraints on public debts.<sup>6,7</sup>

40. Furthermore, in order to ensure that the contractor could raise sufficient private finance, governments have had an incentive to provide **generous revenue or income guarantees** which have distorted risk allocation and incentives for the private contractor.

41. These contractual distortions generate distortions at tender stage, which may prevent fair competition. Firms with tighter links to the public administration are better placed at anticipating

<sup>5</sup> In a nutshell, other things equal, risk should be allocated to the party that is in the best position to manage and mitigate that risk. Revenue guarantees issued by Governments for example, should be used only if they do not distort the incentive of the private contractor to deliver the service at satisfactory standards.

<sup>6</sup> See IPPR (2001) for a discussion of how off-balance sheet considerations mattered in the early PPP projects in the UK.

<sup>7</sup> The Eurostat, the Statistical Office of the European Commission, has attempted to reduce the incidence of this problem by regulating the accounting treatment of PPPs. In 2004, the EUROSTAT has established that a PPP project can be taken ‘off balance’ only when the contract allocates significant project risks to the private sector, specifically the construction risk, demand or availability risks. National statistical institutions are supposed to monitor the compliance with the European rule.

favourable renegotiations, and thus are able to bid more aggressively. The problem becomes more severe when contractual terms are negotiated locally instead of being set centrally and uniformly, following **standardized contract terms** (as is the practice in the UK).

42. Early reports on PPP best practices recognized this governance problems of PPP procurement, and suggested more transparency and disclosure of contractual terms (IPPR, 2001). However, ex post analyses such as Gosling (2004) have revealed that even in a country like the UK, with a very good general level of accountability and a lively public debate, non-binding best-practice recommendations to disclose information were seldom followed by public administrations, even when directly asked for the information.

43. Most reports and best practice documents suggest maximal disclosure of PPP documentation, limiting confidentiality to a strict set of information (HM Treasury, 2007). The rationale is that PPP contracts are output-based and therefore should contain very little commercially sensitive information on the inputs and technologies used by the contractor. Instead contractual disclosure of non-commercially sensitive information could be of great help for monitoring both the private partner and the public one. This notwithstanding, to our knowledge, non-disclosure of PPP contracts remains the norm.

#### **4. Concluding Remarks and policy Implications**

44. We are witnessing a general trend towards a reduction of the size of the State in the economy; outsourcing of public infrastructure and services is likely to follow this trend and increase in future years. But whether PPPs will manage to realize their potential to deliver efficient public infrastructures and services will very much depend on how PPPs will be implemented in practice.

45. This paper has emphasized a number of competition issues that may emerge in the implementation of PPPs and identified some red flags. Empirical data on PPP tenders, contracts and performance and a systematic elaboration of these data would certainly contribute to enhance the effectiveness of contracting out of public infrastructures and services.

## REFERENCES

- Bajari, P., S. Houghton, and S. Tadelis, 2013. "Bidding for Incomplete Contracts: An Empirical Analysis of Adaptation Costs", the American Economic Review, 104: 1288-1319.
- Bennett, J. and E. Iossa, 2006. "Building and managing facilities for public services", Journal of Public Economics, 90, pp. 2143-2160.
- Che, Y.K, Iossa, E. and P. Rey (2014), "Prizes vs Contracts as Incentive for Innovation", Toulouse School of Economics, Mimeo.
- EPEC, 2013. Market Update: Review of the European PPP Market in 2013, European Investment Bank.
- European Commission, 2003. Guidelines for Successful Public-Private Partnerships, Directorate General Regional Policy.
- Gosling, T., 2004. "Openness Survey Paper", Institute for Public Policy Research, United Kingdom.
- Guasch, J.L., 2004. Granting and Renegotiating Infrastructure Concessions: Doing it right. WBI Development Studies, The World Bank.
- Hammami, M., J.F. Ruhashyankiko and E.B. Yehoue (2006), "Determinants of Public-Private Partnerships in Infrastructure," Working Paper No 06/99, International Monetary Fund.
- HM Treasury, 2007. Standardisation of PFI Contracts, Version 4.
- Hodges John T. and Georgina Dellacha (2007), Unsolicited Proposals: How Some Countries Introduce Competition and Transparency, PPIF, The World Bank.
- Iossa, E. and D. Martimort, 2013. "The Simple Micro-economics of Public-Private Partnerships", forthcoming in Journal of Public Economic Theory.
- Iossa, E. Spagnolo, G. and M. Vellez, 2007. Best Practice in Public Private Partnerships. Report prepared for the Sustainable Development Network, The World Bank.
- Iossa, E. Spagnolo, G. and M. Vellez, 2014. "The Risks and Tricks in Public-Private Partnerships," in "Recent Advances in the Analysis of Competition Policy and Regulation", Edited by Yossi Spiegel and Marin Peiz, Nowpublishers, in press.
- IPPR, Institute of Public Policy Research (2001), Building Better Partnerships. London: Institute for Public Policy Research.
- Yescombe, E. (2007), Public Private Partnerships: Principles of Policy and Finance, Elsevier.