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DOES THE MIXED COMPANY MODEL PROVIDE VALUE FOR MONEY? AN ANALYSIS OF DIFFERENT LOCAL INFRASTRUCTURE SECTORS

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Abstract

This paper looks at the use of institutionalised public-private partnership (PPP) arrangements by local governments for the delivery of different types of infrastructure. It starts by analysing the mixed company model from a theoretical point of view, in particular the potential for internal regulation and the achievement of relational agreements. Then, after discussing the practicalities of crafting this type of governance structure, the examination of four Portuguese case-studies is provided. The empirical evidence on mixed companies operating in the water, waste, transportation and education sectors shows that the extreme complexity involved in the whole life-cycle management of these companies, usually leads to poor outcomes from a social welfare point of view.

Keywords: infrastructure services; local governance; mixed companies; public-private partnerships.

JEL codes: H11; L32; L97.

DOES THE MIXED COMPANY MODEL PROVIDE VALUE FOR MONEY? AN ANALYSIS OF DIFFERENT LOCAL INFRASTRUCTURE SECTORS

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1. Introduction

Beyond their multiple advantages (either real or merely statistical), it is acknowledged that the use of public-private partnership (PPP) arrangements entails special concerns. These concerns have been lately addressed in the literature (e.g. see McQuaid and Scherrer, 2010; Hodge and Greve, 2010, and Marques and Berg, 2010). However, among all the types of PPPs, the mixed company model is perhaps the least studied and, at the same time, the one that presents the biggest challenges for the public authorities who decide to embrace this type of agreement.

Mixed (public-private) companies are framed in the so-called institutionalised PPPs (or iPPPs); they consist in joint-ventures between public sector entities and private investors. Unlike what happens with purely contractual PPPs (or cPPPs – e.g. concession, *afférmage* and management contracts), where the private partner is the sole responsible for producing the services and its rights and duties are (in)completely established in a written contract (transactional relationship), with mixed companies the public and private partners gather to jointly manage and deliver the services. Nowadays, mixed capital companies are used by local

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governments all over the world, although with special incidence in Europe (mainly in Italy, Spain, France, Germany and Portugal – Verdier *et al.*, 2004) and South America (especially in Colombia, but also in Cuba and Mexico – Marin, 2009). These governance structures represent a new step in the continuum of strategies for regulating public monopolies (see figure 1 in the next section). Indeed, mixed companies appear as an alternative both to pure public production and the delegation of services to private firms through concession contracts (Marra, 2007).

As described by the Advocate General Ruiz-Jarabo Colomer in a recent legal case, in iPPPs the respective tasks of the public and private participants are managed by an entity with separate legal personality under which the partners ensure the production of the service or infrastructure for the benefit of the public. In 2009, the Advocate General stated the following in his opinion in *Acoset SpA v. Conferenza Sindaci e Presidenza Prov. Reg. ATO Idrico Ragusa and Others* (C-196/08):

In addition to acting as a safety valve in the face of budgetary restrictions, PPPs encourage private finance and the use of the knowledge of undertakings outside the public sector as a response to the setbacks inflicted on the State by liberalisation; the State's position as a direct operator has evolved into that of a regulator and it is the ultimate guarantor of conduct which affects the general interest.

Even so, designing, monitoring and enforcing (i.e. regulating) incomplete contracts is not an easy task, particularly for small to medium-sized municipalities that may lack the resources and expertise needed to deal with specialists on the private side. Hence, the idea of regulating the partnership from within seems to be a valuable strategy. By opting for an iPPP, local decision-makers try to adopt a relational approach to governance (Reeves, 2008). The use of a semi-public company should place a relatively high degree of control over the performance of the services on the public sector side. Indeed, in most cases the competent public authorities hold the majority of the shares, therefore retaining the dominant influence. Owning at least 51% of the shares (the standard capital participation of local governments) should be enough to keep the companies at arm's length and benefit from the

private sector's know-how and, at the same time, allow for the pursuit of unprofitable social goals.

The process of creating a local mixed company usually occurs as follows: the local government creates a 100% public municipal company and then issues a public tender to select the private partner who will purchase the company shares (typically a non-controlling stake in a process sometimes labelled as 'partial privatisation', Schmitz, 2000) and therefore assume the responsibility for the provision of the service and execution of the works, as the industrial participant. The selected partner is not allowed to sell its shares unless there is an explicit authorisation of the local government and both free competition and transparency principles are respected.

The property rights should reduce information and monitoring costs due to the increased access of the public partner to information regarding day-to-day operations. Asymmetric information is a serious problem in cPPP arrangements; however, in mixed companies this shortcoming is mitigated, enabling the 'internal regulation' and decreasing the risk of *ex-post* opportunistic behaviour. Even in the worst case scenario, where the renegotiation of the initial contractual clauses must take place (usually with great loss for the public interest – Guasch, 2004), the public partner is better able to cope with principal-agent problems.

In relational agreements, the 'spirit of the contract' should prevail over the 'letter of the contract' (Macneil, 1974). Nevertheless, the legislation imposes that the scope for action of each partner is defined in a complex series of contractual documents, namely: the shareholders' agreement (setting the rights and duties of each partner and establishing crucial aspects like the remuneration scheme of the private investors), the management contracts (a document firmed between the competent authority and the company setting the operational objectives to be attained by the latter) and the statutes or articles of association (defining the internal rules of the company like the remuneration of managers).

In their theoretical investigations, Eckel and Vining (1985) found that mixed companies can result in the 'worst of both worlds', where neither profitable nor social goals can be effectively achieved. Currently we have some indications of the causes for this unintended effect. For the internal regulation to be effective (and for the information to flow upward) it is necessary that the public representatives in the board of the companies hold a high degree of expertise and ethical standards (Marra, 2007). Mixed companies can sometimes suffer from a lack of clear and stable objectives (Boardman and Vining, 1989) which, in addition to the natural contradictory pressures within the companies, can lead to a high degree of managerial 'cognitive dissonance' (this problem is accentuated in case of ownership dispersion, which is unlikely for municipal mixed companies carrying out general-interest services). Finally, social goals are hard to determine and social output is hard to measure; this aspect complicates the benchmarking of these governance structures.

For all these reasons, mixed companies seem to be preferred when the external environment yields contradictory pressures on local decision-makers. In Spain, Bel and Fageda (2010) found that mixed companies are more likely to appear in municipalities with great financial constraints and where contracting costs are higher. Furthermore, this governance model can be perceived by local governments as a 'stand by' solution or a form of 'gradual privatisation' (Bognetti and Robotti, 2007).

Effective PPP arrangements require that public decision-makers agree on giving up more control and discretion than they usually do and, at the same time, need that the private investors agree on assuming greater financial risks than they usually do. The mixed company model represents a compromise solution and an attempt of both sides to manage these opposing objectives. If well managed, the 'self-interest seeking' (Williamson, 1985) behaviour of private partners in PPP arrangements can provide incentives for cost-efficiency; however, to prevent this behaviour from distorting decisions away from the social optimum, governments must retain some discretionary capacity. If this complex balance of power is not well structured, the benefits of entering in PPP agreements will fade out and may

not compensate the political costs intrinsic to these processes. In this paper we investigate if mixed companies can be a good answer to this proposition.

The remainder of this paper is organised as follows. In the second section we survey the different governance structures available to local governments for the delivery of social infrastructure, discussing the requirements of different sectors and the particularities of the Portuguese framework. The third section provides the analysis of the four case-studies. The fourth and final section comprises the main conclusions and the policy implications that arise from the empirical evidence.

2. Delivering local infrastructure

2.1 Governance structures

Between the two extremes of governance schemes, of private contracts and public enterprise (ranging from market to politics), there are a number of other possible strategies for regulating local public monopolies (see figure 1). Naturally, each governance structure (bureaus, firms, hybrids and markets) has its pros and cons; markets provide more incentives for efficiency but hierarchies perform better if uncertainty and asset specificity deepens (resulting in the need to carry out coordinated adaptations, Williamson, 2002). In these conditions, typical of infrastructure investments, local governments may be inclined to opt for direct (in-house) public production. Direct public management can be carried out by municipal departments or by semi-autonomous entities that have administrative independence and separate accounts. In both cases, local governments remain liable for all the activities carried out and retain the power of signing new contracts, select new investments, set tariffs and define the quality levels to be attained. In contrast, municipalities can delegate responsibilities in separate entities. If local decision-makers opt for a more entrepreneurial and flexible approach to deliver infrastructure while avoiding the obstacles of privatisation the 100% public municipal company model can be a reasonable choice. The rationale for corporatisation (Bilodeau *et al.*, 2007) consists in crafting a public governance structure incorporating certain appealing features of private enterprises

(e.g. sound corporate values, incentives for efficiency, flexibility in human resource management and the use of accelerated procedures in public procurement). However, municipal companies are often bounded by too many goals and, in practice, it is very difficult to replicate the discipline and performance of private companies (Cruz and Marques, 2011).

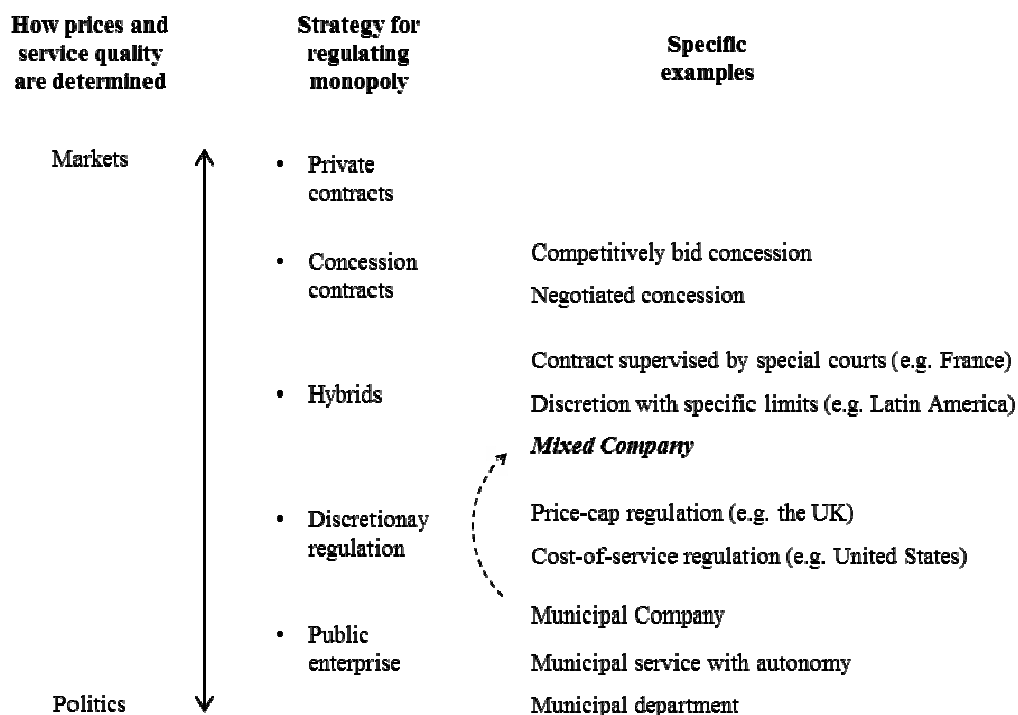


Figure 1 – The continuum of strategies for regulating monopoly available for local governments (adapted from Gómez-Ibáñez, 2006)

Since public authorities retain the dominant influence over mixed companies, iPPPs can be regarded as ‘public companies’. However, in spite of the relational relationship established within the companies, these entities detach from the ‘Public enterprise’ regulatory strategy on account of the web of regulatory contracts that formalise the partnership. Ultimately, these documents govern the relationship between public and private sectors and the latter will always claim its stated rights, regardless of what might happen that was not predicted in the contracts. This is why mixed companies fall in the ‘hybrids’ category as shown in figure 1. Usually, major investments are imposed by local governments in the

market access phase but the trend in tariffs is established in the regulatory contracts (according to specific assumptions mentioned in the tender documents or the viability studies approved by the public authority). Hypothetically, the mixed company model can be one of the modern versions for governing local public services that 'may prove successful in combining the flexibility of discretion with some specific commitments found in contracts' (Gómez-Ibáñez, 2006: 34). Nevertheless, some provisions must be made so that an optimal regulatory framework for the mixed companies can be devised, namely, the inclusion of performance indicators for monitoring the contracts.

Among the array of feasible strategies available for local governments, the concession model is, by far, the one that provides higher incentives for cost-efficiency. Concession contracts awarded by means of a public tender are subject to more direct market forces, but then again, negotiated contracts can work better if the projects are framed by singular uncertainty (see Bajari *et al.*, 2009 for a discussion on this issue). However, due to problems of bounded rationality (Bajari *et al.*, 2006) long-term contracts are unavoidably incomplete. Indeed (Crocker and Masten, 1996: 35):

[A]s the empirical literature on organizational choice and design demonstrates, in contexts where exchange requires relationship-specific investments and the environment is complex or uncertain, the optimal governance mode is an incomplete relational contract or, in the extreme, the use of vertical integration or regulatory oversight.

Simply put, and according to the Eurostat rules, if there is an effective transference of 'most of the project risk' to the private partner, the two types of PPP arrangements (purely contractual or institutionalised) allow for the assets to be registered off the local government balance sheet, which is a very interesting feature for overburdened municipalities. If credible contracting is feasible, private management is likely to dominate the other alternatives and internal or external (discretionary) regulation would not be necessary. But increasing the completeness of the contracts can entail prohibitive transaction costs in cPPP

agreements. On the other hand, mixed companies may fall short in terms of securing an optimal allocation of risks and a clear accountability framework.

2.2 Different sectors different requirements?

Some fundamental aspects are similar to all public or social infrastructures. They are thought to provide general-interest services that have social and equity concerns. Once the initial investment is made, some costs are non-recoverable (or sunk). Usually, utility services involve networks with monopoly attributes and there is a presence of information asymmetries between the regulators (local governments) and the regulatees (the entities that are actually in charge of producing or managing the projects). Hence, infrastructure projects are riskier than other types of investment. Even though private sector entities are known for being particularly risk-averse, seeking private sector participation is often seen by public authorities as a way of lessening budgetary constraints and increase prices.

The 'wholesale' market segments of services like water intake, treatment and transportation, wastewater treatment, urban waste transportation and disposal/treatment and electricity generation are usually managed by regional entities. These entities can be conceived in multiple ways where inter-municipal cooperation is the most common strategy to achieve the evident economies of scale. Sporadically, regional utilities result of creative models like in the electric 'wholesale' market in the U.S. where publicly-owned local utilities are frequently seen as equity owners of private companies that are in charge of producing electricity; local utilities then buy and sell energy to these companies (owned by public and private utilities), enabling the exploitation of scale economies and an efficient risk-management (Cruz *et al.*, 2011). Irrespectively of the sector, 'wholesale' utilities entail major investments in infrastructure with high degree of asset specificity. Thus, dealing with private investors has all the traditional problems of bilateral monopolies and, in addition, there is also the need to cope with the objectives of different local governments.

The 'retail' segment of utility services is also characterised by latent scale (and scope) economies; however, local governments are not enthusiastic about

giving up control and discretion regarding the services that are directly provided to their constituencies (even to other local public authorities). In contrast to what happens with water and electric 'retail' services (that present similar challenges to the ones described for the 'wholesale' utilities), urban waste and bus services have lower problems in terms of asset specificity. Indeed, one can move waste trucks or buses to another municipality, but one cannot move a light rail or an electrical grid. Hence, contracting out bus services or 'retail' waste management should be an easier task and probably the mixed company model would be sub-optimal.

Finally, local governments also have the responsibility to provide other types of local infrastructure (e.g. school buildings, underground parking lots, municipal pools or other sport facilities, etc.). The requirements of this type of investments are somewhat different from utility services (for instance the risks involved, the complexity of the demand estimates, and the size of the projects, among others). Regarding these investments, the mixed company model might be questionable, especially if the projects are not particularly complex so that internal regulation and relational contracting would become desirable. This issue will be further addressed in the third section of this paper (concerning a real application in the schools sector).

Once again, some issues regarding the structuring of successful PPPs cut across all sectors. During the preparation phase, local decision-makers should endorse the value for money assessment, set clear goals for the future iPPP, ensure transparency at all times and study the potential for inter-municipal cooperation. Some studies show that, more than being connected with project size, transaction costs vary mainly with the stability of the policy environment and the familiarity that all stakeholders have with that environment (Klein *et al.*, 1996). Afterwards, before selling the public tender documents, municipalities should carefully prepare all relevant financial statements, organise a compendium of all applicable environmental laws (as well as other regulations and standards), design a standard contract (with some clauses not open for competition) and provide a clear description of the bid evaluation and *ex-post* contract management procedures. To avoid the 'winner's curse' (where the most optimistic bidder is

preferred to the best bidder), public authorities should consider including a pre-qualification phase or, instead, be extra-careful while choosing between evaluation criteria and threshold criteria. A good practice is to use a two stage procurement procedure where two bidders would be selected; however dialog with the second would only occur if the negotiations with the winner of the first stage were not successful (Marques and Berg, 2011). During the negotiation phase, the performance targets, the investment milestones, the dispute resolution provisions as well as the tariffs and quality standards to be attained by the mixed company should be clearly stipulated in the shareholders' agreement and management contract.

2.3 The Portuguese case

There are 308 municipalities and 4,259 civil parishes in Portugal (the administrative regions mentioned in the constitution are yet to be created), encompassing 10.6 million inhabitants. Regarding utility services, and despite the wave of decentralisation of competences from the central state to local governments, presently municipalities are mainly responsible for water, waste and urban transportation. Electricity and natural gas services are (at least at this moment) usually provided by centralised entities and other services like broadband are completely 'on the market'. Similarly, besides sports facilities, cultural spaces and other traditional responsibilities, Portuguese municipalities are just now beginning to gain competences regarding education (basis schools facilities and non-teaching staff) and health sectors.

Because it generates direct or indirect public expenditure, after the negotiation with the winning bidder, the iPPP contract (or contracts) is subjected to an *a priori* control by the Portuguese Court of Auditors to verify if everything is according to the law and budget. If there is some irregularity, the Court can make recommendations to the competent public authorities in order to overcome the identified problems. Due the constitutional principle of local autonomy, the central state cannot interfere in the responsibilities and duties of local governments. Nevertheless, the central state participates indirectly in the management of 'wholesale' water and waste services in several occasions. These utilities often

consist in public-public partnerships (PuPs) where the municipalities and a company fully owned by the central state (AdP in the water sector and EGF, a sub-holding of AdP, in the waste sector) join to cooperate and deliver the services.

In 1997 the Portuguese government decided to create a sector-specific regulator for the water and waste sectors. The Water and Waste Services Regulation Authority (ERSAR in the Portuguese acronym) is somewhat an atypical regulator. Indeed, in the EU15, similar agencies are only found in Italy and the UK. Still, until very recently ERSAR has only had regulatory power over concessionary companies and mainly regarding quality issues (sunshine regulation). There is also an external regulator for the transportation sector (created in 2007). However, the Institute for Mobility and Land Transport (IMTT in the Portuguese acronym) competencies merely involve the approval, licensing and inspection of vehicles, as well as other activities like emission of driving licenses, licensing of driving schools and training of professional drivers.

Usually the private investors involved in PPP arrangements at the local level consist of construction companies or specialised sub-holdings owned by them. Knowing that local governments have been subjected to strict debt limits, these players have been keen to invest and adapt their organisations to this type of procurement; in fact, they often appear much more prepared to enter in these complex negotiations than the decision-makers on the public side. In Portugal there is no specialised PPP office to retain lessons learned, so a dedicated organisation to assist in the structuring and monitoring of local PPPs like the 'Operational Task Force' of the HM Treasury, or even the 'Local Partnerships', all in the UK, would be of great use in this country.

3. Case-studies

3.1 Introduction

The study of institutions places an emphasis on the case-study research (Posner, 2010). In this paper, we focus on four different mixed companies each one currently operating in its specific infrastructure sector. Our aim was to gather empirical evidence on this singular governance structure and to appreciate when

(or if) it can be an optimal solution, from a social welfare point of view. The sectors covered are water, waste, transportation and schools, all at the local level. To learn how local decision-makers are handling the complex process of establishing an iPPP, we analysed all the tender documents (in the cases where a public tender took place). Furthermore, to understand how the activities and roles of each partner are regulated, we also examined all the contractual documents, namely the shareholders' agreements and the statutes (since, with the exception of AMBILITAL, the management contracts have not yet been devised for the other cases studied).

Table 1 presents the selected case-studies and a summary of their main features. In the next subsections we present the systematic analysis carried out for each mixed company. Drawing on these findings, section 4 comprises the critical success factors of mixed companies in charge of local public infrastructure.

Table 1 – The four case-studies

Case Studies	FAGAR	AMBILITAL	SATU	CISTER
Municipality	Faro	7 municipalities	Oeiras	Alcobaça
Population (no.)	58,698	113,000	172,021	55,641
Infrastructure sector	Water ('retail')	Urban waste ('wholesale')	Urban transportation	Basic schools
Year of creation	2005	2001	2002	2008
Procurement procedure	Open tender	Direct award	Direct award	Open tender
Services produced	Drinking water, wastewater, refuse collection and urban cleaning	Waste treatment and recycling	Light rail	Design, construction, financing and maintenance of basic schools
Duration of the contract (years)	35	Not specified	Not specified	25
Private partner	AGS and Hidurbe	SUMA	Teixeira Duarte	Manuel Rodrigues Gouveia (consortium leader)
Private share capital	49%	49%	49%	51%

3.2 Water sector

As mentioned before, water services are a responsibility of local governments. Currently, the Portuguese market is structured as presented in table 2 (we chose to exclude the detailed listing of 100% public municipal companies, municipal services and municipal departments – they are included in the totals). In the ‘retail’ market, the most common governance model is still the municipal department (207 units, encompassing 43% of the population).

Table 2 – The market structure of the water sector

	cPPP	iPPP	PuP	Total*
‘wholesale’ market	1	0	20	21
‘retail’ market	24	5	0	279

* including municipally-owned utilities

Only seven calls for mixed companies were launched until this paper was written. FAGAR was one of the first mixed companies to be created in the water sector (the company is also in charge refuse collection and urban cleaning). The call for tenders was published in 2003 and the bidders had 60 days to submit their proposals, but the financial close was only reached in 2005 (the year when the company actually started to operate). The mixed company followed the transformation of the municipal services with autonomy that were in charge of water, wastewater, refuse collection and urban cleaning services. The new company retained the same corporate purpose and had to embrace the former employees of those services (public servants). However, at the least, the remuneration, benefits and rights of all employees had to be kept the same.

Only one bidder entered in the public tender. This is obviously very bad for the public interest since without any competitive pressure, prices detach from production costs (Bajari *et al.*, 2006). Initially, the winning bidder consisted in a consortium composed by three companies: AGS, Hidurbe and EcoAmbiente. Currently, the private shareholders are just AGS (32.83% of the shares) and

Hidurbe (16.17%) which, in turn, are owned by the same construction company (Somague). The term of the PPP is 35 years (although this period can be extended if the parts agree) and, by the end of that period, the local government can buy back the shares from the private investors at their nominal value. In this point one should take into account that ‘the risk of residual value of the PPP assets may be relevant for the classification in borderline cases’ (EPEC, 2010: 17), which means that, according to Eurostat rules, this could result in an on-balance sheet treatment for this particular PPP if ‘most of the risk’ is not effectively transferred to the private partners.

The municipality had a set of critical investments that should be financed by the private partner up to a maximum value of 20 million Euros. The tender documents mentioned that the private partner should propose a capital structure dividing its participation in two components: one parcel to buy the company’s shares (the participation should be 49% to 10%) and one parcel as an additional paid in capital (the company does not need to make a profit so that this capital can be remunerated). Other calls for iPPPs carried out in Portugal in this sector had slightly different schemes – with the two parcels completely defined or with the value of the up-front payment being set as an evaluation criterion (Marques and Berg, 2011). The evaluation criteria for FAGAR were the ones presented in table 3.

Table 3 – Evaluation criteria and respective weights for a water iPPP

Criteria	Weighting
a) Proposed tariffs	30%
b) Shortest term of the partnership (with a maximum of 50 years)	10%
c) Capital structure of the mixed company	15%
d) Greater distribution of dividends to the municipality of Faro	15%
e) Merit of the economic and financial viability studies	15%
f) Merit of the plans for conservation and maintenance of the municipal systems of water, wastewater and urban waste, including their respective renewals	10%
g) Proposal of shareholders’ agreement	5%

As one can see, some criteria are discretionary and would hardly differentiate among bidders; on the other hand, since there were no sub criteria (or they were not made publicly available) and no performance descriptors for each criterion, it would be very hard to measure the partial performance of each bid. Also, the weight given to the shareholders' agreement is curiously low, since this will be the main document that will regulate the PPP until its termination.

The initial base case and the shareholders' agreement were recently renegotiated (2009), only a few years after the awarding. This outcome provides a good illustration of the fragility of these arrangements, especially if we take into account that the first agreement was signed without significant market pressure. The local decision-makers involved argued that this renegotiation was mainly triggered by the entry into force of a new legal diploma (the legal regime for the local business sector, Cruz and Marques, 2011). Furthermore, the signing of a new contract with the 'wholesale' utility (a PuP) was not foreseen in the contractual documents. The problem is that, with this governance structure, 'most of the project' risk is not borne by any of the partners. In fact, it is transferred to customers. This is mainly because, in a scenario where the mixed company internalise eventual losses, the local government is also directly harmed as a shareholder. Therefore, it tends to agree with the requirements imposed by the private partners (which consist in raising tariffs).

Finally, the web of contracts does not provide the public partner with any mechanism to sanction the private partner if it fails to attain the desired performance (only in extreme cases would the private partners be financially liable). As it stands, this particular governance structure is a 'sure thing' for the private partners in terms of recovering the initial up-front investment (plus a very interesting profit margin).

3.3 Urban waste sector

In Portugal, the market structure of the waste sector is somewhat similar to the water sector. However, 'retail' services are usually produced in-house; overall, there are about 260 utilities operating in this segment. Regarding 'wholesale'

services, there are a total of 29 utilities operating in the mainland: 14 PuPs, two cPPPs, three association of municipalities (in-house production), three 100% public intermunicipal companies and seven mixed companies.

AMBILITAL was one of the first mixed companies to be created at the local (or, in this case, regional) level. The public shareholder (AMAGRA) is an association that includes seven municipalities, namely: Alcácer do Sal, Aljustrel, Ferreira do Alentejo, Grândola, Odemira, Santiago do Cacém and Sines. One of the first aspects that stand out is the absence of a public tender for the selection of the private partner. Initially, the iPPP agreement was directly negotiated with SERURB which was lately incorporated in SUMA (where Mota-Engil, a construction company, is a major shareholder). We believe that this (clearly faulty) occurrence was due to the lack of a proper legal framework regarding iPPPs at that time. Nowadays, this procedure would clash with the EU principles of equal treatment and non-discrimination and with legal rules in effect. In fact, as the Advocate General Ruiz-Jarabo Colomer stated in *Acoset SpA v. Conferenza Sindaci e Presidenza Prov. Reg. ATO Idrico Ragusa and Others* (C-196/08), four conditions must be satisfied in iPPPs:

- 1. the company maintains that single corporate purpose throughout its existence;*
- 2. the private participant is selected through a public tendering procedure, after verification of the financial, technical, operating and managerial requirements and of the characteristics of its tender, with regard to the service to be delivered;*
- 3. the private participant assumes, as the industrial participant, responsibility for provision of the service and execution of the works; and*
- 4. the tendering procedure is consistent with the principles of free competition, transparency and equal treatment as required under Community law for concessions, and, as the case may be, with the rules on the publicity and the award of public contracts.*

The PPP contract firming between the parts does not stipulate a duration for the mixed company; this is not in accordance to EU guidelines in COM(2007)6661 and not having a periodical market consultation accentuates the lack of 'competition for the market' (Demsetz, 1968), thus perpetuating the tendency for quiet life. Moreover, experience tells us that the lack of transparency and preliminary viability studies (including a public sector comparator, affordability caps, etc.) decrease the benefits of private sector participation (Fobil *et al.*, 2008).

In 2001, the existing assets of the public shareholders (equipment, land rights, etc.) were transferred to the mixed company. These assets were monetised, representing the capital participation of the public partner. Usually, for political reasons and due to some legal requirements, mixed companies are not designed to have significant profits and the private shareholders are paid through costs. But in this case, the shareholders' agreement sets minimum thresholds for the profitability of this company, even though the amount that can be transferred to the partners is capped (like in rate of return regulation). Moreover, AMBILITAL has to pay for the consultancy of the private partner.

Once again, the few times that risks are addressed in the contractual documents are only to clearly transfer them away from the mixed company. Indeed risks like unpredictable events, *force majeure*, misuse and legal or regulatory changes are deflected in one clause of the management contract signed between AMAGRA and AMBILITAL. Since nowadays the final users only pay about 30% of the total costs involved in waste management, these risks are likely to be allocated to tax payers.

No performance indicators whatsoever are included in the iPPP contract of AMBILITAL. Besides providing no incentives for cost-efficiency, this regulation by contract do not contain incentives to reduce waste production (for instance by developing customer education programs), to increase coverage and to engage stakeholders in more sustainable practices. However, one should underscore the fact that this governance structure allowed for the exploitation of economies of scale by bundling seven municipalities in one PPP (also in line with the empirical findings of Bognetti and Robotti, 2007; and Bel and Fageda, 2010).

3.4 Urban transportation sector

Only about 53 municipalities provide urban transport services in Portugal; nevertheless these municipalities include around 61% of the population. In table 4 we present the market structure of urban transportation, detailing the mode and the governance models in charge of delivering the services (some municipalities have more than one entity operating in their territory). It seems that local governments are not able or willingly to provide transport by rail unless they can rely on the assistance of either the central states or private investors.

Table 4 – The market structure of urban transportation

Mode	Governance Model	Number of municipalities	Population
Bus	Municipal service	5	825,447
	Municipal company	2	249,254
	Mixed company	1	54,780
	Concession	45	5,129,577
	Public company (central state)	5	1,328,504
Metro, tram and light rail*	Mixed company	1	172,021
	Concession	1	166,103
	Public company	1	489,562
	Public-public partnership	1	216,080
Inland waterways	Municipal company	1	73,100
	Public company (central state)	3	743,292

* Funicular railways and elevators are not included

In spite of some indications that open tenders minimise transaction costs in transport PPPs (Soliño and Santos, 2010), the municipality of Oeiras opted for the negotiated procedure (this local government even came to seek legal advice to support its decision) and entered in an agreement with Teixeira Duarte (a major construction company). Even if, due to the particular complexity involved in light rail infrastructure projects, the negotiated procedure could be the ideal option

(Bajari *et al.*, 2009), the lack of transparency and stakeholder participation put the project at stake. Indeed, SATU runs huge deficits nowadays.

The allocation of risks was very blurred in this iPPP arrangement (see table 5); several risks were unmentioned in the contracts. On the other hand, some risks (like demand) would only be effectively transferred to the private partner if its remuneration scheme was connected (even if only partially) to key performance indicators. There is no management contract firmed between SATU and the local authority; instead, a series of shareholders' agreements specify the remuneration scheme of the private partner that consist in the amortisation of the additional paid in capital (i.e. a cost-plus contract).

Table 5 – Allocation of risks (as can be perceived in the shareholders' agreements)

Risk	Allocation
Conception of the network	Shared
Expropriation and licensing	Public
Environmental	?
Construction	Private
Maintenance of infrastructure	Shared
Maintenance of vehicles	Shared
Operation (energy costs, availability)	Shared
Technological (innovations in the sector)	?
Performance (reliability, customer satisfaction)	Public
Demand	Public
Capacity	Public
Financing	Private
Inflation	Customer
Legal/regulation	Public
Unilateral changes (frequency, timetables, routes)	Public
Public contestation	Public
<i>Force majeure</i>	?

Besides not having the appropriate tools to carry out an effective contract management, the local authority has disincentives to apply sanctions to SATU. Since they are actively involved in the management of the mixed company, proceeding like this would consist in a form of self-punishment. A light-rail system seems to involve a degree of complexity (asset specificity and uncertainty framing the project) in line with relational contracting. However, this case-study presents too many serious problems so that the mixed company can be successful; especially concerning the preliminary viability studies and the management of the investors' access to the market.

3.5 Public schools sector

The Portuguese school education is divided into basic, secondary and higher education. Local governments have responsibilities regarding basic education (compulsory education) and also nursery schools; these responsibilities cover the construction, maintenance and management of schools facilities, and also the non-teaching staff, school meals and other family support features, transportation, and extracurricular activities for the first cycle of basic education and other school and social activities for the remainder cycles.

Managing public works is different from utility services and using iPPPs to deliver school infrastructures is definitely at odds with the common practices (even considering the school PFIs in the UK). In 2008 the publicly-owned municipal company Terras da Paixão issued a public call for tenders for the selection of a private partner to the creation of a mixed company that would be in charge of design, build, finance and maintain six new schools and one multipurpose venue. The evaluation criteria are shown in table 6. The multicriteria evaluation model did not include criteria to assess the robustness of the bids which could lead to the 'winners' curse'. Moreover, the equity internal rate of return was not evaluated (it is not even known) which can be a problem in case of future renegotiations. Four private investors bought the tender documents but only one bidder participated in the tender (a consortium of four companies, headed by Manuel Rodrigues Gouveia- a construction company). The public authority set only 15 days for the

submission of the complete proposals. The mixed company CISTER - Equipamentos Educativos was created in that same year.

Table 6 – Evaluation criteria and respective weights for a school sector iPPP

Criteria	Weighting
a) Financial structure of the bid	45%
a1) Strategic and development plan of the project	50%
a2) Financing structure	50%
b) Contractual framework	40%
b1) Organisational and contractual model proposed	25%
b2) Draft of the statutes	15%
b3) Shareholders' and technical and financial cooperation agreements	60%
c) Technical quality of the bid	15%
c1) Execution plans	50%
c2) Partial schedules	50%

Besides the inconceivably short amount of time given to the preparation of the bids, the fact that the public authority chose to have a minority stake in the company share capital is also surprising. Moreover, the completeness of the submitted bid (that included architectural projects) was odd given the time available. Obviously, these practices discredit public administrations and lead to public distrust and contestation. Indeed, this elaborate arrangement seems to show that the local government is mainly trying to avoid fiscal consolidation and not seeking a better value for money. The value for money assessment is implemented by most EU countries and generally requires that PPP projects show greater or equivalent value than traditional public procurement; nevertheless, this assessment does not guarantee the affordability of the projects (EPEC, 2010) and therefore an affordability cap should always be calculated. In the case of CISTER, neither an affordability cap nor a public sector comparator was ever calculated.

Trying to create a pack of different types of infrastructure in one single iPPP is also prone to some criticism because it might lessen competition by reducing the likelihood of having so many private companies with the required skills. On the other hand, the transference of risks was unsatisfactory because the responsibilities for cleaning, gardening and surveillance were allocated to the public sector; the public sector should only assume risks that are under its control. Local decision-makers tried to transfer availability risk to the private partners. However (EPEC, 2010: 9) if 'the PPP contract does not provide for automatic and significant non-performance penalties to be applied in case of non-performance by the nongovernment partner' or 'such penalties are not systematically applied', the government bears the majority of the availability risk. In practice, this is what happens.

4. Conclusions and policy implications

From a theoretical point of view, the rationale behind mixed companies is to structure a perfect (or the best possible) equilibrium between cost-efficiency and social concerns. As Eckel and Vining (1985: 83) put it, they are 'used as an instrument of public policy', in our case, by local governments. Yet, taking into account the empirical evidence, it seems that 'no man can serve two masters' (Laffont and Tirole, 1991); i.e. mixed firms tend to be steered towards the private sector's objectives of profit maximisation instead of achieving an optimal commitment from a social welfare point of view.

Mixed companies appear when local decision-makers wish to retain some degree of control over the services while keeping them at arm's length. However, these complex governance structures should only be confined to very special infrastructure investments (framed by singular uncertainty and asset specificity). Only in these cases it makes sense to craft a relational governance structure where mutual trust, altruism and strategic alliance play a major role (Reeves, 2008). Conversely, it makes no sense to use a mixed company when a public infrastructure can 'easily' be delivered through a simple 'transactional contract'. When a local government opts for partial privatisation it assumes that there is a

welfare loss inherent the pure public provision and that the market failures that justified pure public management are too severe to opt for a purely contractual agreement (like a cPPP).

Sometimes, local governments can be lured by the potential to have higher up-front payments (when selling the shares) and tend to be overly optimistic considering initial assumptions and estimates. To help in this phase, the public sector comparator and the affordability cap should always be calculated. The value for money test must be a requirement for public authorities and not just a moulded proof of their initial political decisions.

Although it is true that in 'traditional' public projects many risks are silently assumed by customers and taxpayers (Klein *et al.*, 1996), the fact is that the current state of affairs is unsustainable regarding the risk management practices in mixed companies. Local governments should include a risk matrix in the tender documents stating the intended allocation of risks in a clear, objective and effective way. An effective (real) and efficient (the right entity assumes the right risk) transference of risks reduces the overall economic cost of infrastructure projects and decreases the likelihood of renegotiation. In practice, the majority of the renegotiations of PPP contracts should trigger a reclassification of the assets when the allocation of 'most of the project risk' between the partners is altered to the detriment of the public interest (EPEC, 2010).

Even in relational agreements, local governments should 'think ahead' and systematically consider the likely possibilities and future disputes that might arise. After this exercise, public authorities need to develop mechanisms for managing these eventual contingencies. In current iPPPs, public authorities have disincentives to apply sanctions against themselves, since they are actively involved in the day-to-day management (simultaneously playing the role of a referee and a player). Hence, new mechanisms that link the remuneration of private partners to key performance indicators ought to be developed (always adopting an output orientation). Being better informed is not enough to conduct an effective 'internal regulation'; the proper tools for monitoring the contracts must

also be available. Appointing a contract manager responsible for guaranteeing the adherence of the partners to crucial contractual clauses would also be a good practice for mixed companies.

Considering the Portuguese case (although with applicability in other countries like Italy or Spain), an office for disseminating lessons learned (that, nowadays, are scattered along the whole territory) and for helping in the monitoring of the various governance schemes that is accessible to all local governments should be promptly considered. The negative consequences of not doing this will result in many local governments 'learning the hard way'.

For all the reasons stated, mixed companies will hardly be the solution for all the financing problems of social infrastructure faced by local governments. However, if practitioners wish to equip this model with greater capabilities from a social welfare point of view, certain provisions must be taken to cope with conflicts of interest (e.g. defining the proper scope for action of local decision-makers in a clear manner) and some priorities should be realigned (e.g. giving less emphasis to up-front payments and more to the robustness of the base cases and the internal rate of return required by private investors).

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