Governance structures and relational contracting in local public services: a comparison of French and American public-private partnerships

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Very preliminary version
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This paper compares public-private partnerships (PPPs) implemented both in France and in the U.S. This contribution to the study of local public services uses an original theoretical framework, inspired by a synthesized version of several theories of the firm proposed by Baker, Gibbons and Murphy [2004]. Comparison is established both on legal and informal levels. This allows us to show (i) to what extent legal frameworks influence the efficiency of public-private partnerships, (ii) how relational environment matters in the success of such agreements, and (iii) that an achieved equilibrium may appear as relative to the context, in which such contracts are implemented. The conclusions of this model participate to the current debates about a possible harmonization of European legislation in PPPs, and about the promotion of public-private partnerships observed in some countries in other institutional frameworks.

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1   Introduction

On both sides of the Atlantic today, local public authorities face similar problems concerning local public services. First, the demand for such services keeps on growing, ranging from public works (street repair and garbage collection for instance), to public safety (police and fire), or maintenance of public recreation areas (Levin *et. al.* [2004]). Yet, budget constraints are increasing at the same time as citizens' expectations, and limiting fiscal pressure at a local level appears today as a political challenge. Last but not least, public authorities have to remind that the performance of these services is not only financial, but is also qualitative, as these services often have strong consequences on lifestyle of the citizens. In this context, local public authorities wonder how to manage public infrastructures and have to choose between different types of organizations to this end, from full public to full private management. Several different contracts, involving private and public sectors at various degrees, are thus observed both in France and in the U.S. In each of these countries, these partnerships are the results of a unique history and culture of relationships between public and private sectors.[1] This leads us to wonder whether a structure of public-private partnerships among those observed around the world is more efficient than the others to manage infrastructures of public service in a given context.

The purpose of this paper is then to try to answer to this question, and to understand the diversity and the efficiency of public-private partnerships, especially between the French civil law tradition of « delegation of public services » and the way public and private sectors work together in common law countries, and in the U.S. in particular. Through this reflection, we also wonder to what extent differences between these contracts are based on formal or informal aspects, which allows us to draw some conclusions about the implementation of these contractual models in other institutional frameworks.

To this end, we develop a model based on the original theoretical framework developed by Baker, Gibbons, and Murphy [2004], whose purpose is to elaborate a synthesized version of several theories of the firm (especially from the works of Williamson, Hart, Klein and Holmstrom). This means that we consider incomplete contracts. Works inspired by the property-rights theory (as developed by Grossman and Hart [1986], and redefined by Hart and Moore [1990] and Hart [1995]) show that this assumption has proved to be fruitful for the study of public-private structures (Hart, Shleifer, Vishny [1997], Boycko, Shleifer, and Vishny [1996], Hart [2003]). This is indeed not hard to motivate once it is recognized

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[1] From the earliest of colonial times to the present, the U.S. private sector has always had an active role in the management of local public services, whereas the idea of concession dates back to the 18th century in France.

that the quality local public authorities want is often difficult to specify. Contracting-out thus leads to fears about quality-reducing in the process of cutting cost, thereby leading to the risk to undermine safety and security of citizens. This is all the more worrying as many quality parameters are difficult to be fully specified (customer's relationship, capacity to react to urgency and unforeseen events, researching innovative approaches to perform in excess of the basic standard specified in the initial contract, security of users or recruitment of efficient but high-waged employees (Hart, Shleifer, Vishny [1997])).

To go back to our theoretical framework, we adopt here several distinctions from the property rights approach. Similarly to Baker *et. al.*([2004]), we model both decision and payoff rights. In « Grossman, Hart and Moore -style » (GHM) models, asset ownership conveys residual control rights, (*i.e.*, decision rights that are not otherwise allocated, such as by formal contracts), but asset ownership does not directly change any party's payoff function. In contrast, we consider here two types of assets. The first are *inalienable* assets that are bundles of decision rights and payoff rights, which means that an asset's owner controls the decisions and receives the payoff (as in GHM models). In parallel, *alienable* assets are characterized by the possible separation of ownership, decision and payoff rights. In other words, the owner is not necessarily the decision-maker or does not always receive payoffs linked to these assets. This distinction particularly fits to the study of public-private partnerships, as the various existing contracts illustrate the different allocation of ownership, decision and payoff rights between the parties : private managers can be involved only for operational support, without true right to decide over the assets that can be still owned by the public authority, or can be fully integrate in the decision-making process. In the same way, if they hold payoff rights, their revenue can be directly collected from the exploitation of the assets, else the public authority gives them a fix amount of revenue.

As for inalienable assets, their decision and payoff rights cannot be transferred by their owner, who is automatically the decision-maker and receives the payoffs. They are for instance untransferable prerogatives for local public authorities, individual knowledge, but also personal advantages linked to the management function for the managers. The presence of inalienable assets allows us to consider that each party will make decisions in order to maximize its total benefits, whether they come from alienable payoff rights or inalienable assets. We thus consider that each agent may try to use all its decision rights not only to maximize the outcomes of the local public service, but also its own benefits, as non contractible social benefits for the public authority (Lopez de Silanes *et. al.* [1996] or Boycko *et. al.* [1996]), political patronage and personal advantages as the Public Choice School suggests it (Tullock [1977], Niskanen [1971]) for public managers,

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or personal objectives for the private managers as the « behaviorist » school (Cyert & March [1964], Baumol [1967]) describes it .

Concerning the decision rights of the alienable assets composing the local public services, we consider here, as in Simon's study of employment relationship [1951], that they are attributed here ex ante (contractually or through ownership) to the agents, which means self-interested adaptation ex post. Public-private contracts share indeed responsibilities between parties, and are generally concluded for a mid-term or long-term period. We then focus on decisions to make during the management of the service that cannot be explicitly written in a contract, as all events cannot be foreseen ex ante. Yet, the rights to decide are shared between parties, in accordance with the legal framework in which they are implemented, but decisions themselves are not contractible, even ex post, as many decisions in this sector are relative to irreversible choices. The consequence of such an assumption is that it prevents renegotiation to the Pareto-efficient decision in uncertainty, *i.e.* after a state s is realized.

We also retain in this model the importance of relational contracts, *i.e.* « self-enforcing agreements that are too rooted in the parties' particular circumstances to be enforced by a court, but that can be enforced by the parties' concerns for their reputations »(Baker *et. al.* [2004]). Such informal aspects have been largely emphasized by sociologists and other non-economists, both within organizations and in business dealings (Macaulay [1963], Macneil [1978], Barnard [1938], Blau [1955], Granovetter [1985]). We also think that contracts between public and private partners are rooted in a dense network of relationships, that may differ among countries. This is linked to the tradition followed by each country in the implementation of public-private partnerships, and in social ties that may exist between the parties. It is for instance commonly admitted that public and private partners in France share common values about public service (that leads to speak of « a culture of public service ») or have strong social ties, due to common educational or professional background. A public-private partnership consequently does not reduce to a formal agreement, but is to analyze in a broader context.

Yet, as we apply our study to the management of local public services, three important distinctions from Baker *et. al.* (2004) need to be mentioned. First, three agents are present in our analysis : the local public authority having in charge the provision of the service, a public manager that can be mandated to manage it, and a private manager that can also be involved through a contract in the management of the service. This leads us to a three-dimensional analysis instead of a two-dimensional one. Second, we distinguish two types of payoffs : the former is the monetary profit linked to the exploitation of the assets

and the latter is the « quality » outcome of the local public service, *i.e.* the social benefits generated by the service. We also introduce here the possibility of a « joint » holding of the decision rights, when decisions are to be made by several agents. Indeed, when the public manager receives these rights, he remains subordinated to the will of the public authority, and cannot make decisions on his own. We assimilate this situation to a joint possession of the decision rights by the public authority and the public manager. Another situation of « joint » holding happens when the legislative framework attributes extra powers to the public authority when a private party intervenes in the management of the public service, as it is the case in the French Administrative Law governing public private partnerships. The public authority indeed benefits here from a veto right that can be used to prevent decisions that could damage the public interest.

This paper then proposes a contribution to the works on the efficiency of public-private partnerships (Hart, Shleifer and Vishny [1997], Boycko, Shleifer and Vishny [1996], Hart [2003], Bennett and Iossa [2004]) that differs in three ways : we use indeed an integrative theoretical framework of elemental theories of the firm (mainly from works of Williamson, Klein, Holmstrom and Hart), which has yet not been done (to our knowledge) in the study of public-private partnerships. Second, by including the legal environment in the analysis, we compare some aspects of *common* and *civil law* and show how it matters in the study of the efficiency of public-private contracts. We thus show in our model that the different legal frameworks induce different roles and powers for the local public authority, leading to various sharing of decision and payoff rights, and finally to various surplus. Third, we give some evidence that informal and social aspects between public and private parties matter in the success of such agreements, which completes previous contributions essentially based on formal aspects of public-private partnerships.

In the following section of this article, we present the notion of local public services both in France and in the United States. Next, we formalize the various organizational structures of local public services through the theoretical framework we have presented. We then try to determinate the efficient governing structure, both in a one-shot interaction and in a relational environment. This leads us to conclude that none of the governance structures described in the previous section is first best, but each of them can be second best under some circumstances. To conclude, we also show how informal ties between parties can change the nature of the equilibrium that is reached, and propose a brief discussion on the study of French-style or American-style public-private partnerships in local public services.

2 Local public services in France and in the U.S.

2.1 The notion of local public services

Local public services include all services provided by local authorities and practiced under their control to satisfy a public requirement, such as water treatment, waste collection and treatment, urban transportation, school restaurants, urban warming ... Many of them need heavy infrastructure, as the following table shows, and local public authorities have to find the best way to make the most of these existing infrastructure.

Services	Infrastructure
Transport	Roads, ports, airports, railways
Water treatment & distribution	sewerage systems, plants
Garbage treatment	Refuse Incinerators
Urban warming	Warming systems, plants
Education	Schools, Universities
Hobbies	Stadiums, swimming-pools, ...

Another characteristic of local public services is that they produce social benefits that may be difficult to contract, even if they can be more or less precisely measured (sometimes ex post). For a road, it may be less time spent in transport, less pollution, or geographical development of an area; for schools, a better teaching quality, better employment, or the will to stabilize population, for infrastructures such as stadiums or swimming pools, the goal may be to reach a better lifestyle or to develop urban activities.

Finally, most local public services have strong natural monopoly characteristics, such as cost subadditivity[2] and huge sunk cost, which makes the market not contestable. Facing dangers of monopoly position (insufficient quantities being produced, difficulties in monitoring quality, excessive transfers from consumers to the firm ...), and following Demsetz [1968], many local public authorities choose to organize competition for the market, thus involving private partners in the management of local public services.

We now briefly mention how actors participate in the management of local public services.

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[2]This implies that no combination of firms could produce the same output at a lower cost than a single firm.

2.2   A management characterized by conflicting interests

Local public services have to be guided by public interest principles. Yet, people in charge of those services may try to deviate the management of local public services for their personal benefits.

The involvement of private operators is thus said to avoid the effects of political patronage. Following Stigler's theory of regulatory capture [1971], contracting out public services might indeed prevent local politicians to derive political benefits from the management of public services, including the supports of local public-sector unions, the opportunity to purchase supplies from political allies, or the ability to hire relatives and campaign activists. The same idea has been underlined by Boycko, Shleifer, Vishny [1996] and Shleifer-Vishny [1994][3], arguing that the pursuit of political benefits is the principal reason for the pervasive political control over firms around the world. Public management would be inefficient because it addresses the objectives of politicians instead of maximizing efficiency. Lopez *et al.* [1996] go as far as saying that, in the U.S., « the main political factor favoring in-house provision is the clout of public employee unions, which have emerged as the strongest opponents to privatization ». Political arguments would consequently favor inefficient in-house provision of local public services. Yet, they can also favor privatization, as voters do not like taxes and pressure is regularly put to reinforce budget constraints on local governments, which may lead to privatization since it is considered as a less costly solution. In a word, politicians follow interest groups rather than the median voter (Olson [1965], Stigler [1971]).

Yet, private involvement is not a solution that entirely allows to respect public interest principles. Economic literature proves indeed that private firms can be considered as a coalition of conflicting interest groups (managers, shareholders and workers) and decisions appear as the outcomes of compromises among the interests of the various groups (Cyert & March [1964]). Consequently, it seems that in a private firm managing public services, public interests would coexist among various other interests, especially those of managers. « Behaviorist » school has recognized the discretionary power of these managers in allocating resources within the firm, that may thus favor their own objectives instead of maximizing the shareholder's utility function[4] (Marris [1963], Baumol [1967]), or public interests principles. This is consistent with critics about private involvement in public

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[3]In this article, the authors quote Donahue [1989], who « presents evidence that governments employees in local municipal services in the United States are both less productive than their private counterparts, and better paid ».

[4] Such a vision has first been mentioned through the study of separation between ownership (shareholders) and control (managers) in large firms.

services regularly worry about the neglect of public interests, safety and security in the name of rentability and personal benefits.

In spite of this common concern to manage local public services among diverging interests, U.S. and French organizational forms of local public services have many differences, coming from their legal and sociological framework. We now analyze these differences.

2.3 French and U.S. organizational structures of local public services

We first briefly present contracts that exist in both countries, and then focus on formal contractual differences. We then turn to more informal differences to wonder whether a « contractual culture » exists in each of these countries.

2.3.1 Different types of contracts

A great variety of organizational forms are observed in the U.S., from full public responsibility to full private one. Most frequent structures involving private partners are BOT, BOOT and BOO contracts. Under the *Build-Operate-Transfer* (BOT) model, the private sector contractor (or consortium of contractors) finances the project, accomplishes the construction, and operates the new facility for some specified length of time after which it is expected to transfer ownership to the government, usually at no cost. When the private contractor owns the assets during the operating stage, the option would be called BOOT (*Build, Own, Operate, Transfer*) rather than BOT. The eventual no-cost transfer of the facility to the public sector generally happens after the economic life of the facility has expired, or at least not until the financing has been repaid. Finally, if the contractor constructs and operates a facility without transferring ownership to the public sector, the contract is qualified as *Build Own Operate*. Other contracts, such as *Service or Management Contracts*, foresee that a private manager exploits an existing infrastructure, with more or less operational functions and responsibilities. Most of the time, the operator has here no financial stake in the service, but simply provides it.

As for France, we retain here three types of contracts allowing public and private parties to work together, and that are called contracts of « delegation of public services ».[5]

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[5]The recently introduced « contrat de partenariat » are close to the British Private Finance Initiative Contracts, and allow French public authorities to have a contractual tool for global operations covering

- « **Régie intéressée** » or *Incentive fee management contracts* : this contract implies that the local authority finances the establishment of the service and contracts its operation and maintenance to a third party. The third party pays the authority the amounts received from the users and receives payment from the public authority, partly fixed rate, partly variable, and bonuses agreed with respect to turnover, increased productivity or increased profits.

- « **Affermage** » or *Lease contracts* : the leasee directly receives all means required to provide the contracted service. In return, the leasee pays the local authority a fee corresponding to their operating rights. The leasee is responsible for maintaining the equipment or infrastructures, whereas the local authority takes on all major works required. The leasee has full operational responsibility and is paid from the fees received from users. The leasing contract is relatively short-term.

- **Concession contracts** are the most common mode of delegation in France. The private delegate is responsible not only for operation and maintenance of the public service but also for the construction, renovation and financing of major changes needed to provide the service. In return the agent is paid directly from the fees paid by users. These contracts are generally long-term.

We now prove that differences between French and US contracts are both legal and « cultural ».

2.3.2 Differences based on legal framework

Legal framework of public-private partnerships are quite different between common law and civil law countries. Recall here that the *Common law* constitutes the basis of the legal systems of many English-speaking countries, such as England, Wales, Ireland, the United States, Australia, Singapore, and other Commonwealth countries. The main alternative to the common law system is the *Civil law* system, which is used in Continental Europe. As examples, we focus here on the differences between the U.S. and the French legal frameworks.[6]

First, French contracts of delegated management have been guided by the principles of public services with particular concerns for satisfying users' needs and respecting users'

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financing, design, construction, maintenance, and operation. The main difference with concession contracts is that the public authority would pay rent for the operator, who is then not directly paid by collecting fees from users. This contract does not belong to the category of « delegation of public services ».

[6]Shugart [1998] proposes a complete analysis of the legal environment in each of these countries, and some of these aspects are here briefly mentioned.

rights, whereas Anglo-Saxon contracts focus much more on finance as a primary motive. This is why all BOT or BOOT projects must have both precise identification and optimum sharing of all risks between the parties involved. It is all down to the contract, which may take months or even years to negotiate. These contracts are not dedicated only to public service mission. In comparison, the French contracts are relatively concise, mainly because any interpretation has to be submitted to the Council of State. Contract models proposed by the Ministry of Interior are no longer mandatory, but still remain indicative and used. They are exclusive to public services' missions.

Moreover, contracts between public authorities and private-sector entities for the provision of public services are **administrative contracts**, a distinct part of French administrative law. As Shugart [1998] puts it, « the French legal system is unusual, even among civil law countries, in the degree to which administrative contracts have a special status of their own. » French lawyers are particulary attentive to **classify** the various contracts into neat categories[7]. Each category has its own baggage of legally implied rules, both mandatory and non-mandatory. This allows contractual gaps to be filled by background rules that are specific to the particular type of contract. In case of conflicts, problems are brought before Administrative courts only. American lawyers would proceed in a much more analytical way : they first interest to the validness of contracts, and sort out what each party's rights and obligations are, and how they interact.

Among the background rules that French Administrative Law has developed to fill contractual « gaps », we can note principles such as « fait du prince »- when the public authority unilaterally impose contractual modifications that increase costs- or « imprévision » that make the contract more specific about what to do when the concessionaire faces severe but temporary difficulties, such as a very high, unforeseeable, and uncontrollable price increase in one of its inputs (Auby [1997]). Such background rules participate to the strong public authority's powers of unilateral modifications and rights to impose new service obligations, which allow frequent renegotiations to occur as long as the concessionaire is appropriately remunerated. Such dispositions are absent from the US contract law, which leads us to think that U.S. courts are more reluctant to revise long-term contracts.[8]

Another specificity of French contracts is the choice of the private partner, especially a

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[7]We can note to this subject the will of public authorities to distinguish contracts of public services delegation and those of public procurement.

[8]This was confirmed by Goldberg (1985 : 529), who refers to the case of *Alcoa v. Essex* in 1980 as the « only example of an American court revisiting the contract price in a long-term supply contract ». This also explains why US municipalities have poor experiences in franchise contracts that gave the private company total freedom to carry out its activities (the publicly owned waterworks went from 6% in 1800 to 53% in 1896).

concessionaire, funded on « **intuitu personae** » (literally, looking at the person - *i.e.* it is the qualities of the service provider that matter) and freedom of choice. This notion has been redefined with the 1993 loi Sapin to prevent corruption, but has been carefully preserved. After examination of the offers, the executive officer or body is empowered to freely negotiate with one or more of the firms having made an offer and then to select the concessionaire.

But contractual differences do not only apply to legal framework. They are also rooted in a larger « cultural » and sociological context, which comes now under study.

2.3.3 Differences based on a cultural and sociological context ?

Beyond legal differences, public-private relationships are governed by quite different principles in France and in the U.S.

In spite of the described legal framework, it is quite rare in France that a local government and a private partner take a dispute to the administrative tribunal and conflicts are not always solved in reference to the writing of the contract. This corroborates Macaulay [1963] 's analysis, showing that contracts are not referred to at all in the adjustment of business relations. This is especially true for long-term contract, as conditions change and contract provisions become inappropriate.

Another confirmation is found in Shugart [1998], showing that in France, « the writing is seen more as a reminder of an agreement valid for the moment than as an instrument that creates a long-term commitment ». Forces outside the law work to manage contractual incompleteness. Those forces are made up of extra-legal norms to stabilize the contract and prevent a strong sense of deference to the private companies, as well as informal linkages between the public authorities and companies at the level of administrative corps.

Actually, the very word « delegation » used in France implies much more than just the provision of a public service. A semantical analysis shows that « delegation » implies giving a certain freedom to the private contractor, who is trusted in his capacity to perform. A parallel can thus be established between this mission delegated to a private partner and the management style in France described by the engineer-sociologist D'Iribarne [1989], which would be funded on the notion of « Honor », as opposed to the American style, much more dependent from the notion of « Contract ». Such an analysis is corroborated by the way public-private relationships are thought in both countries, *i.e.* as a delegation

in France and as a principal-agent relationship in the U.S. This « conjures up the idea of the principal trying to get the agent to do what the principal wants- a constraint on freedom. *Delegate* stresses the fact that A must not meddle with the means that B uses, while *principal-agent* calls attention to the fact that A wants to realize certain ends through B. In fact, these are two aspects of the same process, and they can be modeled formally in exactly the same way. But perhaps the use of different words to describe the process in the two countries is significant. »(Shugart [1998]).

To go back to contractual incompleteness, the idea of delegation involves a transfer of responsibilities that helps to fill contractual gaps when they appear. In France, « the formal legal system has played a relative minor role in bringing the stability to the system, and city officials have played little attention to the formal document » (Shugart [1998]). Informal aspects thus play a determining role during the execution of contracts. Parties share indeed a lot in common, as strong social ties and a special culture, which govern relationships between public and private spheres. A striking fact to this subject is that the upper ranks of the main municipal service companies in France are strongly linked with the central government and with broader public interest - some would say State interest-concerns. A piece of evidence is given by the fact that a great number of private managers of big private companies were formerly high-level civil servants or government members.[9]

All these make French contracts highly « relational » compared to U.S. agreements, *i.e.* rooted in the parties' shared experiences and enforced by the parties' interests in the future of their relationships.

The description of the management of local public services in France and in the U.S. shows both common concerns and different ways to solve them. We now turn to theory to see whether such results can be put formally. How to explain the large variety of public-private partnerships ? Is an organizational structure more efficient than others ? To what extent do informal aspects modify the efficiency of these structures ?

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[9] We can here refer to several cases among history : Albert Petsche, President of Lyonnaise des Eaux in 1896 after a career in the national civil service, Ernest Mercier who worked with the Naval Ministry before managing the same company in 1933, and more recently Jean Marie Messier, President of Vivendi from the mid 1990s to 2003 and former high-level civil servant in the Ministry of Finance and member of Prime Minister Balladur Cabinet, or the present president of Suez, G. Mestrallet, graduated from Polytechnique and ENA, two French Schools dedicated to high civil service and former economic adviser of Finance Minister J. Delors.

3 Modeling local public services structures in a static environment

The following model formalizes the various organizational structures of a local public service. Three agents are considered, namely a local public authority (denoted SB) having in charge the provision of a service and representing the citizens, a public manager (denoted A), and a manager of a private company (denoted B). The local public authority can choose to provide the service in-house, and consequently charges the public manager with it, or to contract out some -if not all- functions of the service to a private manager.

3.1 The theoretical framework of the model

3.1.1 The assets considered in the local public service

Consider a local public service that needs two types of assets : those relative to the infrastructure and those relative to the exploitation, as the examples given in the first part illustrate it. They are valuable only if they are used together, in a coordinated fashion[10].

Among these assets, a distinction has to be made between alienable and inalienable assets, as mentioned in the introduction. Indeed, « alienable » means that their ownership does not automatically conveys the decision and payoff rights relative to the assets. The public authority may be, for instance, the owner of a building, but some of the management decisions concerning this building, as well as its exploitation and monetary benefits may be transferred to a private operator for a temporary period. The public authority can also decide to keep the decision rights and to transfer only the payoff rights to the private company managing the service, that thus receives the receipts linked to the exploitation of the service. An illustration can be given in the water sector : water treatment, production and distribution are provided in-house in the French town of Clermont-Ferrand[11], that thus owns, decides and receives the payoffs of all the assets involved in these services. In contrast, the city of Indianapolis in the U.S. is also the owner of the assets involved in the water public service, but has contracted out the exploitation of the water network to the private company *Veolia Water North America*, that receives a fix amount of revenue from

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[10]We focus indeed here on problems of coordination between assets, as most of the time, facilities of public services preexist and local public authorities try to find the best way to manage them and to valorize infrastructures.

[11]142 000 inhabitants

the public authority for this activity. In France, the water distribution in Paris has also been contracted out to two private companies since 1985. The private partners benefit here from the payoff rights of the assets, as they collect fees from users, even if the city of Paris is still the owner of these assets.[12]

The second type of assets that is here considered are « inalienable », which means that they are bundle of decision and payoff rights that cannot be separated. The decision maker is automatically the holder of the payoff rights. We assume here that the management of local public services is essentially made up of alienable assets, yet, actors also possess inalienable assets or inalienable decision rights that are not part of the public service but linked to it, such as their own interests or personal advantages in the working place.

3.1.2   Decision and Decision rights of alienable assets

We consider here that decisions (as distinct from decision rights) are not contractible either before or after the state of the world is known. Public and private partners agree ex ante to share decision rights and the holder of a decision right will make the decision that is in his best interest ex post. To go back to the example of water distribution in Paris, the local authorities have explicitly mention in the contract with the private companies that the decision right to fix tariffs is not delegated. The contract thus does not precise the amount of the tariff (*i.e.* the decision itself) for the contract duration, but specifies who has the right to decide in this field. This means that no Coasian bargaining will occur to achieve ex post efficiency.

By choosing the organizational structure to provide local public services, the public authority thus allocates these decision rights of alienable assets and may share them. Indeed, contrary to the theoretical framework developed by Baker *et. al.* (2004), we assume here that the public authority can fully or partly transfer the decision rights to a manager, which may lead to a « jointly » holding of the decision rights by the public authority and a manager. In case of public provision, it corresponds to the fact that the public manager cannot make decisions on his own but remains subordinated to the public authority. The right to decide is then not entirely transferred to the public manager, but rather shared with the public authority. When a private manager is involved, he can entirely hold the decision rights or also shares them with the public authority if the legislative framework specifies such a possibility, as it is the case in France through the « Fait du prince » de-

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[12]All these pieces of information are published by the *Association des Maires des grandes villes de France* , and come from annual meetings between French and U.S. local public authorities.

tailed previously. Indeed, public authorities benefit in this context from a right similar to a veto right if the decisions made by the private managers are opposed to public interest.

3.1.3 Payoff and payoff rights

Coordinated use of infrastructure and exploitation assets then produces a monetary payoff (the revenue linked to the exploitation of the service), denoted π_i. Yet, as we mention earlier, the performance of a local public service is not only financial, but also qualitative. The result or payoff generated by the exploitation of public infrastructures then cannot be reduced to a monetary revenue. We thus consider quality as another outcome of the local public service. This « payoff » is also non contractible ex ante, as many examples of « quality outcomes » given earlier. Yet « quality payoff rights » b_i are contractible, *i.e.* rights to perceive an additional revenue from the public authority linked to indicators measuring some aspects of quality of the service. This payoff cannot be fully determined ex ante, as one never really knows to what extent users are satisfied, but the contract can mention that this final level of satisfaction will generate a given proportion of revenue. For instance, in the case of water management in Indianapolis described previously, the contract specifies that the private company in charge of the exploitation of the assets receives a revenue from the local public authority, made up of a fix amount and of a variable part, depending on achieved quality parameters, such as customer's satisfaction, quality of water, and capacity to react to urgency. As a consequence, the model distinguishes two types of payoff rights : π_i that specifies which party can receive the monetary payoff of the service, and b_i, representing for a manager the right to perceive a revenue linked to the final quality performance of the service [13]. When the public authority keeps the payoff rights, such a remuneration scheme is not implemented. Payoff rights are transferable if they are relative to alienable assets. They may fluctuate, not only with the decisions that are made, but also with the demand for such services, or with exogenous events.

The holder of the decision rights determines which decisions are implemented to generate these direct payoffs, that the holder of the payoff rights receives.

In the model that follows, we consider a local public service made up of :
- K alienable decision rights (not linked to any payoff rights),
- M_m alienable monetary payoff rights (not linked to any decision rights),
- M_q alienable quality payoff rights (not linked to any decision rights).

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[13]Notations for payoffs and payoff rights are voluntary the same.

3.1.4 Spillover effects and personal interests

Actually, by making their decisions, the agents do not only consider these direct payoffs from the coordination, but also the effects of the coordination for their own profits, that cannot be transferred, as mentioned in the first part of this article. These profits are assimilable to spillovers created by the assets'coordination on « inalienable assets » owned by each party. In other words, decisions made by the holders of decision rights not only generated the direct payoffs described previously, but also influence the own interests of the actors, not necessarily directly linked to the local public service to manage. For the public authority, these interests may represent for instance social benefits that may not be valuable and are consequently neither contractible nor transferable. For the managers, spillovers are professional experiences from the management, specific knowledge they thus develop, but also personal advantages, such as discretionary budget (Niskanen [1971])[14] and political patronage for the public manager, or personal objectives for the private manager, that do not necessarily correspond to the private company shareholders'interests, as the « behaviorist » approach postulates it.

Let {A ;B ;SB} represent the inalienable assets of the public manager, the manager of the private company, and the public authority respectively. The associated inalienable decision rights are denoted $d_i \in D_I$, i $\in \{SB; A; B\}$. As for U_{SB}, U_A and U_B, they represent the benefits from the « spillover effects » on each respective party. (Any other profit that is independent from the use of the assets relative to the public service is excluded from U_A, U_{SB} and U_B and is ignored hereafter). As private benefits, they are observable but not verifiable. Each holder of a decision right consequently maximizes its expected payoffs, dependent from the attribution of the payoff rights, but also the spillovers on its own benefits.

The effects of the coordinated use of the assets are then either a reinforcement or a damage for the private benefits of the actors (positive or negative spillovers). To capture theses possibilities, the spillover payoffs depend on a state variable, s, which is also observable but not verifiable. The spillover payoffs $U_{SB}(s)$, $U_A(s)$ and $U_B(s)$ have finite support of $[\underline{U_{SB}}; \overline{U_{SB}}]$, $[\underline{U_A}; \overline{U_A}]$ and $[\underline{U_B}; \overline{U_B}]$, respectively, and are drawn from the joint distribution $F(U_A, U_B, U_{SB})$.

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[14]Niskanen has developed a model of bureaucratic supply of public output. Bureaucrats are regarded as maximizers of the size of their budgets and as monopolists able to impose their own preferences on the governing political party.
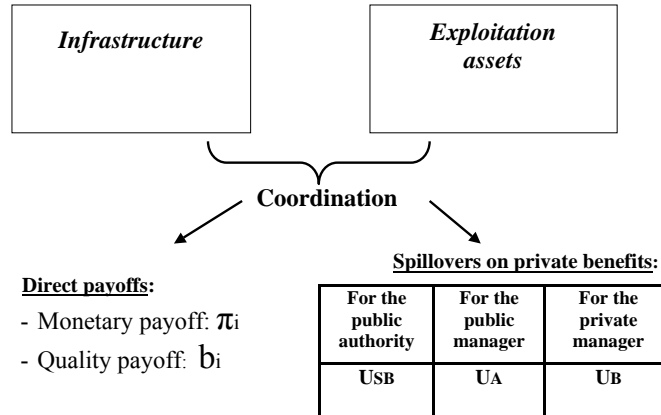
Fig. 1 – Scheme of the Economic Environment

All this leads to the following environment : Decision rights $k \in K$ is not linked to any payoff right and is denoted $d_k \in D_k$. Payoff rights $m_m \in M_m$ and $m_q \in M_q$ are not linked to any decision rights. We denote the state by s, drawn from the finite set S according to the probability density f(s). We write d for the vector of decisions, chosen from a set D with domain :

$$D \equiv \prod_{i \in \{A;B;SB\}} D_i \times \prod_{k \in K} D_k$$

The decisions affect both the inalienable private benefits and the payoff associated with alienable payoff rights, as the following scheme shows :

3.1.5 Relational contracting

The last feature of the theoretical framework we use is the integration of informal aspects in the relationships between parties. Whether within organizations or in business dealings, the role of informal aspects has been emphasized for a long time (Barnard [1938], Simon [1947], Dore [1983], Macaulay [1963], Macneil [1978], Blau and Scott[15] [1962]). Rejecting over-socialized and under-socialized views of human actions, Granovetter [1985] justifies

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[15]These authors show that to understand the implementation of contracts, focusing on formal aspects is not sufficient, as formal and informal aspects keep on interacting : « it is impossible to understand the nature of formal organizations without investigating the networks of informal relations and the unofficial norms as well as the formal hierarchy of authority and the official body of rules, since the formal instituted and the informal emerging patterns are inextricably intertwined... »(Blau and Scott [1962]).

the necessity to consider informal social ties in relationships, by showing that « actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive action are instead embedded in concrete, ongoing systems of social relations. »

As it was mentioned in the first part of this article, public-private partnerships also do not reduce to formal agreements, but include informal ties between parties, especially in the French case. We then postulate here « relational contracts », that can be understood -as mentioned in the introduction- as « informal agreements that are too rooted in the parties' shared experiences to be enforced by a court, but that can nonetheless be enforced by the parties' interests in the future of their relationships » (Gibbons [2000], [2003]). Shugart [1998] details what characterizes a relational long-term contract : It is (1) manifestly incomplete, which means that « the contract does not precisely specify rights and obligations in all states of the world », and (2) « extra-legal norms (such as deference) and (3) extra-legal influences (such as reputation) play an important role in bringing stability over the course of performance ». Relational contracts will lead to side-payments, which will be developed later on.

The timing of the model is as follows : Initially, (i) the public authority chooses a « governance structure », which is an allocation of decision rights and payoff rights, allocated through asset ownership or contract. This allocation may be accompanied by state-independent side payments. Next, (ii) the state of the world s is revealed, after which (iii) the parties make decisions. Finally, after decisions are made, (iv) payoffs are realized by the parties holding the payoff rights. The consequence is that if party i controls the decision right, then in state s, party i will choose the decision $d_i(s)$ that maximizes its own utility.

3.2   Modeling local public services

By choosing the organizational structure to exploit local public infrastructures, the public authority indeed shares the decision and payoff rights of each alienable asset relative to this service, *i.e.* chooses « a governance structure », g ∈ G, as an assignment of decision rights and payoff rights across parties[16]. Let G be the set of feasible governance structures.

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[16]A series of costs present in each governance structure is not taken into account. They include contracting and negotiating costs, as well as coordination costs between the public authority and the involved manager, or costs of moving decision makers farther from the consequences of their actions. These costs

We define K(i,g) $\subset$ K as the decision rights (not attached to payoff rights) held by party i under governance structure g, $M_m(i, g) \subset M_m$ as the monetary payoff rights (not attached to decision rights) held by party i under governance structure g, and $M_q(i, g) \subset M_q$ as the quality payoff rights (not attached to decision rights) held by party i under governance structure g.

We define $F_{SBg}(d, s)$, $F_{Ag}(d, s)$ and $F_{Bg}(d, s)$ as the total payoff to the public authority, the public manager and the private operator respectively, under governance structure g in state s. This total payoff includes private benefits, plus payoffs π_m from monetary payoff rights not associated with decision rights $m_m \subset M_m(i, g)$ and payoffs b_m from quality payoff rights not associated with decision rights $m_q \subset M_q(i, g)$. All this leads to the following total payoffs :

- For the public authority :

$$F_{SBg}(d, s) \equiv U_{SB}(d, s) + ([\sum_{m \in M_m(SB,g)} \pi_m(d, s) + \sum_{m \in M_q(SB,g)} b_m(d, s)])$$

- For the public manager :

$$F_{Ag}(d, s) \equiv U_A(d, s) + [\sum_{m \in M_m(A,g)} \pi_m(d, s) + \sum_{m \in M_q(A,g)} b_m(d, s)]$$

- For the private manager :

$$F_{Bg}(d, s) \equiv U_B(d, s) + [\sum_{m \in M_m(B,g)} \pi_m(d, s) + \sum_{m \in M_q(B,g)} b_m(d, s)]$$

Similarly, we define D_{ig} as the decision space for party i under governance structure g; this decision space includes inalienable decision rights D_i, and alienable decision rights k $\in$ K(i,g) : $D_{ig} \equiv D_i \times \sum_{k \in K(i,g)} D_k$.

We write d_{ig} as a typical element of D_{ig}. Decisions and states of nature are assumed to be observable to the parties but non-verifiable to the courts.

3.2.1   First-Best outcomes

Let $d^{FB}(s)$ denote the first-best decisions in state s, such as :

$$d^{FB}(s) \equiv \max_{d \in D} \sum_{i \in \{A,B,SB\}} F_i(d, s)$$

are considered as small compared to the value of assets being combined, that's why they are ignored here.

We define first-best total surplus in state s as :

$$V^{FB}(s) \equiv \sum_{i \in \{A,B,SB\}} F_i(d^{FB}(s), s)$$

We note $V^{FB} \equiv E_s[V^{FB}(s)]$ the expected value of total surplus when first-best actions are taken in each state.

3.2.2 The static environment : Nash Equilibrium outcomes

We now examine the surplus achieved in various organizational structures when parties are interacting in a one-shot transaction.

As mentioned earlier, the different stages of the model take place as follows :

(i) ***The public authority allocates decision and payoff rights through ownership or contract*** :

The public authority can choose to keep all decision and payoff rights, and to manage the service through a public manager. It can also decides to transfer some (or all) assets to a private manager. A joint holding of the decision rights between the private manager and the public authority is observed under the French Administrative Law, and in case of public management, as the public manager does not make decisions on his own, but executes the will of the public authority.

In a one shot interaction, no side-payments occur.

(ii) ***The state of the world s is revealed***

(iii) ***The parties make decisions :*** We define $d_g^{NE}(s)$ as the unique Nash equilibrium, for each governance structure g, and for each state s, such as for each party, $d_{ig}^{NE}(s)$ solves :

$$\max_{d_{ig} \in D_{ig}} F_{ig}((d_{ig}, d_{-ig}^{NE}(s)), s)$$

In case of joint holding of the decision rights, the manager (whether public or private) has to consider the spillovers on the public authority by making its decision. The maximization is then operated under the constraint $U_{SB}(d_{ig}, s) > 0$, because the decision right is

considered as shared with the public authority[17].

(iv) **Payoffs are realized by parties holding the decision rights**

The expected payoff to party i under the static (*i.e.*, spot) governance structure g is then $V_{ig}^{ST} \equiv E_s[F_{ig}(d_g^{NE}(s)), s)]$.

We write V_g^{ST} for the total expected surplus, $V_g^{ST} \equiv V_{SBg}^{ST} + V_{Ag}^{ST} + V_{Bg}^{ST}$. The optimal (second-best) governance structure solves

$$V^{ST} \equiv \max_{g \in G} V_g^{ST}$$

We assume here that no static governance structure achieves first-best in every state, which implies that $V^{ST} < V^{FB}$, as the following application shows.

3.2.3 Application

We develop here a simplified version of the model presented above, by taking into account two alienable assets composing the public service :
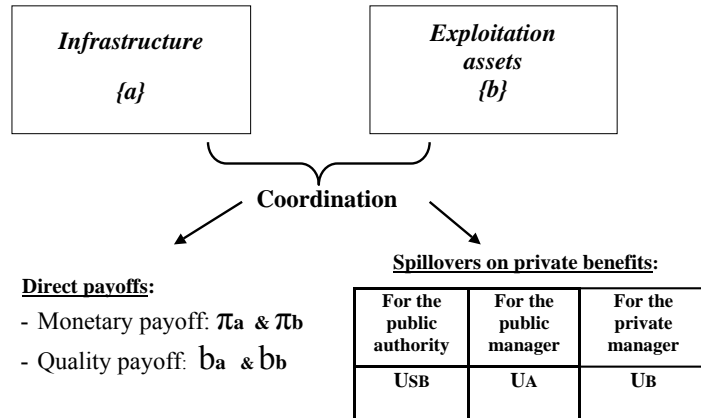
Asset {a} represents the infrastructure and asset {b} represents the exploitation asset. They are a combination of payoff rights { $\pi_a; b_a$} and {$\pi_b; b_b$}, and decision rights Da

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[17]In other words, we assume that the public authority can veto the decisions if its own spillovers are negative.

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and Db, as described previously. We assume that both decision and payoff rights can be transferred by contract. Coordination of the assets thus leads to the following payoffs ($\pi_{k\in\{a;b\}} + b_{k\in\{a;b\}}$), $k \in \{a;b\}$, and also creates spillovers on parties'personal interests, as the previous scheme summarized. We assume that any other uses of the assets produce profits of zero.

3.2.4   First Best implementation

Consider as a benchmark the first order situation. The exploitation of the infrastructure is efficient whenever the total payoffs are positive, *i.e.* whenever :

$$U_B(s) + U_A(s) + U_{SB}(s) + \pi_a + b_a + \pi_b + b_b > 0$$

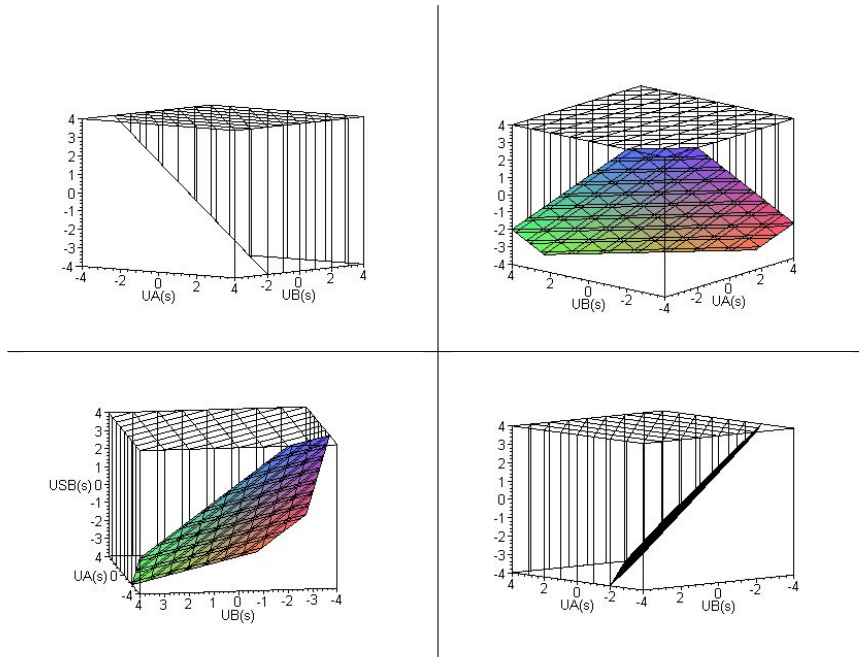This implicit function can be represented graphically as follows :

FIG. 2 – First-best implementation

Indeed, the triplet $\{U_A(s), U_B(s), U_{SB}(s)\}$ completely characterizes the state in this model. The graphes represent a three-dimensional space, where the vertical axis shows the private benefit to the public manager, $U_A(s)$, and the horizontal axis shows the inalienable benefit to the private manager, $U_B(s)$. The hight of the figure represents the spillover on the public authority, $U_{SB}(s)$. To simplify the representation, we postulate here that $\forall K \in$

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$\{SB, A, B\}[\underline{U_K}; \overline{U_K}] = [-4; 4]$. The cube represents all outcomes of the exploitation of the service in all states of the world and the squared areas show the first best volume under different angles, defined as outcomes for which $U_A(s) + U_B(s) + U_{SB}(s) + \pi_a + \pi_b + b_b + b_a > 0$.

3.3   Efficient governance structures of one-shot Transaction

We now consider the various governance structures, *i.e.* allocation of decision and payoff rights to the parties, among which the public authority has to choose to manage the public service under study. We then try to determine the surplus generated by each of this structure, and to wonder whether first-best is achieved or not.

3.3.1   The governance structures relative to the organization of local public services

Private governance structures

We call « private governance structures » organizational structures, in which the private operator is, at least during a temporary period, holder of all decision rights linked to the assets, as well as the monetary payoff rights. The private operator does indeed the major investments, collects fees from users, and manages at his own « expense and risk ». These type of governance structure is close from BOO, BOOT or BOT contracts in the anglo-saxon legal framework, and from Concession contracts in the French legal framework. If the contract does not specify an additional remuneration given by the public authority to the private manager and depending on quality parameters, the quality « payoffs » go back to the public authority representing the citizens.[18] Such governance structures can be summarized as follows :

	The public manager holds :	The private manager holds :	The public authority holds :
Decision rights		d_a, d_b	
Payoff rights		$\pi_a + \pi_b$	$b_a + b_b$

Fig. 3 – Privatization in the Common law framework

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[18]This does not mean that managers do not pay any attention to quality in concession contracts, but that they have not the incentives to develop quality criteria that are non contractible.

	The public mana-ger holds :	The private manager holds :	The public autho-rity holds :
Decision rights		d_a, d_b	d_a, d_b
Payoff rights		$\pi_a + \pi_b$	$b_a + b_b$

FIG. 4 – Concession contracts in the French legal framework

We note that the main difference between these two types of contracts comes from the joint holding of the decision rights with the public authority under the French Administrative Law.

Public-private partnerships involving transfer of exploitation assets with the private operator collecting fees

We analyze here public-private partnerships, in which only the exploitation of the service is delegated. In other words, the private manager has operational responsibility, but the public authority makes all major decisions concerning the infrastructure, through the public manager. This implies that the decision rights concerning the infrastructure, d_a, are shared between the public authority and its public manager. The remuneration of this public manager may be indexed on the achieved measurable outcomes, whether financial or qualitative. This means that the contract mentions that a proportion[19] $0 \leq \alpha \leq 1$ of the payoffs rights is dedicated to the remuneration of the public manager,[20] *i.e.* $\alpha(\pi_a + b_a)$: even if the achieved payoffs cannot be explicitly determined ex ante, contractual terms may imply that a proportion of these payoffs -whatever their level- will be attributed to the manager.

As for the exploitation assets, the public authority attributes them to a private partner. As earlier, the French Administrative Law implies a joint holding of the decision rights with the private partner, as it is the case for *Affermage* contracts in France for instance. In both cases, the private manager is remunerated by the monetary profits of the exploitation of the service, *i.e.* π_b. If the contract does not specify a remuneration linked to the quality parameters, the quality payoffs go back to the public authority representing the citizens.

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[19]Recall that payoffs are not contractible, but payoff rights are : parties can write in a contract that a share α of the gains from the implementation is dedicated to one of the agent.

[20]The closer α is from 1, the more dependent of the total payoffs the revenue of the public manager is. This conveys the idea of a remuneration based on performance criteria, that would be π_k and b_k. If α tends towards zero, the remuneration of the public manager is then more independent from the achieved payoffs.

	The public manager holds	The private manager holds	The public authority holds :
Decision rights	d_a	d_b	d_a
Payoff rights	$\alpha(\pi_a + b_a)$	π_b	$(1 - \alpha)(\pi_a + b_a), b_b$

FIG. 5 – Public-private partnership involving transfer of exploitation assets to a private operator collecting fees in the *Common law* legal framework

	The public manager holds	The private manager holds	The public authority holds :
Decision rights	d_a	d_b	d_a ; d_b
Payoff rights	$\alpha(\pi_a + b_a)$	π_b	$(1 - \alpha)(\pi_a + b_a), b_b$

FIG. 6 – Public-private partnership involving transfer of exploitation assets to a private operator collecting fees in *the French legal framework*

Public-private partnership involving transfer of exploitation assets with private partner being paid by the public authority

Public-private partnership contracts may precise that the private operator is not directly remunerated by collecting fees on users, but by the public authority. As previously, the public authority and the public manager are in charge of the management of the infrastructure, and the private manager exploits the service. Yet, the public authority keeps the decision rights about the exploitation of the service, as the private manager has only functional responsibilities. Payoff rights may be shared to define the revenue of the managers. Consequently, a share α_1 of the total payoff rights is dedicated to pay the public manager and a share α_2 is for the private partner.[21] The public authority keeps for its own α_3 of the payoff rights, with $0 < \alpha_{i \in \{1;2;3\}} < 1$, and $\alpha_3 = 1 - \alpha_1 - \alpha_2$. All this is summarized here :

	The public manager holds :	The private manager holds :	The public authority :
Decision rights	d_a		d_a ; d_b
Payoff rights	$\alpha_1[\pi_b + \pi_a + b_a + b_b]$	$\alpha_2[\pi_b + \pi_a + b_a + b_b]$	$(1 - \alpha_1 - \alpha_2)[\pi_b + \pi_a + b_a + b_b]$

FIG. 7 – Public-private partnership involving transfer of exploitation assets with the revenue of the private partner determined by the public authority

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[21] If $\alpha_1 = 0$ or $\alpha_2 = 0$, the revenue attributed to the corresponding manager does not depend on performance criteria. It is as if the managers had no payoff linked to the results of the coordination of assets, which does not mean that he receives no revenue but a revenue independent from the realized payoffs.

Such governance structures correspond to contracts involving private partners in existing infrastructure in the U.S., such as « Management Contracts », when the private partner is remunerated by the public authority with performance criteria. Similar contracts in France, such as « Gérance » or « Régie intéressée » are also close from this description.

Public governance structure

The last case under study is public ownership. The public authority owns both infrastructure and exploitation assets, with decision and payoff rights, and manages the service through a public manager, whose revenue comes from a share α of the direct generated payoffs.

Governance structure	The public manager	The private manager	The public authority holds :
Public ownership	d_a, d_b		d_a, d_b
Payoff rights	$\alpha \left(\pi_a + \pi_b + b_a + b_b \right)$		$(1 - \alpha) \left(\pi_a + \pi_b + b_a + b_b \right)$

FIG. 8 – Public ownership

We now have to see the level of efficiency achieved in a one-shot interaction for each of these governance structures.

3.3.2 Surplus under one-shot transaction

Surplus under one-shot private management : As figure 4 shows, the private party ignores the spillovers on the public manager and the public authority, which leads to the following surplus :

$$V_{PM} = \int_{\underline{U_A}}^{\overline{U_A}} \int_{-(\pi_a + \pi_b)}^{\overline{U_B}} \int_{-\underline{U_{SB}}}^{\overline{U_{SB}}} (y + x + z + \pi_a + \pi_b + b_a + b_b) f(x, y, z) dx dy dz.$$

In the following graphes that illustrate this surplus, the colored volume represents the private management outcomes under different angles of the three-dimensional space described above. The first-best volume is squared on the graphes and is defined as outcomes for which, $U_A(s) + U_B(s) + U_{SB}(s) + \pi_a + \pi_b + b_b + b_a > 0$. The private management area is defined as outcomes for which $U_B(s) + \pi_a + \pi_b > 0$.

Private management appears as inefficient, since there are states in which efficient outcomes are not reached (the squared area is not totally covered by the colored volume), and inversely, some global inefficient outcomes are yet achieved, since private management

gives sufficient incentives to each involved agent to make decisions leading to global inefficiency. In other words, there are some states of the world, where private management is inefficient.[22]
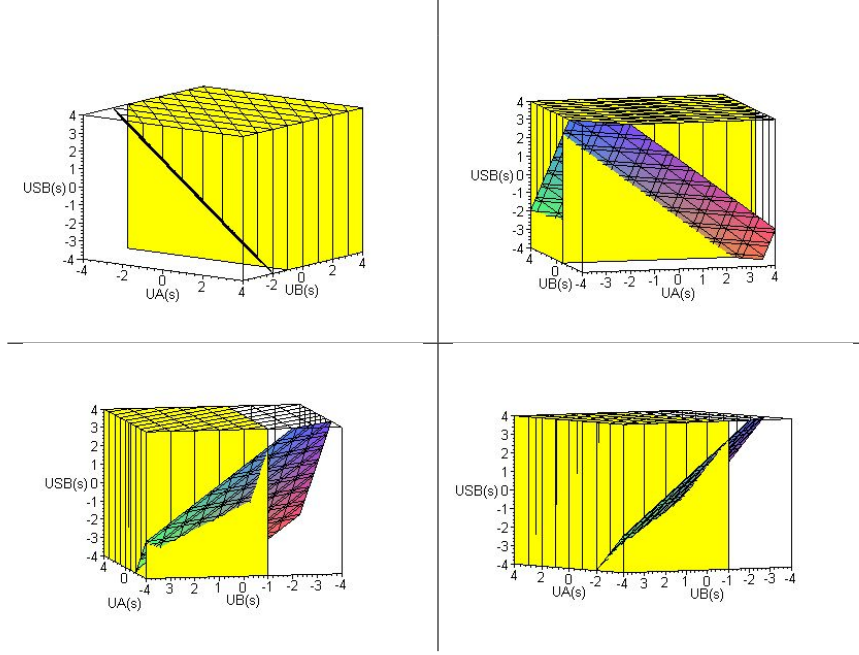

FIG. 9 – Private management

Surplus in Concession contracts in the French legislative framework

Such a governance structure is similar to the previous case, but includes to take into account the spillovers on the public authority because of the joint holding of the decision rights[23]. The only spillovers that are ignored are those of the public manager. In other words, projects are implemented as long as :
$\begin{cases} U_B(s) + \pi_a + \pi_b > 0 \\ U_{SB}(s) + b_a + b_b > 0 \\ \text{and } U_{SB}(s) > 0 \end{cases}$, i.e. $\begin{cases} U_B(s) + \pi_a + \pi_b > 0 \\ \text{and } U_{SB}(s) > 0 \end{cases}$

Surplus under one-shot concession contract is then :

$$V_{PM} = \int_{\underline{U_A}}^{\overline{U_A}} \int_{-(\pi_a+\pi_b)}^{\overline{U_B}} \int_{0}^{\overline{U_{SB}}} (y + x + z + \pi_a + \pi_b + b_b + b_a) f(x,y,z) dx dy dz$$

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[22]This inefficiency results from the inability of the parties to bargain ex post, and devise a set of side payments (in the one-shot game) that would lead to efficient implementation.

[23]This translates the power of the public authority to veto decisions that would damage its own interest, represented by U_{SB}.
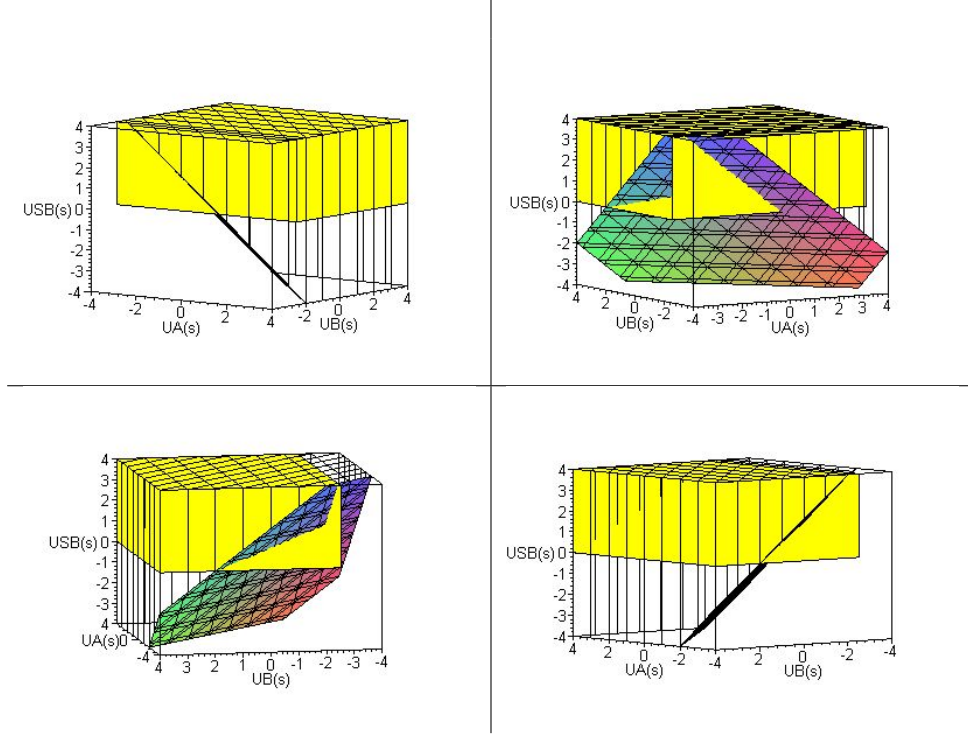
this can be graphically represented by :

FIG. 10 – Concession contracts in the French legislative framework

In each graph, the colored volume represents the outcomes of concession contracts under different angles of the three-dimensional space. The concession contracts area is defined as outcomes where $U_B(s) + \pi_a + \pi_b + b_a + b_b > 0$ under constraint $U_{SB} > 0$. As in the previous case, the figure shows that concession contracts are not first-best. Some efficient outcomes are not reached, and other inefficient outcomes are obtained, but are different from the previous case. Whether private management or concession contract is preferable thus depends on the relative probabilities of the different states.

Public private partnership involving transfer of exploitation assets with the private operator collecting fees

In a common law legal framework, as Figure 6 suggests, coordination of the assets is implemented as long as :
$$\begin{cases} U_A(s) + \alpha(\pi_a + b_a) > 0 \\ U_B(s) + (\pi_b) > 0 \\ U_{SB}(s) + (1-\alpha)(\pi_a + b_a) + b_b > 0 \end{cases}$$

Surplus under this one-shot public-private partnership is then :

$$V_{PPP1} = \int_{-\alpha(\pi_a+b_a)}^{\overline{U_A}} \int_{-\pi_b}^{\overline{U_B}} \int_{-(1-\alpha)(\pi_a+b_a)-b_b}^{\overline{U_{SB}}} (y + x + z + \pi_a + \pi_b + b_b + b_a) f(x,y,z) dx dy dz.$$

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Under the French legislative framework, the decision rights about the exploitation are jointly hold between the public authority and the private manager. The projects have then to satisfy two double constraints :

- $U_A(s) + \alpha(\pi_a + b_a) > 0$ under constraint $U_{SB}(s) > 0$, as d_a is jointly hold by the public manager and the public authority,

- $U_B(s) + \pi_b > 0$ under constraint $U_{SB}(s) > 0$, as d_b is shared between the private manager and the public authority.

This will lead to the following surplus :

$$V_{PPP2} = \int_{-\alpha(\pi_a+b_a)}^{\overline{U_A}} \int_{-(\pi_b)}^{\overline{U_B}} \int_{0}^{\overline{U_{SB}}} (y + x + z + \pi_a + \pi_b + b_b + b_a) f(x, y, z) dx dy dz$$

In each of the following graph, the colored volume represents the public private partnership outcomes in the French civil law framework, and defined as outcomes for which

$$\begin{cases} U_A(s) + \alpha(\pi_a + b_a) > 0 \\ U_B(s) + \pi_b > 0 \\ U_{SB}(s) > 0 \end{cases}$$
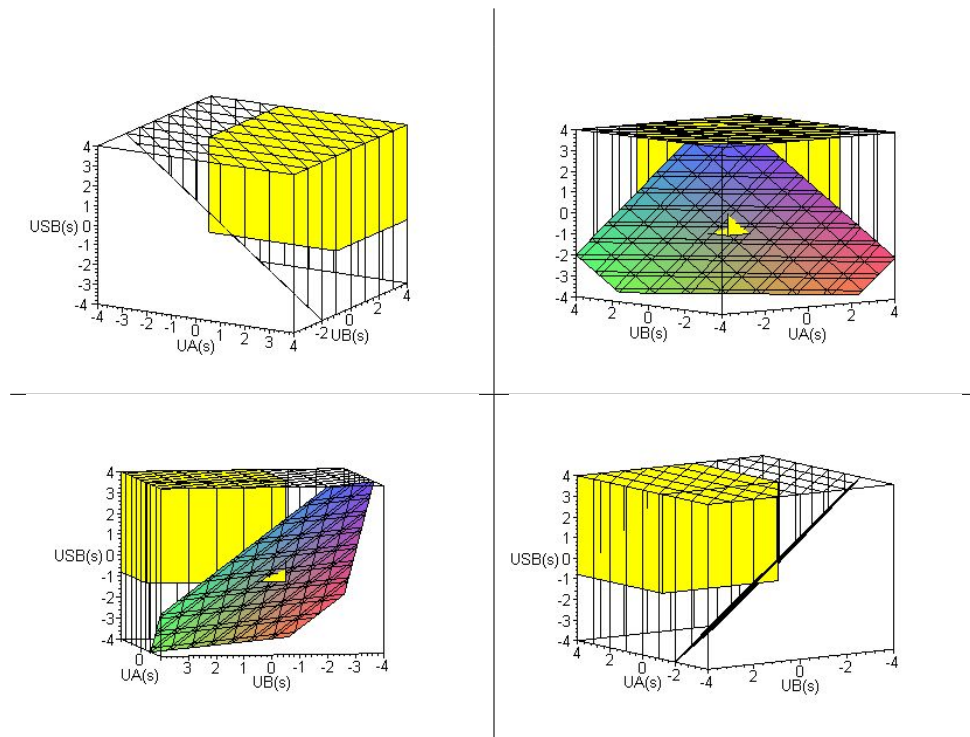

Fig. 11 – Public- private partnership involving transfer of exploitation assets with the private operator collecting fees

We see that the surplus generated by this governance structure does not correspond here again to the first-best : there are first-best regions that cannot be implemented with such

an organizational form, and others regions that are implemented, even if it is not optimal. The achieved outcomes yet depend on the value of α.

Public private partnership involving transfer of exploitation assets with the private operator paid by the public authority

This governance structure is quite similar to the previous one, except that each manager is remunerated by the public authority. As figure 7 illustrates it, coordination is implemented if $U_A(s) + \alpha_1(\pi_b + \pi_a + b_b + b_a) > 0$, $U_B(s) + \alpha_2(\pi_b + \pi_a + b_b + b_a) > 0$, and $U_{SB}(s) + \alpha_3(\pi_b + \pi_a + b_b + b_a) > 0$.

Surplus under one-shot public-private partnership is then : $V_{PPP3} =$

$$\int_{-(\alpha_1)[\pi_a+\pi_b+b_b+b_a]}^{\overline{U_A}} \int_{-(\alpha_2)[\pi_a+\pi_b+b_b+b_a]}^{\overline{U_B}} \int_{(-\alpha_3)(\pi_a+\pi_b+b_b+b_a)}^{\overline{U_{SB}}} (y+x+z+\pi_a+\pi_b+b_a+b_b)f(x,y,z))dxdydz$$

The following representations change with the values of α_1, α_2 and α_3. Implementation under this governance structure will consequently changes. The different probabilities of the state will indicate whether this structure is closer from first-best implementation than others, or not.
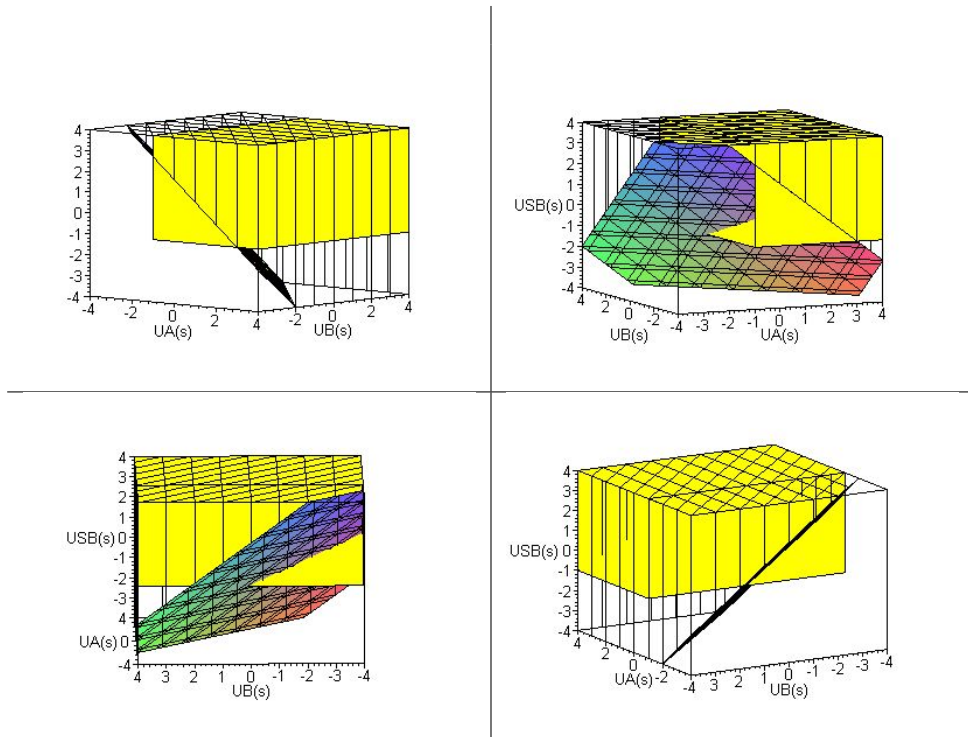

FIG. 12 – Public- private partnership involving management transfer with the managers paid by the public authority in the French legal framework

Surplus in public governance structure

As mentioned earlier, in this case, the public authority owns both infrastructure and exploitation assets. It shares the decision rights with the public manager. As for Figure 8 shows, the public authority implements decisions such as $U_A(s) + (\alpha)(\pi_a + \pi_b + b_b + b_a) > 0$. The public authority ignores the spillovers on the private manager. The public authority uses its decision rights such as $U_{SB}(s) + (1 - \alpha)[\pi_a + \pi_b + b_b + b_a] > 0$. Surplus under one-shot public management is then : $V_{Public} =$

$$\int_{-\alpha[\pi_a+\pi_b+b_b+b_a]}^{\overline{U_A}} \int_{\underline{U_B}}^{\overline{U_B}} \int_{-(1-\alpha)[\pi_a+\pi_b+b_b+b_a]}^{\overline{U_{SB}}} (y + x + z + \pi_a + \pi_b + b_b + b_a) f(x, y, z)) dx dy dz$$

In each of the following graph, the colored volume represents the public management outcomes under different angles of the three-dimensional space, defined as outcomes where $U_A(s) + (\alpha)(\pi_a + \pi_b + b_b + b_a) > 0$ and $U_{SB}(s) + (1 - \alpha)(\pi_a + \pi_b + b_b + b_a) > 0$.
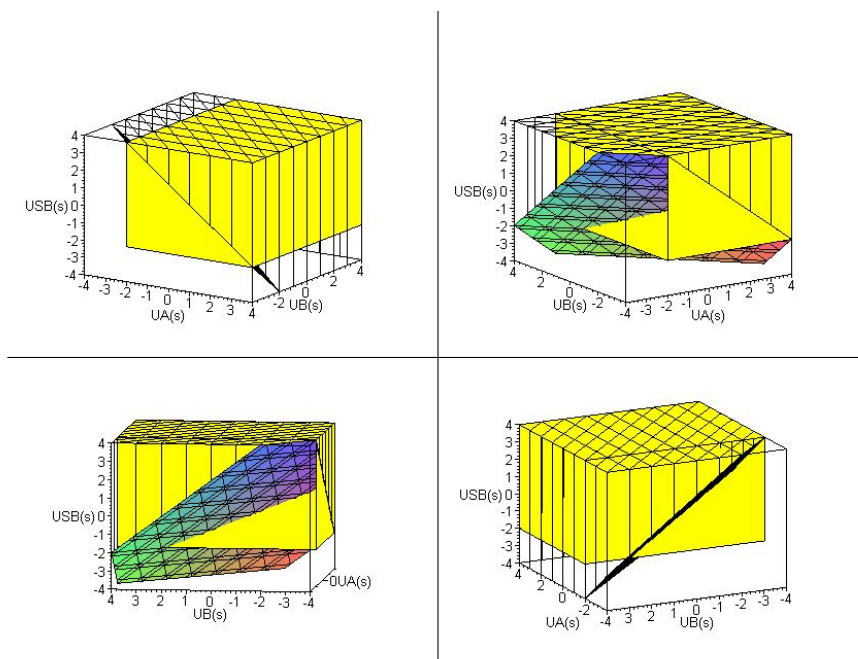

Fig. 13 – Public management

As in the previous case, the different value of α will generate different implementations. But here again, this structure does not achieve first best as inefficient outcomes are obtained, and efficient ones are not reached.

This application shows that it is difficult to determinate one precise efficient organizational structure. Each of these structure is a possible second best in a one-shot game. This result

demonstrates that even in a simple set-up like this one, many possible structures could be optimal. Thus the plethora of contractual tools to manage local public services that we can observe is not surprising. Optimal governance structure in a one-shot game requires choosing, from this plethora of possible structures, the one that maximizes total surplus. Thus the optimal one-shot governance structures solves :

$$V^{ONE-SHOT} = max\{V^{PM}, V^{PPP1}, V^{PPP2}, V^{PPP3}, V^{Public}\}$$

From the analysis above, one can yet conclude that in a static environment, private involvement is likely to be preferable if U_B is important relatively to U_A or U_{SB}, *i.e.* positive spillovers on private manager are significant ; and b_a and b_b are minor compared to π_a and π_b, *i.e.* quality outcomes are not determinant for the service or there are no indicators to evaluate it ex post.

One the other hand, public involvement is likely to be preferred if U_A and U_{SB} are determinant, and if quality is difficult to contract, even if it can be measured ex post (global customers' satisfaction for instance). Local security services, such as police, seem to correspond to this description.

Furthermore, the fact that none of these governance structures is first best in the one-shot game suggests that relationships -which allow self-enforcing relational contracts to solve the ex post bargaining problem and achieve efficient adaptation to the state of the world-could be efficient.

Since static outcomes do not reach first-best, we turn to relational governance to see whether it can improve on static governance. We want here to determine whether there exists payment schemes that induce the parties to take these decisions that ameliorate static outcomes, and eventually allow first-best decisions to be reached.

3.4   The dynamic environment : Relational Governance outcomes

We first justify why relationships in public-private partnerships matter, and then propose how to model them.

3.4.1 Relationships in Public private partnerships

We show here that many aspects relative to relational contract, as it was defined earlier - namely, future perspectives, ongoing relationships and informal ties- can directly be applied to public-private partnerships.

First, many contracts are concluded for several years, and even decades, involving ongoing interactions between the parties over the period. Moreover, local public services are attributed to an operator only for a temporary period. Private operators then have to prove their ability to perform in the management of the service, if they want to have a chance to be selected again in the future, when public authorities organize a new franchise bidding.[24] All this makes that future cannot be excluded from the study of public-private relationships.

Another aspect of relational contracting, *i.e.* extra-norms and influences, can be applied to PPPs. Indirect ties are more and more influent and can facilitate information flows between public authorities, as well as their choice to engage in partnerships or not. We can note, for instance, that networks of local governments or cities are today present in many countries, and even develop international ties. In France for instance, *Association des Maires des grandes villes de France* (90 members representing the biggest cities in France) is part of a team that along with the *American association National League of Cities* organize and host education programs for local officials on the topic of managing vital municipal services through partnerships between the public and private sectors. Other networks allow to share information, such as the *National Council for public private partnerships* (NCPPP) in the U.S., a network of business leaders and senior government officials, whose mission is to advocate and facilitate the formation of public private partnerships at the federal, state and local levels, and facilitate communication between public and private sectors. In France, *Institut de la Gestion déléguée* is an organization composed of local elected officials, state representatives, the semi-public sector, financiers and experts, and is described by its president as « a consensus machine, whose goal is to defend the right access to essential services »[25]. Such organizations aims to organize reflections around the management of local public services, and to allow cities or local governments to share their experience on this subject. They also allow private partners and public officials to meet each other and develop informal ties.

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[24]First chosen operators can thus develop some advantages compared to the other candidates when the market has to be re-awarded : this problem has been regularly treated in the literature since Williamson [1976] and is not directly analyzed here. We just underline how future matters in such situations.

[25]« Managing vital municipal services through partnership », Synthesis from the meeting organized by *Association des Maires des grandes villes de France* and *National League of Cities*, Paris, 4 may 2004

Furthermore, contractual parties may share common values about local public services, due to their educational or professional background. It is specially the case in France, as mentioned in the first part of this article. This is particulary consistent with the definition of relational long-term contracts given by Shugart [1998].

All this shows that public-private partnerships cannot be considered only as a one-shot contractual structure : future perspectives influence the way they expand, and they are « embedded »- as for Granovetter's expression- in special networks. Consequently, superior organizational performance cannot be achieved simply by optimizing available formal instruments, but has to integrate relational aspects.

We then have to show how to integrate these facts.

3.4.2 Modeling relational governance

We choose here a relational-adaptation approach, as presented in Baker *et. al.* [2004][26]. Ongoing relationships are modeled as a repeated game and equilibrium is then interpreted as a relational contract. As usual, the discount rate in the repeated game can be interpreted as reflecting the exogenous probability that the relationship will end. Parties adopt trigger-strategy : if any partner reneges, they engage in static transactions thereafter. We assume that if reneging occurs then the parties engage in efficient static governance structure in all future periods.

The goal is to determined the necessary and sufficient conditions for whether a given decision rule can be supported as a relational contract (*i.e.*, exists as a trigger-strategy equilibrium in the repeated game) and to wonder whether relational aspects can help to achieve better outcomes than in a static environment.

Payments occur between the public authority and the managers at three different times. First, the payments might be « efficiency payments », denoted by t_{ig} and paid before the state or any decisions are observed. Second, the payments might be « bribes », denoted by $\tau_{ig}(s)$ and paid after the state is observed but before the parties make their asset-utilization decisions. Third, the payments might be « subjective bonus », denoted by $T_{ig}(d,s)$ and paid depending on whether asset utilization decisions are appropriately tailored to the

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[26]This means that we focus on a relational-adaptation approach : relationships do not aim to enrich the feasible set of sharing rules and hence improve ex ante incentives, as it is the case in enriched static property rights models in the « Grossman, Hart and Moore tradition » with adding ongoing relationships (Baker *et. al.*[1999], [2002]). Instead, the focus is on the complementary problem of ex post adaptation.

state. Figure 15 illustrates the timing of these potential payments within each period, relative to when the state is observed and the decisions are taken. These payments can be positive or negative (*i.e.* they can be paid or paid by a given party). We require that these payments balance : $\sum_{i \in \{A;B;SB\}} t_{ig} = 0$; $\sum_{i \in \{A;B;SB\}} \tau_{ig} = 0$; $\sum_{i \in \{A;B;SB\}} T_{ig} = 0$, for all d and s.

State s
observed

Decision d
taken

Efficiency wage
paid t_{ig}

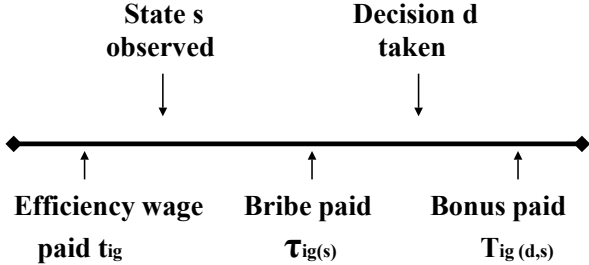**Bribe paid**
$\tau_{ig(s)}$

Bonus paid
$T_{ig\,(d,s)}$

FIG. 14 – Timing of payments in a relational contract

Given a governance structure, there are many reneging constraints that must be satisfied if a given decision rule is to be a relational contract (*i.e.*, a repeated-game equilibrium). Specifically, each party must be willing to : (a) pay (or receive) its efficiency ex ante payment t_{ig}, (b) pay (or receive) its bribe $\tau_{ig}(s)$, (c) takes its decisions $d_{ig}^{RC}(s)$ and (d) pay (or receive) its bonus $T_{ig}^{RC}(d, s)$.

To simplify the statements of these reneging constraints, we introduce the following notation :

$$F_{ig}^{RC}(s) \equiv F_{ig}(d^{RC}(s), s)$$ — Payoff to party i (excluding side payments) from relational decision in state s and governance structure g

$$d_{ig}^{BR}(s) = \max_{d_{ig} \in D_{ig}} F_{ig}((d_{ig}, d_{-ig}^{RC}(s)), s)$$ — Party i's best response in state s under governance structure g to relational decisions by all other parties, with the eventual constraint $U_{SB} > 0$ if the decision right is shared with the public authority.

$$F_{ig}^{BR}(s) \equiv F_{ig}((d_{ig}^{BR}(s), d_{-ig}^{FB}(s)), s)$$ — Payoff to party i (excluding side payments) from best response in state s and governance structure g, when all other parties take first best decisions

Let r denote the discount rate per period. We can rewrite the reneging constraints (a) to (d) as follows :

Constraint (a) suggests that party i is willing to pay (or accept) its efficiency-wage t_{ig}, which implies :

$$\forall i, \underbrace{(1 + \frac{1}{r})V_{ig}^{RC}} \geq \underbrace{V_{ig}^{NE} + \frac{1}{r}V_{ig}^{ST}} \tag{1}$$

| Expected present value of party i's payoffs, when relational decisions are implemented | Expected present value from reneging on the efficiency wage payment : the relational contract that supports relational decisions is broken, there is no longer side-payments, and all parties will take Nash equilibrium decisions. |

Constraint (b) implies that party i is willing to pay or accept its bribes $\tau_{ig}(s)$, *i.e.* :

$$\forall i, s, \tau_{ig}(s) + T_{ig}(d^{RC}(s), s) + F_{ig}^{RC}(s) + (\frac{1}{r})V_{ig}^{RC} \geq F_{ig}^{NE}(s) + \frac{1}{r}V_i^{ST} \tag{2}$$

Compared to the previous equation, we note here that t_{ig} has already been paid and does not appear in the period's payoffs. Furthermore, as the state s has already been realized, the period's payoffs depend on this state and are no longer expectations.

Constraint (c) means that party i is willing to take the decision $d_{ig}^{RC}(s)$, *i.e.* :

$$\forall i, s, F_{ig}^{RC}(s) + T_{ig}(d^{RC}(s), s) + (\frac{1}{r})V_{ig}^{RC} \geq F_{ig}^{BR}(s) + \frac{1}{r}V_i^{ST} \tag{3}$$

The left-hand side of (3) is the same as (2) except that $\tau_i(s)$ is omitted, because it has already been paid. In the right-hand side, $F_{ig}^{BR}(s)$ replaces $F_{ig}^{NE}(s)$, because party i is deviating from d_{ig}^{RC} to d_{ig}^{BR}, while the other parties choose $d_{-ig}^{RC}(s)$.

The last constraint is about the acceptation or the payment of the bonus $T_{ig}(d, s)$, which means :

$$\forall i, s, T_{ig}(d^{RC}(s), s) + \frac{1}{r}V_{ig}^{RC} \geq \frac{1}{r}V_i^{ST} \tag{4}$$

Summing each of (1) through (4) over i $\in \{A, B, SB\}$, as all payments must balance across the parties, we obtain the following necessary conditions :

$$(1 + \frac{1}{r})V_g^{RC} \geq V_g^{NE} + \frac{1}{r}V^{ST} \tag{5}$$

$$\forall s, \sum_i F_{ig}^{RC}(s) + (\frac{1}{r})V^{RC} \geq \sum_i F_{ig}^{NE}(s) + \frac{1}{r}V^{ST} \tag{6}$$

$$\forall s, \sum_i F_{ig}^{RC}(s) + (\frac{1}{r})V_g^{RC} \geq \sum_i F_{ig}^{BR}(s) + \frac{1}{r}V^{ST} \tag{7}$$

$$\frac{1}{r}V_g^{RC} \geq \frac{1}{r}V^{ST} \tag{8}$$

Consequently, two conditions are necessary and sufficient for a relational contract to exist under governance structure g :

- $V^{RC} > V^{ST}$ (which allows (5), (6), and (8) to be verified)
- (7) has to be verified, *i.e.* : $\forall s, \sum_i F_{ig}^{RC}(s) + (\frac{1}{r})V_g^{RC} \geq \sum_i F_{ig}^{BR}(s) + \frac{1}{r}V^{ST}$

This condition can be rewritten as : $[\sum_i (F_{ig}^{BR}(s) - F_{ig}^{RC}(s))] \leq \frac{1}{r}(V^{RC} - V^{ST})$.

In other words, the condition on r for the decision rule d^{RC} to be supported as a relational contract under governance structure g is :

$$R_g^{RC} \equiv \max_s [\sum_i (F_{ig}^{BR}(s) - F_{ig}^{RC}(s))] \leq \frac{1}{r}(V^{RC} - V^{ST}) \tag{9}$$

R_g^{RC} represents the maximal total reneging temptation produced by decision rule $d^{RC}(s)$ under governance structure g. To reach an equilibrium, *i.e.* for the decision rule to be a relational contract, there must be enough surplus created from abiding by this decision rule (the present value of the contract), relative to the payoffs generated by deviation and efficient static governance. The discounted rate determines whether it is the case or not.

Let r_g^{RC} be the discounted rate at which the equation holds with equality. For r$< r_g^{RC}$, the present value of the net surplus from relational decisions (the right hand side) exceeds the maximal total reneging temptation (the left hand side), so the decision rule $d^{RC}(s)$ can be supported as a relational contract under governance structure g. Yet, for r$> r_g^{RC}$, the reneging temptations are greater than the outcomes reached by the relational rules, and the relational decisions then do not appear as an equilibrium.

If we consider that the discount rate in the repeated game reflects the probability that the relationship will end, then, the more frequently parties foresee to meet each other, the more the relational decision rule $d^{RC}(s)$ can be supported easily. This shows that the presence of relational aspects can ameliorate the achieved efficiency, up to the optimal level.

3.4.3 Multiple equilibriums and governance structures

Multi-period interactions between the same parties might allow to apply relational rules between them, which might overcome the outcome where there is only one period of interaction (provided parties are sufficiently patient and (9) is respected). All payoff combinations which are a Pareto-improvement to the Nash Equilibrium payoffs in the one-shot interaction can be sustained as a Nash equilibrium in the repeated game.[27]

Yet, this also implies that repeated interactions can lead to multiple equilibriums. Indeed, for a given value of r, several governance structures can allow one precise decision rule to be applied, provided (9) is verified. It also shows that some other governance structures are excluded because they entail stronger reneging temptation.

Facing multiple equilibria, the question then remains how to select one precise equilibrium among them ?

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[27]If a payoff combination is Pareto-improvement to the Nash Equilibrium, we have $\forall i, \forall s, F_i(d^{RC}) > F_i(d^{NE})$ for a governance structure g. This implies that $V^{RC} > V^{ST}$. In other words, the first condition established in the previous paragraph is here verified. And if parties are sufficiently patient, we assume that r$< r_g^{RC}$.

3.4.3.1. The optimal governance structure

In a relational context, the efficient governance structure is the one that can implement $d^{RC}(s)$ at the highest possible discounted rate, which implies to minimize the left-hand side of (10) :

$$\min_{g \in G}\{\max_{s \in S} \sum_i (F_{ig}^{BR}(s) - F_{ig}^{RC}(s))\}$$

3.4.3.2. The observed governance structures

Another consequence of the model is that a governance structure can appear as an equilibrium, even if this equilibrium is not optimal. The choice of a governance structure can indeed result from a convention that is taken as given by the parties to a public-private agreement, *i.e.* « a pattern of behavior that is customary, expected, and self-enforcing »(Young [1996]). The selected governance structure may be not the optimal one, but can be an equilibrium, provided (9) is verified. A convention implies that parties conform and expect everyone to conform, and everyone has good reason to conform because conforming is in each person's best interest when everyone else plans to conform (Lewis [1969]). In other words, a convention appears as an equilibrium that everyone expects in interactions that have more than one equilibria. Public and private partners are thus able under certain circumstances to coordinate on a relational equilibrium, following a process close from Schelling [1960]'s focal point. Schelling indeed shows that individuals can coordinate their behavior too their mutual advantage by drawing on shared perceptions that particular ways on coordinating are « prominent » or « salient ». A focal point then corresponds with expectations of what the other expects him to expect to be expected to do, and depends on the culture in which actors are embedded. This may explain why some governance structures are regularly observed in some institutional frameworks and can perform, even if it is not necessarily the optimal one.

We now draw some conclusions from this reasoning for public-private partnerships.

3.5   Propositions and discussion

3.5.1   Observed structures and efficiency

The model proves us that a governance structure can perform in a given context, provided the reneging temptations are smaller than the gains expected from the application of some

relational rules. This implies that all organizational forms satisfying such a constraint can be implemented by the parties, even if it is the not the optimal one, *i.e.* the one for which (10) is respected.

Proposition 1 : *Various organizational structures can be implemented in a given context for a given service, be respected and encouraged by the parties, even if they are not the one that leads to the optimal outcomes.*

This proposition thus contributes to explain why such a diversity of organizational forms is found in France as well as in the U.S., and may also explain why some local public authorities are prone to persist in one precise structure that respects their relational rules.

3.5.2 Static and relational outcomes

By comparing static results to those achieved by taking relational aspects into account, we observe that efficient outcomes do not correspond to similar criteria. [28] In the static environment, conditions for efficiency depend on Nash equilibrium decisions and on the probability distribution across states, whereas in a relational environment, the optimal governance structure depends on relational-contract decisions, on best-responses to relational-contract decisions, and on only one state - the one where the total reneging temptation is the largest. A same governance structure will consequently not perform similarly in the U.S. institutional framework, and in France, where relational aspects are far higher.

Proposition 2 : *The optimal governance structure depends not only on the characteristics of the service, but also on the legal framework in which public-private agreements are implemented. For a same service, an optimal governance structure in the French civil law (allowing highly relational contracts) is then not necessarily the optimal one in Common law frameworks, where relational contracting is less developed.*

Shugart [1998] illustrates to some extent this « relative efficiency », as he wrote « the French model of public service contracting cannot simply be encompassed within the

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[28]In a static environment, the efficient governance structure solves $V^{ST} \equiv \max_{g \in G} V_g^{ST}$,*i.e.* : $\max_{g \in G}\{E_s(\sum_i F_{ig}(d_g^{NE}(s)), s)\}$ In a relational context, the efficient governance structure -for purpose of implementing the decision rule $d^{RC}(s)$ is the one that can implement $d^{RC}(s)$ at the highest possible discounted rate. Since the right-hand side of (9) is independent of the governance structure, maximizing r_g^{RC} amounts to minimizing the left-hand side : $\min_{g \in G}\{\max_{s \in S} \sum_i (F_{ig}^{BR}(s) - F_{ig}^{RC}(s))\}$.

four corners of a written document, the concession contract itself - or even in enabling legislation at the national level. There should be no doubt that the contract itself is only one element in a vast and complex array of institutional forces that hold the system together. Will the partial self-regulation by companies (...) due to reputational concerns or to professional norms and social ties, be found in these other countries? We have no reason to think that this can be taken for granted. »

3.5.3 Efficiency and relational context

If relational « French-style » contract cannot be implemented with the same success in Common law countries with fewer relational aspects, can « Anglo-saxon » style contracts be adopted in other institutional frameworks?

For a given value of r, if governance structure g satisfies (9) but governance structure g' does not, then the decision rule $d^{RC}(s)$ can be supported as a relational contract under g but not under g'. For purposes of implementing the decision rule $d^{RC}(s)$, therefore, g' could be said to be inefficient, even if it is successful in other institutional frameworks. In other words, the same organizational structure can prove to be efficient or not according to the relational elements interfering in the implementation of the contract. Consequently, transferring « Anglo-saxon-style » contracts in other countries with different relational rules does not guarantee similar outcomes.

Proposition 3. *A same formal agreement between public and private partners performs differently in two different institutional frameworks, as informal ties and expectations between parties are different and can be more or less sustained by different governance structures.*

This is to consider in parallel to many reforms of legislations in developed and developing countries, which aim to have new legal tools that enable public and private partners to work together, or initiate programs in this direction, as the 1992 PFI program in the United Kingdom, the 2001 Legge Obiettivo in Italy, or the introduction of new « contrat de partenariat » in France in 2004. In the same way, the World Bank also encourages public private partnerships to finance infrastructures in developing countries. Yet the « exportation » of a successful model of public-private partnerships to another institutional framework does not necessarily lead to the same success abroad, where the relational environment is different. This also sheds a new light on the recently introduced « contrat de partenariat » in France, considered as a new contractual tool close from the PFI im-

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plemented in Great Britain. Other applications can be found in relation with the debate about the European harmonization of legislations in PPPs. The European commission has indeed opened this debate with a Green Paper in 2004, but we can wonder whether such an harmonization is to be encouraged, as similar conditions in the implementation of public-private agreements do not entail similar outcomes.[29]

4   Conclusion

This paper tries to contribute to this debate on the efficiency of PPPs by including new aspects. First, we adopt here the original theoretical framework developed by Baker *et. al.* (2004), trying to integrate elements from various theories of the firm. We then distinguish the notions of ownership, decision rights, and payoff rights, which allows to understand the plethora of PPPs that exist both in France and in the U.S. Second, we show how legal environment matters in the success of public-private partnerships, with reference both to *Common* and *Civil law*. By allowing different sharing of decision rights, they influence the final surplus that can be achieved. Third, our contribution tries to integrate both legal and informal aspects in the study of public-private partnerships. Public-private relationships cannot indeed be fully understood without considering future agreements and the social environment of the parties, especially in France, where public and private actors share a common culture of public services. Such relational aspects modify the results established in a static environment, because the governance structure affects the parties'reneging temptations in the ongoing relationships. This allows to understand that contracting in public-private projects cannot be fully understood if we focus only on formal aspects. We prove that legal and sociological context of PPPs mainly determines the outcomes of an organizational structures. Corollary, a structure can prove to be efficient in a given environment and not in another, which raises issues in the strategy of PPPs developed by the countries.

Yet, many questions remain open. Links between the notions of « culture »and of « relational »aspects need to be precised. Managerial literature has developed analyzes of the influence of culture in the management of firms (Hofstede [1980], D'Iribarne [1993]). If we think that relational aspects do not reduce to cultural features, there is a place for discussing Shugart's conclusion about the incapacity to export French model of delegation. Another question that remains open is the links between relational contracting and

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[29]Recall that such an harmonization has entailed strong reactions from French legal authorities in order to protect the French model of delegations of public services.

routines in organizations (Nelson and Winter [1982]) or transfer of knowledge. Relational aspects between partners can indeed help to obtain superior performance. Dyer and Singh [1998] show that « the (dis)advantages of an individual firm are often linked to the (dis)advantages of the network of relationships in which the firm is embedded ». This may explain that French private companies have been early benefit from a favorable network, which allowed them to develop knowledge, and better perform than their competitors on the international market of public services. French companies would benefit from a « relational rent » that give them a competitive advantage, and enable them to export successfully their know-how.

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