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The Case of Urban Public Transport in France and London

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Auction Procedures and Competition in Public Services: The Case of Urban Public Transport in France and London*

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Abstract:
In many countries, governments are pushing for the introduction of competition in the organization of public services and more broadly in public procurement. The development of public-private partnerships throughout the world is a good illustration of this trend. In order to foster competition, competitive tendering through the use of auctions is now common. Nevertheless, competition for the field must be organized. Depending on the rules of the game chosen, introducing competition for the field may or may not be successful. In this paper we investigate two alternative models for organizing local public services, namely the French and the London models of urban public transport. Few competitors and collusive behaviours, with increasing costs, characterize the French model, while the London model, as far as we have seen, exhibits better results, by using the transparency of auction procedures and the discretionary power of the regulator as two complementary instruments to foster competition and prevent anti-competitive behaviours.

Key Words: public services, transportation, franchise bidding, public-private partnerships, collusion, corruption, auctions.
JEL Codes: H0, H7, K00, L33

0. Introduction

In many countries, governments are pushing for the introduction of competition in the organization of public services and more broadly in public procurement (Armstrong and Sappington 2006). The development of public-private partnerships around the world is a good illustration of this trend. In order to foster competition, competitive tendering through the use of auctions is now common and the European Union is seeking to introduce directives to encourage the use of competitive tendering procedures in member countries. The objective of using auction procedures is to replace competition *in* the field by competition *for* the field, leading private operators to operate public services at a competitive price without loss of quality.

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Nevertheless, theoretical developments have taught us that this intuition behind the use of tendering procedures is in many respects too simple, notably because such procedures are not immune to corruption and/or collusion. In fact, the use of competitive tendering does not assure intense *ex ante* competition but rather it could be associated with a small number of competitors due to the way it is organized. Furthermore, when the number of competitors increases, the incentive to corrupt the public authorities is greater so there is no certainty that competition "kills" corruption and collusion (Bliss, Di Tella 1997). That is why competition for the field *must be organized*. Depending on the rules of the game chosen, introducing competition for the field may or may not be successful.

When it comes to the organization of public services through public-private partnerships, collusion and corruption behaviours have been widely studied, especially in less developed countries (See for example Engel *et al.* 2006 and Guasch 2004 for empirical evidences). However, developed countries are not spared. The annual global corruption barometer[1] published by Transparency International points out the disparity among European countries. France ranks 18th in the world with a corruption index of 7.4 out of 10, while other European countries rank even lower. For instance Poland, Greece and Italy rank 63rd, 54th and 45th respectively, with corruption indexes of 3.7, 4.4 and 4.9. This is confirmed by data collected by the World Bank measuring the control of corruption (Kaufmann, Kraay, Mastruzzi 2006). Collusion behaviours, that reflect another strategy to bypass competition, are also present and difficult to control by the national competition councils. Few data and measures exist. Even so, several cases appear regularly and are sanctioned (See Albano *et al*. 2006 for empirical evidences concerning Europe). More problematic is the fact that, depending on the way competition is organized and on other exogenous parameters, collusion and corruption could go hand in hand, suggesting that when corruption of public entities exists, it may help sustain collusion strategies (Lambert-Mogiliansky, Sonin 2006).

To illustrate the importance of the way competition for the field is organized, we study the case of urban public transport services in London and France[2]. Both London and France are characterized by an obligation to organize tendering procedures for local public services – this is even called an anti-corruption requirement in France. The French case is interesting because it clearly illustrates that the rules of the game imposed on competitors are crucial and may not foster competition nor prevent anti-competitive behaviours (the three main operators in urban public transport in France were condemned by the French Council of Competition in July 2005 to pay more than 12 million euros for collusive strategies). Using data on the organization of bids and their results in terms of cost and competition, we suggest that several mechanisms exist, which may explain the differences observed between France and London in terms of performances. More precisely, we show that the auction procedure chosen in London is the combination of transparent procedures (to prevent corruption and provide incentives for private operators to bid), discretionary power of the regulator and incentives for private operators to participate (bids are organized on a route-by-route basis in order to encourage the participation of many competitors and hence prevent collusive strategies). We then point out that these characteristics of the London tendering procedure are a key determinant of the performance differential

1 http://www.transparency.org

2 We limit our analysis of the English urban transport sector to London because in the rest of the country, most of urban public transport activities are deregulated. Alternatively, for the French case, we do not include Paris in our data because urban transport in this city is operated by a public entity.

observed between France and London.

The paper is organized as follows. We first recall the theoretical developments concerning the efficiency of the tendering procedure when collusion and corruption are crucial issues (Part 1). We then present the French and London bus tendering model (Part 2) followed by an analysis of their performance (Part 3). We continue with a discussion of the results and a conclusion.

1. Transparency, Discretion and Degree of Competitiveness: a Brief Survey

With the development of competitive tendering in public services industries, the performance of public procurement procedures with respect to the promotion of competition has given rise to a rapidly growing amount of economic literature. This literature mainly stresses the incidence of auction design. Less developed are the determinants of collusion and corruption in public auctions. However, as argued by Klemperer (2002), collusion between bidders should be a major concern for auction designers. Moreover, as shown by Lambert-Mogiliansky and Sonin (2006), corruption and collusion often go hand in hand. A complete review of such determinants is beyond the scope of this article. Our objective in this section is to focus instead on the competitive effects of a few of the crucial aspects of procurement procedures, namely the transparency of the procedure, the level of discretionary power of the auctioneer and the degree of competitiveness of the environment.

1.1. Transparency of the Procedure

The first difference between auction procedures is the level of transparency. Transparency refers to the ability of bidders to know and understand the actual processes by which contracts are awarded. Hence, a transparent procedure implies both that the award criteria are clearly and objectively defined and that a record of the award process is easily accessible. Transparency of procurement processes has an ambiguous effect on competition and favouritism.

Indeed, on the one hand, a lack of transparency regarding the selection criteria and the attribution rules may discourage potential new entrants to participate as it is a source of great uncertainty (Zupan 1989, Baldwin, Cave 1999, Bajari *et al.* 2004). Moreover, opacity may increase risks of capture and favouritism and therefore facilitate corruption (Caillaud 2001).

On the other hand, as pointed out by Stigler (1964, p. 48), "*the system of sealed bids, publicly opened with full identification of each bidder's price and specification is the ideal instrument for the detection of price-cutting…collusion will always be more effective against buyers who report correctly and fully the prices tendered to them*". Thus, transparency of procurement processes may facilitate collusion since partners can promptly identify and punish defecting firms.

As pointed out by Albano *et al.* 2006, a fully opaque disclosure policy, which hides all information from bidders, would make collusion difficult to sustain. However, procurement agencies generally operate on behalf of the public and they simply could not afford a fully opaque disclosure policy. This would strengthen the risk of corruption. This may explain why most of the empirical literature highlights that procuring authorities choose usually to rely on transparent procedures (see, for instance, Domberger *et al.* 1986, Domberger *et al.* 1987, Domberger, Rimmer 1994),

although the degree of transparency may significantly differ among countries. Thus, as emphasized by Lambert-Mogilianski and Sonin (2006, p. 900), "*measures aimed at combating favouritism can facilitate collusion and vice versa*".[3] Furthermore, a partial disclosure policy is practically equivalent to a fully transparent one (Albano *et al.* 2006). This suggests that, because a fully opaque disclosure policy is impossible, a fully transparent one may be a good way to prevent corruption. Other instruments should then be used to prevent collusion behaviours, if necessary.[4]

1.2. The Discretionary Power of the Public Bodies

It is widely recognized that, in public procurement, when some of the important dimensions of the trade relationship are non-contractible, this generates major risks for opportunistic behaviour and may lead to an inefficient outcome for a buyer. Manelli and Vincent (1995) or Bajari and Tadelis (2001) for instance, show that in the presence of non-contractible qualitative aspects, auctioning leads selecting firms to produce goods at the lowest cost but with the lowest level of non-contractible quality. In such a context, allowing a public buyer to exercise his discretion to exclude dubious providers *ex ante* and/or punish opportunistic suppliers *ex post* is seen as desirable and efficient, especially in repeated procurement (Kim 1998, Doni 2006, Calzolari, Spagnolo 2006). In a context of frequent contracting, limiting participation by introducing a pre-qualification stage[5] for instance and/or by providing credible threats of exclusion during contract execution would indeed encourage firms to respect their reputational commitment to high non-contractible quality. As put by Compte, *et al.* (2005, p. 9), "*a common justification for [discretion over the selection process[6]] is that there may be quality concern over the way the contract will be handled, and that the bureaucrat may better assess the relative quality of each firm's offer*". In the same vein, one can add that allowing the public buyers certain discretion may prevent the adverse effects of the winner's curse as it gives them the right not to select over-optimistic or apparent aggressive offers. More broadly, discretionary rules in procurement laws and guidelines can be motivated by the consideration that they allow the intervening auctioneer to clear up ambiguities.
Several arguments in favour of discretion in public procurement auctions can therefore be found in the literature.

At the same time however, the literature on procurement also includes works revealing the adverse effects of discretion. First, if discretion is surely facilitates the enforcement of non-contractible quality standards as mentioned above, it is however likely to induce collusion. Using discretion to reduce the potential number of trading partners and/or hinder an unfaithful contractor indeed encourages and facilitates collusive behaviours between the selected suppliers. The choice of a level of

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[3] This point is well known and recognized by the French Council of Competition, a fact that is stressed in Decision n° 00-A-25, November 20, 2000. The Council suggests that there might be an optimal level of transparency and defends the French position consisting of retaining the information concerning non-winning bids. This is not the position retained in London, as we will see.

[4] One should keep in mind that such a transparent policy would foster competition and increase the number of potential bidders. With an increase in bidders, collusion strategies are more difficult to sustain. We will come back to this issue later.

[5] Developments in multidimensional auction theory provide interesting insights to this issue (see Che 1993, Cripps and Ireland 1994, Branco 1997). In particular, Branco (1997) shows that, with bidders cost correlated, a two-stage bid evaluation system, where the quality is negotiated after the winner have been found, may secure high levels of non-contractible quality.

[6] What the authors have in mind is a common form of discretion in which the bureaucrat is allowed to choose a firm even if its offer was not the lowest.

discretionary power hence recalls a rather general trade-off between enforcement of non-contractible quality and collusion (Calzorali and Spagnolo 2006).[7]

Moreover, another important risk associated with the presence of discretion over the allocation process is corruption. As shown by Burget and Che (2004) for instance, the more an auctioneer is able and willing to manipulate his evaluation of contract proposals in exchange for bribes, the more corruption hinders the efficient allocation of resources. In other words, the inefficiency cost of corruption increases with the auctioneer's discretionary power, whether corruption translates into favouritism as in Burget and Che (2004) or whether it results in making collusion sustainable as in Lambert-Mogilianski and Sonin (2006) or Compte *et al.* (2005). These authors indeed show that corruption, defined as self-interested abuse of discretion to extract rents, provides a mechanism to enforce collusion. Therefore, depending on the form of discretion (e.g. providing the opportunity to resubmit, not choosing the lowest-bidding firm, restricting the number of participants, etc), one might expect collusion and corruption to go hand in hand in public procurement instead of the classical trade-off between collusion and corruption.

One important thing to note is that the drawbacks associated with the discretionary power of public bodies might be reduced with fully transparent auction procedures and fully transparent *ex post* evaluations of the performance of private operators operating services. The discretionary power of public bodies could then be viewed as one instrument to prevent collusion, counterbalancing the transparency of the procedure aiming at preventing corruption. Transparency of the procedure and the discretionary power of public bodies might then be viewed as complementary instruments to organize competition for the field.[8]

1.3. Degree of Competitiveness of the Environment

The objective of using auction procedures is to replace competition in the field by competition for the field. The intuition is that an increase in competition (*i.e.* in the number of bidders) should encourage more aggressive bidding, so that, in the limit, as the number of bidders increases, prices decrease toward efficiency prices (Holt 1979; MacAfee and MacMillan 1987). It is even argued that in public procurement auctions attracting additional entries might be more important "*since the informational demands for computing optimal mechanisms are substantial and the computation involved are complex, it is often worthwhile to devote resources to expanding the market than to collecting the information and making the calculations required to figure out the best mechanism*" (Bulow, Klemperer 1996, page 180).

The classical hypothesis according to which increasing competition yields lower prices, which only holds true for private value auctions (Hong, Shum 2002)[9], also suggests that the degree of competitiveness of the environment affects the probability of collusion and corruption. It is indeed assumed, and theoretically founded, that the higher the number of bidders, the lower the risk of collusion (Porter, Zona 1993).

The theoretical effect of competition on corruption is nevertheless more ambiguous.

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[7] As will be discussed later, few quality-related aspects are non contractible in the urban transport public service.

[8] The use of a transparent procedure in conjunction with high-powered public bodies might also be a way to generate credible regulation without any rigidity, thus resolving the rigidity/flexibility trade-off of regulation.

[9] See Compte 2004 for one exception.

Indeed, the conventional wisdom is that increased competition leads to lower corruption since it reduces rents. The presumption is that no bribes can occur in markets where perfect competition prevails, where there are no excess profits from which to pay the bribes. To put it differently, "*less competition means firms enjoy higher rents, so that bureaucrats with control rights over them […] have higher incentives to engage in malfeasant behaviours*" (Ades, Di Tella 1999, page 982). However, on the other hand, less competition also means that it is more valuable for the public to avoid corruption and therefore that there is a greater incentive for a regulatory response (Bliss, Di Tella 1997, Laffont, N'Guessan 1999). Higher rents indeed imply that the public would be more apt to rewrite the bureaucrat's contracts and spend resources trying to control them.

Thus, since the market structure affects the level of rents, it also determines the level of corruption but its effect appears to be theoretically ambiguous. Empirically however, most of the literature shows that policies aimed at making markets more competitive play a role in controlling corruption (Celentani, Ganunza 2002).

We have yet to find a way to structure competitive tendering for public services that would foster competition and prevent anti-competitive behaviours. Nevertheless, these three interdependent elements, namely, the transparency of the procedure, the discretionary power of the public bodies and the competition levels, are at the core of the story. In any case, a large number of competitors might be viewed as a *necessary condition* to organize competition for the field. As this *ex ante* level of competition is not exogenous and is linked to how the procedure is organized, we assume that a transparent procedure, coupled with the discretionary power of the public bodies, could be an efficient way to organize competition for the field and prevent collusion and corruption behaviours as much as possible.

The French and London bus tendering models illustrate this point.

2. The Bus Tendering Models of London and France – What are the differences?

The bus tendering models of London and France appear as two different ways of organizing competition for the field. If, in both models, the organization of the public service is the responsibility of the local governments and is not centrally planned, two different strategies are clearly reflected. Firstly, London auctions take the multiple-unit auction format, while the French model is simply a single-object auction. Indeed, the Londonian network is unbundled and bidders can submit bids on any number of routes and routes packages, whereas in France only one operator operates each network so that bidders submit bids on an entire network. Secondly, the London organization is based on the existence of a regulator with a discretionary power counterbalanced by the fact that the selection process is transparent with an emphasis on the development of competition through the use of "small size" and "package" tendering processes. The French organization is instead based on a bilateral agreement, with no regulator, the discretionary power of the local governments, a low level of transparency and an emphasis on scale economies through the use of a "big size" tendering process. In this section, we present the two systems before reviewing their results in section 3.

2.1. The London Model

With 800 routes serving an area of 1,630 square kilometres and more than 3.5 million

passengers a day, the bus network is an essential element for the support of the city's economic and social activities. As a consequence, the operation of the London bus routes market, valued at 600 million Pounds per year, has deserved particular attention, especially since the reform of 1984.

2.1.1. The 1984 Reform

The regulatory framework, the contracting mode and the form of ownership within the London bus market have all evolved over the past 20 years as a consequence of the London Regional Transport Act of 1984. Prior to the reform launched by the Act, a publicly owned and subsidised company provided bus operations in London. London Transport (LT), which had no competition. In the mid 1980s however it was decided that, in London, the industry should remain regulated but that competitive forces should be introduced *via* a bus route tendering regime[10] in order to increase efficiency and reduce financial assistance from public funds. Consequently, in 1985, LT created an operational subsidiary known as London Buses Limited (LBL), which was then split into 13 locally based subsidiaries. In the same year, LT also set up the Tendered Bus Division to begin the process of competitive tendering. This required LBL's subsidiaries to compete against operators in the private sector for the opportunity to run individual bus routes. As a step towards the reform of the sector, LBL subsidiaries were privatised in 1994. The introduction of competition for the market and the involvement of the private sector have therefore been gradual. The first tenders took place in 1985 and until 1994 competition for the right to serve the market was between the public sector subsidiaries of LBL and an emerging group of private bus operators.[11] In the early stages the routes available for tender were very short, they were peripheral routes requiring few vehicles to operate so as to facilitate the entry of small independent operators (Glaister, Beesley 1991). Progressively, more and more routes became available for tender such that, by the end of 1995, half of the network had been tendered at least once[12] and, in the beginning of 2001, all the bus miles operated were supplied through tendered contracts.

2.1.2 The Tendering Process and the Auction Format

Since 1995, an invitation to tender is issued by the regulator (Transport for London – TfL-, the former LT) every two or three weeks so that about 20% of the London bus network is tendered each year. The invitation covers several routes, usually in the same area of London, and provides a detailed description of the service to be delivered (e.g. service frequency, vehicle type, network routes). The contract to operate each bus route is generally for five years, with possible two-year extensions (TfL 2006). The regulator then selects a set of prequalified bidders[13] who are authorized to submit sealed bids for individual routes and/or for combinations of routes. Since most of the contracts are based on gross cost[14], the bids must reflect an annual price for which the bidder accepts to provide the service. The criterion for selection of a winning bid is

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10 The reform was more radical outside the greater London area since bus operations throughout Great Britain were entirely privatised and deregulated.

11 National Bus Company operators, municipal operators and other private operators.

12 Non-tendered routes remain operated by the subsidiaries of LBL under a negotiated block grant.

13 Pre-qualified operators are selected according to their financial and operational capacity.

14 That is to say that the operator receives a fixed fee for the service, the revenues from fares accruing to the regulator.

the "best economic value" meaning that the contract is awarded to the lowest price bidder but that other qualitative factors may also be considered. Thus, for instance, promises of extra off-peak or Sunday services or promises of new vehicles may be considered and lead to the selection of a bidder who is not the lowest.

The auction format adopted for the London bus routes market is a variant of a combinatorial first price auction. Indeed, bidders can submit bids on any number of routes and route packages. For instance, a bidder can submit a bid on a package without submitting a bid on the individual routes included in the package. However, bidders cannot bid more for a single package than the sum of the stand-alone bids of that package. The auction format therefore implies that bidders are committed by their route bids, meaning that stand-alone route bids implicitly define a package bid with a value equal to the sum of the route bids. This rule was motivated by the regulator's wish to detect and exploit economies of scale and scope despite the fragmentation of the network. The auction system adopted in London is therefore an attempt to reach two contradictory objectives. On the one hand, the unbundling of the network is expected to encourage the participation of small bus operators, and consequently to foster competition. On the other hand, the possibility of bidding for packages of routes should make it possible to benefit from coordination synergies and economies of scale and scope.

2.1.3 The Role of the Regulator

The regulator (TfL) has a crucial role in this model. He ensures the proper execution of contracts and, since few routes are still operated by public companies, he collects data on many different contract service aspects (time schedule, driving quality, cleaning of the buses, etc.) and benchmarks private operators with their public competitor. Furthermore, the regulator has a strong discretionary power that takes several forms. The crucial ones are 1/bidders can be automatically disqualified if, should they win the bid, their market share is too high and 2/incumbent bidders are explicitly preferred. The fact that incumbent bidders are preferred sometimes leads the regulator, after reviewing the bids, to ask the incumbent for a second offer (if his offer is close to the winning bid) for him to win the bid. This is not unusual and is clearly stated by the regulator. Furthermore, for each tender, the regulator publicly presents all the bids and explains his final choice.[15]

2.2. The French Model

2.2.1. A Decentralized Model

Since 1982, responsibility for the organization and the management of urban public transport has been decentralised to the local authorities[16] (LAs from now on). In other words, this means that there is no national regulator for this sector. The LAs therefore have the authority to define the characteristics of the service to be procured and choose the mode of organization of their urban public transport system. More precisely, they define the network route, schedules and fares as well as the amount of subsidies given to the sector. In each urban area, the urban public transport services are supplied by a

[15] All information is available, tender-by-tender, on the regulator's Web site.

[16] The local authority can be any municipality or association of municipalities. Various legal forms of associations coexist (see GART 2002 for more details on this institutional aspect).

single operator and for a given period of time. The LAs can nevertheless choose between several modes of organization for the procurement of these services. They may decide to operate the service directly, in which case the operator is a public administration. They may also choose to delegate the operation to a mixed company[17] (*"société d'économie mixte"*) or a private one and they must then select a type of contractual arrangement from four main types which differ in their risk-sharing rules and hence in their payment schemes. In 98% of the cases[18], the delegation contracts are operating franchise agreements, in which the franchisees do not own the equipment (depots, buses, etc…), invested in by the LAs. A complete description of the organisational setting and contractual schemes of the French UPT is provided in Roy and Yvrande-Billon (2007). In a nutshell, the range of contracts[19] can basically be reduced to a trade-off between cost-plus contracts (also called management contracts), under which both production and revenue risks are borne by the local authority, and fixed-price contracts (either gross or net cost contracts), under which the operating firm supports at least part of the risks. About 70% of local operators are private and are owned by three large companies, two of them private and the third semi-public. These companies, with their respective type of ownership and market shares in terms of number of networks operated, are Keolis (private, 32%), Transdev (semi-public, 19%) and Veolia Transport[20] (private, 22%). In addition there is an association of small local firms, AGIR (private, 11%), and a few independent companies (private, 16%).[21]

2.2.2. The 1993 Law Against Corruption

Until 1993, the legal framework did not oblige local authorities to select their operator through a competitive tendering process. In other words, municipalities did not have to select their provider of public services by referring to objective criteria defined by law, as would be the case in a strict competitive tendering process that would require to choose the bidder proposing the lowest fee for a given level of quality. Of course, the usual practice established by the legal doctrine and the jurisprudence was to award provision contracts *via* negotiation with one operator and according to the *intuitu personae* principle – a principle that means that local authorities legally have the freedom to choose their operator on the basis of mutual trust. Moreover, at that time, contracts were granted to operators for five-year periods and were usually renewed by tacit agreement. Therefore, before 1993, the French model of organization of local public services was characterized by little competition for the field and the great discretionary power of the authorities.

However, following several corruption affairs, a new law (the 'Sapin' Act) was promulgated in 1993, introducing major changes in the institutional framework of the UPT sector. This Act, which aimed at preventing corruption and enhancing competition between operators, has made the use of competitive tendering for delegated management compulsory and has provided explicit and detailed rules governing the attribution process. Moreover, with this law, the automatic renewal of

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17 In this case, the majority of the capital stock (at least 51% and at most 82%) is under public control.

18 The remaining 2% correspond to concessions, that is to say contractual arrangements under which the operator makes investments.

19 The average duration of contracts was 8 years in 2002 (CERTU 2003a)

20 The former name of the comany was Connex

21 Source: CERTU (2003a).

contracts no longer exists. However, the competitive tendering legislation has neither forbidden negotiation within the procedure, nor called into question the *intuitu personae* principle.

2.2.3. The French Auction Procedure

Since 1993, local public service providers are selected according to a three-step procedure (Institut de la Gestion Déléguée 1999; CERTU 2003b):

- *Step one: Pre-qualification of Bidders*.

First, the public authority publishes a call for application in which the service to be procured is roughly described. It then draws up a list of candidates that may submit a bid. The selected candidates are those able to provide financial and professional guarantees[22].

- *Step two: Bids.*

Second, the local authority provides the pre-qualified bidders with a consultative document which may contain a more or less detailed description of the technical characteristics of the service (routes, schedules, fleet, personnel…)[23], some financial information (annual reports, balance sheets…), as well as indications concerning the pricing conditions and the type of contractual arrangement the local authority intends to adopt. On the basis of the information given in this document, the selected candidates make their bid.[24]

- *Step three: Negotiation and Selection of the Final Provider.*

The local authority then chooses one or several bidders with whom it enters into separate negotiations to determine the detailed contractual terms. At the end of the negotiations, the public authority chooses the final provider.

What is important to underline is that local authorities are now bound by the 'Sapin' Act to periodically launch an invitation to tender but are not bound to select the final set of bidders or the ultimate winner according to objective and precisely predefined criteria like the level of subsidies required by bidders. Local authorities are neither required to mention selection criteria in their consultative document, nor bound to rank them, if specified (Institut de la Gestion Déléguée 1999). Finally, in accordance with the *intuitu personae* principle, local authorities are not obliged to adopt the rule for selecting the lowest or even the best bid as in traditional auctions. The current French legislation still gives them the freedom to choose their utilities' providers, considering that the assessment of the most suitable bidder is complex and cannot rest only on quantifiable criteria. Their selection criteria can therefore include subjective elements such as the reputation of the bidder or the confidence he inspires. This does not mean that the choice of the co-contractor can be totally discretionary and extraneous to the public interest. Legally, local authorities must to be able to justify their choice before unsuccessful bidders and their decision is controlled at the regional level. However, the justification of their choices is not made public for confidentiality reasons and, since the selection criteria, or the rules of the tendering game, are not precisely defined

[22] As reported by the CERTU (1997, 1998, 2003c), the most frequent cause of rejection of an application is the absence of experience in networks of comparable size.

[23] Local authorities have great latitude in the description of the services since the law does not define the level of details they must provide.

[24] But they can also decide not to participate. Indeed, those who are authorized to submit a bid are not bound to make one.

ex ante, the motives behind their choice are hardly verifiable *ex post*.

The second original feature of this attribution mechanism is that it combines two modes of selection that are usually considered as substitutes, namely competitive bidding and negotiation (Bulow, Klemperer 1996). The literature on procurement, in recent developments, views auction and negotiation as alternative ways to select a provider of goods or services, each one presenting its own advantages and limits (Manelli, Vincent 1995, Bajari, McMillan, Tadelis 2004). Thus, while competitive bidding is perceived to select the lowest bidder and prevent biased awarding of contracts, it may have some highly undesirable self-selection consequences and fail to respond optimally to *ex post* adaptation. On the contrary, negotiation may lead to corruption and favouritism but it may allow local authorities and contractors to spend more time discussing the design of the contract and the characteristics of the service to deliver, therefore reducing the risk of *ex post* opportunistic haggling. Consequently, negotiation is advocated when the service is complex that is when *ex post* adaptations are expected, while competitive tendering is the recommended awarding mechanism for services that are simpler to describe (Bajari, McMillan, Tadelis 2003).

In fact, the two models might reveal good results concerning their capabilities for preventing collusion and corruption behaviours and fostering competition. The London process gives good incentives for bidders to enter into the game (*i.e.* increased competition) with safeguards implemented to prevent collusion (*i.e.* public benchmark; discretionary power of the regulator) and corruption (*i.e.* transparency of the process). The French model provides fewer incentives for bidders to enter into the game, at least for small size bidders but takes care of scale economies. Opacity of the bidding process and the size of the auctions might be considered as factors that helps prevent collusion behaviours by destabilizing such strategic behaviours (Albano *et al.*. 2006) but without any insurance concerning ex ante competition. It is thus hard to disqualify one model over the other *ex ante*.

Table 1. Auctions Procedures and Objectives of the Two Models

Objectives	*French Model*	*London Model*
Fostering Competition through the increase of the number of competitors	-	- Small size auctions - transparency of the process
Avoiding Collusion Behaviors	- Big size auctions - Opacity of the process - Discretionary power of the LAs	- Discretionary power of the regulator - Public benchmark
Avoiding Corruption Behaviors	-	- Transparency of process
Exploiting economies of scale and scope	- Big size auctions	- Combinatorial auctions

3. The London and French Bus Tendering Models – What are the Results?

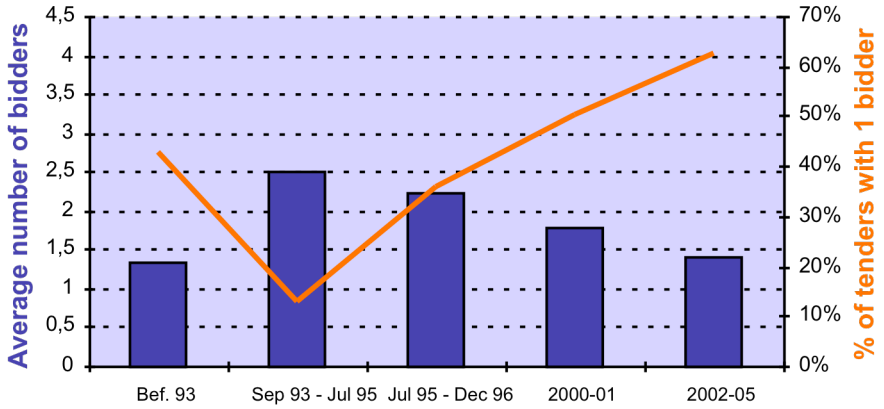
We saw that the London and French models are two candidates for organizing competition for the field, with their own rationality. In this section, our objective is to investigate the consequences of these two contrasting models.

3.1. Auction Procedures and the Number of Competitors

The first point to stress is that the level of competition should not be taken as granted. It is largely endogenous, depending on the rules of the game chosen to organize tenders. As we noted above, the London model is shaped to foster competition, at least to increase the number of competitors (*i.e.* to provide incentives for competitors to bid effectively). This is not the case in the French model.

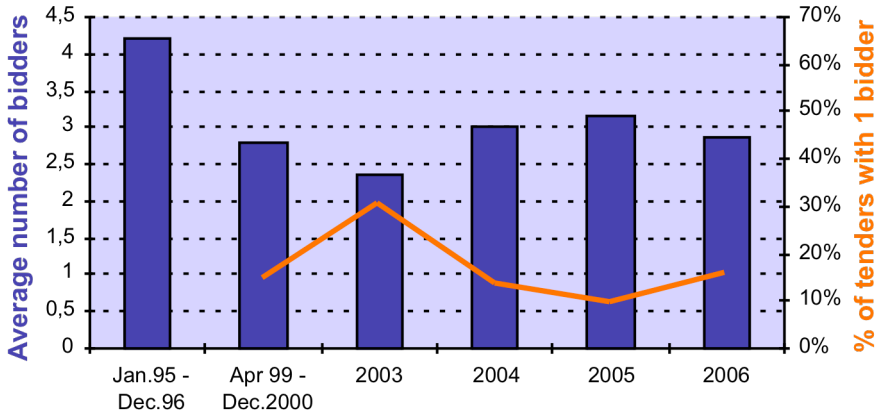
This results in two contrasting situations. On the one hand, few bidders and a decreasing number of bidders through time characterize the French case (Figure 1). On the other hand, the London case is characterized by a large number of potential bidders and effective bids (Figure 2).

Figure 1. Number of bidders in France



Source: GART 2005

Figure 2. Number of bidders in London



Source: 690 tenders from August 1999 to September 2006 / TfL.

One could argue that the low level of competition characterizing the French model is related to the fact that French local authorities organize larger-size auctions. This argument must be qualified since, as highlighted by tables 2 and 3, the average number of vehicle-kilometers per operator in London is higher than the average number of vehicle-kilometer supplied in French networks (this result holds even if we consider only French networks with more than 250,000 inhabitants). As an example, the

number of scheduled vehicle-kilometer was 88 million for Arriva Group in 2005, whereas in Lyon (one of the biggest French UPT network), the operator supplied less than 47 million vehicle-kilometers in 2006.

Table 2. Statistics on the number of vehicle-kilometers (1,000) supplied in French UPT networks (year 2006)

Size of the network	*Obs.*	*Mean*	*Std*	*Min.*	*Max.*
Resident population > 250,000	22	15,643.41	9,571.97	6,038	46,649
100000 < resident population < 250,000	39	4,608	2,024.26	1,667	10,152
Resident population < 100,000	76	908.33	559.65	108	2,511
Total	137	4,327.74	6,537.20	108	46,649

Source : CERTU (2007)

Table 3. Number of scheduled bus-kilometers per operator in London (year 2005)

	Total scheduled vehicle-kilometres (1,000)
Arriva Group	88,376
Go Ahead Group	81,121
Stagecoach Group	73,459
First Group	70,600
Metroline	62,606
Trandev	44,341
National Express	21,477
Other Operators[25] *(8)*	20,795
Average number of vehicle-kilometers per operator	**30,851.67**

Source : London Assembly Transport Committee (2005)

Also, the competition intensity differential between the two models cannot be explained by the existing differences in investments responsibilities. Indeed, given that buses are mobile and that a well functioning second-hand market exists for such assets, investments are easily redeployable. Besides, the London model is, in fact, characterized by higher barriers to entry since, on the contrary to the French model, investments in rolling stock are made exclusively by private operators.

Consequently, one can reasonably argue that the main determinant of the *ex ante* degree of competition is neither the size of auctions nor the investments responsibilities, but rather the way local authorities combine transparency and discretion over the selection process.

[25] Blue Triangle Buses; HR Richmond; Docklands Minibuses; ECT Bus; Sullivan Bus & Coach; Central Parking System of UK; CT Plus; East Thames Buses.

It is interesting to note that the promulgation of the 'Sapin' Act in March 1993 (*i.e.* the obligation for local authorities to organize tendering) had an immediate impact on the degree of *ex ante* competition since the number of bidders significantly increased after 1993. Such a law can be viewed as an increase in transparency procedures. However, this effect has progressively become blurred. Indeed, the number of networks receiving only one bid has increased since 1995 and consequently the average number of bidders has continuously decreased.

Furthermore, from a database provided by the CERTU (CERTU 2003a), we were able to evaluate the proportion of operators that were replaced between 1995 and 2002. The results of our estimations indicate that out of the 123 bidding procedures recorded over 7 years in a sample of 165 networks, 88% have led to the renewal of the incumbent, that is to say 12% have translated into a change of operator. This must be compared with London, where only 63,5% of incumbent contracts were renewed between 1999 and 2006.[26]

These results must be interpreted carefully. Firstly, the decreasing average number of bidders and the high rate of incumbent renewals must be related to the extent of the networks and the resulting concentration of the market. The massive extension of the areas served by public transport (+40% of km² between 1991 and 2002 which corresponds to an increase of 7.5% in the population served (UTP 2002, 2003)) and a resulting increase in the volume of services supplied (+17% of vehicle-kilometres over the period), explains why the market has been concentrated over the period to be dominated by three large groups (CERTU 2000), and consequently why the potential for competition has been limited *de facto*.

Furthermore, the proportion of operators that have been replaced is likely to be a very imperfect indicator of the competitive pressure in the UPT sector. We can consider that the incumbents have renewed most of their contractual arrangements by proposing better bids than their competitors. Whereas it is reasonable to view a change of operator as the result of a better bid from a new winning entrant, it is simplistic to deduce from the absence of changes that the tendering procedures had no effects. As already suggested, the incumbents may have faced competitive pressures during the bidding procedure and reduced the level of subsidies they asked for compared to what they were receiving before, all else held constant. The results of the recent competitive tendering process in the city of Lyon are very illustrative of this argument. Indeed, to renew its contract, the incumbent, Keolis, facing fierce competition from a new entrant in the area, RATP Développement, at the negotiation stage, had to reduce its original bid by 300 millions Euros: his final bid was 1,542 millions Euros, compared to the 1,841 millions Euros proposed at the beginning of the attribution process (*Les Echos*, 7-8 janvier 2005). Unfortunately, since we do not have any information regarding the offers made by bidders, we are not able to verify whether there was a massive renewal among incumbents because their bids were better than those of their competitors.

However, given the low number of bidders and the increasing number of procedures with only one bidder, one can suspect that incumbents did not face fierce competition and therefore were probably not required to considerably reduce their offers.

[26] This concerns 115 renewed contracts.

3.2. Auction Procedures and Anti-competitive Behaviours

In addition to reducing competition, the French rules for organizing tenders also provide, indirectly, an adequate situation for collusion behaviours to be sustained. This is no longer an interrogation; the French model was not immune to such behaviour. A recent investigation by the French Competition Council (Conseil de la Concurrence 2005) revealed the existence of a cartel between the three leading operators, namely Keolis, Transdev and Connex, which have been imposed fines of 5% of their turnover in France (French Council of Competition, Decision n°05-D38, July 5th, 2005). The investigation, which focused on 122 market attribution procedures organized between 1996 and 1999, discloses that the three companies consulted each other in order to divide the market among them. The Competition Commission recorded that these companies coordinated their bidding policy and exchanged information concerning their strategies and the bids they had already made to be selected. Moreover, not only did the companies explicitly agree not to compete with each other, but they also controlled the attribution of at least 27 markets by threatening potential entrants that could disturb their anti-competitive game. Finally, the Commission has shown that, on several markets, the three companies agreed either not to participate in the bid or to withdraw before the final decision by the local authorities and that, when several ring members bid, only one was a serious bidder, the others submitting phony higher bids.

As concluded by the Commission, this anti-competitive game has certainly led companies to impose their price on local authorities who consequently have had to bear higher charges than those which would have resulted from a competitive functioning of the market. One can therefore reasonably assume that the small average number of bidders, the high rate of incumbent renewals and the absence of cost reductions are at least partly due to the existence of collusive practices.

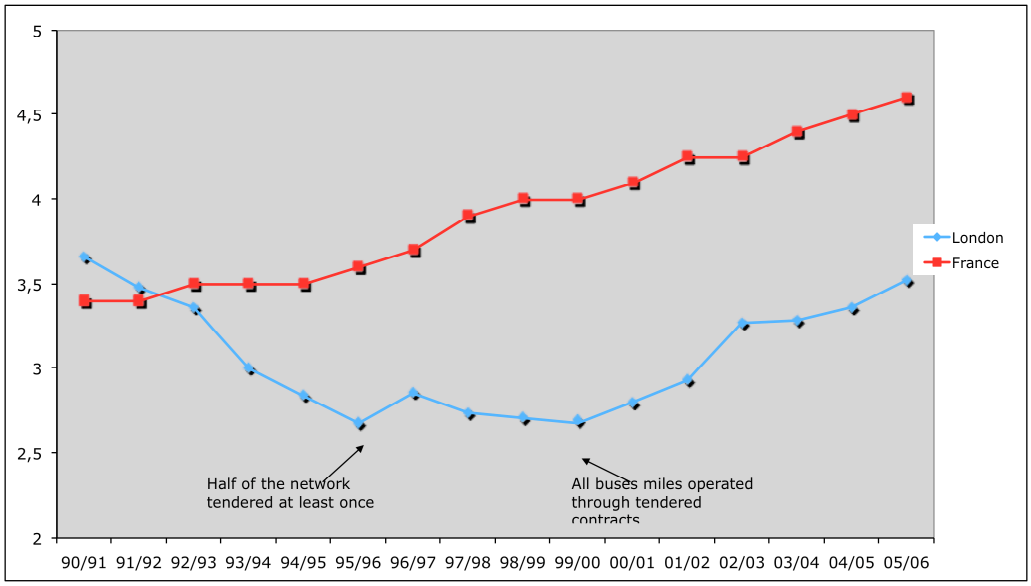
3.3. Auction Procedures and Operating Costs

In parallel with the way competition for the field is organized in London and in France, it is interesting to see how cost has evolved over time, since the London reform (Figure 3). Figure 3 must be interpreted with caution. Indeed, as the available data do not allow us to control for the various determinants of cost levels (*e.g.* price and quality of inputs, networks' exogenous characteristics, service quality, etc.), we only intend to explain the evolution of costs. Nevertheless, this work proves to be fruitful.

It is indeed surprising to observe that, by the beginning of the 90's, operating costs were very similar in France and in London, but have then followed a very different trend, at least until 2001. Whereas the introduction of a tendering process in London has been followed by a decrease in operating costs until 2001, in France, it is striking to observe that the introduction of the "Sapin" Law has changed nothing with regard to costs. This may be due to the fact that, in London, the period 1990 and 2001 corresponds to the progressive replacement of the former public firms by private operators while in France, operators were already private before the promulgation of the Law. This difference might also explain why, since 2001, that is once nearly all the Londonian network was operated by private operators, costs have started to rise. In other words, the introduction of competitive tendering appears to be beneficial in terms of cost reductions if it is coupled with private operators' entry. If private operators are not new entrants in the bidding game, competitive tendering seems

unlikely to lead to fierce competition for new market shares.

Figure 3. Bus operating cost per vehicle kilometre (euro at 2005 prices)[27]



Sources: France: CERTU-GART-UTP yearly reports; London: Department for Transport, (2002 & 2006), "A bulletin of public transport statistics GB".

3.4. Contractual Design and Quality

The evolution of contractual design is another important aspect to explain the trend of costs, in particular the cost increase in London since 2001. The number of bidders, the rate of incumbent renewals, the power of the public bodies require keeping in mind that operators are not only disciplined by market forces but also by contractual agreements. In other words, competitive tendering is not the only device to incite operators to be efficient; contractual schemes as well as the distribution of property rights may constitute a complementary tool. What is then interesting to note is that, since the 1970's, there has been a tremendous change in the type of contracts chosen by French local authorities to govern their relationship with external contractors. More precisely, as illustrated in Table 4, for three decades, the proportion of local operators regulated by cost-plus (*i.e.* management) contracts have drastically decreased, local authorities preferring to turn to more high-powered incentives contracts (*i.e.* fixed-price contracts).

Table 4. Evolution of the proportion of local authorities using management contracts

Decade	1970's	1980's	1990's
Average proportion of management contracts	100%	60%	25%

Sources: CERTU (2003a), GART (2002)

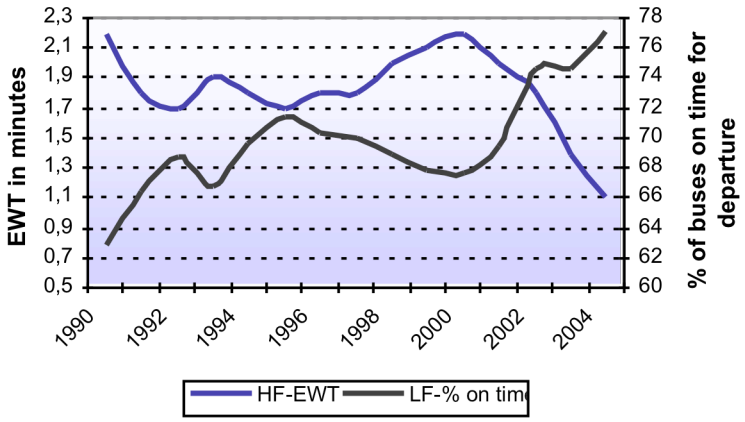
Several empirical studies dealing with the performance impact of contractual choices in utilities have demonstrated that high-powered incentive regulatory schemes (e.g. fixed-price contracts) lead to higher cost efficiency than cost-plus contracts (see for instance Kersten 1999, Gagnepain 1998, Gagnepain, Ivaldi 2002, Perrigne 2002,

[27] The operating costs do not include operators' profit margins.

Piacenza 2006).

In London, the initial contracts were net cost contracts. But, since 2001, quality incentive contracts have been introduced and will be generalized progressively. These contracts are mainly gross cost contracts with bonuses and penalties depending on the observed quality. Furthermore, such contracts specify that there will be an extension to the contract duration (from 5 to 7 years) if quality indicators are good. This might explain the increase in the operating costs observed since 2001 in London. In 2006, 635 quality incentive contracts have already been awarded. Only 93 previous gross cost contracts remain and will soon be replaced. Such contracts show that, for the most part, quality is contractible in urban public transport. Furthermore, quality indeed increased in London since their introduction (See figure 4).

Figure 4. Excess Waiting Time (EWT) on High Frequency (HF) routes and % of on-time departures for Low Frequency (LF) routes[28]



Source : London Travel Report 2005

4. Conclusion

In this paper we investigated two alternative models for organizing local public services, namely the French and the London model of urban public transport. We highlighted the main differences between the two models in relation to their propensity to foster competition and prevent anti-competitive behaviours (*i.e.* collusion and corruption). Few competitors, with increasing costs and collusive behaviours characterize the French model while the London model, as far as we have seen, exhibits better results, by using the transparency of auction procedures and the discretionary power of the regulator as two complementary instruments to foster competition and prevent anti-competitive behaviours. This way of organizing competition for the field in local public services could be useful for practitioners as well as theoreticians to undercover an efficient way to organize such public services.

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[28] There is no precise schedule for buses on High Frequency but there are a number of buses per hour. There is a precise schedule on Low Frequency routes.

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