

**COMPETITION IN TENDERING OF
URBAN PUBLIC TRANSPORT SERVICES IN FRANCE**

by

François-Xavier Duporge

Submitted to the Department of Urban Studies and Planning
in Partial Fulfillment of the
Requirements for the Degree of

Master of Science in Transportation

at the

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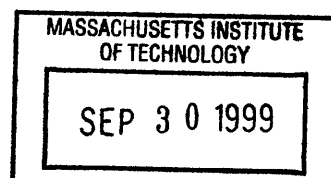
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ABSTRACT

The French tendering system for urban public transport services, introduced by the Sapin law in 1993, has often been criticized for its lack of competition. In order to check the relevance of this criticism, this thesis examines the degree of competition in the French market, using two surveys of the outcomes of tenders in the urban public transport networks outside the Paris region. The first one was conducted by the CERTU (Centre d'Etudes sur les Reseaux, les Transports, l'Urbanisme Et les Constructions Publiques) in 1996. The second survey, undertaken in 1999 as part of this thesis research, focused on networks serving a population over 200,000 inhabitants and is based on the official minutes of the organizing authorities on the deliberation of the delegation of urban public transport services, and interviews conducted with organizing authorities, operators, and several organizations involved in urban public transport in France.

Based on these two surveys, it is established that there is a small number of participants in most French tenders and that the operators in general lack competitive behavior. From this evidence, the thesis identifies five reasons for the lack of competition in the French tendering system. One obstacle is regulatory: labor law L122.12, which imposes the renewal of employment contracts on the new incumbent. The other four obstacles are: asymmetries among bidders, high tendering costs, high operation risks, and the OA's perceived failure to conduct a fair selection. A literature review of the relevant theories on competition, industry concentration and tendering, is conducted in order to support the analysis of obstacles to competition in French tendering with the necessary theoretical background. It is then shown that all the five factors are barriers to entry, and that they should be removed, or at least reduced, in order to stimulate the entry of new competitors and therefore true competition.

The thesis concludes with a presentation of a set of three strategies to improve the competition in the French market, that could be implemented within the current regulatory framework, that is to say, without modifying labor law L122-12. For each strategy, the tradeoffs between increased competition and effectiveness and quality of service are discussed. The first strategy consists of the reduction in the bundle size of

service to be tendered out. The second strategy proposes a reduction of contract duration, and the third strategy consists in the improvement of the specification and selection process. It is recommended to combine all three strategies together for maximum impact on competition; this impact may however be modest, as a major barrier to entry, labor law L122-12, has not been removed. The modest increase in the number of bidders that could be achieved may still lead to an improvement in competition, and therefore in price.

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Chapter 1: Introduction

The British deregulation of urban bus services (outside London) initiated with the 1985 Transport Act has been at the center of the debate in the international urban public transport scene for the last fifteen years. Immediate reactions were often strong and controversial, most of them focusing on the deregulation's impacts on operating efficiency and fares. Since 1995, a growing consensus in favor of a midway model between the traditional regulated system and the British model is emerging in Europe.

The French experiment in the urban public transport sector outside the Paris region has received far less attention. One reason for this lack of interest lies in the repeated criticism that the French system involves strong political control by monopoly operators, whether they are private or public. A variant of the midway model, implemented in 1993, the French model is nonetheless a solution worthy of closer examination. In this study, we shall therefore describe the French model for urban areas outside the Paris region, and investigate the relevance of the above criticism by assessing the performance of the French tendering procedure in fostering competition. Then, we shall identify the obstacles to a truly competitive French tendering system, and finally explore some corrective measures within the existing regulatory framework.

In this introductory chapter, we shall first set the background of this thesis, briefly describing the recent developments in urban public transport in Europe and in France, and summarizing the debate that spanned the last two decades on an optimal regulatory regime for this sector. We shall then describe the general characteristics of the current preferred model, the midway or "limited competition" model, and introduce the French model. We shall next introduce the question of lack of competition in the French urban public transport market, and finally present the objectives and organization of this thesis.

1.1 The Need for a Strong Urban Public Transport System

All European countries have been experiencing similar trends in their urban transport patterns. With increased purchasing powers, European life styles have evolved in the last three decades. Most households now own at least one car, and many have chosen to live in suburban areas. The average distance traveled every day by each

European citizen has increased from 16.5 km in 1970 to 31.5 km in 1993. These changes make it more difficult for urban public transport to provide an adequate level of mobility. Consequently, as the demand for transport continues to rise it is mostly met by increased use of cars, which now accounts for 75% of kilometers traveled (European Commission, 1995). Between 1972 and 1992, car ownership and use grew in all European countries and dramatically affected the modal split as shown in Tables 1.1 and 1.2.

Table 1.1: Vehicle km of Car Use per Capita

<i>Country</i>	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>1985</i>	<i>1992</i>
Denmark	3,544		4,254	4,735	5,790
France	2,615	3,629	4,463	4,739	5,824
Germany	3,366	4,269	4,830	5,136	6,228
Italy	2,240	2,851	3,338	3,733	5,438
Sweden				6,329	6,713
UK	2,976	3,539	4,108	4,165	6,000

Source: Pucher and Lefevre (1996)

Table 1.2: Modal Split in Urban Areas (as Percentage of Total Trips), 1990 (or Latest Available Year)

<i>Country</i>	<i>Car</i>	<i>Public Transport</i>	<i>Two Wheelers</i>	<i>Walking</i>	<i>Other</i>
Denmark	42	14	20	21	3
France	54	12	4	30	0
Germany	52	11	10	27	0
Italy	25	21		54	
Sweden	36	11	10	39	4
UK	62	14	8	12	4

Source: Pucher and Lefevre (1996)

France follows the same trends as evident in other European countries, with the dominance of the car and the erosion of public transport. On average, the number of daily trips per urban resident has been stable at around 3.2 for the last 15 years. The time spent daily on trips has not significantly changed either and is about 55 minutes mainly as a result of improvement in public transport and road traffic conditions (Beaucire, 1996). However, trip purposes have evolved: whereas 20 years ago, journeys to work accounted for roughly 50% of the total trips, they now account for a much smaller proportion (for example 19% in Grenoble in 1992, and 24% in Toulouse in 1990). The portion of trips

made for other purposes, such as shopping and leisure, has increased significantly, accounting for 61% of total trips in Grenoble and 59% in Toulouse. As a result of changes in the location of residences and activities, the majority of motorized trips are no longer related to the urban core but are made within the periphery (75% in Grenoble and 66% in Paris) (Pucher and Lefevre, 1996).

Table 1.3: Evolution of Mobility by Mode (in Average Number of Trip per Day, for All French Urban Areas)

<i>Modes</i>	<i>1973-77</i>	<i>1978-82</i>	<i>1983-87</i>	<i>1988-92</i>
Public Transport	0.28	0.26	0.35	0.34
Private Car	1.27	1.46	1.63	1.94
Walking + Two Wheelers	1.56	1.46	1.28	1.09

Source: Beaucire (1996)

As a result, the car became in the early 1980's the dominant mode in the French urban areas (see Table 1.3) and in 1990 reached a mode share of 54%, against 12% for public transport, 4% for two-wheelers and 30% for walking.

This increased car use has led to severe congestion and air pollution in many cities. According to OECD (1995) estimates, vehicle speed has declined by 10% over the last 20 years in major OECD cities. OECD estimated that congestion costs amounted to 2% of the GDP. This implies that congestion costs in the European Union were about ECU 120 billion in 1995, which is about one quarter of the amount spent on public passenger transport across the EU. Road traffic in general has important environmental consequences. It has been estimated that transport causes 62% of carbon monoxide (CO), 50% of nitrogenoxide (NOx), 33% of hydrocarbon and 17% of carbon dioxide (CO₂) emissions (European Commission, 1995). In addition to resulting concerns relating to both local and global air pollution, it was calculated that 20% of Europe's citizens suffer from unacceptable levels of noise from road traffic.

As the space allocated to roads is limited, the excess traffic cannot be resolved through an increase of road capacity for at least two reasons. First, the cost of construction of road and parking infrastructure in densely populated areas continues to increase. Second, studies indicate that extending infrastructure results in more journeys

overall as road users make use of the new road facilities, worsening the impact on environment.

In addition, captive users of public transport – those who do not have a car or cannot use a car – experience social and economic disadvantages where mobility depends substantially on the availability of cars. In his Green Paper “The Citizen Network: Fulfilling the potential of public passenger transport in Europe” (European Commission, 1995), European Commissioner Kinnock argues that in order to answer the collective need, i.e. to minimize the negative impacts of the traffic congestion, it is important to limit the number of individuals travelling by car, and therefore to make urban public transport more effective.

Congestion is usually caused by collective demands in space and time. These traffic patterns fit particularly well with the comparative advantages of collective transport, which is much more energy efficient than private car (at an occupancy rate of only 50%, public transport consumes five times less energy per passenger km than a private car). Thanks to technological improvements, public transport has improved its level of service and become more reliable, more comfortable and safer. It is also more environmental friendly: the air pollution in terms of emission of urban air pollutants per passenger km is between four and eight times less for public transport than for cars (European Commission, 1995).

However, the challenges facing public transport are many: dispersion of residential areas, outdated equipment, street crime leading to staff and passenger security problems, all act to deter the use of public transport. Moreover, as public transport operations are not financially profitable, they often rely on public subsidies, which increasingly suffer from constraints on public budgets. To answer these challenges, Kinnock proposed a new mission and a new policy framework for public transport in Europe.

Pucher and Lefevre (1996) explore the same direction and argue that much of the variations in European urban public transport trends can be explained by differences in public policies among European countries. Thus the decrease of 26% in ridership in the urban public transport in Great Britain from 1975 to 1990 at least partly results from

subsidy reductions and fare increases. Over the same period, France, which pursued the opposite policy, experienced a rise of 58% of the use of urban public transport.

Beyond the policy on subsidies and fares, the choice of a regulatory regime is crucial for the revitalization of urban public transport in Europe. In his Green Paper, Kinnock recommends modernization of the regulatory framework. The underlying questions are: what should be the roles of authorities and operators? And what should be the access regime of the operators to the urban public transport market? The deregulation and privatization experiments in Great Britain triggered a debate in Europe over these questions and eventually provided some elements of a strategy.

1.2 Deregulation and Privatization: a Debate in Europe

Since the bus deregulation that began with inter-urban routes in Britain in 1980, there have been discussions in the other European countries on the appropriate policy to follow in this area. One clear objective in this discussion is the need for reduction in public expenditures. By allowing the private sector to provide urban public transport, the government expects higher efficiency, therefore lower costs, and consequently lower subsidies.

Another element in the discussion, at least in theory, is the differences in the ideologies that appear among the European countries. However, Andersen's (1993) view is that the main forces for change found in Europe outside Britain can be explained by the need to reduce public spending more than by any ideological reason.

Once the principle that competition yields higher productive efficiency was accepted, the next task was to find the best way of introducing competition in the market. Is it better:

- to get the benefits from competition among suppliers through competitive tendering within a framework of planned and coordinated system with cross-subsidies,
- or to deregulate fully?

Reacting to the pro-deregulation arguments of the white paper published by the British government prior to its enactment of comprehensive intra-urban public transport

deregulation (outside London), Gwilliam, Nash and Mackie (1985 a, b) argued that competitive tendering with a planned and coordinated network and identified cross-subsidization was a better option than full deregulation. According to them, tendering, or “competition for the road”, would provide efficiency gains while avoiding the negative aspects associated with the “competition on the road”. Furthermore, they argued that great benefits could be achieved from the provision of integrated services, which requires fares and service to be planned jointly. They also claimed that central planning was essential for the exploitation of scale economies emanating from a joint bus-rail network, from a simplified ticketing system, and from route planning that combines less profitable routes with more lucrative ones.

Beesley and Glaister (1985 a, b) strongly disagreed, arguing that planners and central planning are largely deficient in providing an appropriate urban public transport service design and in establishing a suitable fare structure. Besides disagreeing on cross-subsidization, costs, and efficient resource allocation, they offered four main reasons why competition would be ineffective without deregulation. Gwilliam *et al.* (1985, b) replied to each of them.

The first reason is that competition would be between established operators because of their protection in lucrative markets. Gwilliam *et al.* argued that good routes would be tendered as well as the bad ones, so that the profits on good routes would accrue to the local authority, not to the operator. Moreover, they believed that the fact that half of the total fleet of buses is held by small private operators ensures a certain level of competition under the franchising system. Indeed, according to Gwilliam *et al.*, some operators are “more inclined to compete for a franchise which gives them some security than to challenge existing operators on the road”.

The second argument cites a slower pace of change under the tendering system than under deregulation, which is considered as an advantage by Gwilliam *et al.*

The third reason is that a bidding system would require that the competition among bidders is reduced to one or two competitive variables, as local authorities would have to specify what service they want and the way they will assess the bids. For this reason, many dimensions of competition such as time at which service is offered, frequency, and quality of vehicle, may not be taken into account by the authorities in a

tendering system, whereas they would be tested in an unregulated market. Gwilliam *et al.* argued that a conscious political decision on these dimensions may not be a bad thing.

The last reason is that the likely outcome of a comprehensive franchising system is the “capture” of the authority by the incumbent franchisee: the authority tends to be persuaded that there *is* a good case to condone the non performance under the contract by the incumbent operator. Gwilliam *et al.* replied that the “stage bus industry does offer the prospect of a large number of small, short-period (say 3 year), and easily monitored contracts. The danger of “capture” by a single incumbent is minimal”.

In 1985, Britain chose the option of full deregulation for bus transport in urban areas outside London, but with mixed results. As a result, the operation costs decreased, by around 40%, but the patronage also significantly declined. After much discussion, the British government decided in 1993 to cancel the original plan to apply the full deregulation model to London, settling instead for a tendering system. The continental European countries did not view the British experiment with deregulation as successful, and even though some show signs of more liberal regimes, most of them, with the notable exceptions of the Scandinavian countries and France, still have in 1999 a regulated system, as we shall see in the next section.

1.3 The Limited Competition Model

Isotope, a survey initiated by the European Commission in 1996, compared the regulations and organizational structures for urban public transport operations in the European countries. Isotope identified three types of regulatory framework in Europe: the regulated regime, the deregulated regime and the “limited competition” regime.

- Under the regulated regime, which can be found in Austria, Belgium, Germany, Greece, Spain, Italy, Luxembourg, Portugal, the Netherlands and Ireland, the urban public transport is produced by public monopolies with no competition in, or for, the market.

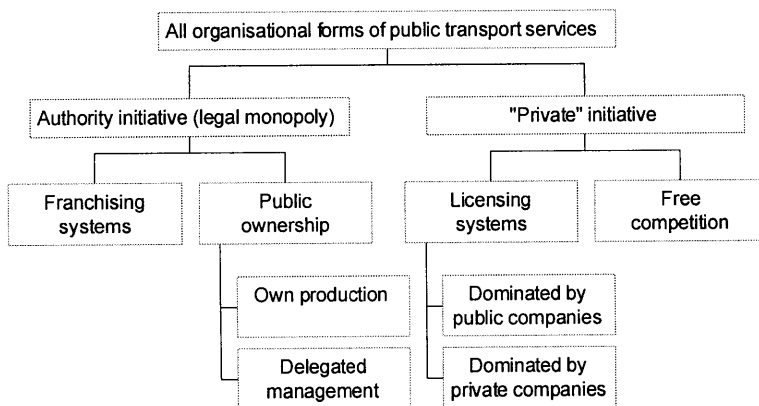
- Under the deregulated regime, adopted in Great Britain outside London, competition occurs in the market or “on the road”, as market entry and exit are quasi-

free. The producers, the private operators, take the initiative in planning and offering service.

- Under the “Limited competition” regime, the public authority is responsible for network design, fares, service (frequency) and the operators compete only during the tendering process for an exclusive right or “for the road”. This model is mainly implemented in countries where the perception of urban public transport as a social need is strong and where a transfer of responsibilities over urban public transport from central government to local governments has occurred. This is the case in France and in the Scandinavian countries, as well as in London.

Van de Velde (1997) classifies organizational models according to the initiator of the service, whether it is the public authority or the operator. As in all “limited competition” models, the authority takes the initiative for the service in the French system. In most French networks, the authority also has the ownership of the vehicles and other fixed facilities. As shown in Figure 1.1, two scenarios are then possible, the “regie” (own production) or the delegated management. These scenarios are described in chapter 2.

Figure 1.1: Organizational Forms of Public Transport Services



Source: Van de Velde (1995)

In its executive summary, Isotope concludes that the “limited competition” model is the best choice for a theoretical fresh start, as it provides a good compromise between

optimal cost efficiency, best achieved under the deregulated model, and optimal service integration, best obtained under the regulated model. Let us therefore provide more details on the organization associated with the limited competition model.

The term “competitive tendering” is used here to indicate that the authority assigns exclusive rights to supply a particular bundle of services to an operator whose bid – or offer to provide the service – was assessed as superior to those of the other competitors. As noted by Berechman (1993), “competitive tendering is thus a mechanism used by a public authority to award production rights in situation where market competition is regarded as non-viable, unwarranted, or otherwise unfeasible to implement. In addition to being a substitute for direct public production and control, this approach is seen as a mean to reduce costs, promote efficiency, and render a significant role to the private sector in the production of goods and services”.

There are indeed situations where market competition may not be viable. Indeed, beside its poor performance in attracting patronage, the deregulated system was also criticized for its lack of contestability in the market. Banister, Berechman and de Rus Mendoza (1993) have shown that doubts can be raised over the contestability of the British bus market and that, at best, it can be defined as a market where imperfect competition prevails. They argued that the size of the market is too small and that there are too many opportunities for collusion between operators. Information asymmetries, market deterrence from the incumbent, natural monopoly and high sunk costs are the reasons most cited for this market failure.

When considering the allocation of the roles between the public authority and the operator, it is useful to distinguish between strategic, tactical and operational levels. Strategic management consists in the formulation of general goals and in the determination, in broad terms, of the means that can be used to reach these goals. At the tactical level, decisions are made on the means that can help to reach the general goals, and how to use them most efficiently. The operational level ensures that the product is produced in an efficient way. Table 1.4 describes these three levels applied to public transport.

Table 1.4: Strategic, Tactical and Operational Levels in Public Transport

<i>Strategic Level</i>	<i>Tactical Level</i>	<i>Operational Level</i>
General goals	Fares	Vehicle rostering
Service area	Routes	Drivers rostering
Target markets	Timetables	Personnel management
General product (service) characteristics	Product (service) type	Maintenance
		Purchase of consumables
		Fleet renewal mangement

Source: Isotope (1997)

In a limited competition regime, both strategic and tactical levels remain the responsibility of the public authority, whereas tasks involved in the operational level are contracted out. Besides performing its technical work at the tactical level – network design and definition of the service characteristics – the authority is also responsible for the selection and monitoring of the operators. All these tasks require a high level of technical and managerial competence on the side of the authority.

Finally, Berechman (1993) considers that competitive tendering has a dual role – a *control role* (control over the service produced by the operator) and an *efficiency role* (efficiency from competition among bidders) – and argues that these two roles are in direct conflict with each other. Berechman argues that effective public control must come at the expense of the managerial decision-making freedom of the operator, and *vice versa*. He views this trade-off between control and efficiency as a form of “institutional failure” in designing a satisfactory policy scheme, especially if the authority wants to design a truly competitive bidding scheme.

In order to test Berechman’s pessimistic opinion about the limited competition model, stated in 1993, a review of the performance of existing tendering systems (France, London, Scandinavia) is appropriate. Only a few comprehensive studies of the performance of tendering systems have been conducted so far. Andersen (1993, a) analyzed the Scandinavian experience in 1993. The results of the London experience with tendering were assessed by Kennedy (1995).

Based on the analysis of tenders conducted between 1989 and 1991, Andersen (1993)’s comments on the Scandinavian tenders are as follows. First, the cost savings achieved by the use of tendering were about 20 to 30% in Swedish urban areas and 10%

in Copenhagen. Second, there are two obstacles to the sustainability of cost saving: the use of minimum cost-contracts and the lack of competition in factor market (mainly wages). Third, the increased concentration in the market may reduce savings in the long run due to re-monopolization and the erection of new barriers to entry. These barriers to entry are related to the availability of used buses, the availability of maintenance facilities, and the availability of terminals. Andersen concludes that there is a need for stronger competition policies and competition authorities, and that “new methods of combining operator incentives with authority control over important parts of fares and routes” remain to be found. The progress made on this last issue by organizing authorities in Europe was documented in the UITP (1998) survey: “Incentive Agreements in Public Bus Transport”.

Kennedy (1995) analyzed the tenders conducted in London between 1985 and 1993, i.e. until London Bus Limited (LBL)’s privatization and drew two conclusions. First, London bus tendering, organized by London Transport (LT), has led to cost savings of 16% on tendered routes. Cost savings have stemmed from increased productivity, reduced wages and reduced overhead costs. According to Kennedy, tendering has also improved the quality of bus service, which had, in turn, a positive impact on revenue. Second, there were perceptions among managers of bus companies involved in tendering that the system was unfair, either because LBL bids were subsidized or because tenders were not awarded to the lowest cost bidder. Kennedy noted: “Such perceptions are important because operators may be discouraged from bidding for tenders. If they do not bid, contract prices are likely to rise. This problem could be partly solved by privatization of the LBL companies which dispel suspicion about the relationship between LBL and LT”. Finally, a review of the challenges currently faced by LT in its bus tendering is provided in Chapter 3 of this thesis.

We can observe that both studies express concern over the lack of true competition in the tendering process, which may give some support to Berechman’s pessimistic opinion of tendering systems. The other European variant of the limited competition model, the French system, has yet to be studied in a comprehensive manner. This can be explained by the relatively recent implementation of the Sapin law, in 1993, and the fact that around one third of the big networks (serving populations over 200,000

inhabitants) tendered their services in 1998 for the first time. The purpose of this thesis is, therefore, to contribute to a better understanding and assessment of the performance of the French tendering system for the delegation of urban public transport services.

1.4 Competition in the French Market

The French system outside the Paris region shows the main characteristics of a ‘limited competition’ model. The LOTI Law (1982) gave full responsibility to Organizing Authorities for providing urban public transport to the members of the community (the Paris urban region was excluded from the scope of this law). The competition element was introduced in 1993 by the Sapin Law whereby any delegation of service should be through competitive tendering.

As early as 1993, Lefevre and Offner (1993) offered some interesting conjecture on the performance of the French tendering system. They warned that, “the transit authorities’ true power to lay down and control policies is measured by their freedom to take advantage of competition and to change operators”. In order to be on a more equal footing during the negotiations with the operator, usually a large company, many OA’s have been hiring transport technicians. However, Lefevre and Offner were pessimistic on the relevance of these recruitment efforts made by the OAs, arguing that “this trend towards greater technical competence in local authorities is nevertheless likely to serve no purpose if the all-pervading presence of a small number of large, privately owned companies is confirmed.”

The French urban public transport industry is indeed highly concentrated: three groups (VIA-GTI, Transdev and CGEA) share more than 70% of the market. However, European private groups, especially the British and French groups, have changed their strategy in recent years and are increasingly looking for new markets outside their traditional operating areas. This recent trend may increase the degree of competition in countries that have a deregulated or limited competition regime, such as in the French market. Indeed, several British companies have been submitting bids – so far, in vain – for French networks, and the operation of Perpignan’s (population of 113,469) urban public transport network was earlier this year delegated to a Spanish operator.

The European Commission is preparing a new regulation on urban public transport services in Europe, and considers the French system as a possible model. Six years after the implementation of the Sapin Law and at the dawn of the internationalization of the urban public transport industry in Europe, it is therefore all the more interesting to examine the level of competition achieved by the French model outside Paris region.

1.5 Objectives and Organization of the Thesis

For this purpose, and in order to assess, in particular, the relevance of the criticism that the French system involves strong political control by monopoly operators, we shall consider, in this thesis, the following questions. Despite a highly concentrated industry, is the French urban public transport market truly competitive? If not, what are possible explanations for the lack of competition? Finally, what strategies could remedy or improve this situation? In order to answer these questions, we adopt the following strategy:

- Assess the performance of the French tendering system in introducing competition, by evaluating the number of potential players in the markets and analyzing their competitive behavior. We shall rely on two surveys, one conducted in 1996 by the CERTU (1997), and a second conducted in 1999 for this thesis research. We shall also rely on interviews with representatives of organizing authorities, of operators, of the Ministry of Transport, and of other organizations such as the operators' association, the UTP (Union des Transports Publics) and the authorities' association, the GART (Groupement des Autorites responsables de Transport).
- From this evidence, identify several reasons for the lack of competition in the French tendering system, distinguishing between regulatory obstacles and the organizing authorities' practices.
- Conduct a literature review of the relevant theories on competition, industry concentration and tendering, in order to support our analysis with the necessary theoretical background.

- Finally, propose a set of strategies to improve competition in the French market, that could be implemented within the current regulatory framework.

It is clear that this respect of the existing regulation may limit significantly the overall improvement that can be achieved. However, we may argue, first, that the regulation often reflects a (current) consensus on tradeoffs that are shared by elected officials and the population of the country. Second, a regulatory change may take years. Third, the improvement resulting from the proposed strategies without any regulatory change may be sufficient to reach an acceptable level of competition, i.e. sufficient to obtain an acceptable price for the service.

The thesis is organized as follows. Chapter 2 will describe the French regulatory framework of urban public transport, with a review of the successive legislative steps that led to the implementation of a limited competition regime: the LOTI and the Sapin law. In this chapter, we will also describe the current market structure in France: the Organizing Authorities, the operators, and the contractual practices. In Chapter 3, the results of the two surveys will be presented and discussed; several factors contributing to the lack of competition in French tenders will be identified. Finally, in Chapter 4, we shall provide some theoretical support for these empirical explanations, and propose different strategies to improve the level of competition in the French urban public transport market.

Chapter 2: The French Urban Public Transport Industry

Over the last three decades, the French urban public transport industry has undergone radical change. Its regulatory environment evolved under three major laws: the “Versement de transport” in 1971, the LOTI law in 1982, and the Sapin law in 1993. In terms of market structure it was deeply altered in the late 1980’s and early 1990’s by a strong wave of concentration among the private operators, whose effects are increasingly being felt.

In the first section of this chapter, we will describe the successive legislative actions that first triggered a revitalization of urban public transport in France in the 1970’s, and later resulted in the emergence in 1993 of a regulatory framework which can be classified as a form of the “limited competition” model. The second section describes the current status of the French urban public transport industry: the actors – the organizing authorities (OA’s) and the major operators – and the contracting practices.

2.1 The Institutional Context and Regulatory Framework for Urban Public Transport

In each conurbation in France, except in the Paris region, the organizing authority and operator are bound by a contract, which specifies their reciprocal responsibilities and sets forth their objectives, which must be regularly assessed and revised. Since 1982, the form and content of agreements are governed by the principles of the “Law on Orientation of Internal Transport”, referred to as the LOTI, dated 30 December 1982, which established the independence of the local authorities. In 1993, competition was introduced by the 93-122 law on prevention of corruption and the provision of openness in economic life and public procedures. This law, called the “Sapin” law, redefined the conditions under which public service obligations were delegated and, among others, made compulsory the setting up of a tendering procedure. In this section, we shall, after a brief description of the French institutional context and a review of the urban public transport revival in the 1970’s, review the main lines of the LOTI law, and then present the implications of the Sapin law for urban public transport.

In this thesis, we shall focus exclusively on provincial networks. The situation of urban public transport in the Paris region is, at least for the moment, quite distinct. Its

organization and production rely for the most part on two state-owned companies, the RATP (Regie Autonome des Transports Parisiens) and the SNCF (Societe Nationale des Chemins de Fer Francais). The Paris region operates within a different regulatory framework than that of the provinces, based on several legal documents. Order 59-151 and decree 59-157 of January 7, 1959, as amended, defines the RATP and SNCF responsibilities in the Paris region. Decree 49-1473 of November 14, 1949 governs public transport services. Decree 59-1091 of September 23, 1959 covers the status of RATP and decree 59-1090 of the same day covers the status of the STP.

2.1.1 Urban Public Transport in France in the 1970's

France, with an area of 551,000 square kilometers, is the largest country in Europe with a population of 58 million. It is a centrally governed state with three institutional levels below that of the state: 36,500 communes at the smallest level, 95 *departements*, and 22 regions. These three levels of communities are governed by elected councils, have their own tax revenue, and may borrow. In addition, the three institutional levels can form partnerships. In particular, communes can group in seven forms: the intercommunal syndicate, the district, the association of communes, the association of cities, the new town syndicate, the urban community, and the mixed syndicate. The main differences between the various forms lie in the extent to which the body has been set-up voluntarily, in the degree of rigidity of its structure (composition and dissolution), in the degree of delegation of powers from the communes, and in the extent of its fiscal powers.

Table 2.1: The Associations of Communes in France in 1993 (all types)

Form of Association of Communes	Number of Communes	Population (in million)	Number of Associations
Intercommunal syndicates	5,996	11.85	
Districts	2,580	7.87	282
Associations of Communes	n.a.	1.98	193
Associations of Cities	n.a.	1.47	4
New Towns Syndicates	51	0.65	9
Urban Communities	251	4.1	9
Mixed syndicates	n.a.	n.a.	975

Source: Ministere de l'Equipeement, des Transports et du Logement (1995)

Since 1973, the communes have been encouraged to group by a law that endows the associations with new resources for financing urban public transport, a payroll tax called the "*Versement de Transport*". This unique feature of the French urban public transport system was introduced in 1971 in Paris, and in 1973 in the provinces, and proved to be successful in creating groups of communes, since all French urban areas now have an OA whose territory, the Urban Transport Perimeter (PTU), covers most of the contiguous area.

This payroll tax is levied on companies with more than nine employees in the PTU. The population threshold for levying it was 300,000 in 1973, then lowered to 100,000 in 1974, and to 30,000 in 1982. The OA chooses the tax rate, between 0% to 1% (up to 1.75% if a reserved right of way system is being built) and decides on the use of the proceeds between investments and operating expenses. Beside giving great financial autonomy to the OA's, the *Versement de Transport* was a decisive element in urban public transport policy in stopping the decline of the urban public transport vehicle fleets and infrastructure of the late sixties.

In the early 1970's, the ridership in the provinces reached its lowest level after the second world war. Structural operating deficits put most private operators in a critical financial situation and forced local governments to take over their vehicle fleets and fixed installations. Beside capital grants from the central government in return for increased ridership, the *Versement de Transport* provided the local governments with the basic financial means for this rehabilitation program. As a result, transportation supply grew by 6.8% per annum between 1975 and 1985, and ridership increased by 3.5% per annum. This was a relatively satisfactory achievement when compared to the situation prevailing at that time in most other industrialized countries where there was still no integrated action from public authorities to deal with the decline of the urban public transport system.

However, many OAs considered the *Versement de transport* as manna from heaven and did not use it very wisely. They extended urban networks, especially into the suburbs, while keeping fares low, which was not financially sustainable in the long run and required increasing support from the central government. The fares portion of income

dropped from 77% in 1975 to 49% in 1985. Similarly, the *Versement de Transport* was increasingly used to cover operating expenses and less and less for investment. In the provinces, the portion of the *Versement de Transport* allocated to the operating expenses rose from 45% in 1975 to 63% in 1985.

In order to cope with increasing deficits, the central government changed its policy and aimed at modifying the OA's behavior. Andersen (1993, b) described the evolution that took place after 1978 in Sweden, where, "from a situation where local governments and bus operators tried to get as much money out of the central government as possible during central responsibility for public transport, the transfer of responsibilities to local government has resulted in changing attitudes". Although France had always been a very centralized state, the central government decided to decentralize the urban public transport sector almost completely, both politically and economically. This was mainly achieved by the enactment in 1982 of the "Loi d'Orientation des Transports Interieurs", the LOTI law – and a group of application laws in the following years – as described in the next section.

2.1.2 The LOTI: a Strong Role for The Organizing Authority

The LOTI introduced innovations such as the Urban Travel Plans or "Plans des Deplacements Urbains" (PDU's), and the "right to transport". The PDU's main objective was to develop an integrated multi-modal transport planning process, with a special interest in the promotion of alternative modes such as walking and cycling. Unfortunately, very few urban areas implemented a PDU and the incentive for its implementation disappeared in 1986, when the PDU was no longer required to obtain governmental assistance. The LOTI clearly implies social goals as it consolidates the "right to transport" i.e. the right of the citizens to have a good quality public transport system to reach their work place, social-cultural activities, and leisure activities. In addition to this principle, the LOTI clarified the relations between the OA and the operators by obliging both parties to sign a contract.

"The State, and local authorities or associations thereof within the limits of their authority, will organize the regular public transport of persons. This service will be provided either through administration by a public person in the form of a public

industrial and commercial service, or by a company which has signed an agreement of limited duration to that effect with the competent authority. This agreement sets out the general character and conditions for the operation and financing of the service. It defines the actions to be undertaken by both parties, with the object of ensuring the effective exercise of the right to transportation, and the promotion of public transport of persons.”

The concern for economic and social goals is also expressed in the fare policy: “The fare policy is defined by the competent authority in a manner which will ensure best use of the transport system from the economic and social viewpoint.”

Moreover, the LOTI defines the general responsibilities of the State and the local authorities in the matter of transport. It stipulates that the “preparation and implementation of the overall transport policy are provided jointly by the State and the local authorities, within the terms of the European Community rules as set out by the Treaty of Rome”. Furthermore, the LOTI gives full responsibility for urban public transport to Communes and associations of Communes, wherever an “urban transport perimeter” (PTU) has been defined. In this case, the commune or association of communes constitutes the organizing authority.

Even after the decentralization, the State still remains a major actor in urban public transport. The State still controls the total urban public transport system in Paris region, which accounts for 18% of the population and 21% of the jobs. It controls the two leading operators SNCF for trains and the RATP for buses and the metro – and the Parisian OA, the Syndicat des Transports Parisiens (STP). This situation may change in the future, as the project of transferring State’s seats in the STP’s board to the local government, the “region”, after being on and off for the last two decades, is back on the central government’s agenda.

At the national level, the State defines a general policy framework for urban and non-urban passenger public transport in order to provide good public service. It defines the safety standards and controls their technical application. It develops analytical and decision-making tools such as statistics and studies, and promotes research and innovation. Finally, the State has an incentive role in the promotion of urban public transport network, especially by granting capital investment funds to projects presented by local authorities.

However, the main impact of the LOTI for urban public transport, is the extensive responsibilities gained by local organizing authorities: they create the urban transport perimeter (PTU) and organize public transport including: the network design, the choice of the technical operating methods, the fare policy (within the maximum growth rate fixed every year by the State), the choice and contracting of operators, and the setting and financing of subsidies for construction and operation. The OA's create and manage the transport infrastructure and equipment, regulate the transport activity, and monitor its application. Finally, the OA's have to develop an information data-base on the transport system.

In addition, the OA's have, under the LOTI, the choice between two methods of production of the services (this freedom of choice was kept under the Sapin law). The first method, under which the urban public transport services are produced publicly, is found in 10% of the networks, mainly small cities and Marseilles. The second method consists in the delegation of services to an independent company.

There are two types of public production or "regie". The first type is a distinct department of the OA with financial independence. The second form of "regie" has the status of a person with financial independence, and is a public agency called a public industrial and commercial company or "Etablissement Public Industrial et Commercial" (EPIC) with an individualized organization. The OA has the choice on the management and financial organization of the "regie". However, the 'regie's' accounts must follow the rules governing public accounting. It is interesting to note that this power of the OA to decide whether to delegate the urban public transport service provision or to have it produced by a public agency is controversial at the European Commission. (As we will see later, under the "regie" method, there is no tendering, and thus no competition. In this respect, the French system is therefore not strictly in compliance with the philosophy of the "limited competition" model). More "regies" may be established, as the OA's more and more face a lack of competition during their tendering process for the renewal of the delegation contract, as we shall see in Chapter 4. In 1997, La Rochelle (population 133,428) chose not to renew the existing delegation contract, and set up an EPIC instead.

The most popular production method, which is chosen by 90% of the OAs, is the delegation of the services to an independent transport operator. Under this method, the

vehicle fleet and fixed facilities in most of the networks are owned by the OA, but it may happen that the delegatee is asked to take responsibility for part of these investments. This blurs the distinction between the franchise (where the operator owns the equipment) and the management contract (where the operator just provides management staff). As this distinction is not implicitly made under the current French system, we shall hereafter use the term “delegation contract” for both contract types.

To select the operator, the OA has the choice between two procedures: the procedure of the public markets, which stipulates a call for tender and a selection by the lowest-bid, and, before the law of February 1998, did not allow any negotiation on the specifications with the winner. Urban transport, together with other utility sectors, was exempted from this law under the argument of the Public Service Obligation (PSO). As a result of the limited flexibility of this public market procedure, all the OA’s chose the second procedure, termed the Delegation of Public Service (DSP). The DSP procedure was not specified by law before the Sapin law, and most of the time before 1993, consisted in direct negotiation with operators (except for some rare cases of tendering). Nowadays, the vast majority of the OA’s organize their tendering under the delegation of service procedure. Only one OA is known to have recently organized tendering under the public markets procedure (Menton).

The regulation on delegation contracts governing the relationship between OA’s and operators has evolved since the first decree in 1954 that directly applied to urban public transport. Hereafter follows a brief summary of this evolution before the LOTI and the implication of the LOTI in this regard.

Under decree 54-1040 of October 19, 1954 (modified by decree 61-615 of June 16, 1961), which identifies trolley-buses explicitly and buses implicitly, “lease franchise” contracts for construction and services, with a duration ranging from 10 to 30 years, could be obtained without public tendering through direct negotiation. The concept of “lease franchise” was introduced by the law of July 31, 1913 for local railroads. This is a contract by which a public owner entitles a company to operate a public service at their own risk and provides the associated physical resources (vehicles and infrastructure), in return for which the franchisee pays a fee to the franchisor which reimburses the investment cost granted by the public franchisor. The franchisee can be responsible for

capital investment for extension project. The franchisee is paid for his work through the fares collected from the users.

The structural operating deficits that occurred in the late 1960's and 1970's made it more and more difficult for the operators to meet their commitments under those contracts, the OAs silently accepting the solutions proposed by the operators. In 1979 and 1980, new laws were enacted to put an end to these practices. These laws specified four contract options, with the obligation to use one of them, except in the case of a "regie". These four contract types were categorized as follows: operation with full risk, operation with a revenue guarantee, operation at a fixed price, and management contract. These laws shortened the duration of contracts to no more than 5 years, renewable once by tacit agreement, if the franchisee financed less than 50% of the investment. If the franchisee financed 50% or more of the investment, the duration of the contract could go up to 10 years, or even to 30 years or more by permission of the State.

The framework established by the laws of 1979 and 1980 turned out to be too restrictive. The LOTI removed the obligation to choose among the four specified models and following circulars dated July 5 and 17, 1984 set the minimum rules applicable to these contracts. This increased flexibility paved the way to the wide diversity that can be found today in the contracts of delegation in the networks.

In conclusion, the LOTI and the application laws that followed were successful in clarifying the relationships between the State, the OAs and the operators. However, Lefevre and Offner (1993) argued that, by giving responsibilities for urban public transport to the intercommune level, whereas decisions on road and traffic management were still left to the communes, this strongly limited the possibility of developing much needed comprehensive travel policies. As a result, there is still no single area-wide authority to take charge of all transport modes and policy. Another criticism often made of the LOTI is the lack of transparency in the awarding of urban public transport contracts. Indeed, until 1993, there was no obligation for the OA to award the service contract through a competitive process. The Sapin law was designed to remedy this problem.

2.1.3 The Sapin Law: Introduction of Competition

The Sapin law introduced two main changes in the organization of the delegation of urban public transport services. First, it introduced competition through the obligation to organize competitive tendering before granting any contract to delegate service. Second, it defined minimum rules applicable to the delegation contracts.

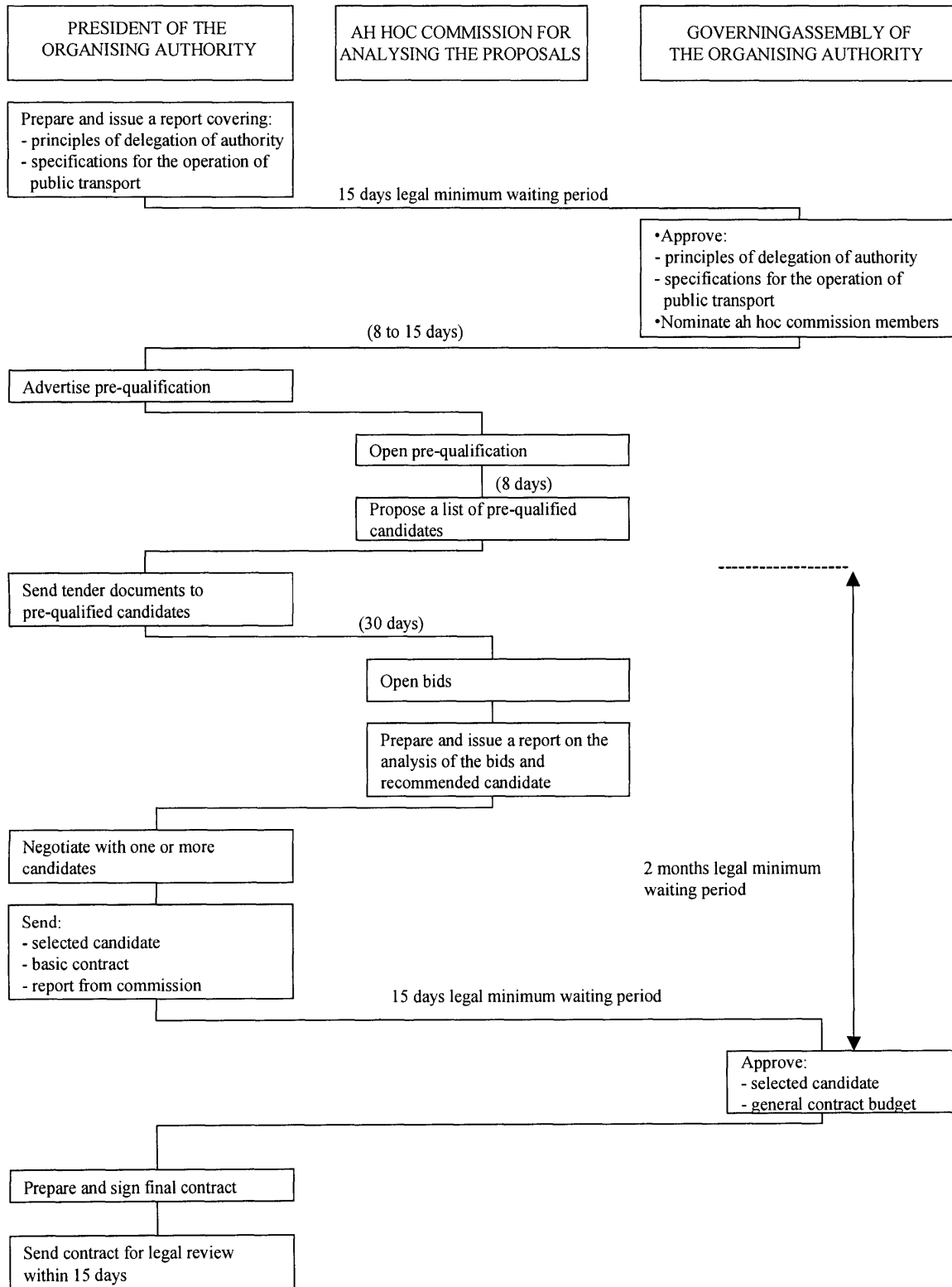
As part of a general effort to reduce corruption in the political life and increase transparency in public procedures, the Sapin law defines a clear procedure to be followed to select an operator under the delegation of service. However, it is worth noting that the tendering procedure, described in greater detail in figure 2.1, includes an “*intuitu personae*” choice between the different bids, which in practice gives great flexibility to the OA, as the choice does not necessarily rest on price alone (in contrast to the procedure of the public markets).

In the first step, the OA’s board or governing assembly, where all the political forces are represented, makes the decision to adopt the delegation of public services procedure (and not the public markets procedure). This decision is based on a report which describes the characteristics of the transport services to be supplied and the characteristics of the new contract. To qualify for the DSP procedure, the contract should stipulate that the operator bears the operating cost risk and that a substantial portion of the operator’s remuneration is based on the operating profits. We shall provide more details on the qualification of the various contracts types for the DSP in the section 2.2.4 on contractual practices (2.2.4).

Second, after a public call for pre-qualification applications, the OA shortlists the candidates allowed to submit a bid, after analyzing their professional and financial reputation and their ability to ensure the continuity of the service and provide equal treatment of the users. Then, the OA provides each of the qualified candidates with a report describing the quantitative and qualitative specifications of the services to be produced, as well as (if necessary) the fare structures to be used.

In the third step, the envelopes containing the bids are opened by an “ad hoc commission” comprising the OA’s president and five of its representatives, as well as, in a consultative role, the OA’s accountant and a representative of the ministry in charge of competition. Once empowered by the OA’s board, the “ad hoc commission” starts the

Figure 2.1: Public Service Delegation – Procedure for the Choice of the Operator



Source: Ministère de l'Équipement, des Transports et du Logement (1995)

negotiations with one or more competing companies and finally recommends the choice of one company to the board through a report which assesses the content of the different bids and justifies the choice of the successful bidder. At least two months after the beginning of the third step, the OA makes a decision on the choice of the delegatee and the delegation contract.

The tendering procedure is not compulsory when the amount of money to be paid to the delegatee during the entire duration of the contract does not exceed FRF 700,000, or when the contract duration is not greater than 3 years and the yearly amount owed to the delegatee does not exceed FRF 450,000.

Beside specifying the tendering procedure, the Sapin Law defines minimum rules applicable to the delegation contracts. In particular, it specifies that the duration of the contracts depends on the services requested from the delegatee, and cannot exceed the duration of depreciation of the installations if the delegatee participates in the investment.

Finally, we should note that the labor law L 212.12 stipulates that, in case of change of operator, the contracts of all employees must be renewed by the new incumbent operator. With the goal of providing stability to the staff working in the urban public transport industry, this law considerably reduces the room to manoeuvre of the operator in controlling staff expenses.

In conclusion, the regulatory framework of urban public transport in France has changed fundamentally in the last three decades and is still evolving. A recent trend is a clearer distinction between the DSP and the public market procedures, according to the type of risks borne by the delegatee that are specified in the delegation contract. Another trend is the European harmonization on the production methods available to the OA's. In particular, the European Commission is preparing a text that will specify the rules and principles that should apply to public service concessions (i.e. delegations of public service) in water, energy, transport, and telecommunications sectors, which are not currently covered by council directive 93/38/EEC on service concessions (Avanzata,

1999). As a result, public production may no longer be allowed and systematic tendering in all cases could be the rule.

2.2 Market Structure

As a result of further integration and liberalization trends in Europe, large international public transport service providers, mainly British and French for the moment, are now starting to appear. At the scale of the French industry, concentration has already taken place a decade ago. Furthermore, it seems that, despite their new interest in foreign markets and the growing threat from foreign competitors, the major French operators are determined to retain their market share in the French networks.

After a brief review of the evolution of service supply and ridership in the French urban public transport market, this section first describes the organizing authorities (OAs), together with their networks; the OAs organize their own market, consisting of the tendering, every 5 to 10 years, for the delegation of service for the network under their responsibility. We shall then present the major French groups that operate these networks and finally describe the current trends in the contractual relationships between OAs and operators.

2.2.1 Introduction

In the deregulated model, there is only one market, between the operators who initiate, organize and provide the service, and the users. In particular, the operators freely adjust their prices and levels of service in order to maximize their profit. The “limited competition” model operates differently, as the OA is in charge of the organization (including network design and fares) and provision of the service. Under this model, we can consider two distinct markets: the “provision market” between the OAs (provision) and the users (consumption), and the “production market” between the OAs (organization) and the operators (production).

In the French provision market, where the OA promotes the usage of urban public transport and faces fierce competition from the private car, the supply of urban public transport has increased significantly between 1992 and 1997 (see Table 2.1). However,

we should note the slight decrease of 0.4% in the intermediate size network category in 1997.

Table 2.2: Supply in Available Seat Kilometer per inhabitant of the PTU in 1997

Population	1992	1993	1994	1995	1996	1997
Over 300,000	3,110	3,269	3,339	3,392	3,494	3,548
100,000 – 300,000	2,503	2,592	2,639	2,774	2,861	2,850
Less than 100,000	1,277	1,339	1,388	1,399	1,439	1,493

Source: Enquetes et Analyses 98, Transports Collectifs Urbains, Annuaire Statistique, Ministere de l'Equipeement, des Transports et du Logement - CERTU (1998)

Whereas the ridership had declined since 1994, we observe a halt in this decline in 1997 with a slight increase from an average of 87.9 trip per inhabitant in 1996 to an average of 88.1 in 1997 (see Tables 2.1 and 2.2). However, the ridership in the networks with population between 100,000 and 300,000 inhabitants decreased slightly (-1.2%) in 1997, which is in line with the decline observed in the supply for this network category.

Table 2.3: Ridership in Number of Trips per inhabitant in 1997

Population	1992	1993	1994	1995	1996	1997
Over 300,000	126.1	128.6	128.1	125.7	123.6	124.5
100,000 – 300,000	82.2	82.5	83.2	81.8	82.0	81.0
Less than 100,000	40.3	40.9	41.4	41.0	40.9	42.0

Source: Enquetes et Analyses 98, Transports Collectifs Urbains, Annuaire Statistique, Ministere de l'Equipeement, des Transports et du Logement – CERTU (1998)

The objective of the OAs to increase the urban public transport market share in the transport provision market is increasingly influencing their behavior in the production market. The OAs give priority to the quality of service over price during the selection of the producer and in the contract structure through incentives schemes. We shall next

focus on the production market, which is the central interest of this thesis, by reviewing the characteristics of both groups of actors in this market – the OA’s and the operators – and then describing the current trends in their contractual relationships.

2.2.2 The Organizing Authorities

There are currently around 240 urban public transport networks, and as many OAs, in France. The “intercommunality rate”, or rate of OAs that consist of a group of communes, of 63% in 1998, keeps growing through an increase of the number of Associations of communes and intercommunal syndicates (see Table 2.4).

Table 2.4: Status of the OAs in 1998

Form of Association of Communes	Percentage
Communes	37%
Intercommunal syndicates	31%
Districts	17%
Mixed syndicates	6%
Associations of Communes and Cities	4%
Urban Communities	4%
New Towns Syndicates	1%

Source: GART – Enquete Annuelle Sur Les Transports Collectifs Urbains (CERTU-DTT-GART-UTP)

The OAs are financially largely independent of the State. In 1997, the average share of the *Versement de Transport* in the financing of both urban public transport investment and operation was 39% (FRF9.7 billion for all provincial networks), whereas the local public authorities financed 36% (FRF8.8 billion) and the fare box revenue 23% (FRF5.5 billion). The remainder of only 2%, was financed by the State.

In Table 2.5, which shows the distribution of networks by size, we can observe that the large networks enjoy a higher ridership and recovery ratio than smaller networks as would be expected. Table 2.6 shows some characteristics of the top five networks (outside the Paris region and excluding Marseilles, which also has public production).

Table 2.5: Characteristics of Networks By Size in 1997 (133 networks, out of 240)

<i>Population in PTU</i>	Over 300,000	Between 100,000 and 300,000	Between 50,000 and 100,000	Below 50,000	All Networks
<i># of Networks</i>	11	39	32	51	133
<i>Trips per inhab.</i>	128.1	81.0	49.3	32.1	90.2
<i>Op. Rev. / Trip</i>	3.3	3.0	2.4	2.4	3.1
<i>Op. Costs / Trip</i>	6.7	6.7	6.4	7.3	6.7
<i>Recovery Ratio</i>	49.5	44.3	36.7	33.1	46.2

(Revenues and Costs in FRF)

Source: GART – Enquete Annuelle Sur Les Transports Collectifs Urbains 1998 (CERTU-DTT-GART-UTP)

Table 2.6: Main Characteristics of Four Of The Five Largest Networks under Delegation for 1997 (Data not available for Toulouse, which ranks #4)

	Lyon	Lille	Bordeaux	Nantes
<i>OA status</i>	Mixed Synd.	Mixed Synd.	Urban Com.	District
<i>Population in PTU</i>	1,152,297	1,079,493	633,823	505,281
<i>Modes</i>	Metro and Bus	Metro, Tram and Bus	Bus, Tram being built	Tram and Bus
<i>Number of Routes</i>	99	n.a.	62	59
<i>Total Length of Routes (km)</i>	1,160	1,109	997	623
<i>Vehicles</i>	1,177	604	584	467
<i>Staff</i>	3,504	1,520	1,658	1,186
<i>Total Trips (Thousand)</i>	217,874	93,935	58,220	84,516
<i>Total Trips km (Thousand)</i>	54,094	29,078	22,433	18,421
<i>Total ASK*</i>	5,926,597	2,603,429	2,488,960	1,931,946
<i>ASK per inhabitant</i>	5,413	2,411	3,930	3,824
<i>Trip per inhabitant</i>	189.1	87.0	91.9	167.3
<i>Operating Revenue (K FRF)</i>	634,045	309,568	128,955	154,938
<i>Operating Costs (K FRF)</i>	1,356,046	646,758	552,874	383,065
<i>Personnel Costs (K FRF)</i>	907,310	n.a.	393,245	216,923
<i>Operating cost / 1000 trips</i>	6.2	6.9	9.5	4.5
<i>Operating costs /1000 km</i>	25.1	22.2	24.6	20.8
<i>Recovery Ratio** (%)</i>	46.8	47.9	23.3	40.4
<i>Basic Fare (FRF)</i>	8.00	7.80	7.50	8.00
<i>Operator (Group)</i>	VIA GTI	VIA GTI	CGEA	Transdev

Source: GART –Enquete Annuelle Sur Les Transports Collectifs Urbains 1998 (CERTU-DTT-GART-UTP)

* ASK: Available Seat Kilometer

** Recovery Ratio: Operating revenue / Operating Costs

2.2.3 The Operators

A special feature of the French urban public transport is the important role played by the private sector in the operation of the urban public transport systems outside the Paris region. A small number of private or semi-public companies operate the networks, either directly, or indirectly through subsidiaries. Since 1988, many takeovers have occurred and, as a result, most of the urban public transport companies are now affiliated with one of the three major groups: VIA GTI (VIA Generale de Transport et d'Industrie), CGEA (Companie Generale des Eaux Automobiles), and TRANSDEV. In some cases, these private companies participate in urban public transport under the form of semi-public companies or SEM (Societes d'Economie Mixte).

The SEM are public-private joint ventures (under private law) in which the OA typically holds between 51% and 80% of the share capital. The status of a private company provides them with a freedom of action that is not available to public agencies ("regies"). The production of service is governed by a delegation contract between the OA and the SEM. The nature of the SEM being clarified, we shall next present the three major groups.

A subsidiary of the Compagnie de Navigation Mixte, VIA GTI runs 38% of the networks, including Lyon, Lille, Tours, Rennes and Dijon. The group operates the networks of two large agglomerations of over one million inhabitants with urban rail systems in both. Lyon has a conventional metro system and an automatic metro (line D). Lille has an automatic metro and a modern LRT system. In 1995, 46 networks out of the 59 in which VIA GTI was involved were operated by a private limited company. Of the remainder, 11 networks are operated by an SEM. VIA GTI has a clear strategy of expansion in foreign markets mainly through acquisitions and partnerships. VIA GTI is present in Spain through Corporacion Espanola de Transporte S.A.(with FCC), in UK through GOVIA (with Go Ahead), in Germany through Taeter Aachen GmbH (with CGEA), and in Albania, Hungary, and Romania through Transtec (with CGEA) for technical assistance contracts.

TRANSDEV is a subsidiary of the Caisse des Depots et Consignations, a public financial institution. TRANSDEV operates around 18% of the networks, including Grenoble, Nantes and Toulouse. TRANSDEV has two subsidiaries: TRANSCET which

is responsible for the urban transport activity, and PROGECAR in charge of the interurban transport activity. In 1995, 18 out of the 32 networks in which TRANSDEV was involved, were operated by an SEM in which TRANSCET has a minority shareholding. Toulouse, the largest network operated by the group, has an automatic metro. In addition, the group has been involved in the management of four LRT systems: in Strasbourg, Nantes, Grenoble, and Saint Etienne. TRANSDEV is also active in foreign markets, especially in LRT projects including Nottingham, UK (with Tarmac, ADTranz, Nottingham City Transport) and Dublin, Ireland. In Spain, TRANSDEV has a partnership agreement with TMB (Transpots Metropolitains Barcelone). Finally, TRANSDEV provides technical assistance in Portsmouth, UK, in Buenos Aires, Argentina and in several cities in Poland.

CGEA is wholly owned by the Vivendi group, which is the world-wide leader in the water distribution sector. CGEA runs around 13% of the networks, notably Bordeaux, Nancy, Rouen and Toulon. Set up in 1972, CGEA took over CGFTE (Companie Generale Francaise des Transport et d'Entreprises) in 1988, CFTA in 1989, the Galienne group in 1990, and the SPIT group (Transport Industry Company) in 1992. Apart from a LRT project in Rouen, CGEA operate only standard bus and trolleybus services, even in Bordeaux, the largest network operated by the group. All the companies controlled by CGEA are subsidiaries with the exception of two SEMs. CGEA is also involved in urban public transport in other European countries. The group is present in Germany through DEG (with EVS), and through Taeter Aachen GmbH (with VIA GTI), in UK through Connex Rail Ltd, in Sweden through Linjebus (which has subsidiaries in Belgium, Denmark, Finland, and Germany), in Portugal through Barraqueiro, in the Netherlands through Lovers Rail, and in Albania, Hungary and Romania through Transtec (with VIA GTI).

Table 2.7: The Top Three French Urban Public Transport Groups in 1996

	VIA GTI	TRANSDEV	CGEA
<i>Turnover (transport only) (in FRF million)</i>	4,987	4,300	11,500*
<i>Staff (transport only)</i>	20,590	11,320	20,590
<i>Fleet</i>	8,600	5,515	10,500*

Source: UITP-EuroTeam-January 1998

* Forecast for 1997

Beside the three major groups (see Table 2.7), there are two smaller groups: CARIANE and VERNEY. Both operate medium sized and small networks, and were not successful so far in their bids for large networks. The VERNEY group operates 7 small networks (between 10,000 and 60,000 inhabitants) in the West of France. CARIANE group, a subsidiary of SNCF set up in 1988, operates 5 networks, of which only one has a population over 100,000 (Versailles). CARIANE is a stronger player in inter-city transport, operating coach lines that replaced some abandoned SNCF rail lines.

Finally, the “Association pour la Gestion Independante des Reseaux de transport public et l’amelioration des deplacements” (AGIR), set up in 1987, operates as an independent manager of urban public transport networks. It operates 8 networks serving populations over 100,000, and two networks serving populations over 200,000 (Clermont-Ferrand and Mulhouse).

2.2.4 The Contractual Relationship between the OA and the Operator

As discussed in section 2.1.2, the current regulation on delegation contracts is rather flexible with a broad and diverse spectrum of contract type. Nonetheless, the current contracts in French networks are traditionally classified into three types: management contracts, operation contracts at a fixed price, and operation contracts with financial compensation. This classification is based on the allocation of the production risk and the commercial risk between the OA and the operator, as well as on the remuneration method.

In the French context, as the OA usually owns the rolling stock, the production risk is associated with the operation and maintenance of rolling stock and with the management of labor only. The commercial risk is mainly the risk on the fare box revenue, but can also include the risk on advertising revenue. Beside fare, which is fixed by the OA, ridership is the other important element of the fare box revenue. Many factors influence ridership. On the demand side, we have the evolution of mobility patterns and purchasing power. On the supply side, the main factors are the quality of service and the appropriateness of the service to the needs of the users.

Under a management contract, the OA assumes both operation risk and commercial risk, and the operator brings his know-how on operations and technical

assistance. The staff is employed by the operator. This is a Cost Plus contract: the operator collects the fare box revenue on behalf of the OA, and the OA reimburses the operator all its actual operating expenses. The operator's fixed remuneration is calculated based on the type and volume of service supplied. There is usually a system of bonuses or penalties based on management performance.

Under an operation contract at a fixed price, the operator collects the fare box revenue on behalf of the OA. The OA agrees to pay the operator a fixed price for each year of the contract period, based on operating cost estimates. The operator therefore bears the operation risk. This second category of contract usually includes a system of bonuses and penalties that are based either on operating revenues or on the quality of service and on ridership. Depending on the bonus and penalty formulae, the operator may end up bearing a substantial portion of the commercial risk.

Under the last category, the operation contract with financial compensation, the operator bears the full operating risk and part of the commercial risk, no longer through bonus and penalty schemes, but based on the variance from the budgeted operating revenues. Another difference with the contracts at a fixed price lies in the fact that under a contract with financial compensation, the operator keeps the fare box revenue. The OA then pays the operator compensation which is the expected operating deficit calculated based on operating expenses and revenue forecasts. The difference between actual and budgeted revenues may be split, evenly or not, between the OA and the operator. In the last two categories, the commercial risk borne by the operator is usually capped. We shall briefly illustrate this contract classification with a review of three examples.

In Toulon's management contract that covers the 7-year period between 1996 and 2002, the OA reimburses the operator all actual operating expenses. The operator's remuneration also includes two elements: a fixed portion of FRF1,500,000 per annum, which corresponds to an annual management fee and is increased or reduced by 10% of the difference between the actual operating deficit and the contractual forecast. The variable part, called management bonus, is calculated based on two indicators: the number of kilometers run divided by hours worked, and ridership (according to our interpretation of the French contract). The management bonus, paid on an annual basis, equals FRF300,000 if both indicators are stable from one year to the next; it equals

FRF150,000 if one indicator decreases by more than 3% and is null if both indicators decrease by more than 3%. Finally, a clause stipulates that the variation of the operator's total remuneration cannot increase or decrease from one year to the next by more than 25%.

In Bordeaux, the OA has chosen a contract with a fixed price for the 5-year period starting in 1996. Under this contract, the operator remuneration consists of two parts: a fixed part and a variable part. The fixed part, called the fixed price, corresponds to operating expenses necessary to achieve a certain level of supply of transport services and a certain level of quality of service, both specified in detail in the contract. The variable part is based on the achievement of goals in terms of fare box revenue. The fixed price is calculated for each year (FRF498 million for 1996) and specified in the contract, as well as the total price for the 5-year period (FRF2.487 billion). The variable part is based on the difference between the actual and the targeted fare box revenue. Within a variation of 1% around the target, the difference is fully borne by the operator. If the variation is between 1% and 2.5%, the operator's share on the revenue difference falls to 30%. For a variation above 2.5%, the operator's incentive is biased as his share on the revenue difference is 20% in case of a revenue surplus (bonus), but is null in case of a revenue deficit.

In the Rennes district, the delegation contract recently signed between the OA and the operator for the period 1999-2005 is a contract with financial compensation. The contract defines in detail the service supply expected from the operator. Moreover, the operator has the flexibility to modify the service supply within a range of 3% with no change in the amount of the compensation. The operator is remunerated by the fares collected and by compensation, which is calculated for each of the 7 years (FRF141 million in 1999). Another portion of the operator's remuneration is based on the difference between the actual and forecast fare box revenue. For variation of less than 6%, the operator bears full commercial risk. Between 6% and 10%, the operator bears 50% of the commercial risk. Beyond 10%, the parties renegotiate the financial outcome of the contract.

Table 2.8: Commercial Risk Sharing in the Bordeaux Contract

Actual fare box revenue	Variance of fare box revenue	Operator's share	OA's share
142.6	+10%	+ 3.9	+9.1
136.1	+5%	+2.6	+3.9
132.8	+2.5%	+1.9	+1.3
130.9	+1%	+1.3	-
129.6	Target	-	-
128.3	-1%	-1.3	-
126.4	-2.5%	-1.9	-1.3
123.1	-5%	-1.9	-4.6
116.6	-10%	-1.9	-11.1

(in FRF million)

Table 2.9: Commercial Risk Sharing in the Rennes Contract

Actual fare box revenue	Variance of fare box revenue	Operator's share	OA's share
> 87.9	> +10%	Re-negotiation	
87.9	+10%	+6.4	+1.6
84.7	+6%	+4.8	-
79.9	Target	-	-
75.1	-6%	-4.8	-
71.9	-10%	-6.4	-1.6
< 71.9	> -10%	Re-negotiation	

(in FRF million)

These three examples provide a sense of the broad diversity that can be found in the contracts in the French urban public transport networks, especially in terms of risk sharing. In particular, even though both the Bordeaux and Rennes contracts include a system of bonuses and penalties related to fare box revenue, different settings of the ranges and sharing formulae have significantly different results in terms of commercial risk borne by the operator (substantial in Rennes, low in Bordeaux) (see Tables 2.8 and 2.9).

Table 2.10: Distribution of Contracts Types 1993-1997

<i>Contract Type</i>	1993	1997
Management Contract	27%	22%
Operation Contract At A Fixed Price	35%	35%
Operation Contract With Financial Compensation	34%	41%
Other Contracts	4%	2%

Source: GART –Enquete Annuelle Sur Les Transports Collectifs Urbains 1998 (CERTU-DTT-GART-UTP), Ministère de l'Équipement, des Transports et du Logement (1995)

As shown in table 2.10, there is a clear trend towards more contracts with financial compensation and less management contracts. This trend can be explained by the increasing desire of the OA's to transfer some portion of the risk to the operator, mainly with the objective of having better control over its long-term financial planning. A judgement by the Supreme Court in 1996 (“Arrete du Prefet des Bouches-du-Rhone”) may further enhance this trend, as it states that a delegation contract, in order to qualify for the DSP procedure (or Sapin Law procedure), should be structured in such a way that the operator's remuneration is “substantially” based on the operating revenue.

Despite its rather vague formulation and the difficulty of application due to the diversity of contracts, this judgement may have some consequences on the contracting practices. In 1997, a little bit less than 50% of the delegation contracts integrated a variable portion of the operator's remuneration based on economic incentives (on ridership or fare box revenue for example). Yet, in most networks, this variable portion is not significant with respect to the global remuneration of the contract (e.g. refer to Bordeaux contract). Finally, this judgement has had, so far, very little impact on OA's choice of the tendering procedure: out of the 28 urban public transport contracts renewed in 1998, only one followed the public market law (Menton).

In this chapter, we have seen that the French tendering system is indeed a variant of the limited competition model, with the responsibility for urban public transport given to organizing authorities by the LOTI in 1982, and the obligation to organize a tendering for any delegation of service introduced by the Sapin law in 1993. It is worthwhile noting that a feature that could inhibit competition maximization, has been introduced in the French system. The labor law L212-12, by requiring the new incumbent operator to

renew the contracts of all employees, has the effect of reducing significantly the scope of items on which operators can differentiate themselves from their rivals, and therefore on which the operators can actually compete.

Beside this constraint, we have also noted that the urban public transport industry is highly concentrated. For the above reasons, we may wonder whether the tenders organized in the French networks are truly competitive. We shall investigate this question in the next chapter.

Chapter 3: Degree of Competition in Tendering in the French Networks

As seen in Section 2.1, the principle of competition was introduced in the French urban public transport system starting in 1993, when the Sapin law imposed a tendering procedure for any delegation of service. Despite the diffuse feeling that there is little competition, the actual degree of competition in the French market and its underlying factors remain, to a large extent, to be investigated. In this chapter, we shall first evaluate the performance of the French tendering procedure in bringing competition in the selection of the delegatee. For this purpose, we shall provide and analyze the results of two surveys on tenders in the French networks. We shall then make several hypotheses on the factors, regulatory and non-regulatory, influencing the outcomes of tendering procedures, hence the degree of competition in the market. In the last section, the tendering procedure used in London, where another form of “limited competition” model has been applied, will be briefly described, together with its outcome.

3.1 Survey on the degree of competition in French tendering

3.1.1 Methodology

The objectives of any tendering process are to improve the quality of service and push the price down by creating competition during the bidding process. In the French system, there is a second phase in the competition which involves negotiation with the selected bidders. The tendering process will therefore be really effective only when the OA receives several bids. If only one bid is submitted, the OA’s bargaining position during the negotiation phase with the sole bidder will inevitably be weak. In this case, according to the Sapin law, the OA’s only leverage over the sole candidate is to declare the negotiation unsuccessful and either start direct negotiations with several companies (for example the case of Lille) or decide to establish a public agency (regie, EPIC) in order to produce service (for example the case of La Rochelle). In order to evaluate the performance of a tender, we shall therefore use three indicators: the number of candidates in the qualification round, the number of bids submitted, and the tendering outcome i.e. the rate of renewal of the incumbent operator.

In 1996 the CERTU carried out a survey on the effects of the Sapin Law on tendering practices in the French networks. Although its results are interesting and will be summarized shortly, this survey has the following shortcomings. First, it was carried out just two years after the promulgation of the Sapin law, so that not all networks had used the new procedure at that time. Second, it included all OAs disregarding their size, and resulted in a network sample lacking homogeneity. Third, it was based on a questionnaire and suffered a low response rate.

Therefore, for this thesis we conducted a new survey on the tendering process in the French networks but adopted a different methodology. First, we decided not to survey small networks, as we thought they would be less attractive for the large operating groups and expected little competition in these tenders, especially from foreign companies. Furthermore, the large OA's generally have more in-house technical competence and may have a better ability to organize the tendering procedure so as to optimize the degree of competition. For these reasons, we focused on the networks of agglomerations with population over 200,000.

Another departure from the strategy followed by the CERTU is that our main source in this new survey consists of official documents: the minutes of the deliberations of the OA ratifying the delegation of the network for the new period. This document summarizes the outcomes of the tendering procedure, from the call for tender until the final negotiation with the selected candidates. We also conducted interviews at the Ministry of Transport, at the GART (Groupement des Autorites Responsables de Transport) and the UTP (Union des Transports Publics), respectively the OAs and the operators' national associations, and with a set of OAs, either selected (Bordeaux, Lyon) or fortuitous (Toulon, Nantes, Lens-Lievin). We shall next present the results of the CERTU survey, followed by those of the second survey conducted for the purpose of this thesis.

3.1.2 Results of the CERTU Survey

This survey was launched in July 1995 and covers the period from September 1993 until July 1995. Its aims were to describe the outcome of the tendering process and to

measure the impact of the Sapin law on contract renewals. Out of the 46 OAs that had renewed their delegation under the Sapin procedure, 23 of them replied to the questionnaire sent by the CERTU. The 23 OAs responding are generally not very large: 10 have populations below 50,000 inhabitants, 6 have populations between 50,000 and 100,000 inhabitants, and 6 have populations over 100,000. Most of the OAs (18 out of 23) initiated the tendering procedure in 1994 and completed it either by the end of 1994 or early 1995. The average length of the procedure was 9 months and for 5 of them, the procedure took 6 months or less. In the pre-qualification round, the most frequent number of applicants is 3, found in 7 networks out 22, as shown on the Table 3.1.

Table 3.1: Number of Applications Received for the Pre-Qualification Round (sample of 22 networks)

Number of applications	0	1	2	3	4	5	6	>6
Number of networks	0	1	3	7	4	2	3	2

Source: CERTU (1997)

The ranking of the groups who submitted an application in 20 calls for tenders is the same as those qualified by the OAs. There are generally few rejections of applications as 15 OAs did not reject any application, two OAs rejected one application, and one OA rejected two applications (see Table 3.2). The English group SOUTHERN VECTIS submitted an application in 3 calls for tenders (Chateauroux, Epernay, and Le Puy) and was qualified in two of them.

Table 3.2: Number of Applications after Rejections and Withdrawals

Group	Number of applications	After OAs selection and withdrawals
VIA GTI	16	13
CGEA	14	13
CARIANE	13	11
TRANSDEV	10	9
VERNEY	7	6
AGIR	4	3
SOUTHERN VECTIS	3	2

Source: CERTU (1997)

The period of time left to the operators to prepare their bids is rather homogeneous as 13 OAs left a period of 31 to 60 days, and 6 OAs left them a period of 61 to 90 days. The selection criteria mentioned to the applicants are by descending ranking: costs, technical expertise (especially on fleet renewal), financial resources, references, policy on ridership growth, human resources, policy on supply improvement, current knowledge of the network, legal resources, relationships between the operator and the OA, policy on quality, compliance with the notion of public service, policy on communication (internal, external). It is worth noting that for 15 OAs, the main concern is cost.

For half of the 23 OAs surveyed, there were two bids submitted (see Table 3.3) with only one third received more than two bids. There was no competition right from the start for 3 OAs who received only one bid (Bar-Le Duc, Limoges, Roanne).

Table 3.3: Number of Bids Received (sample of 23 networks)

Number of bids	0	1	2	3	4	5	>6
Number of networks	0	3	13	1	4	2	0

Source: CERTU (1997)

Table 3.4: Number of Bids Submitted (sample of 20 networks)

Group	Number of final applications	Number of bids submitted
VIA GTI	13	13
CGEA	13	10
TRANSDEV	9	7
CARIANE	11	6
VERNEY	6	3
AGIR	3	2
SOUTHERN VECTIS	2	2
Total	57	43

Source: CERTU (1997)

Clearly between the application and bid submission stages, some operators pull out, especially CARIANE (minus 5), CGEA (minus 3) and VERNEY (minus 3) (see Table 3.4). Only 3 OAs rejected some bids as being invalid. The selection criteria actually used by the OAs to select the operators for the negotiation phase (based on only

11 replies) are slightly different from those mentioned earlier: costs still come first, followed by the policy on improvement of supply, and the policy on increase of ridership.

Out of 17 replies, 4 OAs received only one valid bid. For the others, 12 OAs received bids with a small range of cost variation (less than 10%). Out of 18 replies, 10 OAs conducted a final negotiation with only one candidate, and 8 OAs conducted a final negotiation with 2 candidates. No OA negotiated with more than 2 candidates.

Table 3.5: Number of Negotiations (sample of 18 networks)

Group	Number of bids submitted	Number of negotiations
VIA GTI	13	11
CGEA	10	4
TRANSDEV	7	4
CARIANE	6	2
VERNEY	3	1
AGIR	2	1
SOUTHERN VECTIS	2	0

Source: CERTU (1997)

Despite its two bids, SOUTHERN VECTIS was not invited to participate in any negotiation. In contrast with other groups, VIA GTI maintained a strong presence at both the bid and the final negotiation stages. The selection criteria during the negotiation are the following. The operating costs are still the main concern but are no longer governing in all cases (only 9 OAs out of 12). Once the issue of cost is agreed upon, the OA wants to make sure that the operator has the technical expertise to provide the desired service (6 OAs) and reach the targeted level of ridership (5 OAs).

In only one case, the OA had to declare the tendering process unsuccessful and engage in direct negotiation. As a result of the tendering, two OAs out of 20 changed their operators: Annemasse' network delegation was transferred from AGIR to VIA GTI, and that of Douai from CGEA to CARIANE.

From their appraisal of their existing contract, half of the OAs (out of 12 replies) concluded that the operator should bear more responsibility. 7 out of 14 OAs clearly mentioned as objectives the control of costs, and the improvement of supply and

ridership. 15 out of 23 OAs have modified their contracts, of which half have changed in the areas of exchange of information and quality monitoring.

When asked about their experience under the Sapin law, 9 OAs out of 16 found the procedure too complex and demanding; 7 OAs found it too lengthy. On the positive side, 6 OAs think that the procedure creates the desired level of transparency in the delegation of service; and 6 OAs mention that it stimulated a review of the network and new actions for its improvement.

In conclusion, the tendering in this survey show a low level of competition with 4 out of 17 OA's receiving one bid, and the majority of the remainder receiving two bids.

3.1.3 Results of the 1999 Survey

A new survey was undertaken in June 1999 as part of this thesis research, and as already mentioned, was mainly based on the minutes of the OA's deliberations on the delegation of service. We can see from Table 3.6 that 17 out of the 29 networks with a population over 200,000 have now undergone a tendering procedure as prescribed by the Sapin law. The tendering in these networks has therefore taken place between March 1993 and December 1998, especially in the last three years as 12 contracts were renewed in 1998 or 1999 (see Table 3.7). In this sample, 12 out of the 17 networks have a population between 200,000 and 400,000 inhabitants (see Table 3.8).

Table 3.6: Networks with a PTU Population over 200,000 Inhabitants

	<i>Network</i>	<i>Population</i>	<i>Production type</i>	<i>Contract beg date</i>	<i>Contract End date</i>	<i>Contract type</i>
Networks that were delegated under the Sapin Law						
1	ANGERS	250,910	Delegation	1/1/98	12/31/04	Fixed Price
2	BORDEAUX	640,025	Delegation	1/1/96	12/31/00	Fixed Price
3	DIJON	235,029	Delegation	1/1/98	12/31/02	Management
4	HAVRE (LE)	244,523	Delegation	1/1/97	12/31/05	Financial Compensation
5	JOUE LES TOURS	268,500	Delegation	1/1/98	12/31/03	Management
6	LENS-LIEVIN	251,535	Delegation	1/1/94	12/31/98	Financial Compensation*
7	LILLE	1,065,595	Delegation	1/1/93	6/30/98	Fixed Price*
8	LYON	1,134,689	Delegation	1/1/93	12/31/98	Fixed Price*
9	MONTPELLIER	282,259	Delegation	1/1/98	12/31/03	Financial Compensation
10	MULHOUSE	209,686	Delegation	1/1/98	12/31/02	Fixed Price
11	NANCY (GRAND)	264,854	Delegation	1/1/97	12/31/01	Financial Compensation
12	NANTES	564,419	Delegation	1/1/98	12/31/02	Management
13	ORLEANS	249,359	Delegation	8/1/94	7/31/04	Financial Compensation
14	RENNES	331,752	Delegation	1/1/94	1/1/02	Financial Compensation
15	TOULON	298,507	Delegation	1/1/96	12/30/02	Management
16	TOULOUSE	631,579	Delegation	1/1/99	12/31/03	Financial Compensation
17	TOURS	272,397	Delegation	1/1/98		Management
Networks that were not delegated under the Sapin Law						
18	BREST	213,838	Delegation	1/1/92	12/31/03	Financial Compensation
19	CLERMONT-F.	235,995	Delegation	1/1/92	12/31/00	Management
20	DUNKERQUE	208,580	Delegation	1/1/94	12/31/98	Management *
21	GRENOBLE	373,466	Delegation	1/1/75	1/1/06	Fixed Price
22	NICE	338,486	Delegation	3/23/90	12/31/01	Financial Compensation
23	REIMS	212,036	Delegation	1/1/93	12/31/99	Financial Compensation
24	ROUEN	392,243	Delegation	7/1/93	12/31/25	Financial Compensation
25	SAINT-ETIENNE	316,262	Delegation	1/1/88	12/31/00	Management
26	STRASBOURG	429,928	Delegation	1/1/91	12/31/20	Financial Compensation
27	VALENCIENNES	334,671	Delegation	2/22/93	12/31/99	Fixed Price
28	MARSEILLES	807,726	Public (EPIC)			None

Source: GART Contract database

Table 3.7: Networks by Year of Contract Renewal

Year Of Contract Renewal	1994	1995	1996	1997	1998	1999
Number of Networks	1	0	2	2	9	3

Source: GART Database

Table 3.8: Networks by Population Size

Population Size	Number of Networks
200,001 – 400,000	12
400,001 – 600,000	1
600,001 – 800,000	2
800,001 – 1,000,000	0
Over 1,000,000	2

Source: GART Database

We obtained the minutes from 14 out of 17 OAs and the results presented below are therefore based on a sample of 14 OAs, which can be considered as representative of the whole population.

Table 3.9: Number of Applications Received for the Qualification Round (out of a sample of 12 OA's)

<i>Number of Applications</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Number of Networks	0	0	1	9	2

Source: Minutes of the OAs Deliberations on the delegation of services

In the qualification round, the most frequent number of applicants is 3 as shown in Table 3.9. The three major groups are well represented in the ranking by number of applications (see Table 3.10). We also note applications from two British groups: ARRIVA (in Lyons), and GO AHEAD (in Toulouse).

Table 3.10: Ranking of Applicants by Number of Applications

Group	Number of Applications	Number of Rejections
VIA GTI	11	0
TRANSDEV	11	0
CGEA	7	0
CARIANE	3	1
VERNEY	1	0
GO AHEAD	1	0
ARRIVA	1	0

Source: Minutes of the OAs Deliberations on the delegation of services

Table 3.11: Number of Bids Received

Number of bids	0	1	2	>3
Number of networks	0	10	4	0

Source: Minutes of the OAs Deliberations on the delegation of services

The big surprise of this survey came with the number of networks having received only one bid (all from the incumbent): 10 networks out of 14 (see Table 3.11). The other 4 networks received only two bids. This latter result occurs in large part as a result of VIA GTI’s expansion strategy, bidding against the incumbents in Bordeaux, Toulouse, and Rennes, (against CGEA in Bordeaux, and TRANSDEV in the last two). TRANSDEV contested the delegation to CGEA in Toulon. Only VIA GTI was successful in any of these rare offensives and then only once: in Rennes.

Less surprisingly, the bids are mostly submitted by the three large groups (see Table 3.12). Again, VIA GTI is the only large operator to submit bids on the great majority of its applications. It is interesting to note that the two small French groups, CARIANE and VERNEY, and the two British groups, GO AHEAD and ARRIVA, did not submit a bid although they were qualified. The only independent operator who (successfully) submitted a bid was the Societe Montpellieraine de Transport Urbain (SMTU) in Montpellier (we do not have any information regarding the qualification round for this network; however we know that SMTU’s bid was the only one received).

Table 3.12: Number of Bids Submitted (out of a sample of 14 networks)

Group	Number of applications	Number of bids submitted	Number of networks won
VIA GTI	11	8	6
TRANSDEV	11	5	4
CGEA	7	4	4
CARIANE	2	0	0
SMTU	1	1	1
VERNEY	1	0	0
GO AHEAD	1	0	0
ARRIVA	1	0	0
Total	35	18	15

Source: Minutes of the OAs Deliberations on the delegation of services

We can conclude that the level of competition in the 14 tendering processes surveyed is exceptionally low with 10 out of 14 networks being forced to conduct the final negotiation with the existing operator only. We shall next analyze the results of the two surveys and look for explanations for this poor performance.

3.2 Analysis

Two observations can be made from the two surveys. The first one is that there are only a few significant active operators in the French urban public transport production market. The second observation is that these few players do not compete actively.

Table 3.13: Number of Groups in the Market and Average Number of Applications and Bids

	CERTU Survey	Second Survey
# of networks surveyed	23	14
# of groups in the bidding phase	7	4
Average # of applications received	3.9	3.1
Average # of bids received	2.3	1.3

Source: CERTU (1997) and Minutes of the OAs Deliberations on the delegation of services

3.2.1 Few Players in the Market

In order to get an idea of the number of potential producers of urban public transport service in France, we may consider the qualified applicants. In the CERTU survey, the French groups are the three largest groups, CARIANE, VERNEY, and some local transport companies (found in 5 networks out of 23; of which 3 received the delegation contract). We also find the British group SOUTHERN VECTIS, which focuses on small and medium-size networks.

In the second survey, we find the five national groups but hardly any local companies. The British groups showing some interest in the large French networks are ARRIVA and GO AHEAD (with one application each). Overall, we cannot currently expect more than 7 potential producers whether it be in small and medium-size networks (including one local producer) or in the large ones. This small number of observed potential producers is due, first, to the concentration wave that took place in the French urban public transport industry since the late 1980's, and second, to the little interest shown so far by foreign companies in the French market.

3.2.2 Lack of Competitive Behavior

Nevertheless, not all the potential producers submit applications. The CERTU surveys shows an average of 3.9 applications per network and the second survey shows an average of 3.1 applications per network. Furthermore, even fewer groups submit bids for network, with an average of 2.3 in CERTU survey and of 1.3 in the new survey. The rejection of some applications – 4 rejections in CERTU survey and one in the new survey – does not explain the drop in the number of participants between the application phase and the bidding phase. Heavy workloads and commitments in other networks and a lack of information to assess the risks involved are reasons frequently invoked by the operators. We can observe a lack of competitive behavior from the operators as they tend to bid only in the networks where they are the incumbent; as a result, many OAs receive only one bid (in 10 networks out of 14 in the second survey) and are in a weak bargaining position to begin the negotiation round.

3.2.3 Explanations

There are several possible reasons for the small number of bidders in the French tendering system and their lack of competitive behavior. In our survey and interviews, we found some support for the following four explanations: information asymmetries, high tendering costs, high operation risks, and the OA's perceived failure to conduct a fair selection. However, before presenting these four explanations, it is appropriate to mention here the significant impact of labor law L122-12 on the number of bidders and their lack of competitive behavior.

As seen in Chapter 2, labor law L122-12 aims to protect the staff of urban public transport companies from the instability created by frequent tendering of the service delegation. To this end, law L122-12 imposes the renewal of all existing employment contracts at the beginning of any new delegation contract period. Let us see why this constraint is likely to have a significant impact on the way potential bidders assess their chance of defeating the incumbent in relation with the cost of preparing a bid. Staff expenses usually account for about 70% of the total operating expenses (in 1997: 71.1% in Bordeaux, 66.9% in Lyons, and 70.2% in Dijon). The selection of the staff and of their

number for each function in the company which will produce the urban public transport service is a management decision that has a strong impact on the staff expenses and the quality and quantity of service, therefore on efficiency. If the delegatee is not allowed to make this management decision, we can consider most of the staff expenses as being “frozen” and not subject to competition. The operator who aims to defeat the incumbent by proposing a better offer (a lower price for a similar service or higher quality of service with the same price) will have to look for potential improvements in the management of areas other than personnel. The scope of management issues on which bid differentiation from rivals, and especially from the incumbent, is possible, corresponds to only about 30% of the operating costs. This may convince many potential bidders that their chance of defeating the incumbent is rather low relative to the cost of preparing a bid, and finally may deter them from bidding.

Therefore, labor law L122-12 has a great impact on the level of competition that can be achieved, which is likely to be far from the levels observed in London (see next section), where such a constraint on labor management does not exist. We shall next describe the four non-regulatory reasons, whose impact on competition may be smaller than that of law L122.12.

The information asymmetry between the incumbent and the potential entrants, and between the incumbent and the OA, was often mentioned in the interviews. Several OAs’ representatives are aware that the information provided to the potential bidders is far from sufficient to prepare a competitive bid, and in particular often lacks operation statistics, that could be best provided by indicators monitored by the operator. This reason is officially cited in the minutes 98.257/2 of the deliberation of Lyons syndicate: “The British firm ARRIVA did not think it had found in the elements at the disposition of SYSTRAL (Lyons’s OA) all the necessary information to assess the various risks implied by the operation of a network of this size.”

The second reason often given in interviews is that high tendering costs often deter small companies and potential entrants in general. In the CERTU survey, 9 OAs out of 16 complained that the Sapin procedure is too “demanding and complex”. Isotope mentions more precisely the high tendering costs in France. For instance, from interviews we conducted, the bidding cost for a network the size of Bordeaux is estimated to be

between FRF 500,000 to FRF 1 million or even more, and that for Lyons, the tendering cost is estimated to be between FRF 2 to 3 millions or more. Some OAs, aware of this problem, have considered implementing a mechanism to reimburse the costs of those who submitted an unsuccessful bid. However, this policy has several drawbacks such as a difficulty of implementation and uncontrollable financial liabilities for the OAs.

A third reason mentioned in the interviews is high operating risks. The tendering of the whole network, in contrast with the tendering on a route-basis in London or on route or sub-network basis in Sweden and Denmark, contribute to this risk. Obviously, the operation of a route involves less risk than the operation of a whole network. Similarly, a network with only buses represent less risk than a network where the delegatee has to manage the operation of bus, tramway and metro modes all together. Surprisingly, the OAs' representatives do not consider tendering on a network basis to be a problem. This concern is however expressed by most non-French experts interviewed on the subject. In the CERTU survey, the OAs are small and the number of single-bids is low, whereas in the second survey where OAs are all over 200,000, the number of single bid is high. This observation supports the idea that the size of the areas tendered out are too big in the larger urban areas.

Beside network size and multi-modality, the contract type is often cited as a decisive factor, and as noted in section 2.3, there is actually a trend away from management contracts and towards operation contracts with financial compensation, which means more risk transfer from the OA to the operator. Both reasons are, for instance, mentioned in the minutes 98.257/2 of the deliberation of Lyons syndicate: "The company TRANSDEV, did not wish to submit a bid arguing of the difficulty to assess the operation risks in such extensive a network, and in view of the strong commitments requested in the risks taking on costs and operating revenues."

For the tenders organized in 1998 (10 out of 18), there was an additional operating risk: the desire of several OAs that the operator implement a new social law, the "loi des 35 heures" – which will impose a maximum annual average of 35 work hours per week, expected to come into force in 2001 – and bear the risks of additional costs. This risk, although substantial, is temporary as it arises from the uncertainty on the impact of the new law on labor costs.

A fourth and last reason for the low degree of competition in the French tendering system, is the OA's failure to establish a fair and transparent selection process and the operators' perception of this failure. This reason is considered by a British bidder, interviewed by telephone, as the key problem. Indeed, the OA has the option of using the "intuitu personae" in the selection of the operator. Intuitu personae provides the OA with the necessary flexibility to base its judgement on non quantitative factors, which is important if the OA has objectives in terms of quality of service. This means more flexibility than a low bid selection system, but more risks of subjectivity in the bid appraisal process. The OAs are also criticized, sometimes by their own staff, for discriminatory specifications in their tenders. The most representative example of such specification is the obligation set by some OAs to keep the structure of SEM (semi-public company). Although VIA GTI has developed some expertise in this field, TRANSDEV is the specialist of the SEM's. Foreign operators are at great disadvantage, as the SEM structure is a feature specific to France.

In this section, five factors for the lack of competition in the French market have been identified. One factor is regulatory, labor law L122-12, and the other four are non-regulatory: information asymmetries, high tendering costs, high operation risks, and the OA's perceived failure to conduct a fair selection. What are the relationships between the number of bidders, their competitive behavior, the above five factors and the degree of competition in the market? In the last section of this chapter, we shall gather evidence on these issues from another, well-documented, "limited competition" regime, the London bus tendering.

3.3 The London Experience in Bus Service Tendering

In contrast with the policy followed for the UK outside London, urban public transport in the capital city was not deregulated, and, in 1985, the service on minor routes in suburban areas was submitted to competitive tendering. Progressively, trunk routes and high-frequency services in central London were also tendered, so that, in April 1994, the service directly operated by the public monopoly London Buses Limited (LBL) accounted for less than half the network. In December 1994, the privatization of LBL and

its recasting into 12 area companies were completed, and the route-by-route tendering procedure was extended to the whole network. More precisely, a competitive tender was organized for each route upon expiry of the existing negotiated cost contract. As a result, the rate of contracting has been increased to about 20% of the network each year since 1994, and in 1997/98, some 100 routes (22% of the network) were tendered.

Thanks to large cost reductions, mainly achieved through renegotiating wages and working conditions, LBL companies originally retained about half the routes put out to competitive tender. Competition was fierce, with bids from small private companies and regional companies, such as Kentish Bus and London & Country (both now parts of the Arriva group), originally in the public sector and operating around the Greater London. When compared with the deregulated system prevailing in the areas outside London, the tendering system in London achieved better financial performance, as the lower cost reduction in London was more than compensated by a smaller loss in ridership. Consequently, the net public subsidy fell by 55% between 1985/86 and 1993/94 in areas outside London, but by 72% in London.

London Transport (LT) plays the role of the “organizing authority”. According to the London Regional Transport Act 1984, LT is responsible for the provision of public passenger transport services for Greater London. LT has regard to the transport needs of Greater London and the efficiency, economy and safety of its operation. London Transport Buses (LTB), LT’s bus division, secures the provision of public bus services through a competitive tendering process, which aims to encourage fair and sustainable competition. The key features of this tendering system are as follows (London Transport Buses, 1999 a). The contracts are designed to provide incentive to operators to improve quality and increase patronage. Although it can vary from 3 to 7 years, the contract duration is normally 5 years. Tenders are evaluated on the basis of “value for money” with particular emphasis on quality and safety. Contract payments are related to the mileage operated. Finally, there is a comprehensive quality measurement system (currently being upgraded).

LTB currently secures bus services under two basic contract types: “gross cost” contracts, where commercial risks are borne by LTB, and “net cost” contracts, where

operators bear commercial risks, in that a net sum (the difference between costs and projected revenue) is paid to, or received from, operators.

LT is now dealing with several issues that arose from the decision in 1997 to use “net cost” contracts (for the second time, after an unsuccessful attempt in 1994). One issue is the apportionment of revenue between routes and operators with Smart Card technology expected to meet most of the underlying technical challenges. Another issue is the interdependence of routes with parallel segments. A change of scheduling on one route may affect the revenue on the other, and hence both net cost contracts would require modification. Another issue is degree of freedom given to operators to modify the service on their routes.

Even more relevant to our study, the option of contracting services not on a route basis but over a larger area, such as a group of routes over the same corridor or a small network (for example, routes into a suburban shopping center) is being considered. This approach would reduce the problems of revenue allocation, and would enable the transfer to the operator of more responsibility for marketing and service planning. In White’s opinion, this option is not convincing and he argues that “if contracts were based on larger areas in this form, the bidding process could become less competitive, as smaller firms might be unable to take on the scale of work involved”. There is ground for this concern about the degree of competition in the bidding process, as the average number of bids submitted at each tender fell from 7 in early 1995 to about 3 bids in late 1996 (White, 1998).

Table 3.14: London Bus Service Market Shares by Group (market share on LTB contracted mileage, excluding Commercial Section 3.2 routes)

Group	Market share at 4 Jan 1999 (%)	Cumulative (%)
Arriva	22.2	22.2
First Group	16.5	38.7
Stagecoach	16.3	55.0
Go-Ahead	16.1	71.1
Metroline Travel	12.6	83.7
London United	7.8	91.5
13 other operators	8.5	100

Source: London Transport Buses (1999, b)

A recent study conducted by London Transport Buses (1999, b) provides details on the current situation of the market. Increased concentration of the industry has resulted from mergers and acquisitions which have occurred since LBL privatization in 1994. The five largest groups currently share 83.7% of the London market (see Table 3.14).

The Monopoly and Merger Commission concluded in an inquiry report into takeover of British Bus by Cowie (now part of Arriva) in 1996 that LTB should give greater emphasis to long-term considerations such as competition in the capital, the tendering and allocations of blocks of routes and the encouragement and promotion of a more diverse range of operators. LTB confirms that “there is need for a robust market of several medium sized to large firms capable of maintaining competition. To this end LTB encourages new operators to enter the market and will continue to sustain and enhance competition to improve both quality and delivery of bus services to the public” (London Transport Buses, 1999 b). LTB notes that, as they have neither the resources nor the facilities to undertake the operation of large routes, small operators start by only competing for small or medium-sized routes.

The number of bids per tender declined from around 6.7 in the first half of 1995 to a bottom of around 2.3 in the first half of 1997. Then, there was a slight rise to 3.3 bids per tender in the last half of 1998 (London Transport Buses, 1999 b). Moreover, it appears that there is a relationship between the number of bids and the average cost per peak vehicle. Indeed, where there are few bids, costs tend to be higher (see Table 3.15).

Table 3.15: Relationship between Average Cost per Peak Vehicle and Number of Bids per area.

<i>Area</i>	<i>Average cost (%)</i>	<i>Average number of bids</i>
South West	+6.8	1.9
South	+0.4	2.4
North East	+1.1	2.7
North West	-5.7	2.9
South West	-2.6	3.7

Note: Cost per peak is the contract cost divided by the highest number of vehicles in services at any one time.

Source: London Transport Buses (1999)

LTB identifies two major barriers to entry in the London market. The first barrier is the lack of suitable garage premises. However LTB considers that the nature of the tender program, which contracts out around 20% of the network each year – requiring approximately 1,220 buses – facilitates incremental growth. Another barrier to entry is the shortage of drivers, and some operators put this forward as a reason for not bidding for new work.

White cites various reasons for the decline of the number of bids per tender (until 1998). The first reason is that bus operation has relied on a pool of cheap labor, which tends to disappear as the economy improves. Other reasons are the further consolidation among operators, and the deterrent effect of net cost contracts on small operators, as found in areas outside London. However, we can conclude that the tendering based on individual route contract tends to produce greater competition than tendering on a network-basis as found in France.

Finally, the costs of contracts for tendered bus services in London have tended to increase faster than the rate of inflation since 1997. LTB proposes several explanations for this trend. The net cost contracts transfer risks to operators; a cost element associated with this risk is obviously built into tendered prices. The increasing volume of tendering has meant that the opportunity to bid on a marginal cost basis is reduced and operators bid now on a full or average cost basis. The number of bidders has decreased. The operators costs have increased, especially wages. Operators have introduced new, more accessible vehicles, incorporating new features. A final explanation for increased tendered prices is the increasing pressure on bus contractors to improve overhead recovery and profit.

Overall, the London tendering system has improved service provision and achieved costs reduction. However, LTB has had to respond to the industry consolidation that took place since 1995, by encouraging competition and entry of new operators to the market.

In conclusion, this chapter has provided evidence that there are only few players in the markets for urban public transport services in the French networks, and that they do not engage heavily in competitive behavior. A comparison between the CERTU survey

and the 1999 survey suggests that this problem is more acute in the large networks. A review of the London bus tendering system suggested that the London system achieves more competition than the French tendering system. This may be explained by the differences in the regulatory framework such as the labor law on employment contracts renewal. LTB's efforts to encourage entry of new operators may be another explanation.

Indeed, the London bus tendering experience highlights the importance of encouraging new operators to enter the market so that a robust market of several medium sized to large firms can develop, and provides evidence of the relationship between the number of bidders and the contract price.

Finally, five explanations for the lack of competition in the French market were found empirically: labor law L122-12, asymmetries, high tendering costs, high operation risks, and the OA's perceived failure to conduct a fair selection. Before proposing corrective measures that these explanations may suggest, we should provide a theoretical framework, and in particular attempt to established the relation between the number of bidders, their competitive behavior, the above five factors and the degree of competition in the market. These are the objectives of the next chapter.

Chapter 4: Analysis of Barriers to Entry and Prospects for Improvement

In order to meet the twofold challenge of increased social welfare and improved economic efficiency, the “limited competition” model consists of two elements. The first component is the OA’s strong role in network integration and fare policy which aims at maximizing the effectiveness of the urban public transport system. The second component, tendering, aims at improving economic efficiency by bringing competition to bear in the production of the urban public transport services. In this thesis, we focus on the second component and assess the performance of the French tendering system in bringing competition in the market. We shall, of course, at some point of our reflection, bring back into the picture the crucial interrelation between tendering’s “control role” (control of the quantity and quality of supply) and its “efficiency role” (Berechman, 1993).

In Chapter 3, we provided evidence of the poor outcome of the French tendering system, observing that there are few players in the urban public transport market and that they do not actively compete. The French urban public transport industry is highly concentrated and many networks are in fact controlled by local monopolies. Intuitively, we may be tempted to state that the prices tend to be monopoly prices in markets where there are only a few competitors, and therefore fear that the concentration of the French market may lead to excessive rents for the operators. Furthermore, we have empirically identified five factors that may contribute to the poor outcome of the tendering process: labor law L122-12, information asymmetries among bidders, tendering costs, operating risks, and the OA’s failure to follow a fair and transparent selection processes. The purpose of Chapter 4 is to provide some theoretical support for these empirical deductions. To that end, we shall first establish a clear logical link between competition, concentration and the five factors empirically identified. Once the causality of these five factors on the degree of competition is established, we shall propose a set of measures that aim to diminish the impact of the last four factors, assuming that labor law L122-12 is unchanged.

This chapter will consist of three sections. We shall review the relevant economic and Industrial Organization theories, including Demsetz (1968)'s introduction of competitive tendering, and Baumol (1982)'s theory of market contestability. From this brief literature review, we shall have a clear understanding of how tendering is supposed to generate competition, and of the main conditions for its effective functioning, i.e. the elimination or reduction of barriers to entry. In the second section, we shall then justify the fact that the four factors identified in Chapter 3 effectively constitute barriers to entry. Finally, in the last section, we shall propose a set of corrective measures, trying to capture the interactions among them and their impacts on the performance of the first “component” of the model, which ensures the effectiveness of the service.

4.1 Competitive bidding and market contestability

The artificiality of the concept of perfect competition has led many economists to seek a more “realistic” concept with less stringent conditions for its realization. We shall next review the contributions of Demsetz and Baumol to this search for a concept of competition applicable to markets that are not naturally perfectly competitive.

4.1.1 Demsetz' Theory

In his paper “Why Regulate Utilities”, Demsetz (1968) developed a concept that was introduced earlier by Chadwick (1859) and known as “competition for the field” as distinct from “competition within the field”. Demsetz first showed that the commonly asserted relationship between concentration and competition – the fewer the number of competitors, the less the competition in the market – cannot be derived from theoretical considerations. He criticized the theory of natural monopoly for not revealing the logical step between scale economies in production and monopoly price. Most relevant to our thesis, Demsetz proposed the use of a bidding process to bring market forces into the market:

“The competitiveness of the bidding process depends very much on such things as the number of bidders, but there is no clear or necessary reason for *production* scale economies to decrease with the number of bidders. Let prospective buyers call for bids to service their demands. Scale economies in servicing their demands in no way imply that

there will be one bidder only. There can be many bidders and the bid that wins will be the lowest. The existence of scale economies in the production of the service is irrelevant to a determination of the number of rival bidders. If the number of bidders is large or if, for other reasons, collusion among them is impractical, the contracted price can be very close to per-unit production cost.”

He concludes that, as long as each bidder submits a bid based on the assumption that if its bid is the lowest, he will be awarded the contract for the entire job, there is no monopoly price as the price is determined in the bidding market. Demsetz makes two important assumptions, which are also, as he recognized, the conditions required to avoid monopoly pricing in any market, whether production in that market is subject to scale economies or not. The first is that the inputs required to enter production are available to many potential bidders at prices determined in open markets. This condition is key to having a high number of bidders. The second assumption is that the cost of colluding by bidding rivals is prohibitively high. In the event that the second condition is not met, Demsetz argues that if the buyers have access to the same technology of collusion or merger, the market will be characterized by bilateral negotiations between organized buyers and organized sellers. Finally, in order to avoid likely duplication of facilities implied by private ownership, he advocates public ownership of the public utility distribution systems.

How can this theory be applied to the French urban public transport industry? It should first be noted that the French tendering system is more complex than the bidding process described by Demsetz. First, there is a qualification round in the French tendering procedure that ensures that every bidder has the necessary experience. Second, the selection of the winner is not based on price considerations alone, but also integrates other criteria such as quality of service. Finally, the price and contract terms are finalized in the negotiation round after the opening of the bids. Another departure from Demsetz model is that it seems difficult for OAs to collude or merge in response to operators' collusion or mergers.

However, this theory may suggest several interesting ideas. First, it hints that neither concentration nor scale economies alone can be considered as explanations for the lack of competition. Second, the degree of competitiveness depends heavily on the

number of bidders, which in turn depends on the fulfillment of the first assumption: production inputs must be available to many bidders. In the French urban public transport industry, the inputs required to enter production, if understood in a wide sense, are not easily obtained in the market: competent executives with technical and management know-how, and the references and credibility provided by experience in other networks with similar characteristics are the main requirements to enter the tendering process.

Searching for explanations for the lack of competition in the French urban public transport market, we now turn to Baumol's theory of market contestability in order to further develop Demsetz first condition and, thus, undertake a more complete analysis of barriers to entry.

4.1.2 Baumol's Theory

Baumol *et al.* (1982) contrast two definitions of barrier to entry: that proposed by Stigler (1968) and the one given by von Weizsacker (1980). Stigler defines a barrier to entry "as a cost of producing (at some or every rate of output) which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry." In contrast, von Weizsacker defines an entry barrier as an obstacle to the flow of resources into the industry that results in excessive protection of incumbent firms – excessive in the sense that this protection of incumbent firms has undesirable consequences for social welfare. Baumol argues that both definitions, Stigler's and von Weizsacker's, are reconciled under his "perfectly contestable" market. Indeed, the conditions for a "perfectly contestable" market model involve the absence of entry barriers in Stigler's sense, and Baumol shows that this model forces socially optimal behavior upon the incumbent firms in an industry.

Baumol defines a perfectly contestable market as "one that is accessible to potential entrants and has the following two properties: First, the potential entrant can, without restriction, serve the same market demands and use the same productive techniques as those available to the incumbent firms. Thus, there is no entry barrier in the sense of the term used by Stigler. Second the potential entrants evaluate the profitability of entry at the incumbent firms' pre-entry prices. That is, although the potential entrants recognize that an expansion of the industry outputs leads to lower prices-in accord with

the market demand curves-the entrants nevertheless assume that if they undercut incumbents' prices they can sell as much of the corresponding good as the quantity demanded by the market at their own prices."

Taking the extreme case of monopoly, Baumol shows that the pressure exerted by the presence of potential entrants forces the monopolist to produce in an efficient manner and at a normal rate of return on its capital investments. This pressure therefore suffices to solve the traditional welfare problem of monopolistic behavior, "*even if entry is never successful*". Here he obtains, in a more general form, the same result as Demsetz in his analysis expressed in terms of bidding procedures. He indeed concludes that the equilibrium requires that the price equal the average production cost. In both models, it is clear that the operative force is freedom of entry. Under this condition, if an incumbent were to try to set a price higher than the average cost, he would be undercut by a new entrant.

Baumol's analysis goes further than that of Demsetz in many ways, and in particular provides a detailed analysis of barriers to entry, and its relationship with sunk costs. It shows that fixed costs of sufficient magnitude ensure the presence of natural monopoly cost conditions, but do not contribute to barriers to entry as they do not have negative consequences on welfare, as large fixed costs are compatible with many attributes of competitive equilibrium; in contrast, sunk costs do constitute barriers to entry that lead to losses in efficiency and welfare.

This last point is demonstrated in the following manner. "The need to sink money into a new enterprise, whether it is physical capital, advertising, or anything else imposes a difference between the incremental cost and the *incremental risk* that are faced by an entrant and an incumbent". The incumbent has already committed sunk costs and these funds are already exposed to the perils that the operation in the industry entails. On the other hand, the entrant must freeze the corresponding amount of liquid capital in order to enter the industry. The incremental cost for the new entrant is the full amount of the sunk costs. In situations where the sunk costs are not expected to be covered by prospective revenues, they may constitute a substantial difference between the potential entrants and the incumbent firm. Potential entrants will consider that entry may be profitable only if the profits in the event of success outweigh the sunk costs that will be lost in case of

failure. The potential entrants require additional revenues in order to compensate for the excess of its incremental costs and incremental risks. These additional revenues can be regarded as entry costs and therefore constitute a barrier to entry.

When considering the application of his theory to an industry that is not behaving in a way that is expected of a contestable market, Baumol recommends identifying and removing any artificial obstacle to contestability, i.e. entry costs or barriers to entry, and to prevent predatory acts and deterring threats by incumbents.

French urban public transport markets are obviously far from this idealized model, and if we follow Baumol's theory, the closer to perfect contestability the French market will get, the more effective the competition will be. As recommended by Baumol, we shall therefore identify the obstacles to contestability, i.e. barriers to entry in these markets in section 4.2, and explore ways to remove these barriers to entry in section 4.3.

4.1.3 Concentration and Collusion

Bertrand (1883) stated that, under the condition that firms "meet only once" in the market, even oligopolists behave like competitive firms – that is the number of firms is irrelevant to the study of price behavior. In other words, even a duopoly would suffice to restore competition. This is called the Bertrand paradox because it is hard to believe that firms in industries where there are few firms never succeed in manipulating the market price to make profits. However, the paradox is resolved by relaxing the condition of one-shot competition to consider the more realistic situation where firms interact repeatedly.

Chamberlin (1929) suggested that in an oligopoly producing homogeneous product, firms would recognize their interdependence and, therefore, might be able to sustain monopoly prices without explicit collusion. The threat of a vigorous price war would be sufficient to deter firms from cutting price.

Considering a small number of identical firms producing homogeneous product, Chamberlin (1933) argued that the firms would charge the monopoly price:

"If each seeks his maximum profit rationally and intelligently, he will realize that when there are only two or few sellers his own move has a considerable effect upon his competitors, and this makes it idle to suppose that they will accept without retaliation the losses he forces upon them. Since the result of a cut by any one is inevitably to decrease

his own profits, no one will cut, and although the sellers are entirely independent, the equilibrium result is the same as though there were a monopolistic agreement between them.”

According to Tirole (1988), “there is a sense in which tacit collusion is easier to sustain with a small number of firms”. Considering the outcome of full collusion, in which all n firms charge the monopoly price and share the market equally, he showed that a large number of firms reduces the profits per firm and thus the cost of being punished. In contrast, the short-run gain from undercutting the monopoly price decreases with n . He concludes that market concentration facilitates tacit collusion.

Finally, from this review of various economic theories, we can draw two general conclusions. The first conclusion is that a large number of competitors is desirable in order to improve competition. The second is that this can be best achieved by the removal, or at least the reduction, of entry costs, or barriers to entry, which are dealt with in the next section.

4.2 Barriers to Entry

We shall here attempt to show that each of five empirically found reasons for a lack of competition is, in fact, a barrier to entry, and therefore, indeed constitutes an obstacle to competition according to Baumol’s theory. We shall also show that, in the context of the French urban public transport market, these five reasons are the most important factors.

4.2.1 Labor Law L122-12

By imposing the renewal of all employment contracts in case of a change of incumbent, labor law L122-12 reduces the scope of management issues on which potential entrants may compete. This is likely to convince potential entrants that their chance of defeating the incumbent is very low (much lower than if staff management were subject to competition). As a result, many potential entrants will be deterred from bidding. In this sense, this law protects the incumbent from rival bids and can be considered as a barrier to entry.

4.2.2 Asymmetries

Beside the danger of collusion between bidders, Vickers and Yarrow (1988) identify the incumbent firm's strategic advantages as the reason why bidding for a franchise may fail to be competitive. They distinguish asymmetries in efficiency and asymmetries in information, between the incumbent firm and the other firms. First, they argue that the incumbent firm's experience from past operations is likely to have the effect of reducing its costs of operation. The future franchise is therefore worth more to the incumbent firm than to other firms. This fact may deter the other firms from competing with the incumbent, because they know they are unlikely to win.

Asymmetries of information can be another strategic advantage for the incumbent firm, as it is likely to have a better knowledge of cost and demand conditions than the other firms. These asymmetries of information will deter other firms from competing with the incumbent firm for the future franchise. If a firm wins the franchise over the incumbent firm, it is likely that the new entrant, with its limited knowledge of the operation costs and demand, has bid too little. This problem is known as the "winner's curse". This verbal argument informally supports the general point that asymmetries of information are indeed barriers to entry.

4.2.3 Tendering Costs

Tendering costs are mainly the costs of studying the current service production and demand in order to prepare a proposal. The tendering costs depend in large part on the size of the bundle of services to be tendered. In France where the whole network is tendered at once, these studies may be resource intensive, especially in the case of large networks with multi-modal operations. Consequently, tendering costs can reach several million of French Francs for large networks, and are usually less than half a million of French Francs for medium size networks serving a population below 200,000 inhabitants.

A new entrant has to pay tendering costs to enter the competition for the franchise. These costs will be lower for the incumbent firm than for other firms, as the incumbent firm can use its executives on site to prepare the bid. In any event, there will be no resources involved in gaining local knowledge. Tendering costs, therefore, are a

barrier to entry. A few OAs, aware of this fact, offer reimbursement of a portion of the tendering costs.

4.2.4 Operating Risks

We first note that high operating risks are not necessarily a consequence of the OA's desire to transfer risk to the operators through a change in the contractual relationship. Of course, a switch from a management contract to an operation contract with financial compensation will substantially increase the risk to the delegatee. However, this trend in contract types is here taken as given. We rather focus on other causes of high operating costs, which include the size of the service to be tendered and the length of the contract period.

Larger firms have a strong financial background that allows them to absorb higher risks than smaller firms, which are more vulnerable. Furthermore, large firms can absorb high operating risks better than small firms, as large firms' revenues are based on the operation of many networks, which is not the case for small firms. As a result, high operating risks in a tender will deter small firms from competing and leave only large firms to bid. Therefore high operating costs also constitute a barrier to entry.

4.2.5 OA's Failure

The OA faces several problems. The first one is how to specify the service to be provided in a call for tender without being discriminatory. For example, when the OA requests that the service should be produced by an SEM, a legal structure which is unique to the French system, there is discrimination against foreign firms. A second one is how to select the winner when there are several dimensions to be taken into account. Beside price, quality and other important factors need to be integrated in a weighted combination that will constitute the selection criterion.

According to Berechman, the cumulative effect of the problems relative to the design of a truly competitive tendering scheme may explain why transit agencies have often used non-economic or non-transportation selection criteria, such as the firm's reputation and previous relationships. He argues that use of such criteria may invite political pressure from firms. This behavior constitutes a barrier to entry since the

incumbent is usually in a much better position to carry out such lobbying actions; potential entrants are well aware of this advantage and for this reason, may choose not to compete with the incumbent.

Apart from these five above-mentioned reasons, Vickers and Yarrow (1988) also cite the danger of collusion and the problem of asset hand-over. As discussed in 4.1.3, collusion is more likely to happen in markets where the number of competitors is small. We shall therefore attempt to increase the number of potential entrants by removing the barriers to entry. Asset hand-over is not relevant in the context of the French urban public transport, as most OA's own the fleet of vehicles and the infrastructure. Most of the above factors are also cited by Berechman (1993) as potential problems stemming from the organization of a competitive tendering process.

We conclude that labor law L122-12, information asymmetries, high tendering costs, high operating risks, and OA's failure are the main barriers to entry, and therefore the main obstacles to competition, in the French urban public transport industry. We shall next propose a set of corrective measures that will aim at reducing these barriers to entry, excluding labor law L122-12. Although labor law L122-12 is likely to have a larger impact on competition than the other four factors (see section 3.2.3), we decided to focus in this thesis on corrective measures that can be implemented without any regulatory change. As suggested in section 4.1, the reduction of four of these barriers to entry is expected to increase the number of participants in the bidding, which will in turn increase competition in the tendering process. This improvement in competition will however be achieved within the limits set by labor law L122-12.

4.3 Exploration of Various Strategies

This thesis aims to discuss the performance of the tendering process in bringing competition in the French urban public transport market. After having shown the poor outcome of the tendering process and empirically identified the main obstacles for a more competitive market in Chapter 3 and provided theoretical support in the first two sections of this chapter, we shall now assess several strategies designed to reduce the identified non-regulatory obstacles: first by describing what barriers to entry it lowers and how, and

second by assessing the negative effects it may have on other essential components of the provision and production organization, such as service integration perceived by the users, the OA's workload, the total cost of the tendering and contracting process, etc. A strategy could be acceptable if the benefits of increased competition derived across its implementation outweigh its drawbacks on other components of the provision and production system. However, comparisons between factors from different dimensions are usually not easy to make. The purpose of this approach is therefore to provide an indication of the existing tradeoffs involved in these strategies, rather than to allow definitive conclusions on the suitability of each strategy.

We shall assess three strategies that can be implemented by the OA and do not require any regulatory change: reduction in the bundle size of service to be tendered out, reduction of contract duration, and the improvement of the specification and selection process.

4.3.1 Strategy 1: Reduction of the Bundle Size of Services to be Tendered

In the design of a competitive tendering process, one of the major challenges is to define an optimal bundle of services to be tendered. A bundle of service can be defined by modes, by areas or by groups of routes. Berechman (1993) argues that, in the absence of scope and network economies and if attributes of individual services do not affect the demand for other services (for instance, the change in frequency on one route does not affect the demand on another route), the partition that would yield the highest degree of competition is the partition into single-route tenders. However, these conditions usually do not prevail and there is no obvious answer to this challenge.

The organization of the tendering and contracting process on a network basis appears to be unique to the French system. In London and Scandinavian countries, the bundle of services tendered out at each bidding is usually either a single route or a sub-network. A size reduction of the bundle of services to be tendered out in the French system from the network level to either route or sub-network level, which is possible without any regulatory change, would contribute to lowering one of the four identified barriers to entry, i.e. the operating risks.

We should note at this point that the OA's ownership of vehicles and infrastructure, as found in France, is not compatible with a route-basis tendering: it is hard to imagine a public depot shared by several operators. Only a reduction to the sub-network level will therefore be considered. Scale economy considerations may suggest further restricting the scope of application of this strategy. Most studies conclude that the urban public transport industry shows scale economies in a limited range. Isotope (1997) argued that scale economies were exhausted at around 100 buses. Berechman (1993) considered an optimal range of 100 to 500 vehicles where returns to scale are slightly positive or constant. Isotope (1997) stressed that this size refers to operational production units, typically depots, and therefore recommends that each operator be in charge of a sub-network large enough to have one or more depots, each depot having at least 100 vehicles.

All the networks in the new survey's sample have a fleet of more than 100 vehicles, Lens-Lievin having the smallest fleet with 103 vehicles and Lyons the largest with 1,177 vehicles. Taking into account scale economies and route interdependence problems, a partition into sub-networks should be envisaged only in the case where sub-networks would correspond to individual fleets of over 100 vehicles each, where an allocation of each fleet to single-operator managed depots would be practical and where the integrity of the major corridors would be respected. The threshold regarding fleet size between the networks which could apply this strategy and those that could not, may be around 250 to 300 vehicles, where the split into two networks is likely to be feasible. This would then be feasible in only 7 networks in our sample: Lyon, Lille, Toulouse, Bordeaux, Nantes, Rennes, and Montpellier.

The strategy of tendering out sub-networks, rather than the entire network, would lower the operating risks as it would reduce the amounts of operating costs and revenues involved. For the operators, it would also reduce the complexity of assessing the interconnection problems in the case of large networks, often cited as a major deterrent for non-incumbent firms. It may consequently enable a significant cut in the tendering costs as the scope of the study to prepare the bid would be reduced. This strategy would, thus, potentially contribute to lowering two barriers to entry. By dividing operating rights

over a subset of the network, this strategy also allows bench-marking between different sub-networks, which can stimulate competitive pressure among operators.

This strategy has two major drawbacks. First, it may increase the OAs and operators' workload and the total cost of tendering and contracting as the number of these tasks will be multiplied by the number of sub-networks. However, there are reasons for not fearing excessive additional costs for both operators and OAs. The scope of service tendered at each tender is much smaller, and the reduction in workload may be larger than proportional to the reduction in the scope of service, as the exceptional character of the procedure will tend to disappear. In establishing an appropriate procurement unit to cope with this new administrative and legal task (tendering and contracting), both the operators and OAs will increase their fixed costs. For OAs and operators with staff fully dedicated to procurement, the marginal cost of a new tender is expected to be small. This leads to recommending the combination of this strategy with the next one which consists in a reduction of the contract period, in order to fully utilize the investment in human resources already made. As only large networks are affected by this strategy, we can also assume that the OA's additional costs on their department in charge of procurement will not represent a substantial increase in the payroll. However, on the operators' side, it may create a new barrier to entry, as big firms are more able to absorb these additional costs, than small firms. Moreover, despite the scale economy considerations, we must conclude that this strategy will inevitably lead to an increase in the total transaction costs.

One could argue that a second drawback of this strategy is that it implies a shift of the responsibility over part of the network integration back to the OA, for integration aspects including network design, ticketing, inter-modal interfaces with respect to scheduling and physical transfer. Two questions arise from this hypothesis. First, is it desirable to transfer back integration responsibilities to the OA? In fact, it could be argued that this responsibility has never been transferred to the operator, as the operator is only invited to suggest potential improvements regarding integration but the final decision is always left to the OA.

A second question is whether by having several operators instead of one, integration benefits will be reduced. Certainly, integration issues may be more important than in the case of a single operator, especially in the contractual specification of the

service to be provided by each operator. Smart card technology is expected to resolve the problem of revenue apportionment between operators in the case of net-cost contracts. Several networks have already experimented with this new technology: Valenciennes in 1997, Nice in January 1999, followed by Amiens, Montpellier and Perpignan. Larger networks such as Lyon, Strasbourg, and Bordeaux, have recently organized a call for tenders for the implementation of smart card technology (Viennet, 1999). Regarding network design, the study of network integration aspects in large networks are often carried out by independent consulting firms before any new tendering. Overall, the new coordination task of the OA between operators should not be an obstacle, as shown in the experience of Scandinavia and London.

In conclusion, the argument that tendering at a sub-network-basis (compared to tendering at a network-basis) is detrimental to the network integration may only hold for the marketing strategy, if delegated to the operator. Furthermore, it would actually help clarify the current situation: the OA thinks it delegates some integration responsibilities to the operator, and the latter complains, usually with good reason, that he is not actually given any freedom to manoeuvre on integration issues.

4.3.2 Strategy 2: Reduction of the Contract Time Length

A reduction of the contract time length could lower two barriers to entry: the operating risks and the asymmetries of information. Shorter contractual periods mean lower future contingencies, therefore lower risks. This strategy would also allow more frequent revision of the services to be provided, and therefore improve the specification process.

Delegation contracts in France – 5 to 7 year terms in 15 out the 17 surveyed networks – are similar to franchise contracts in London (5 years) and Denmark (5 to 6 years). Why then consider a reduction below what seems to be the commonly accepted time length of 5 to 7 years? The main arguments in favor of the 5-year minimum were developed under the assumption that the operator owns the vehicles. In this situation, a contract duration below 5 years does not allow a satisfactory investment cost recovery opportunity and creates an incentive to use old vehicles, thereby increasing the need for

further contractual specifications by the OA. Moreover, short contracts tend to favor big operators who can easily transfer vehicles between cities (Isotope, 1997).

However, in France, vehicles are in most cases – in all the networks of our sample – owned by the OA and such arguments do not hold, except for relatively small investments in the computer system, which could also be purchased by the OA. We therefore consider the strategy of reducing contract length to 3 years. The minimum of 3 years is suggested by two observations. First, 3 years is the minimum workable duration of the managers assignment across most industries; a lower term would impair the managerial efficiency and recruitment prospects. A second reason is the incompressible duration of the tendering process, which currently ranges between 8 to 14 months according to our survey. It should be noted from the outset that this strategy should be considered only if the effective duration of the tendering process can be reduced to a maximum of 6 months or less than 20% of the contract cycle.

Because it aims to establish transparency and fairness in the selection process, the tendering procedure tends to be incompressible. The creation of an ad hoc commission and the validation of the decisions by the general assembly, where all political forces are represented, guarantee transparency in the process. The minimum legally acceptable duration of each step allows enough time for potential protests. We should note the short time allowed for operators to prepare their bids: only 30 days are required by law. Usually, OA's extend this period to 1.5 or 2 months, but it remains rather short compared to the duration of the whole procedure which tends to span over 8 to 14 months.

A reduction of the length of the tendering procedure however seems possible. The minimum legally acceptable times for all steps added together give a total of only 3 _ months, whereas tendering procedures tend to last 8 months or more. A reduction of the length of the tendering procedure could be achieved by the reduction of the time period actually spent on all steps except the bid preparation. A stronger motivation of the OA to speed up the process may help. It may nevertheless still be necessary to hire more staff, as already discussed in section 4.3.1.

A short time to prepare the bid obviously contributes to increasing the incumbent firm's advantage over its rivals. One solution is to make the necessary information public, well before the pre-qualification stage, so that firms could have more time for

inquiries and the OA more time to prepare detailed answers. The pre-qualification stage should rely on standard selection criteria and should not imply any risk of non qualification for competent companies. Furthermore, the actual exchange of questions and answers should still take place after the pre-qualification stage for parity reasons. Strategies 1 and 2, by reducing the (physical and time) scope of tenders, may also help ease this problem.

Let us now consider the drawbacks of this short-term contract strategy. First, there is the direct transactional cost of holding more auctions. However, a reduction of the contract term from 6 to 3 years may not result in a doubling of tendering costs for both OA's and operators. We have seen in 4.3.1 the scale economies resulting from setting up a procurement unit. Another factor is that the evolution of the networks and the OA's goals will be smaller over a shorter period. Consequently, the volume of corrective or new actions to undertake for each contractual period may be reduced, as may be the workload involved in the bid preparation, especially if studies from the previous bid can be better used.

A second drawback is that shorter contracts may create a lack of incentive for the incumbent operator to provide good maintenance of the vehicles, to improve the organization of the service production, and to make efforts to train the staff and maintain cohesion within the working teams. Indeed, the perspective of being replaced and of losing all advantages from these efforts often dissuades the incumbent from investing in these areas. One way to solve this is to take into account in the tendering process the incumbent's performance during the current contract, especially its performance in the last few months (Donati, 1998). For instance, if the quality of service measured by indicators such as the number of service interruptions is taken into account in the selection of the new delegatee, the incumbent may be discouraged from reducing its vehicle maintenance efforts in the final months of the contractual period. More generally, the advantage of this method is to establish a more tangible link between the firm's reputation and its actual performance.

A last drawback of this strategy may be that it increases the frequency of the confrontation between the major operator groups. As seen in 4.1.3, repeated

confrontation may lead to collusion. We can however consider that large groups are already competing in many markets and, for this reason, this strategy is unlikely to have any effect on collusion.

4.3.3 Strategy 3: Improvement of the Specification and Selection process

As already seen, the OA's face two challenges: on the one hand, to control the quality and quantity of service produced by the delegatee, and on the other hand, to ensure through the use of market forces in the delegatee's selection that the service is produced efficiently. These two roles often conflict and make the OA's tasks more difficult, especially the specification of service to be provided, and the selection of the new delegatee.

From interviews conducted with OAs and representatives of the Ministry of Transport, we have the impression that French OAs tend to give priority to the control objective, to the detriment of the efficiency – or competition setting – objective. Several reasons can be advanced to explain this tendency. First, the OAs are governed by elected officials who are well aware that urban public transport users are also voters. Elected officials, therefore, want to make sure of the quality of service and are usually not ready to take the risk of changing an operator, with the potential transition problems that it implies. A second reason, more specific to the current French system, is the fact that the service delegation is for the whole network and for a period exceeding the elected officials mandate. These circumstances raise the stakes of the tendering process outcome and may make the elected officials even more risk averse. Strategies 1 and 2 would certainly help reduce the stakes at each tender, and could improve the balance between the OA's control role and its efficiency role. However, as seen, these strategies involve a high workload for the OA.

Let us see next the possible improvements in the way French OA's carry out the specification of the service to be tendered and the selection process, so as to lower the above-mentioned barriers to entry as much as possible. The specification process should avoid introducing discriminatory criteria. One example, cited earlier, is OA's request that the structure of the delegatee be an SEM. This specification clearly discriminates against foreign groups as this legal structure is specifically French. By choosing to keep this

structure, the OA minimizes the risks associated with a radical change in its relationship with the operating entity. For instance, it enjoys a high volume of information on operations thanks to its status as a major shareholder in the SEM. However, by eliminating foreign competition from the outset, the OA's reduce their chance of establishing a truly competitive tendering process in the long run. When analyzing the potential discriminatory effect of each specification, the OA may consider the discrimination between the incumbent firm and the potential entrant, but also between the French groups and the foreign groups, whose participation, we have seen earlier, may be crucial in the long run.

Together with the description of the service specifications, the OA provides operations statistics to the operators qualified to submit a bid. There were complaints, especially in tendering for large networks, about the poor quality of these statistics. The objectives in terms of quality of service are not correctly specified in many specification documents. They are too vague ("satisfy the customer") whereas the continuous improvement of quality would require a clear definition, in advance, of the level of service to be provided (UTP, 1999).

Recently, some OAs have successfully negotiated the implementation of more comprehensive and more relevant operation statistics in the new delegation contract (most of them with the previous incumbent). Besides requiring better monitoring of the present incumbent firm operations, detailed and comprehensive operation statistics can help reduce the information asymmetry between the incumbent operator and the potential bidders, and thus allow more firms to prepare a bid at acceptable cost.

Better operation statistics will also enable the OA to rely more on quantitative data in the specification and in the selection process during the tendering stage, and therefore make a more moderate use of the *intuitu personae*, which is the focus point of criticism from some foreign operators on the selection process. Standardization of these quality and cost indicators across networks and their effective use in the appraisal of the proposals would reduce the subjectivity and unpredictability of the actual criteria used by each OA. If this strategy were applied, the potential entrants would have a better perception of the fairness of the selection process.

In conclusion, most actions included in this recommended strategy involve an effort in the short run (negotiating comprehensive operation statistics, accept structural changes in the organization of the service production) that is expected to yield benefits in the long run (more bidders), and the implementation of this strategy will heavily depend on the decision makers ability to take a long term perspective, well beyond their mandate.

4.3.4 Concluding Remarks

First, let us summarize the effects each strategy is likely to have on the four barriers to entry. Table 3.14 shows that the set of three strategies is complementary as no single strategy can tackle all four barriers to entry. The three strategies should be implemented together for maximum impact.

Table 4.1: Effects of Each Strategy on Barriers to Entry

	<i>Asymmetries</i>	<i>Tendering Costs</i>	<i>Operating Costs</i>	<i>OA's Failure</i>
S1: Split into sub-networks	-	Strong	Strong	-
S2: Reduction of contract duration	-	-	Some	Some
S3: Improved Specification/ selection	Strong	-	-	Strong

To underline this last point we note synergies between these individual strategies. For instance, in short-term contracts (strategy 2), fewer future contingencies need to be catered for, therefore diminishing the difficulties of contract specification and administration (strategy 3) (Vickers and Yarrow, 1988). Perfect bidding parity – i.e. the absence of asymmetries – among bidders, resulting from an appropriate specification at the tendering and contracting levels (strategy 3), is crucial to the efficacy of short-term contracts (strategy 2) (Williamson, 1976).

Second, it should be noted that there seems to be no strong barrier to entry originating from the French regulatory framework itself. All four barriers to entry, if not entirely created by OA's practices, can be reduced by some appropriate actions undertaken by OAs. OA's concern of keeping their workload low, or the constraint of current limited human resources, may prevent them from considering alternatives to their

present practices, whereas these alternatives may bring benefits that are superior to the costs associated with the staff increase. The three strategies explored in this section involves a higher workload for OAs, with more tenders to organize, more frequently, and with a higher level of detail in the specifications. The first strategy also implies that the OAs have to deal with several operators at the time, adding a new role to the OA, the role of coordination between operators. Therefore, before implementing any of these strategies, the OAs should ensure sufficient in-house resources. This need for increased competence and human resources in OAs is already well identified, including at the Ministry of Transport level.

In contrast with the ideas developed by Demsetz (1968), much of the recent literature argues (Berechman, 1993; World Bank, 1995) that public ownership of the vehicle fleets is not an efficient organization, considering that “the separation of investment from operation decisions is bound to result in resource misallocation, manifested by over-capitalization and the dispensable and under-utilized services” (Berechman, 1993). Although we should note that problems of under-capitalization, not over-capitalization, are observed in the French urban public transport industry, we will not discuss this issue further here.

Finally, we should stress that we have explored in this chapter corrective strategies that can be implemented within the existing regulatory framework, especially labor law L122-12. As this law is a significant barrier to entry and as the reduction of its negative impact on competition is (deliberately) not addressed in this thesis, the impact of the set of proposed strategies is likely to be modest.

Chapter 5: Summary and Conclusions

The organizational regime of urban public transport in France outside the Paris region is a variant of the limited competition model. This model is a compromise between the traditional regulated regime and the fully deregulated regime, keeping strong public control from the former model and taking market forces from the latter model through the tendering of services to be contracted out. As noted in Chapter 2, the French system has been somewhat successful in stopping the decline in the ridership. In contrast, there are concerns among some OAs over the level of competition achieved in the tenders in the French networks, and therefore over contract prices. Although well aware of the high degree of interrelation between the two components of this organizational system – strong public control and competition through tendering –, we therefore focused in this thesis on the performance of the component expected to create competition, i.e. the tendering process.

We have shown in Chapter 3 that the performance of the French tendering process in bringing competition to the French urban public transport market has been rather disappointing. This problem is especially acute in the networks with a population over 200,000 inhabitants. We have noted in particular the small number of participants in the bidding and their lack of competitive behavior, resulting in an average number of bids per tender of 1.3 (for the large networks), compared with an average of 3.3 observed in the London tenders for bus services. Moreover, although some British groups have shown some signs of interest in the French market, they have elected not to bid for large networks.

There are many reasons for the poor performance of the French tendering system. We have identified five explanations: labor law L122-12 (which requires the new operator to renew the contracts of all the incumbent's employees), asymmetries between the incumbent firm and the potential entrants, high tendering costs, high operating risks, and the OA's failure in the specification and selection process. In Chapter 4, a literature review of the theoretical works by Demsetz (1968), Baumol (1982) and Tirol (1988), among others, suggested that all these factors are actually barriers to entry, and that they

should be removed, or at least reduced, in order to stimulate the entry of new competitors and therefore true competition.

Labor law L122-12 implies that in the French system a tradeoff has been made between more social protection for the employees of the urban public transport companies and less potential for competition in the tenders for the service contracts. Although labor law L122-12 is likely to have a larger impact on competition than the other four factors (see section 3.2.3), we focus in this thesis on corrective measures that can be implemented without affecting this tradeoff, i.e. without any change in labor law L122-12. Three strategies were, thus, assessed: reduction in the bundle size of service to be tendered out, reduction of contract duration, and the improvement of the specification and selection process.

The first strategy, consisting in a reduction in the bundle size of service to be tendered out, i.e. the split into sub-networks, is expected to reduce tendering costs and operating risks. The second strategy, consisting in a reduction of contract duration, aims to lower operating risks and to remedy OA's failure in the specification and selection process. Finally, the third strategy, which recommends the improvement of the specification and selection process, besides addressing OA's failure, may reduce asymmetries among bidders. For maximum effect on competition, we recommend that these strategies be implemented together.

As the impact of labor law L122-12 is not addressed by these strategies, the effect on competition of these strategies is likely to be modest. However, we consider that their implementation may yield important improvements. Indeed, as shown by the literature review and the results of the two surveys, as soon as there are two bidders in competition, the final price is usually at competitive levels. In other words, there is a big difference between a single-bid outcome and a two-bid outcome, and we are confident that this set of strategies can help some OAs, especially those in charge of larger networks, to accomplish this leap.

Indeed, if all four non-regulatory barriers to entry are reduced through the implementation of this set of strategies, and if this reduction is sufficiently publicized among the operators, more firms are likely to consider that, under the new situation, their chance of defeating the incumbent will have increased, the cost of preparing a bid will

have decreased, and therefore, that their participation in French tenders may then make more sense than presently.

Moreover, it was suggested that the OAs should have a long-term approach and take the necessary steps to ensure the participation of a sufficiently large number of large groups. We may mention here the survey on London tenders that provided empirical evidence that the larger the number of bidders, the lower the contract price. In view of the concentration of the French industry, the participation in French tenders of small firms and foreign groups has consequently become crucial for true competition and non-monopoly prices. A clear selection process and a reduction of operating risks through a split into sub-networks may be the strategies that will best serve this purpose.

This thesis has mainly focused on larger French networks. It could be interesting to explore strategies that could be implemented in smaller networks, which usually face specific constraints including limited resources in staff and competence, possible direct interference from elected officials, and difficulty in attracting foreign firms because of the small size of the service.

Another area for further research is the systematic investigation of the relationship between number of bidders and tendered prices in all French networks, as done for London tenders by London Transport Bus (1999, b). If confirmed, this evidence would strengthen the conclusions of this thesis.

Finally, we assume the public ownership of vehicles and depots as given. Guided by the more successful experience of London, further research on how to increase competition in French tenders could consist in the comparison of the advantages of public fleet and depot ownership with those of private ownership, which in particular allows route-based tendering. This analysis would be especially relevant in the French context of lack of capital funds for new urban public transport projects. It would also be relevant in the European context as the European Commission is preparing a new regulation that will set the standards for the organization of urban public transport services and considers the French delegation of service system as an alternative.

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