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# **Introducing performance indicators in the French Public Transport? From a approach by the Theory of Agency to a comparison with electricity and telecommunication public utilities**

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## **Abstract**

The public utilities are an interesting testing ground to understand the relation and asymmetry of information between an agent and his principle. The normative theory of agency and the positive theory of agency represent theoretical sphere of the contractual relation and the incentive and performance mechanisms. This theoretical sphere will be confronted by a comparative study on the telecommunication, electricity and urban public transport. Considered as public utility in France, the interest of this comparison will be focused on the contractual agreement and the role of the performance indicators as mechanisms of revelation of information and the consequence on the market structure. This comparison allows reconsider the regulation of the French public transport.

*Keywords:* regulation, performance, public utility, performance indicator, agency, contract, asymmetry of information, incentive, control

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## 1. Introduction

### 1.1 Context

Local public transport in France changes with decentralisation and deregulation. This transformation leads to new regulation tools of the sector besides competition and delegation of public utility. More and more, transport authorities express the need of local decision-making tools, and of incentives to encourage operators to improve performance of the service. So, in order to be able to control the performance of the public utility, local authorities try to appropriate a capacity of expertise that they did not necessarily acquire previously. Introducing local indicators will help transport authorities regulate the sector in a way that it integrates the criterion of performance.

Thus, more and more, the idea to develop a “*regulation by the performance*” emerges in the public transport. It is not only any more to promote competition, but also to take care that the objectives raising traditionally of the general interest can be achieved by measuring the efficiency of transport networks in their environment. The performance (in the sense efficiency) of the local public management give an interest to how it can be measured with performance indicators.

### 1.2 Topics and issues

This paper is part of one of the themes area proposed: the regulation of the public transport and service contracts regulation. First, it will focus on the issue of the regulation of local networks industries : a topic less taken into account for the public transport than other public utilities (electricity, telecommunication). The question associated will be as followed : what are the mechanisms of the regulation which were set up in local sectors (public transport)? A focus on the tools allowing to French local authorities to regulate the sector, specially the role of Contracts (the delegation of public utility) and competition will be made. Secondly, the performance and his measurement is a mystic problem concerning the public utilities. We are in the frontier between public sphere and private sphere. The question associated will be as followed : what are the issues concerning the performance of public utilities in a competitive context? The introduction of performance indicators in the public transport will reduce the asymmetry of information between the local authority and the operator regarding the performance of the service and the performance of the operator?

### 1.3 Method of analyze

To clarify the question that structures this paper, the introduction of performance indicators in the public transport for a efficient regulation of the sector (reduction of asymmetry of information, incentive, control, incompletude of contract), the analyze will be double.

On the one hand, it will be about to develop different theoretical mechanisms that help to understand the contractual mechanisms introduced in the public transport. This will be made with the theory of agency. During the last 30 years, an extensive literature aims at replacing the issue of the performance and its measure in a perspective



incentive, performance and control. The performance measurement of public utilities form part of incentive and control systems in the theory of agency. As soon as interest conflicts, strategic behavior of agents, and uncertainty are introduced, measuring the performance of public utility is directly influenced by those last mechanisms. The objective of this theoretical vision will be to describe different theoretical tools (incompleteness of contract, risk of opportunism, introduction of incentives, the hold up problem) taken from the theory of agency to explain what we can observe for public utility in France (public transport, electricity and telecommunication) linked to the performance issue. Indeed, the performance measurement of public utilities can be manipulated by one of the party (local authority, operator). The qualitative or quantitative elements that from part of the evaluation can be imprecise, partial, above all difficult to verify.

On the other hand, the theoretical mechanisms would be observed by focusing on a comparison between public utilities, in particular in the introduction of performance indicators.

The objective will be to present a comparison on the organization and the regulation of different local networks industries according to the three important dimension regulation, competition and performance. Through this comparison, we will demonstrate that experience regarding introduction of performance indicators evolve according to the sector considered. The local networks of transport scope with important issues regarding their costs and the quality of service. Therefore, urban transport utility is confronted with the same issues as electricity and telecommunication public utilities.

The theory of Agency in economy gives an interesting perspective to explain the contractual relation and the asymmetry between local transport authorities and their delegators regarding the performance. Each sector has its specificity: it does not question to include those different situations in a unique paradigm. Nevertheless, the issues are similar enough for, by a comparison give some general conclusion on the introduction of indicator performance to reduce opportunist behavior and asymmetry of information regarding the performance of the service and the operator.

We will be able to highlight the specificity of each sectors, in particular the urban transport sector : to raise problems regarding transparency of information between the local authorities and the operators, the role of indicators in the performance measurement of public utilities (telecommunication, electricity, urban transport).



## 2. Information, incentive, control and performance: lessons from the theory of agency

The Theory of Agency explains that the individuals have differing interests : the relations of collaboration are with conflicts. The costs of those conflicts reduce benefits from joint action and move away the equilibrium from the economical optimum. So, the theory of agency whether explains the organisational forms as mode of reduction of agency costs (positive theory of agency) whether suggests mechanisms of control and incentives in order to reduce the agency costs (normative theory of agency).

### 2.1. The normative approach of the theory of agency

#### 2.1.1 The hypothesis of the normative theory of agency

The rationality of individuals is one of the hypothesis of the normative theory of agency. The economical agents have a complete information on the structure of issues and a infinite capability of calculation. The information of agents is complete in the sense that even if they do not be able to anticipate the future, the agents know all the issues that they could be confronted to<sup>1</sup>. But, the principal and the agent do not share the same information on some variables, as the effort of the agent to reduce costs.

The agent – principal principle is central in the theory of agency, one of the theories of the industrial economy. This principle define issues when the action of an economic actor, the principal, depends on the action or the nature of an other actor, the agent, on which the principal is imperfectly informed. Those issues are divided in two groups according to the nature of the imperfection of the information : the “adverse selection” and the “moral hazard”, two types of hidden information : the hidden action and the hidden information.

**Table 1:** Summary of the issues in the principal - agent agency model

Principal		Agent
Hidden Identity	Signal	Autoselection (adverse selection)
Hidden Action		Moral hazard
Adverse selection		Moral hazard
Ex ante contractual Opportunism	Post contractual Opportunism	
Issue of private information	Issue of unobservable action (effort)	
The informational asymmetry is on an exogene characteristic (on the identity of the agent)	The informational asymmetry is on the actions of the agent :	
	<u>Type 1</u> : moral risk with hidden action which the principal can not observe the action of the agent <u>Type 2</u> : moral risk with hidden information which the principal can observe the action of the agent but does not verify if the action is efficient (case where the agent make himself the control and the expertise of the service).	

So, the economy of agency questions on this element : which organisation, institutions provide to economic actors good incentives and the mechanisms that allow reveal correct and complete information?

<sup>1</sup> E. Brousseau, J.M. Glachant, (2000), *Economie des contrats et renouvellements de l'analyse économique*, Revue d'Economie industrielle, numéro spécial, n°92, 2<sup>ème</sup> et 3<sup>ème</sup> trimestre, Economie des Contrats, pages 23 to 50.



### 2.1.2 From the relation of agency to the difficulty to reduce the agency costs

The denomination of the theory of agency is attributed to Stephen Ross<sup>2</sup>. It is linked to the definition that Ross gives to the agency relation.

The most classic definition is given in a famous paper of Jensen and Meckling (1976) : “*We define the agency relation as a contract by which one or more people (the principal) engages with an other person to execute any task that implies a delegation of a certain power to the agent (...). The issues that the theory of agency study appear when the interests of the two parts can diverge and above all when there is imperfect and informational asymmetry between the parties. The agent says more than the principal on the task he must accomplish. The consequence of those informational problems is, on the one hand, that the contract joining the parties is necessary incomplete, and on the other hand that the principal have not the ways to control perfectly and without costs the action of the agent.*”<sup>3</sup>

All contractual relation between two individuals can be considered as an agency relation: public utilities (urban public transport for example) are an interesting illustration of the agency relation.

This relation raises a problem: the divergence of interest and the informational asymmetry between the two parties, that cause agency costs on:

- Spending of monitoring and incentives that the principal can introduce
- The opportunity cost, that is to say the existing gap between the result of the action for the principal (the local authority) and the optimal behaviour for the agent (the operator)

Thus, the issue is to determine the organisational form that minimise the agency costs.

### 2.1.3 The contractual relation in public transport: an ideal context for the development of informational asymmetries

#### 2.1.3.1 Informational asymmetries and incentives

The regulation of public utilities can be analysed as an agency relation between a regulator (the local authority) that plays the role of the principal and a private company as the agent. The principal agent theory has been developed for the management of public and private companies<sup>4</sup>. Nevertheless, this theory can be transposed for the public utilities, as urban transport. The relation between the principal and the agent is constrained by the divergence of objectives between the two parts:

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<sup>2</sup> S. Ross, (mai 1973), *The economic theory of agency : the principal's problem*, The American Economic Review, volume 63, n°2, page 134 to 139.

<sup>3</sup> Coriat, Weinstein, (1995), *Les nouvelles théories de l'entreprise*, Le livre de poche, Paris, pages 93 and 94.

<sup>4</sup> J.J Laffont, (2006), *A propos de l'émergence de la théorie des incitations*, Revue Française de Gestion, n°106, pages 177 to 189.

In one of his paper, J.-J. Laffont explains that the modern development of the theory of agency (or theory of incentive) can bring together the Economists of the firm management issues.



- The local regulator (the local authority) is the guarantor of the notion of “public utility” that covers universality, equality of access, and quality of service principles: his role is to define and defend the general interest and define the transport policy objectives.
- The essential objective of the private company is to maximise his profit.

The fact that the local authority confide public utility missions to private companies, and grant them a monopoly strengthen the necessity of information and control, inevitable in a relation of principal agent type<sup>5</sup>.

Some difficulties exist analysing the relation between the local authority and the private firm:

- A problem of information deficit for the local authority (the local regulator) because of an incomplete information on the way in which the private operator gives the service.

The local regulator can only have access to accounting elements : it does not be possible to determine the management effort of the private firm and its margins to reduce costs. Therefore, the firm have an informational rent: in concrete terms, at the time of contract negotiation, the private firm can leave appear high costs and hide the possibility to reduce it to more efficiency of the service.

- The contracts between the principal and the agent are inevitably incomplete  
Indeed, the contracts are limited by the cost of their writing and the impossibility to anticipate all: during the term of the contract, in urban public transport for example, amendments are signed to modify the service while the initial contract does not specify this modification. Eventually, it does not exist perfect and complete contracts where all possibilities of transaction would be written.
- It exists political risks of “capture” of the local authority

If the local authority has of own objective the public good, even so, the local authorities do not escape from political constraints.

### 2.1.3.2 The public utility delegation is a principal – agent relation

In the delegated contracts, as in other contractual relation (for instance between the employer and the employee), it joints together principal agent relations. The principal (the local transport authority) decides of the transport policy and its objectives that the private operator must attain. And, the principal determines the way in which the private operator will be remunerated according to the type of contract (part 3).

This relation between the two parts can be affected by an unequal distribution of the information on the service. So, this issue is traduced by phenomena of:

- adverse selection: the local authority is not able to observe and evaluate the level of effort really agreed by the private operator
- moral hazard: the principal (the local authority) is not able to determine if the information in possession of the agent are not used on his disfavour. This results in

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<sup>5</sup> A. Perrot, (mars 1992), *Asymétrie d'information et contrats*, Dossier : La concurrence, Annales des Mines, Gérer et Comprendre, pages 17 to 22



the capture of an informational rent<sup>6</sup>. In moral hazard situation, it is about to find and define contractual mechanisms likely to incite the agent to make effort and be efficient by reducing the informational rent that he is able to capture<sup>7</sup>.

In the urban public transport, such incentives mechanisms exist. Nevertheless, the efficiency of the incentive mechanisms in the urban public transport contracts can be discussed, in particular “fixed price contracts” (part 3).

### 2.1.3.3 Important capabilities of capture of the informational rent

Do the public utility delegation contracts have contractual mechanisms that allow at the same time incentive and reduction of informational asymmetries? Obviously, in the French public transport, performance incentives mechanisms exist (bonus mails on the quality of the service, profit-sharing on the receipts results, profit-sharing on the quality of service, ...). Thought, those mechanisms do not have the effects expected : the cost of the service, thus the capability of the private company to propose the service at a lower cost is difficult to obtain. All the more, the principal elements that characterise the contractual relations, the authorities and institutions that control and manage it (Regional Accounts Rooms, Accounts Cour, legality control by the prefectures, ...) are not really able to help local authorities to reduce the opportunities of capture of the informational rent by the private firms.

The procedure of signing and renewal, decisive moment of the contractual relation does not always allow the local authority to earn information and measure the real effort of the private firm. The procedures of delegation, leaning on the “*intuitu personae*” principle, they do not define strictly and objectively criteria of selection. Without those circumstances, the competition in the urban public transport is not really effective<sup>8</sup> in the revelation of the information and the effort (in terms of performance) of the private operator. The private companies enjoy a privileged situation in comparison with to the potential new private companies. The transport local authorities are engaged, for some of them, in negotiations structurally unbalanced.

### *2.1.4 Conclusion*

Consequently, the normative theory of agency allows explain the agency relation between the principal and the agent. The public utilities, for instance the urban public transport meet this configuration when asymmetry of information can exist concerning

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<sup>6</sup> J.J. Laffont, J. Tirole, (1993), *A theory of incentives in procurements and regulation*, MIT Press, Cambridge MA.

<sup>7</sup> C. Crampes, A. Eustache, (1998), *Regulatory Trade Offs in the Design of Concession Contracts*, Utility Policy

<sup>8</sup> GART, (2005), L’année 2005 des transports publics.



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the performance of the operator and his capability to reveal information about his efficiency.



## 2.2 The positive approach of the theory of agency: organisational architecture, allocation of decisional rights and system of control

« (...) Many important predictions on the research on positive organization theory and positive accounting theory will be characterizations of the contracting relations, and much of the best evidence on these propositions will be qualitative and institutional evidence ... By its nature, much of this institutional evidence cannot be summarized by measures related numbers<sup>9</sup>. »

The most cited paper in the literature concerning the positive theory of agency is Jensen et Meckling<sup>10</sup>. This theory becomes one of the branches of the contractual theory of organisations. For these authors, it is about to create a theory on the organisation behaviour supported by the hypothesis of rationality of actors, thus a theory of the architecture of the organisations: “Our objective is to develop a theory of organization that provides a clear understanding of how organizational rules of the game affect a manager’s ability to resolve problem, increase productivity and achieve his or her objective.”

In their paper, Jensen et Meckling discuss the positive theory of the organisation as a theory of the organisational architecture. Two dimensions are associated, which one concerns the issue of measurement of the performance and the control: “The theory of the organisational architecture is articulated around two dimensions that constitute the base of the central “taxonomy” of the positive theory of agency : the allocation of the decisional rights within the organisation (...) and the conception of the system of control and measurement of performance (...)”<sup>11</sup>.

For instance, for the urban public transports, the unity of analysis can be the agency relation between the local authority and the private operator. But, this analysis can be enlarged to become the fascicule of the organisational efficiency by considering the relation local authority/private firm/private groups/State/users. In this more complex organisational system, it is about to minimise the agency costs. Therefore, it is about to arrive at an efficiency on the whole fascicule of agency relation.

### 2.2.1 The allocation of the decisional rights within the “organisation”

The argumentation presented is the following element: it is about to propose a theory of the organisational architecture based on the decisional rights allocation within the “organisation”. This allocation is not built on an intentional exchange of rights between the local authority and the operator. The repartition of the decisional rights results from

<sup>9</sup> M.C. Jensen, (1983), *Organization Theory and Methodology*, Accounting Review, volume 58, page 338.

<sup>10</sup> C. Jensen, W. Meckling (1976), *Theory of the Firm : Managerial Behavior, Agency Costs and Ownership Structure*, Journal of Financial Economics, volume 3, pages 305 à 360.

<sup>11</sup> G. Charreaux, (2002), “Positive Agency Theory : Place and Contributions”, in E. Brousseau et M. Glachant, *The Economics of Contract in Prospect and Retrospect*, Cambridge University Press, pp.251-270.

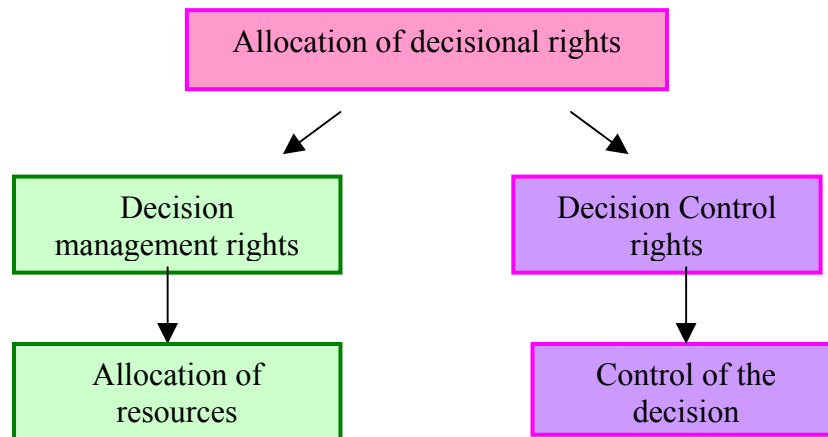


the arbitration between costs linked to a bad use of the “specific knowledge<sup>12</sup>”, i.e. specific information (an insufficient decentralisation of decisions) and those linked to the interest conflicts (resulting from the decentralisation of the decisions).

One of the important dimensions coming from the theory of the organisational architecture is built on the allocation of the decisional rights within the “organisation”. In this theory, a distinction is realised between the rights linked to the management of the decision and those linked to the control of the decision.

Thus, the positive theory of the agency is a theory of the organisational architecture. It is first articulated around the allocation of the decisional rights within the organisation. This allocation can lead to a partition of the decisional rights between rights linked to the gestion of the decision (decision management rights) which are composed of the rights to initiate and implement the allocation of the resources and those linked to the control of the decision (decision control rights).

**Figure 1:** The two dimensions of the positive theory of agency : the decision management rights and the decision control rights



This partition results from a modelisation<sup>13</sup> in 4 phases of the process of decision within the “organisation” : initiative, ratification, implementation and monitoring in the sense of the measurement of the performance of the agents and the implementation of rewards and penalties. The functions of initiative and implementation form the function of “decision management rights”. The function of ratification and monitoring are associated to define the function of control: the decision control rights.

<sup>12</sup> G. Charreaux, (septembre 1998), “La théorie positive de l’agence, lecture et relecture”, in Koenig, G. (coord.), *De nouvelles théories pour gérer l’entreprise du XXI<sup>e</sup> siècle*, Economica, en collaboration avec Amann, B., Joffre, P., Koenig, G. et de Montmorillon, B., chapitre 2, pp.61-141.

<sup>13</sup> E.F. Fama, M.C. Jensen, (1983), *Separation of Ownership and Control*, Journal of Law and Economics, volume 26, pages 301 à 326.



### 2.2.2 *The conception of the system of control and measurement of the performance*

Initially, the positive theory of agency is based on the property rights theory in the version proposed by Alchian and Demsetz<sup>14</sup> and the notion of agency relation derived from the normative approach of the relation principal – agent (point 2.1). The positive theory of agency likes to a theory of the co-ordination and the control within the “organisation”.

Consequently, the second conception of the theory of the organisational architecture depends on the conception of the system of control. This system of control associates the system of evaluation of the performance and the system of incentive. The system of incentive within the organisation must introduce penalties and award according to the performance measured.

Thus, the positive theory of agency explain the necessity of introducing mechanisms of control and incentive within the organisation. The conception of the system of control by this theory gives a distinction between the system of evaluation and the measurement of the performance of the organisation and the system of incentive allowing specify the relation between the measurement of the performance and the consequences in terms of awards and penalties.

Finally, the sources of the contractual efficiency is, according the positive theory of agency in the capability of the organisational forms to “save on the rationality” and to protect the transactions against the opportunistic risks by giving an importance to the ex ante and ex post contractual aspects and a system of control, incentive and measurement of the performance. The central argument is focused on the more efficient use of the specific knowledge (in the sense of the specific information).

### 2.2.3 *Conclusion*

The positive theory of agency give an interesting perspective to the comprehension of the system of decisional rights and, above all of the system of measurement of performance to increase the contractual efficiency. After giving an theoretical review on the problem of asymmetry of information (normative model of the principal and the agent) and the measurement of performance and control of the service (positive theory of agency), it is important to have an empirical analyse of those mechanisms.

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<sup>14</sup> A. Alchian, H. Demsetz, (1972), *Production, information costs and economic organization*, American Economic Review, volume 62, n° 5, pages 777 à 795.



### **3. From theoretical lessons of Agency problem and incomplete contracts to empirical comparison: the telecommunication, electricity and urban transport public utilities**

Local Public utilities seem to be a interesting example to confront the theory of agency and incitation with this reality of the public utilities.

An analyse will focus specially on three sectors : electricity, telecommunication and urban public transport. This comparison will allow to broach the contractual process and the issue of asymmetry concerning the relation between local authorities, the operators and the “welfare state” (in France). Those local (and national for electricity and telecommunication) networks face many issues regarding their cost, quality of service and performance. Each sector has its specificity's but that is not the point to include the different situations in an unique paradigm. The issues linked to the control of the service and the operator and the performance mechanisms (performance indicators, incentives mechanisms) are enough similar in order to be able to learn from electricity and telecommunication sectors for the urban public transport.

#### **3.1. The Contractual agreement and incentive mechanisms: a reduction of the asymmetry of information between the principal and the agent?**

##### *3.1.1 A double strong contractual process: the electricity case*

The company Electricity of France (EDF) is subjected to the supervision both of the State and the local authorities. First, it is through Plan Contracts signed between the State and EDF and Contracts of concession with the local authorities that performance mechanisms are generally thought.

Compared to the other public utilities (urban transport, telecommunication), this double supervision leads to a contractual system more extremely strong regarding methods of control of the execution of the service, missions of public utility supported by strong commitments of the company.

##### *3.1.2 A more flexible contractual relation: the telecommunication case*

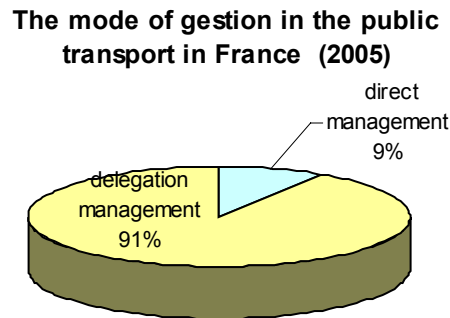
In the **sector of telecommunications**, the contractual context is (as the electricity sector) at a double level : at a national level (State) and a local level (local authorities). But in the contractual relations between the State and the privatized company France Telecom, the contractual context is very reduces in term of performance objectives and introduction of indicators (different from electricity). Thus, the performance objectives naturally result in the play of competition irrelevant to the contractual process with the State and the local authorities. It is why it is the Authority of Regulation of the Electronic Communications and Stations (ARCEP) in charge of the competition realize comparative studies on the efficiency of the mobile telephony networks by using quality indicators. Nevertheless, it does not exist contractual engagements as in the sector of the electricity.

##### *3.1.3 A lack of transparency and control in the contractual relation: the urban public transport case*



The Domestic Transport Orientation Law (“Loi d’Orientation des Transports Intérieurs, LOTI”), of December 30, 1982 is the fundamental Law of organization of the transport public services . The LOTI clarified the relations between local authorities and operators by imposing a contract between the two parts. Two different modes of management contract exist : the direct management (direct state control) or delegation of public utility (about 91% of the public transport).

Figure 2: The mode of gestion in French urban public transport in 2005 (%)



Source: Groupement des Autorités Responsables de Transport, (2005), L’année 2005 des transports urbains, 31pp.

Regarding the performance, the article 14 of the LOTI Law allows to fix to the local authorities and the operators an economic requirement of effectiveness.

Lastly, the research of the best cost for the Authority and this principle of agreement prepared the ground for the application in 1993 of the Law known as “Sapin Law”. The 1993 “Sapin” legislation set the new guidelines and an evolution to local transport authorities. Local transport authorities assemblies are to decide on the principle and characteristics of all delegation of public services. They vote on the choice of the operator to whom they delegate and on the contents of the delegation Contracts. The decision to delegate and the type of delegation are not really based on the LOTI principle of “effectiveness as it seems to be first a political choice.

In the delegation of public utility, the transparency of information is compulsory by the Sapin Law. And with the decree n°2005-236 of 1 March 2005<sup>15</sup>, the operator have to give essential information on the quality of the service. In the direct state control, the local authorities have the obligation to produce a supplementary budget.

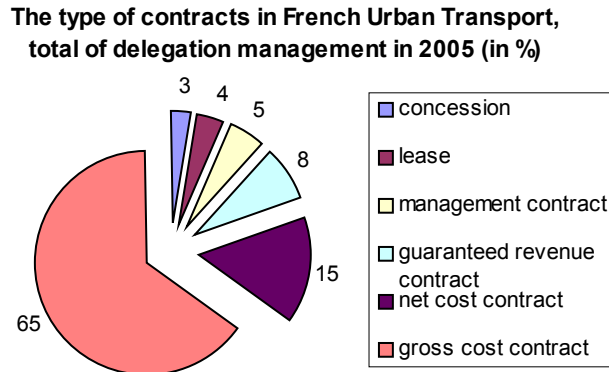
But the control is not always systematical. The local authorities must be able to improve their position in the revision or the renegotiation of their contract. Some authorities have low powers against the operators in the period of Contracts negotiations. Furthermore, they must be able to develop an expertise ability in the field of measurement of the service and a control of his operator. In the field of statistical information, a annual report (the report of the operator) is produced and transmitted to the local authority before the 1<sup>st</sup>, June of the year in the delegation management.

Nevertheless, a majority of local authorities are in search for an improvement in information on the operation of the urban transport public services. The asymmetry of information and competencies with the private operators is strong. Nevertheless, to

<sup>15</sup> The decree n°2005-236 of 1 March 2005 relating to the annual report of the operator of local public utility came to specify the contents of the report.

control the operator, it seems to be a very recent evolution in contractual mechanisms and incentives.

**Figure 3:** The type of contracts in French Urban Transport , in total of delegation management in 2005 (%)



Source: Groupement des Autorités Responsables de Transport, (2005), L'année 2005 des transports urbains, 31pp.

There are different contractual mechanisms to encourage the operator to the performance in the delegation . The type of incentive is, in general, linked to the share of risks between the operators and the local authorities<sup>16</sup>.

**Note 1:** The different type of Contracts in the French public transport and the incentives mechanisms

- the **management contract** (“*gérance*”)
 

The industrial risk and the commercial risk are on public authority’s side. The operator makes expensive or collects revenues on behalf the public transport Authority. It receive a fee depending on the size of the network operated and on the quality of its management.
- the **gross cost contract** (“*gestion à contribution forfaitaire*”)
 

The industrial risk is for the operator and the commercial risk is for the public transport Authority. The company receives a fixed price for operating the given network/ it collects fare revenues on behalf of public transport authorities. The public transport authorities receives fare revenue as a receipt and pays a fixed amount of money to the operating company. A variant of this contract exist : gross cost contract with revenue incentive.
- the **guaranteed revenue contract** (“*régie intéressée*”)
 

the public transport company is supposed to operate at risk but the public transport Authority guarantees a minimum level of fare receipts. The industrial risk is for the operating company and the commercial risk is shared between the operator and the local Authority.
- the **net cost contract** (“*gestion à prix forfaitaire*”)
 

The operator operates at risk but the fare level is not enough to cover operating costs. The public transport Authority allocates a fixed amount of subsidy to complete fare revenues. In this contract, the Authority must regularly monitor performance of the operator based on cost efficiency and quality of service really provided.

Additional incentives for the realization of special objectives can be added in all type of contract. For example, payments can be related to the perceived quality of the service by customers. The incentives can influence allocative and productive efficiency. Some Contracts integrate performance incentives to encourage the operator to the financial, and economic performance. For example, bonus malus mechanisms are more and more introduced in gross cost contract (whereas this type of contract is less incentive).

<sup>16</sup> EMTA, (23 novembre 2000), *Contracts : a tool for public transport authorities*, proceedings, workshop, pages 9-10.



**Table 2:** The different type of contracts, type of risks (commercial, industrial) and performance incentives

Type of contract		Risk share		Performance incentives
		Industrial	Commercial	
<b>Cost plus contract</b>	Management contract	Public Authority	Public Authority	The operator receives a fee linked to the size of the network and the quality of the service
	Gross cost contract	Operator	Public Authority	The operator receives a fixed price, and incentive revenues
<b>Fixed price contracts</b>	Net cost contract	Operator	Public Authority Operator	The public authority monitors the performance of the operator based on costs efficiency and the quality of the service
	Guaranteed revenue contract	Operator	Operator	The local authorities guarantee a minimum level of fare receipts, no incentives

On the operators side, to put in confidence the local Authority, especially at the time of the renegotiations of the contract, they produce indicators. The operators use their force of persuasion and reputation to win the contract. But those instruments are not generalized to the whole local authorities before the negotiation and during the execution of the contract. Some local authorities does not have tools to develop their capacity to control the service and the operator. Furthermore, it does not exist, apart from the “Green books” and national ratios, within the local authorities homogeneous methods of indicators.

Perhaps, we must reflect to introduce homogeneous performance indicators to allow more transparency and comparison by the performance in this sector?

### 3.1.4 Conclusion

In the French urban public transport, the period of negotiation, the period of execution of the contract is particularly problematic in the asymmetry of information between the operator and the local authority. The regulation of the sector does not impose precise condition concerning relevant data for evaluating the performance of the service and the operator and avoiding the asymmetry of information with the local authority.

Thus the various monitoring mechanisms and incentives developed in contracts are not really effective and persuasive to oblige the operator to increase performance. Local authorities are in a weak position to sanction operators because they do not supervise them properly. As long as the information collected by the local authority will not be complete and reliable, operators will not feel threatened and will not be incited to improve performance, event though they are regulated by fixed price contract (more incentive than cost plus contract).



### 3.2 The control of the execution of the service and the operators : the role of the performance indicators

The objective is to realize a comparison in the issue of control and incitation toward the operators and the service in the three public utilities: telecommunication, electricity and urban transport in French.

#### 3.2.1 *The Electricity sector: from technical criteria to contractual performance indicators*

##### 3.2.1.1 First evolutions in favor of technical criteria of the performance of the service

The first evolution takes place in 1987 with the definition of technical indicators. Repeated complaints of the industrial customers make Electricity of France be aware of the bad level of technical performance of the supply. The decision is then made to launch campaigns to improve quality of the supply. Important financial means are developed to complete the work of improvement and reliability of the service. Technical criterion are then defined making it possible to measure the projections of this policy. Thereafter, new topics will appear: the respect of the environment by the installation of discrete ones (buried lines), the quality of the contact with the customers. Moreover, investigations of satisfaction will be carried out in each agency concerning the quality of the various types of contacts (raised, subscriptions, connections).

**Table 3:** Technical criteria defined by Electricity of France

Indicators on		
The cuts perceived by the customers	The incidents on the networks	The effort of equipment
Criteria B: average time of cut of a customer low tension	Number of incidents permanents/100 kilometers	Numbers remote-controlled air switches (allow to reduce the duration of the cuts by a remote intervention) a starting
Criterion CL and CB: frequency of the long and short cuts of the customers high voltage	Numbers brief cuts/100 km	Number of more than 70 km (the longer one departure is, the more the risks of incidents on a high number customers are large)
Numbers customers beyond the thresholds except exceptional events (threshold: 70 very short cuts and 30 short cuts or more than 6 long cuts in the year)		
Average time of cut of a customer low tension : (B) criteria		
Over the annual time of cut: % of customers undergoing X hours of cut per year		

##### 3.2.1.2 The system of engagements of service in favor of the customer

Gradually, the introduction of the customer is reinforced with the definition of commitments of customer service in 1993: the prospects for liberalization of the sector supports this evolution and leads to two initiatives.

On the one hand, the service offered is more and more diversified : Electricity of France adapts the characteristics of the product according to the customer requirements.



It proposes to all customers a range of subscriptions. And, Electricity of France proposes series of new services for the local authorities. On the other hand, the guarantee of the service to domestic users installation is generalized in 1994. Electricity of France commits itself on six points.

**Note:** Commitments of service of Electricity of France (1994)

- Intervention in the four hours
- Startup for a newcomer in the two days
- Intervention for cancellation in the two days
- Appointment in the two hours, estimate in the eight days
- Realization of repair and building work in the fifteen days
- Compensation in case of failure : 23 Euro

In 2005, Electricity of France defines twenty public utility commitments in addition to the initial agreement of 1994 based on: the respect of the environment, the transparency of information, the quality of the reception, the quality of the current, the prevention against the home accidents, the promotion of energy savings, the access to electricity for all, the ethics of the company, and the engagements monitoring of Electricity of France.

**Table 4:** The 20 engagements of public utility of Electricity of France in 2005

Commitments	Definition of commitments
	C1: program of research and development to create renewable energy sources
	C2: program of research on the treatment and the management of the radioactive waste
	C3: hiding of 90% of the new Medium Average lines
Respect of the environment	C4: device of free public terminals for the refill of the electric vehicles
	C5: organization of debates with the mayors of France
	C6: availability on line of the data on the impact environmental of the installations of EDF
	C7: publication of an annual balance sheet presenting the principal indicators measuring the environmental impacts
<b>Transparency of information</b>	C9: telephone reception 24 hours/24 and 7 days/7 and return in 2 hours the time beaches
Quality of the reception	C10: accessibility facilitated with the public utility
Quality of the current	C11: in the event of urgency, breakdown service within 4 hour following the call of a customer
Prevention: accidents in the home	C12: diagnosis safety to evaluate the quality of the electric installation
	C13: sensibility with electric safety in the schools
	C14: any customer electric owner of heating can profit with his request from a council saving energy
Promotion of renewable energies	C15: any person taking out a first subscription will have information personalized on correct use of electricity and energy saving
	C16: call-free number 0 800 605 309 dedicated to the customers in emergency and of precariousness 24 hours/24 and 7 days/7
	C17: no cut without preliminary contact with a customer in difficulty allowing the installation of a "service maintenance energy"
Access to electricity for all	C18: since 2003, EDF doubled its financing of the Funds Solidarity Housing while carrying it to 20 million Euro
Ethics of the company	C19: publication of the Ethical Charter of group EDF built on the values of "public utility"
Monitoring of EDF commitments	C20: annual publication of a monitoring of engagements of public utility

Source: [www.edf.fr](http://www.edf.fr)

The National Federation of the Conceding Authorities and Direct Controls (Fédération Nationale des Collectivités Concédantes et Régies) and the Association of the "Maires" of France created in 1993 the Association of Expertise on Concession (AEC) in charge of supporting the local authorities and to control Electricity of France



and the electricity public utility. Its role is: expertise on the services of Electricity of France relating to the quality control, the control of the services to the customers, the control of the patrimonial and countable aspects, investigations of satisfaction near the customers. Its action encourage Electricity of France to improve quality of transmitted information and to justify more precisely on the results of the service. Then, indicators are systematically transmitted to the local authorities. At the end the first five years of the concession contract with local authorities, several studies are proposed by the Association of Expertise on Concession to local authorities: a study on the quality of supply, a study on the book value of the concession, an investigation of satisfaction for the delegates, a census of all work of esthetics of the network, a particular study on the incidents due to snow.

EDF goes far in the transparency of information. Indicators are thus transmitted to the local authorities: % of customers having a quality of tension higher than the contractual level, average time of cut per customer. In the same way, financial information with data on the running costs and the inheritance is provided for each local authority through the annual reports.

**Table 5:** Indicators transmitted within the framework of the annual reports to the local communities for the electricity sector

Theme	Technical indicators
<b>Customers</b>	A number of customers per type of subscriptions
	Indicators of satisfaction of the customers (by category)
<b>Rational use of energy</b>	A number of customers satisfied under certain conditions fixed with rational use of energy
	% of customers having a quality of tension higher than the contractual thresholds
<b>Quality of the product</b>	Average rate of cuts per customer
	Lengths brought into service of which extension, reinforcement and renewal
	A number of connections
<b>Work</b>	Even information while assembling work
<b>Integration in the environment</b>	% of work completed in discrete techniques
<b>Safety of the thirds</b>	A number of accidents having engaged of the thirds
	Receipts
<b>Operating statement simplified</b>	Purchase of energy
	Running costs
	Costs of verification, royalties, other loads complementary
	Overheads
	Equipment with depreciation and provisions for renewal
	Gross amount
<b>Value of the works</b>	Not deadened value
	Provisions made up for renewal
<b>Taxes</b>	Local taxes
	VAT giving place to deduction
	Taxes, royalties and participation

Within a new model of the terms and conditions (“cahier des charges”) signed between Electricity of France and the local authorities in 1996, provisions are introduced to give a minimum of contents to the negotiations. Consequently, the local authorities have a more important role regarding the control: control accounts of the



concession (valorization of the inheritance, information countable...), quality of the supply and service returned by the distribution centers (a number of cuts, breakdowns, satisfaction of the customers). On those questions, the conceding authorities can evaluate the performances of Electricity of France.

### 3.2.1.3 The performance indicators in the Plan contracts

The Plan contract<sup>17</sup> signed with the State and Electricity of France defines general objectives with indicators of objectives. Precise quantitative objectives with technical, financial performance, engagements toward customers and the price level are indicated in the indicators of objectives. Since 1989, the various Contracts of plan signed between the State and EDF define **indicators of objectives**. Those indicators decline the level of engagements of the company over one five years average period.

**Table 6:** Indicators of objectives indicated in the Plan Contract between the State and EDF 1989-1992

Indicators	Definition
<b>Indicators of costs</b>	Average cost of kWh sold, balanced with constant francs Cost of production-transport per kWh, with constant francs Cost of distribution per kWh, with constant francs
<b>Indicators of productivity</b>	A number of agents by subscriber in distribution A number of agents per MW installed in production
<b>Commercial indicators</b>	New placements in TWh on each three great sector: industry, tertiary sector, residential
<b>Indicators of quality</b>	Quality of products Numbers and reduction ratio compared to 1988 of the undergoing number of customers : - more than 11% of voltage drop - more than 6 cuts of long duration (on MT failure) - more than 3 hours of cuts (on MT failure) - more than 70 micro cuts (on MT failure) - more than 30 short cuts (on MT failure)  Rate of satisfaction of the customers on the quality of the products for each main category of customers (annual national survey) : - large companies (customers Direction Transport Production) - companies (customers tariffs green and yellow, Direction of the Distribution)  - professional
	Quality of service Annual duration of cut and an average number of long cuts per customer on the Medium Average network (criterion M)  Annual duration of cut per customer on the network low tension (B) criterion  Average length of the Medium Average departures Rate of satisfaction of the customers on the quality of the services for each main category of customers (national annual survey)  Rate of return fixed with a precision of the quarter of day  Opening hours of the services to the public (brought back to the working hours: 38 hours weekly)  Rate of realization of the connections in less than fifteen days

Source: Contrat de plan entre l'Etat et Electricité de France, 1989-1992, 8 pp.

<sup>17</sup> Contrat de service public entre l'Etat et EDF SA., 2005-2007, 45 pages.



**Table 7:** Performance Indicators defined in the Plan Contract between The State and EDF 1997-2000

Performance indicators of objectives	Definition
<b>Total indicators of the company</b>	Total cost of kWh sold direct
	Expenditure of exploitation except labour
	Frequency of the industrial accidents
<b>Production activity - transport (economic, technical and commercial indicators)</b>	Production cost transport per sold kWh
	Indicator on the availability of the various resources
	Frequency of the cuts
	Rate of satisfaction
<b>Activity of distribution (economic, technical and commercial indicators)</b>	Rate of cancellation of the contract Emerald (industrial contract)
	Cost of distribution per sold kWh
	Rate of satisfaction
	Rate of cancellation of the contract Emerald
	Time of total cut
	Indicator relating to the quality of the product (function of the number of cuts of various duration and of the respect of the European standard of tension)
<b>Productivity</b>	Indicator relating to the incidents of great width
	A number of agents per sold kWh
	A number of agents per sold kWh
	Value added by agent
	Sales turnover by agent

Source: Contrat d'entreprise Etat/Electricité de France, 1997-2000, 21 pp.

**Table 8:** Performance indicators and performance of objectives in the Plan Contract State-EDF 2005-2007 concerning the company

	Definition	Values	Temporality
<b>Indicators of objectives</b>	Advertisements incentive with saving energy and opening right to certificates of energy saving (in % of the total publicity expenses)	10%	Annual
	Participation in the Mutual aid funds Energy or future the Mutual aid funds for Housing	20 M€/year	Annual
	Average time of response to any written request	8 days	Annual
	% of the activities related with the hydraulic production certified ISO 9001	100%	2007
	% of certified manufacturing units ISO 14001	100%	End of 2005
<b>Indicators of performance</b>	A number of customers having profited from a council of use of energy		Annual
	A number of customers in situation of precariousness having profited from a council or a tariff assessment from their installation		Annual
	A number of customers in situation of precariousness having profited from a help from the mutual aid funds energy or mutual aid funds housing	244800	Annual
	A number of projects of social mediation		End of the contract period
	A number of local and territorial conventions concluded within the framework from the priority territories from the city		
	% of agencies arranged for the reception of handicapped people		
	Potential of obliteration contractualized by EDF near its customers		
	Investments in the reduction of the Nox emissions		

Source: Contrat d'entreprise Etat/Electricité de France, 2005-2007, 21 pp.



**Table 9:** Performance indicators and indicators of objectives in the Plan Contract State-EDF concerning the distribution network

	Definition	Values	Temporality
<b>Indicators of objectives</b>	Time of emergency intervention for a sectoral breakdown or an incident related to a question of safety	< 4 hours	
	% of MT <sup>18</sup> lines to be created realized in underground technique	90%	End of the contract period
	% of lines BT <sup>19</sup> to be created realized in underground or "discrete" technique	65%	End of the contract period
	Time of sending of a technical and financial proposal for a connection (producers)	3 months	
	A number of power generating units available or mobilizable under 12 midnight	3250	End of 2005
<b>Performance Indicators</b>	Maximum duration of the interruptions programmed in BT (work on networks BT, MT or upstream)	10 hours	Annual
	Maximum duration of the interruptions programmed in MT (work on MT networks or upstream)	4 hours	Annual
	Average duration of cut of customers BT (related to work)	51 minutes (5.9 mn)	Annual
	Average duration of cut of the MT customers (related to work)	32 minutes (2.3 mn)	Annual
	Average frequency of short cut of customers BT	2.3/year/suscriber	Annual
	Average frequency of long cut of customers BT	1.3/year/suscriber	Annual
	Average frequency of short cut of the MT customers	1.7/year/suscriber	Annual
	Average frequency of long cut of the MT customers	1.0/year/suscriber	Annual
	Rate of customers BT undergoing more than 3 hours cumulated of cut	4.5%	Annual
	Starting BT rate in constraint of tension or intensity	1.4%	Annual
	% of customers BT badly fed in zone EDF	0.9%	Annual
	Length of average lines tension air deposited (of which wooded zone)		Annual
	Length of air lines naked wire low tension deposited (of which urban zone)		Annual
	Average time of sending of an estimate of connection in the case of a simple connection without extension after contact telephone (user BT)		Annual
	Expenditure of Research and development		Annual
A number of sites accessible to the public having a protected point BT		Annual	

**Table 10:** Performance indicators and performance of objectives in the Plan Contract EDF concerning the transport network

	Definition	Values	Temporality
<b>Indicators of objectives</b>	% of realization of the programm for the bringing up to standard	85%	2007
	% of posts of priority 1 which lineis securised	70%	2007
	% of posts of priority 1 which line is securised	25%	2007
	% of HT lines % to create or replace realised in underground technic	30%	2007
	Substitution Rate and taking up of overhead lines	> 100%	End of the contract period
<b>Performance Indicators</b>	Expenditures for public network securing of transport facing to the risk "storm"	101M€	Annual
	Average Frequency of long power cut	0.1/year/customer	Annual
	Average Frequency of brief power cut	0.6/year/customer	Annual
	Average Equivalent Time of power cut	4.12'	Annual

<sup>18</sup> MT: Average Electricity Tension (Industrial Users)

<sup>19</sup> BT: Low Electricity Tension (Domestic Users)



So, in the electricity sector the performance indicators are introduced in the double contractual process of the Plan contracts between the State and Electricity of France and between the later and the local authorities through the annual reports of the concession.

### 3.2.2 The telecommunication sector: the role of the regulation function of the ARCEP in the production of indicators

In the **telecommunication sector**, it is different. There really does not exist definition and structure of control of the results at a local level, like the electricity sector. The Authority of Regulation replaces the local role in the control of the execution of the service. Today, the quality of service is, for the telecommunication operators, the essential issue.

The Authority of Regulation of the Electronic Communications and Stations (ARCEP) carries out thus with the assistance of the three dominant operators (Orange, Bouygues Telecom and SFR): an investigation of evaluation of the quality of service of numerical mobile telephony networks in France since 1997, an investigation of the quality of information (since 2005). Carried out before by the Directorate-General of the Posts and Telecommunications, the investigation on the quality of service of numerical mobile telephony networks attempts to account for the quality of service perceived by the customers.

**Table 11:** Synthesis of the indicators of quality in 2004-2005 in the sector of telecommunication (ARCEP)

Services of telecommunication	Indicators quality for each service
Vocal communications	Rate of successful and maintained communications two minutes
	Rate of communication of perfect auditive quality
	Successful, maintained rates of communication two minutes and of correct auditive quality
Services of short messages	Rate of received messages
	Rate of messages received within a time lower than 30 seconds
	Rate of messages received within a time lower than two minutes
Multi-media service of messages	Rate of received messages
	Rate of messages received within a time lower than two minutes
Service of remote loading of data on network GPRS	Rate of success of the access to the gate of the operator
	Rate of navigation successful and maintained for one five minutes duration
Service of data transmission	Rate of successful connection GPRS
	Average time of connection to network GPRS
	Rate of received files ftp
	Average time of remote loading

The game of competition encourages the operators to make improvements of their network for the greatest profit of the consumer. Thus, quality constitutes an important element of the performance. The Authority of Regulation carries out since 1997 this type of study. It contributes to the transparency of the market. The operators Orange, SFR and Bouygues Telecom are associated to the definition and the conditions of the study. The objective is to define indicators that take into account the quality of the service.



### 3.2.3 *The urban public transport: a limited monitoring capabilities of local authorities?*

#### 3.2.3.1 The performance of the sector and transparency: the regulatory framework

By the Mazeaud Law of February 8, 1995, the operators, in delegation management, are forced to produce to local authorities a annual report. This report must be able to control and evaluate the operator and the contractual obligations. A Decree n°2005-236 of March 14, 2005 comes to complete the Mazeaud Law and the article L.1411-3 of the General Code of Local Authorities (CGCT) with elements on the quality of service measuring by indicators, countable data : “*The French legislation (art. L.1411-3 CGCT) obliges operators to deliver a annual report to the local authorities but does not define in details what this report must contain*<sup>20</sup>”. Then, the transport authorities can have more or less precise information on the quality of the service and financial data (products of exploitation, costs...) thanks to the report of the operator. The problem is that the indicators reflecting the quality of the service are more indicators of means than indicators of results. The indicators developed in the report must also introduce the transport authority, that is not the case.

The Law of February 27, 2002 relating to the democracy of proximity reinforces the obligation of information regarding the users. The Law requires the consultative commission of local public services in the case of services with communes of more than 10 000 inhabitants. This commission allows to involve users in the public utility. Thus, the Law requires to transmit various documents regarding the control and the evolution of the service : project of delegation, annual report of the operator, assessment of activity of the services exploited in public control (article L 1413-1 of the General Code of the Local Authorities).

Lastly, if the Regional Rooms of Accounts (Cour Régionales des Comptes) ensure a financial posteriori control, spaced every 4 to 5 years, their recommendations are coercive but not really incentive.

#### 3.2.3.2 The role of the State in the production of national indicators since 1970's

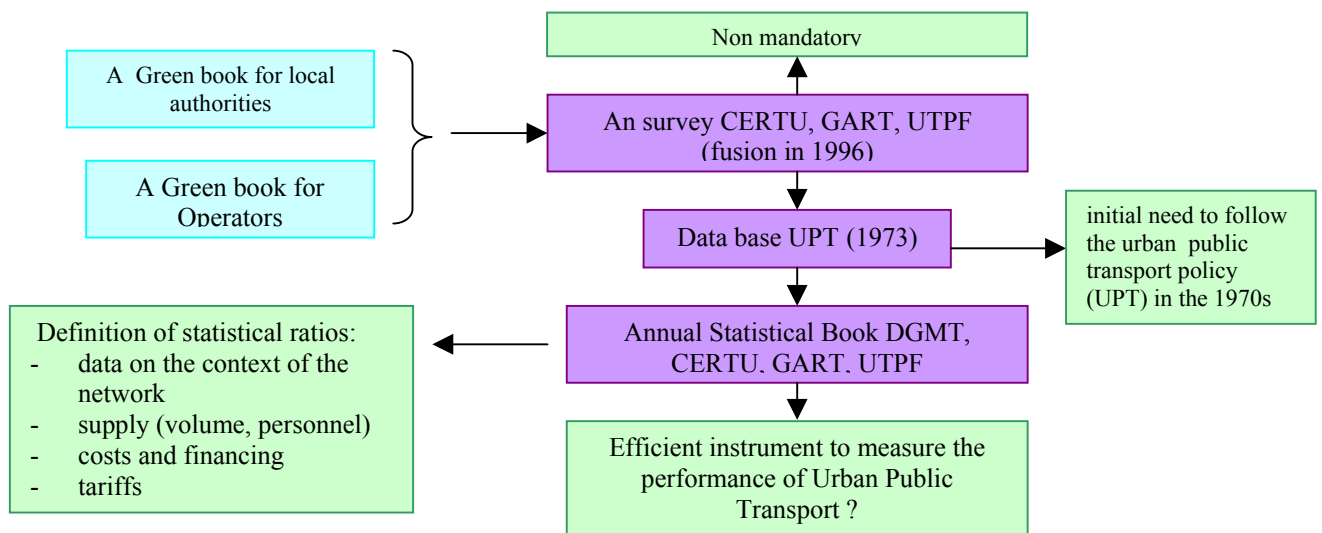
Between 1970 and 1986, the practice of the indicators already existed through the contract of productivity and the contract of development developed by the Ministry of Transportation. Those two type of contracts do not exist any more since 1986. But nevertheless, since then, several national initiatives exist to product indicators or, at least transport ratios. The public transport sector presents a characteristic compared to the other public utilities in the action by the Department of Transport. By the legislation, the Department of Transportation (Center of Studies on the Networks, Transport and Public Constructions, CERTU) initiates practices of evaluation of the transport public policies through principal national initiatives. First, the “urban travel plan” are evaluated with indicators. Those indicators must measure the balance between financial

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<sup>20</sup> Anne Yvrande Billion, (2005), *The attribution process of delegation contracts in the French urban public transport sector: why competitive tendering is a myth*, The 9<sup>th</sup> International Conference on Competition and Ownership in land Passenger transport, Lisbon, 5-9 September 2005.

means and public transport policy goals. Thus, a panel of 251 indicators<sup>21</sup> are proposed by the Department of Transportation (Centre of Studies on the Networks, Transport and Public Constructions, CERTU). Among those indicators, 5 key indicators affect the public transport: kilometric offers by type of material, commercial speed of urban transport, the number of clean collective freight vehicles by type of motorization, the annual patronage of the urban transport network and the distribution of travel by type of transport. Next, the French Department of Transportation encourages the local authorities to introduce local observatories ensuring the definition of indicators. Those indicators are necessary to follow the local travel plan and the collection of local data. Another initiative of the French Ministry of Transport consists on the production of a statistical data base (since 1975) with statistical ratios. This statistical data results from an Annual survey called “Green Books”<sup>22</sup> for local authorities and operators. This collection makes it possible to produce an Annual statistical book<sup>23</sup> with specific transport ratio.

Figure 4: The national device of production of indicators in French public transport



With the description of the national indicators produced at national level, there is a contradiction with the fact that the urban public transport is, since 1982, decentralised. The State seems to be a major actor in the field of production of indicators. But the action of the State was not satisfied to produce legislative rules and standards and to produce statistical data. Nevertheless, the Ministry of Transport does not seem to be force of proposals in the definition of criteria and performance indicators. Despite those contradictions, the Ministry tries to improve the use of the data base. Even so, some local authorities, in reason of their lack of expertise, they do not transmit data because of the technical nature of the Green Books. It means that the national collect of indicators must be improved to allow local authorities, as the small one without

<sup>21</sup> CERTU, (octobre 2001), *Guide : observatoire des PDU : de la méthode aux indicateurs*, Ministère de l'Équipement, des Transports et du Logement.

<sup>22</sup> “Collection of information on the urban systems”. This survey is organised by the CERTU, the GART and the UTPF.

<sup>23</sup> DTT, CERTU, GART, UTP, (2004), *Annuaire statistique des transports collectifs urbains, évolution 1998-2003*, 487 pages.



expertise to collect data and analyze it in term of performance of the service and the operator.

**Table 12:** National statistic data : the Annual Statistical Book (Ministry of Transport, CERTU)<sup>24</sup>

Data 1998-2003	The indicators defined	
<b>Data of context</b>	Number of municipalities of the urban transport area	
	Population of the urban transport area	
<b>Transport supply</b>	The number of lines (routes)	
	The number of lines (routes) in kilometers	
	Fleet	
	Volume	Number of offered kilometers by year and per inhabitant
		Seat kilometers available per inhabitant of the urban transport area
		Total kilometers
		Total seat kilometers available
	Personnel	Workforce of the transport network
		Operating employees
		Number of kilometers by operating employees
	Operating employees per vehicle	
Right to transport	Number of free travels	
<b>Transport demand</b>	Total of travel (thousand)	
	Number of travel per kilometer	
	Number of travel per inhabitant and per year of the urban transport area	
		Running expense (administrative account)
<b>Cost and financing (financial data)</b>		Capital expenditure (administrative account)
	Financial data: transport cost	Acquisition of rolling stock
		Road work (administrative account)
		Total of expenses
		Operating expenses
	Financial data: Financing	Transport transfer (VT, thousand of Euro)
		Total of revenues (thousand of Euro)
		Tariff revenues
		Operational and balancing subsidy
	Financial ratio: transport cost	Operating expenses per kilometer
Operating expenses per travel		
Financial ratio: financing	Product of the “versement transport” per inhabitant of the urban transport area (bringing back to 1%)	
	Participation of the authority to the exploitation per inhabitant of the urban transport area	
	Product of total trafic on the exploitation costs	
<b>Rate making</b>	Rate principle	Unit ticket (euros)
		Book of ticket (euros)
		Ticket day (euros)
		Weekly suscription (euros)
		Monthly suscription (euros)
		Annual suscription (euros)

**Source:** Direction des Transports Terrestres, Centre d’Etudes sur les Réseaux, les Transports et l’Urbanisme, Groupement des Autorités Responsables de Transport, Union des Transports Publics et Ferroviaires, (2004), *Annuaire statistique des transports collectifs urbains, évolution 1998-2003*, 487 pp.

### 3.2.3.3 The local instruments to control the service and the operator

The local authorities and the operators of transport use different instruments to evaluate their transport networks. The performance of the service can be made through investigations of customer satisfaction or quality indicators summarising the quality of the service. By using criterion like punctuality, cleanliness, information, the reception in agency, the comfort of control, the number of kilometres, the patronage, the receipts, the

<sup>24</sup> To produce the Annual Book DGMT, CERTU, GART, UTP, 350 data are produced on 6 years.



regularity, the availability of the material, the human presence, the commercial attitude of the drivers, the complaints, the local authorities try to found contractual indicators of quality. It allow them to make the control of the service but also to control the engagements of their operators.

Nevertheless, whereas the local authorities of important size (local authorities with an urban transport area more than 100 000 inhabitants) elaborate mechanisms to control the service, the transport authorities of less size have more difficulties (local authorities with an urban transport area less than 100 000 inhabitants) to set up a control of the performance of the service<sup>25</sup> because of lack of technical expertise. The ability of those small cities to define the performance characteristics of the service and design a contract allowing monitoring the operator is therefore limited. Because of their lack of expertise, local authority content themselves with trusting the data supplied by the operator. And, in some small cities, there is no employees to regulate the sector. So, the function of control of public transport authorities loses its coherence and its efficiency. It is not always possible to realize benchmark and monitoring the performance of the operator.

As a result, the collection of information is really problematic for the local authorities. The rare local authorities rarely engage in comprehensive financial data collection and control monitoring are the important authorities (in term of size). If the local authorities have the capacity to control and monitor the operators, they could be able to detect opportunistic behaviours more easily, promote efficient adaptation. The consequences of an insufficiency of control of the public transport by the local authorities speaks in favor of effective tools to control and measure the performance of public transport. Since operators have more information than authorities and since the low capacity of expertise of local authorities does not allow reducing these informational asymmetries, renegotiations are more likely to turn to the operator advantage. So, the market structure of the urban public transport (oligopolistic) must be one of the consequences of this lack of expertise and informational asymmetries between local authorities and the operators.

### **3.3 The competition context : a consequence of the lack of expertise in the field of performance in urban public transport?**

The structure of market monopoly, oligopoly, with more or less competitive dimension can be one of the consequences, but also one of the reason of the structure and the contents of the statistical information produced between the local authority and the operators and the capacity of the operator to deliver the most information to his local authority. The competition and the regulation function of Authorities of regulation in the telecommunication and electricity sector can confirm in part this observation.

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<sup>25</sup> Mounia Moudjed, (juillet 2005), *Les services publics de transport urbain en France. Vers un état des lieux des pratiques de mesure de la performance*, enquête téléphonique auprès de 32 autorités organisatrices de transport, document de travail – version 1, Laboratoire d'Economie des Transports, 20 pages.



### *3.3.1 Competition, competitive market, strong expertise on the performance, the regulation function: the electricity and telecommunication public utilities*

#### 3.3.1.1 The competition in telecommunication : incentives of the competitive performance and the regulation function

In the telecommunications, the introduction of competition is effective for a long time. Competition is already largely developed in the **telecommunication sector**: it is the principal incentive of the performance. Telecommunications represent a characteristic sector of the liberalization of public utilities. It is the first sector that goes from a public utility produced by a public operator to a “universal service” produced by a privatized operated (France Telecom) in competition with others. The regulator, the Authority of Regulation of Electronic Communications and Posts, has the role of supporting competition and efficiency of the service.

Telecommunications marks important advances of a new approach of the regulation of public utilities, and in particular in the field of independent authorities of regulation, independent of the legislator. Indeed, the Authority of regulation of telecommunications (ART), created in 1997 (January 5, 1997) contributed to modify the traditional vision of the telecommunication sector with the introduction of competition opposite to France Telecom. Becoming in 2003 the Authority of Regulation of the Electronic Communications and Stations (ARCEP), this independent authority have several functions for the benefit of the consumers and the economic development: arbitration in the competitive game, sanctions and production of indicators of quality. The Authority of regulation participate directly in the measurement of the performance and production of information on the telecommunication service.

#### 3.3.1.2 The electricity sector : the regulator function

The **electricity sector** constitutes a key sector on the regulation of the public utilities. This evolution falls under the same configuration as for telecommunications, namely the conjunction of major technological changes and of the emergence of new urgent economic requirements. In the **electricity sector**, competition is very recently introduced. The Law n°2000-108 of February 10, 2000 transposes the European directive n°96/92/CE from December 19, 1996 which programs the progressive opening of the market. The logic of production of information will yet certainly evolve with the competition.

An independent administrative authority (Commission of Regulation of Electricity, CRE) is created in order to guarantee the equitable conditions of access to the network and to play a part of arbitration in the relations between the operators. The capacities of the CRE are articulated around: advisory capacity (projects of regulation), decision-making power or of authorisation on the management of the network, to be able of investigation and information, lawful capacity (conditions of access to the network), to be able of arbitration (payments of different between the operators in the exercise from competition), to be able of sanction in the event of violation of the access rules to the network or the countable rules.

It acts as an authority which intervenes primarily to found the fair competition: it does not intervene directly in the control of the service like the ARCEP that produce



indicators of quality. Nevertheless, the Commission of Regulation of electricity participate directly in investigation and information in the sector and the different operators.

### *3.3.2 Concentration, oligopolistic market and lack of expertise on the performance : the urban public transport case*

In the urban public transport sector, in the phase of contract renegotiations (only moment when a certain competition can play), the possibility to foreign operators to enter the market is slight. Information and the lack of transparency is strategic for the operators in place on the market. In this sector, the function of regulator is fulfilled by the local authorities.

The public transport, does not have the same degree of competition as the electricity or telecommunication sector. Indeed, the sector is traditionally dominated by three groups (Veolia Transport, Keolis and Transdev). They share the exploitation of the networks. The difficulty for new operators to obtain the attribution of a market by competitive tendering is real. For new owners, the difficulty in penetrating the market is real so much competition with the great groups proves to be unequal. Consequently, it acts primarily of an oligopolistic market dominated by three groups : Keolis, Veolia Transport and Transdev. In this sector, the lack of competition is important. In the results of the Association of Transport Authorities investigation<sup>26</sup> (GART, Groupement des Autorités Responsables des Transports), very few local authorities was approached by new contractors sector<sup>27</sup>. A double reason can be developed to explain this: economic reasons and political reasons. In the first case, the traditionally deficit of public transport combined with small gross margin to discourage possible candidates to penetrate the transport market. Reasons of a political nature can also justify the absence of an effective competition. The Council of Competition made public a decision<sup>28</sup> in which it sanctions the companies Keolis, Veolia Transport and Transdev for the 1994-1998 period. Indeed those companies constituted a trust aiming at sharing the national market of public transport between themselves. This concentration eliminated any competition.

Since 1982, responsibility of the organization and the management of urban public transport is decentralized to local authorities. in others words, this means that there is no national regulator of the sector.

### *3.3.3 Conclusion*

In the electricity and telecommunication sectors, a structure of market seems to be more favorable to statistical data and development of information on the performance of the service. Indeed, competition is the determinant factor of transparency of information. In those two cases, we are in a *competition "by the market"*.

In the public transport market configuration, forms of asymmetries of information can appear. In the urban transport sector, the oligopolistic situation and the asymmetry of

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<sup>26</sup> The Association of Transport Authorities represents the local authorities that have the Transport competency. It promote efficient public transport.

<sup>27</sup> Groupement des Autorités Responsables de Transport, GART, (2005), 'La passation des délégations de service public en transport urbain, Données chiffrées 2005', 53 pages.

<sup>28</sup> Décision du Conseil de la Concurrence n°05-D-38 du 5 juillet 2005 relatives à des pratiques de mises en œuvre sur le marché du transport public urbain de voyageurs.



information can limit the competitive pressure and the transparency of statistical data. Indeed, the great characteristic of the urban public sector is that the competitive game is played in a very short window of time. Because Contracts renewals take place between 10 and 15 years for public transport. The renewals of contract being prepared over several years, it is important to reform the regulation in particular for the urban public transport. And, it will be necessary to concentrate control and criterion of performance at this key time of the renegotiations. If renewals were usefully managed by the Sapin Law, it will be necessary more specifically to reinforce control by introducing for example criterion of performance able to show the advantages and disadvantages of the selected mode of management<sup>29</sup>. The competitive structure of the market at the present time does not seem to allow the entry of new operators on the market.

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<sup>29</sup> It is already introduced with the public private partnership: Ordonnance n°2004-559 du 17 juin 2004, dite Ordonnance sur les contrats de partenariat (publié au JORF n° 141 du 19 juin 2004 page 10994).



#### 4. Conclusion

The theoretical lecture by the theory of agency confronted with the public utilities give some theoretical reasons of the asymmetry of information and the necessity of introducing system of control and monitoring.

The electricity and telecommunication sectors, before the introduction of competition were nationalized companies with a monopoly. Thus, the sectors of telecommunication and electricity are more likely now to be opened to competition. This competition appears allow more easily the production of information on the sectors, in particular performance indicators than public transport sector. The revelation of information is more important for the telecommunication and electricity sector.

The transport local authorities, whereas they are in charge of the organization of the sector, they have not always the possibility to control the performance both of the service, the contract and the operator during the negotiation for the contract or during the execution of the contract. Qualitative appraisals and specific complaints investigations are not conducted and there is no standardised reporting procedure as for electricity and telecommunication sectors. Thus, the monitoring of the Operators in the French transport sector is not efficiently carried out while performance and service quality in this sector is to a significant extent measurable in terms of quantitative data on volumes, revenues, punctuality, reliability. It seems to be a lack of capacity of expertise of transport local authorities although a national system of data exists. This calls for a changes in the regulation of the French public transport sector. Creating a national agency as telecommunication sector and electricity sector will be a possibility. This agency would standardize performance indicators and use benchmarking methods to compare the performance of the operators. The current model of regulation of urban public transport need to be reconsidered.



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