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*REMUNICIPALISATION OF WATER
UTILITIES IN FRANCE: AN ANALYSIS
THROUGH TRANSITION COSTS*

Cires' Working Paper



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Remunicipalisation of water utilities in France: an analysis through transition costs

Keywords: switching costs, institutions, public service, back sourcing, local government

About the author

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Most of his teaching and research activities deal with water service management. More specifically, he studies the changes in the water utility sector both at the local level and at national and international level. He is also involved in the development of management tools, such as performance indicators, benchmarking and sustainability assessment methods. He is particularly interested in the articulation between the management tools and the institutional framework in a dynamic perspective.

Introduction

Public services are one of the cement of developed societies; among them, utilities present a double nature as vital – and in consequence with a continuity and inclusiveness imperative – and as ‘commodifiable’. On a historical point of view, their regulation evolves both from the perspective of the nature of service (commodification or not) and from the organisational perspective (the responsible authority, the relationship with the operator). The two are distinct even though their evolution is correlated. In the 1980s and 1990s, the development of a neo-liberal perspective encouraged a broader involvement of private operators in public services, and especially in economic public services – in the sense precised by Wollmann and Marcou (2010b). For instance, in local economic public services, authorities signed long term contracts for the operation of the services (sometimes along with investments obligations) – this was called the French model. About 20 years later, some examples show a relative withdrawal from a pure contractual regulation – see in the case of water Paris and Hamilton in Canada (Pigeon et al., 2012) – or an extension of the public organisations territory, for

instance in Germany (Wollmann et Marcou, 2010a). Despite the strong media attention, it is hard to detect any broad movement beyond a few cases.

This observation raises the issue of reversibility of the choice of management model. This question has not been extensively studied in management sciences up to now and *a fortiori* in public management. We propose then to examine the potential barriers the authority is facing when choosing to backsource the management of public service (or ‘remunicipalise’), and analyze to what extent this could corroborate the observed inertia.

Starting from neo-institutional economics theory and managerial literature on switching costs, we develop an analytical framework adapted to the remunicipalisation of public water service in France. We test this framework on an in-depth case study, to assess the costs of such a process and to identify their antecedents.

After this introduction, the second section presents the theoretical background that enables to build the analytical framework. The third section exposes the empirical methods – analytical framework and case study. The fourth one synthetically presents the case study and cost assessment. In the fifth section, we discuss the results.

Theory on management model choice

Transactional framework on public service management

The transaction cost theory (Williamson, 1985) sets a useful framework for the analysis of the provision of public services, as it examines the economic relationships between organisations, whatever their nature or goals. The analysis unit, transaction, is defined as the exchange of a good or service between two entities. The theory is an attempt to determine the efficient mode of transaction, that is to say the way to minimise the production costs (of the good or service) and the transaction costs. The transaction costs comprise for instance the information search costs and contract setting costs (ex ante transaction costs) and the costs linked with the poor adaptation of the good or service (ex post transaction costs). Williamson identifies three main determinants for the transaction costs: asset specificity, uncertainty and frequency. He proposes then governance modes between the two entities ranging from market to hierarchy (or vertical integration) and including hybrid forms. This conceptual framework has been used in various contexts and can be applied to public service provision¹.

¹ Actually public service provision is one of the issues on which the theory was built (Williamson, 1976).

Economic public services are characterised by natural monopolies and cross-subsidies. The assets involved in the service provision are costly and long lasting. Moreover these services are essential and a minimum access is often considered as a right or at least as a social objective. In that context, the beneficiaries can not get these services from a standard market. Neither can the authority.

The authority responsible for a public service may adopt various organisational forms for the service provision. It may be directly responsible of providing the service, which represents the hierarchical governance model. It may delegate the service provision to another organisation through a contract, which represents a hybrid form (long term contract).

Many studies built on this theory to assess the efficiency of various models of public service provision, from in-house to delegated management – for instance, see in water service (Carpentier et al., 2006; Chong et al., 2006; Levin et Tadelis, 2007).

These works assume the choice of the governance mode of public service provision to be grounded at least partly in economic perspective. The authority would prefer the most efficient way to provide the service to the end-users, taking into account quality of service and costs. This is rather well supported in some sectors as the institutional framework (national laws or supranational regulation) obliges the authority to balance the costs and revenues of a specific service. That is for instance the case in services of general economic interest in the European Union and sometimes more precisely in water services where, in addition, the user-pays principle applies more strictly. As a result, the water tariff reflects also the organisational efficiency of the service delivering. And, as drinking water supply and sanitation are essential services (every citizen is a user), the decision made by the authority takes this perspective into account.

The micro-analytic perspective of transaction costs economics is embedded in a broader institutional environment. Beyond involved parties and governance mode, the transaction takes place in an institutional framework (rules, laws, etc.) that shapes asset characteristics, parties' behaviour and governance mode. The role of the institutional environment in the transaction has been highlighted by North and Williamson (among others) (Williamson, 1985; North, 1990). In the field of economic public services, the laws and regulation define for instance the role of the parties, the various governance modes (i.e. the possible relationships

between the authority and the operator). They characterise also the status of the assets (property rights, transferability).

In this perspective, the provision of public service should be organised so that the cost of production of the service and the transaction costs can be minimized for the benefit of the end-users. The costs rely on various features: the nature of the service provider and its ability to benefit from scale and scope economies but also the ability for the authority to obtain a high service quality and adapt it to the evolution of social expectation or environmental changes. The debate on management model can then be reformulated as the choice between public service delegation to an operator through a long-term contract and in-house management (i.e. a hierarchical control of the authority over the operator)².

Switching costs and path-dependence

Once the choice formulated, the characteristics of the asset, the nature of the transacting parties or the institutional framework may evolve. The choice can even be reversed for other reasons (ideological for instance). Then the governance mode of the transaction may have to be changed if a better transactional framework arises. This implies possible switching costs to move from one management mode to another.

Since the end of the 1970s, switching costs have been studied in economics and management, in order to better understand their impact on economic agent behaviour and on markets. Following Porter, we define switching costs as the ‘one-timed’ costs a buyer faces to change supplier (Porter, 1980). The nature of the costs is diverse: direct expenses, time and effort. Switching costs have been considered as one of the determinants for commercial relationship conservation along with buyers’ satisfaction or absence of alternatives (de Ruyter et al., 1998; Ping, 1993; Lam et al., 2004; Whitten et al., 2010). In empirical studies, switching costs are applied to both business-to-consumers (Burnham et al., 2003; Jones et al., 2000; Jones et al., 2002; Patterson et Smith, 2003; de Ruyter et al., 1998) and business-to-business relationships (Weiss et Anderson, 1992; Lam et al., 2004; Yanamandram et White, 2006; Whitten et al., 2010). In the case of business-to-business relationships, the concept is used both for switching supplier and for back sourcing (contrary to outsourcing) (Weiss et Anderson, 1992; Whitten et

² We do not take into account the case of a central and independent agency regulating the sector and withdrawing this role from the local government.

Leidner, 2006). Even though the stakeholders are different, the concepts and determinants of switching costs generally remain the same.

The definition of switching costs however remains unstable. In some cases, switching costs are defined as the ex post assessment of costs and sometimes as the ex ante assessment, before making the decision of switching, depending on the assessment method. The concept, though useful, should then be clearly explained when applied to a specific context.

The literature recognises the multidimensional aspects of switching costs. From the various classification works (Guiltinan, 1989; Jones et al., 2002; Burnham et al., 2003; Whitten et Wakefield, 2006; Yanamandram et White, 2006), we divide switching costs into 5 dimensions (see Table I below).

The contractual costs, or artificial costs according to some authors (Klemperer, 1987), are linked with the legal opportunity costs of breaking the existing relationship.

The continuity costs are associated with a performance loss while switching from one provider to another.

The set-up costs are related to the building of a new relationship or a new organisation. These costs comprise hiring staff and acquiring new assets.

The psychological costs are related to the loss of sunk investments. The authors consider that a rational economic agent should not consider sunk investments to make a decision (Guiltinan, 1989) but in fact they do play a role, often as a justification for status quo.

The relational costs are linked with intangible benefit loss due to interpersonal relationships. In the case of services, interpersonal relationships affect service quality, and in this case, the benefit loss should be related to continuity costs. The relational costs are related to other benefits the buyer receives from the relationship, for instance, favouritism.

This typology enables to build an analytical framework precisely related to governance change in economic public services (see the next section).

Table 1 : The dimensions of switching costs

	Contractual costs	Continuity costs	Costs of building new relationship	Psychological costs	Relational costs
Guiltinan, 1989	Opportunity costs of pursuing the previous transaction	Performance loss linked to the loss of customisation of the previous service	Expenses and initial investments	Sunk investments Justification of previous choices	
Jones et al., 2002	Performance loss linked to the loss of customisation of the previous service Uncertainty about the future performance		Search and assessment of alternatives Building new relationship Investments linked to the new relationship	Sunk investments	(not included in the approach to switching costs but in the barriers to switching)
Burnham et al., 2003	Loss linked to the previous contractual relationship (discounts, etc.) Costs linked to the obsolescence of subsidiary assets	Uncertainty about the performance of a new provider	Search and assessment of alternatives Building new relationship Costs of initiating the new relationship		Loss of interpersonal relationships Loss of identification with a brand
Whitten et Wakefield, 2006	Loss of tangible benefits (discounts, etc.)	Uncertainty about the possibility of getting a service quality at least equivalent to the previous one	Search and assessment of alternatives Building new relationship Investments linked to the new relationship Staff recruitment and training Development of management system	Sunk investments	Loss of intangible benefits (interpersonal relationships)
Yanamandram et White, 2006 ³	Contractual inseparability	Uncertainty about retaliatory actions			Favoritism and patriotism

3 For these authors, we only indicated the new elements not yet mentioned by the other authors

Method

Choice of the sector and of the case study

The management of economic public services in Europe provides various forms of organization between the authority and the operator, from integration to contractual delegation. This enables switching from one form to another and analysing the switching costs and other potential obstacles. Among the European countries, France has a long tradition of delegating to private operators. For instance, in the Ancien Regime period⁴, tax collection was delegated to private operators (tax farming) at their own risk. The delegation of economic public services developed in the 19th century in the cities for gas provision, electricity provision, water supply, public transports, in the form of concession contracts. Still today, private operators supply about 70% of the population with drinking water and manage 55% of the wastewater (Le Jeannic et al., 2010). We focus on water and wastewater because in this sector the choice of management remains in the local authority hands (i.e. the municipality or inter-municipal organization) contrary to other nationalised supply networks (electricity, gas). The historical evolution of management model in France shows a succession of periods with contrasted progression of the delegation model (Pezon et Canneva, 2009). From 1982 to 1993, the delegation increased thanks to a period of deregulation in the provision of local public service. After 1993 and the implementation of stricter procedures for delegation, the share of population supplied by private operators remained constant. But in the last decade, a few authorities decided to switch to direct management, Paris being one of the most important cases, both symbolically and in terms of served population. The number of cases remains limited (as national data do not show any clear tendency) but the pioneer authorities could encourage other authorities to follow their example, as it was the case in the late 1980s after Paris switched from direct public management (*régie*) to delegation in 1985.

As the “remunicipalisation” cases are limited, it does not seem appropriate to adopt a quantitative method of analysis. As a consequence, we chose an in-depth case study investigation. This method can provide useful material as long as a few precautions are taken (Eisenhardt, 1989). Although it is well publicised, we did not choose the case of Paris because it is very specific: the remunicipalisation process happened in two phases with a first step related to the drinking water production and a second step for the distribution, and two private

⁴ Approximately from the 16th century to the 18th century

operators (Veolia and Suez) were involved. These features make this case specific. Furthermore, the size of the organisation, the attention drawn on the process and the strategic context would have made data collection complex and the analysis of the whole change more difficult.

We chose to focus on the case of a transition keeping the organization of competence within the local government. In many cases, the change of management model is also linked to the transfer of competence to inter-municipal organizations as it happened for the Urban Community of Rouen (Bordonneau et al., 2010). We selected a case where the governance model of the local government is altered, while the rest remains unchanged. That is why we studied a medium-size case (compared to French standards) involving one private operator and keeping a constant scope of the service. In a sense, the case we selected is more representative of the French water services.

Development of an analytical framework of transition costs in the case of water services

The review of literature allowed us to identify the various dimensions of transition and the associated costs in a generic manner. We adapt this framework to the specific sector of water and sanitation services in France and to the case of back-sourcing activities. To clearly distinguish between switching costs in the case of switching supplier and switching costs when switching governance mode, we define **transition costs** as the direct and one-time costs of switching management model when going from a delegated management of public service to a public management by a public operator. This assessment will then allow us to analyze if these costs can constitute a barrier to switching management model.

The total cost is then reconstituted *ex-post*. Contrary to an *ex-ante* assessment, it does not take into account the uncertainty on costs – recurring costs of the future organization but also transition costs – which can also constitute a barrier to switching.

We are considering the costs borne by the local government. The operator whose contractual relationship with the local government is coming to an end also bears costs. For instance, it may have to reassign staff members on other contracts, which can mean having to pay transfer allowances. Furthermore, the operator has to reorganize its local site. It may, for instance, close its local customer reception centre. These changes induce costs related to the termination of lease agreements or to the organization of changes that are not directly linked to the activity of managing a water service. However, these costs do not influence the decision

of the local government. At the most, they may encourage the operator to try and keep working with the new organization. Thus, the costs borne by the operator, related to the termination of the delegation contract are not considered.

The costs that we consider are only these related to switching. We do not consider those that would have been borne by the operator had the management model remained the same, with the same operator. For instance, the public operator [*régie*] has to invest initially to buy public works machinery. It could have rented it. Had the delegatee remained the operator, it would also have had to buy or rent the machinery. We then consider that the switching cost should not take into account the cost of equipment, which was to be acquired in any case. However, the equipment of the public operator requires an immediate availability of funds which could have been spread over time in the case of an operator carrying on operating. These investments may then have financial consequences that we will consider.

Finally, switching management model may impact operating costs. The organizational change leads to a change in efficiency. For instance, thanks to its size and the volume of its orders, a national or international private operator is able to negotiate more attractive prices from suppliers than a public operator. The change in efficiency being recurring rather than one-time, it has not been considered in our analysis.

In the table below is a summary of the various dimensions of the transition costs analyzed:

Table 2 : The dimensions of transition costs of water services

Dimensions	Sub-dimensions	Comments
Contractual costs (or artificial costs)	Contractual indemnity	
	Reimbursement of non-amortized investment	
Costs of building new relationship	Cost of searching for alternatives	
	Investment costs	We set apart the investment costs in means of production which would have also been borne by the operator
	Cost of transferring specific assets	We only take into account the difference compared to the option of reconstituting these assets
	Costs of recruiting and training employees	
	Development of the management system	

Dimensions	Sub-dimensions	Comments
Costs related to sunk investments (or psychological costs)		These are only irretrievable investments made by the local government.
Costs of continuity	Uncertainty about the future performance	Difficult to take into account in the <i>ex-post</i> assessment
	Retaliation costs	
Relational costs		

Case study of city C

We had access to a case of transition of management model from delegated service provision to public operator in a city in South-Eastern France, of about 20,000 inhabitants. Following the council elections in March 2008, a new council was elected with the intention of switching management model for the drinking water and sewerage service.

We conducted semi-structured interviews with the public operator director, and we exchanged emails throughout the switching process: before his effective start date, during the preparation of the public operator and after it had become operational. Then, we also interviewed the new public operator staff, the public treasurer and the First deputy mayor, in charge of water and wastewater matters. In addition, we had access to the public operator financial data and to the notes written by the director for the city council meetings. All the information we gathered is listed in the table in appendix (Table 6).

These interviews were about the relationship with the outgoing operator, about the future organization of the public operator, the difficulties met and the solutions found. They allowed us to identify and quantify the expenditure items as well as the time and effort dedicated to switching to a public operator, either directly when information was available or indirectly by gathering the information that allowed us to reconstitute these costs. The interviews also allowed us to identify the aggravating factors or, on the contrary, the facilitating factors linked to the context. The interviews with transferred employees and with the First deputy-mayor supplemented the director's analysis.

Results

The results of this field study consist of a fine analysis of the switching process in the case of a switch from a delegated public service to a public operator and a quantification of switching costs. We will present them successively.

Summary of the switch

Context

The City is responsible for the water and sanitation service. It delegated its management through a lease contract to a private operator, a subsidiary company of a French multinational corporation. This company has been managing City C's water and sanitation service for 40 years. Their contract dates back to 1984 and was extended several times by amendments. Until 2001, the operator was in charge of renewing the pipes. After this date, the city became responsible for it, but did not put a lot of energy and money towards it.

For the 2008 council elections, the former mayor filed a left-wing list with the Communist Party and the Green Party, who requested that the remunicipalisation of the water service be part of the electoral programme. Furthermore, this decision allowed them to break with former councils, and their relationship with the private operator, and to denounce the inconsistency of the service quality; though the relationship with the private operator's local representatives was deemed "good". This list was the only one to propose going back to municipal management. After having won the elections (March 2008), the new council then decided to create a public operator (July 2008) and started the management model switching process.

Alongside this decision, the former council decided to sign a concession contract for building a new wastewater treatment plant (capacity of 35,000 inhabitant-equivalents), which would start operating in August 2010. The outgoing private operator was chosen for this contract, administratively separated from the other lease contracts. The choice of a concession contract is explained by the fact that the local government was heavily in debt, that it did not have the in-house ability to carry out the project management and that the deadlines imposed by the administration to make the wastewater treatment plant comply with the standards were very short compared to the size of the project.

Elsewhere in the county [*département*], delegated management is rather exceptional; it only concerns about 20 of the biggest municipalities (about 10% of the municipalities). So it appears that the decision of switching management model originated in an electoral campaign commitment made by the political allies of the leading candidate. This commitment aims rather to take back the management of a service considered as essential rather than to get rid of the private operator.

The service (i.e. in the following the drinking water and sewerage service) serves about 11,000 customers, which corresponds to about 20,000 inhabitants. There is no major industrial customer.

The water resource comes mainly from ground water (2.35 million m³ in 2008). This resource is brought to a head reservoir by a 4km pipeline. This is a good quality resource and the physico-chemical and bacteriological analyses all comply with drinking water standards. The water system linear – excluding connections – is 221km long, with 35 connections per km, typical of a medium/low density network. This system supplies 1.1 million m³ of water to customers and uncounted authorized uses are estimated around 200 000 m³. The water system efficiency is 56% and the linear loss index is 13m³/km/day. These figures reflect the poor state of the system with important losses. As for the sewerage system, its linear length is 137km. The price of drinking water, excluding taxes and Water Agency fees (on 1st January 2008), is €168 for an invoice of 120m³, which are divided between the private operator (€110) and the local government (€58). The sanitation price, excluding taxes and Water Agency fees, (on 1st January 2008 – including wastewater treatment) is €98 for an invoice of 120m³, which are divided between the private operator (€67) and the local government (€31). Both drinking water and sanitation services have very few debts and the debt extinguishment period⁵ is respectively 1.3 and 1.9 years.

To summarize, the technical context of the water and sanitation services show that the infrastructures are in poor condition, which leads to high drinking water losses and clear water infiltrations in the sanitation system. This situation is linked to the lack of pipe renewals, which until 2001 were the responsibility of the private operator and after that, of the municipality.

The transition to public operator

We only give here a synthetic presentation in order to provide the reader with the basic elements linked to transition costs.

The director was recruited in November 2008 to take up his post in mid-February 2009. He started to prepare the transition from mid-December 2008 and suggested to the council setting up a public operator where most of the activity would be carried out in-house, contrary to the suggestions of the private operator to carry out a significant part of the activity as a sub-

⁵ French financial indicator that is approximate to debt pay-back period: debt stock divided by earnings before taxes, depreciation and amortization.

contractor. He suggested to extend the private operator delegation contracts until 31 August 2009 in order to have enough time to prepare an operational public operator. From mid-July 2009 on, he is joined by an assistant who will later liaise between the technical teams and the administrative department.

He identifies 5 aspects as especially problematic in the transition:

(i) The staff is protected by labour laws. When an employee of the private operator is identified as working on a particular service, his work contract is transferred to the new organization (here, the public operator) on the condition that he agrees. The director wishes to meet with the staff as early as possible to know their intentions and, if possible, to convince the key-employees to stay with the public operator.

(ii) The private operator owns the meters and their purchase by the public operator is identified as a delicate negotiation point. Furthermore, the transfer of basic data for the management of the service (infrastructure plans, technical specifications of the equipment and customer database) is also a priority for the director.

(iii) The director must find premises for the offices of administrative employees and technical teams and to stock the equipment. The premises also must include an area dedicated to receiving customers.

(iv) The organization of the last invoice issued by the private operator is seen as a delicate operation. Indeed, for the private operator, it could be seen as a good opportunity to overestimate the customers' consumption, thus leading to extra income for him and income loss for the public operator

(v) Finally, the organization of on-call duties is seen as a problem in a smaller organization than the operator's regionalized one.

We only focus on these 5 difficulties, and explain the solutions found.

During the transition process, the director manages to transfer almost all the employees working on the contract (9 out of 11), and to maintain their previous work conditions. On-call duties are organized with the transferred staff, with some support from sub-contractors when necessary.

The director gets from the council the possibility to rent premises belonging to the city, for the price of fitting it out and setting offices in rented prefab units.

The transfer of specific tangible assets owned by the outgoing operator [revertible assets - *biens de retour*] is closely negotiated, and eventually agreed upon for an amount of €140,000 in full and final payment in November 2009 (after the public operator started operating).

Presentation of the switching costs assessment

Setting up costs

The organization of the public operator mobilized the director from February 16 to August 31 (6 and a half months) and one employee recruited in anticipation from July 15 to August 31 (one and a half month). We can then assess the cost of organizing the public operator before it started operating as the total remuneration cost of these two people.

Setting up the public operator in the premises requested an investment to fit out the site for a global amount of €107,844, excluding the rent, only paid from the operational start date. Municipal employees also contributed to the physical setting up of the public operator in its premises. Furthermore, the city administrative departments helped to set up the public operator. To monetize this effort, we refer to the agreement putting municipal resources at the public operator's disposal, which indicates an annual amount of €50,000, i.e. €25,000 over 6 months.

The implementation of the “customer management” function required purchasing software, entering data and training the staff, for an initial cost of €41,354. This cost would not have been borne had the customer management remained with the same operator.

The implementation of payment collection was carried out by the public treasury and not by the public operator.

Besides, setting up the public operator mobilized the staff, then employed by the private operator, outside of their working hours. This did not cost the public operator but the effort is assessed as 20 man-days, i.e. about a month work of standard labour.

However difficult to monetize, setting up the public operator involved extra work from the director as the date approached for switching management model, and from the deputy-mayor in charge of the public operator (president of the supervisory board).

Termination costs

The lease contract with the private operator was coming to an end so the public operator did not have to bear the costs of an anticipatory breach of contract.

Termination costs basically corresponded to the transfer of assets held by the private operator and re-bought by the public operator. We usually make a distinction between the revertible assets [*biens de retour*], entrusted to the delegatee and essential to the service operation, and

the assets for recovery of possession [*biens de reprise*] held by the delegatee and that the following operator (private or public) is allowed to buy back.

The water meters are considered essential to the service operation, all the more so because payments must be based on the actual consumption. Nevertheless, their general status is rather unclear and should be clarified in the existing contract. In our case, the meters were owned by the private operator who presented the public operator with an inventory with a net financial value (including installation costs). The amount was corrected by the local government to take into account the years of installation and a discount related to the amortization, that is an assessed amount of €224,000.

The public operator negotiated a transfer of the meters and a settlement with the operator, based on the inventory drawn during the preparation of the public operator and on the tasks that had not been completed by the operator. The situation of the specific assets (meters) is one of bilateral monopole. The agreement at €140,000 is a compromise. The private operator accepted the compromise as it was in its interest to maintain a good relationship with the public operator, as the chosen concessionaire for the wastewater treatment plant. This cost is then comparable to the cost of purchasing operations equipment for the public operator and we can consider that it does not include an opportunistic extra cost related to the transfer of specific assets, which could have been included in the termination costs.

Another category of specific assets are the customer files and data related to infrastructures. The director was able to get the basic information on electromechanical equipment (on pumps for instance), but the systems plan is not up-to-date. The customer data file is not up-to-date either, which results in a significant loss of income for the public operator. This difficulty was partially overcome by issuing a first subscription invoice when the public operator started operating. This invoice allowed the public operator to identify the discrepancies between the file they used and the actual customers and to correct data at the earliest.

Termination costs encompass also the retaliatory actions that the private operator may take following its eviction. When a cooperative contractual relationship ends, the parties may be prompted to adopt opportunistic behaviours. Furthermore, an unscrupulous delegatee may wish for the public operator set up to be chaotic in order to encourage going back to delegated management. The director of the public operator did not have to suffer any loss of documents or equipment malfunctions after the transition of operation. As indicated above, the strong presence of transferred staff insured continuity for the service smooth functioning.

However, the last meter reading is a particularly strategic moment. The operator got to do it from mid-August to mid-September and to mobilize part of the public operator’s staff for it. After the first meter reading done by the public operator, it was noticed that some indexes were lower than in September 2009, which shows that the readings had been falsified or that the estimates (when the meters were not accessible) had been overstated. The public operator then had to reimburse the excess payments received by the private operator. Besides, a substantial number of meters showed zero consumption at the first reading. The financial consequences related to this reading are estimated between €1,600 and 10,500 (see Box 1 in appendix).

To sum-up the direct costs of transition

In the table below, we summarize the amounts of direct costs of transition as assessed.

Table 3 : summary of direct transition costs in the case of City C (sums rounded to the nearest hundred)

Type of switching costs	Details	Amount (€ excl. taxes)
Contractual costs		0
Set-up costs	Complete staff costs for the preparation	43,000
	Support from municipal services	25,000
	Cost of site fitting out	107,800
	Implementation of customer management and invoicing	41,400
Costs related to sunk investments		0
Continuity costs	Extra cost related to the last invoice	1,600 to 10,500
Relational costs		0
Total direct costs⁶		223,200

We can then see that the various hypotheses on the extra cost linked to the last invoice have a small influence compared to the other factors. In this case, the transition is mostly affected by the factors of setting-up the public operator. Finally, if we compare the total sum with the service turnover, combining water and sanitation (€2.54M), the transition costs represent less than 10%.

We may also take into account the extra costs of the meters in comparison to the proposal of the public operator director (+€37,000). However, the meters financial value is estimated over €200,000. Furthermore, we can monetize the effort made by the staff of the future public

⁶ Taking into consideration the intermediary hypothesis for the extra cost of the last invoice

operator to prepare it (about €3,500). The order of magnitude of transition costs remains the same.

We can also consider the financial aspects of switching management model. Some costs that are linked to the public operator setting-up were not taken into account in our assessment of transition costs as they are directly linked to the service operation and they would have been borne by the operator (recurring costs). Nevertheless, in the setting-up process, they correspond to a need for immediate funding. We summarize these costs below:

Table 4 : Summary of expenses induced by the transition (sums rounded to the nearest hundred)

Type of expenses induced by the transition	Amount (€ exc. Taxes)
Direct transition costs	223,200
Equipment costs for public works machinery, tools and stock of parts	300,000
Other equipment for service operating (furniture, computer equipment and other small equipment)	108,000
Agreement on the water meters	140,000
Total setting-up costs	771,200

When it was created, the public operator had at its disposal the surpluses accumulated on the subsidiary budgets of water and sanitation, linked to the absence of significant investments during the period prior to the switch of management model. The setting-up cost is then self-financed and does not constitute an additional indirect transition expense.

Finally, we identified that the switch of management model was affected by the transfers of information between the private operator and the new organization, on the aspects related to the system data as well as to the customer file. However, in the case of technical information, this problem is partly compensated by the transfer of the staff in charge of operating the service.

Discussion and perspectives

The results we presented above highlight the usefulness of the analytical framework we built earlier. Through an inductive approach based on interviews and document analysis we identify the factors that affect transition costs. The Table 7 in appendix sums up the dimensions of transition costs and identifies aggravating or mitigating factors. We distinguish two types of transition costs antecedents: those related to the transition itself (the parties involved, the type of transaction, the type of evolution) and those related to the transition institutional framework (the formal and informal rules that applies to the stakeholders).

The endogenous nature of transition costs

Contractual costs

The delegation contract sets duration and provisions for anticipated termination. The jurisprudence recognises the right for the contractor to be compensated if the early termination is not his fault. The compensation includes the reimbursement of non-fully amortized investments and the potential benefits. The authorities are then encouraged to wait for the end of the contract to change management model. That was also the choice of Paris municipality.

In delegation contract, these provisions can be interpreted as the translation of some of the transaction costs. This is a mean for the party which invests into sunk assets – either tangible or intangible – to protect itself from the other party's opportunism and possible expropriation during a certain period. In this case, the transition costs are clearly related to the specificity and costs of the investments to make. However, the link with the contract duration and private sunk assets may also be artificial and inherited from the previous situation.

Asset specificity, transaction costs and transition costs

The process of transition consists in transferring the production factors from the existing operator to the new public organisation. By definition, the specificity of assets plays a major role. Williamson identifies four types of asset specificity (Williamson, 1985).

Site specificity characterises assets that cannot be easily moved from one place to another. Human asset specificity is related to the knowledge and know-how of staff involved in the service production. Physical asset specificity is related to mobile assets but with characteristics that make them usable in one specific production. Dedicated assets are generic production factors but related to a specific buyer because of their magnitude.

Infrastructures are necessary for the service and are obviously site-specific. The physical transfer of such assets is not problematic as the activity keeps the same scope. Moreover the jurisprudence considers such assets to be transferred after the contract termination. If they belong to the operator (as the water meters for instance), it may receive a compensation. The physical characteristics of this type of assets make their quality assessable, either by visual control or performance assessment. Eventually they are fixed assets for the former operator that can be liquidated in an agreement with the authority. This can be used as a guarantee for the authority if other obligations are not fulfilled.

Even though the infrastructure is necessary for the production of the service, it is not sufficient to run it properly. Specifically, information (on infrastructure, on consumers) is also important. These assets are specific – as they correspond to one specific water service only – but they are intangible. Normally, the authority as infrastructure owner should also have the network master plan and detailed information. However the information that the authority has is very little and relies on the former operator. At the end of the contract, the authority and/or the new operator should recover the information. It can be either formalised into an information system or a documentary system or be informal, i.e. embedded in staff knowledge (see next section). In any cases, contrary to tangible assets, it is complex to assess its quality (exactness and completeness). In the case of information system, the transfer from one software programme to another can be hindered by incompatibility issues.

The user list is a strategic asset for the revenue of the service. Contrary to network knowledge, this information is seldom embedded in staff knowledge. Moreover the list is constantly updated due to user removals. The case study shows how this step had been anticipated and the presumption of former operator opportunism. The transfer of the list can also be hindered by incompatibility issues between the former operator software programme and the one chosen by the new public operator, resulting in data loss. This issue of compatibility has been reported also in the case of Paris (Pigeon et al., 2012).

The human assets are specific in various ways. First the staff has general knowledge on infrastructure management and knowledge related to the specific water utility (the specific infrastructure, tools and software). The employees also developed specificities in working relationships with coordination routines. Finally they may also be site-specific in the sense that their social relationships could be localised and that a transfer to another site could be a strong constraint.

From the point of view of the new public operator, the integration of staff enables the transfer of knowledge related to the activity and related to the service. It can substitute or complete the transfer of formalised information when it is partial. Furthermore, the integration of the majority of the staff can transfer existing routines – developed with the previous operator – into the new organisation. In this perspective, the integration of middle managers and managers is a strategic step. In the case of Paris, most of the managers remained in the private operator, which created difficulties (Pigeon et al., 2012).

The analysis highlights the difference between transaction costs and transition costs. As the former is affected by cost and asset specificity in the sense of Williamson and specifically by

site specificity, the latter is related to mobile specific assets and particularly to intangible ones, due to continuity imperative. However, we could also consider in a full transaction cost assessment that transition cost should be included in *ex post* transaction costs, as potential termination costs.

Role of resource in the transition

In the transition process, the resource is a central asset. In water services as in other essential public services, the service continuity must be ensured. One of the major objectives is to be ready to take over at the end of the contract. In this context, the resources that the director can rapidly mobilise are most useful. Being part of the municipal administration (in spite of the financial autonomy) provides him with premises, with technical support for their furnishing, with general administration. Even though these resources are paid for (through a financial transfer to the municipal general budget), it provides a direct support. The assessment of transition costs also showed that having financial reserve enables self-financing all set-up costs, which exempts from borrowing and then increasing transition costs.

Moreover, the director can benefit from the other contractual relationships between the municipality and the former operator. This restrains the possible opportunism of the former operator and favours the agreement on the specific asset transfer. Some authors included in the transaction costs theory the concept of governance inseparability (Argyres et Liebeskind 1999), i.e. that a governance mode is affected by other existing governance modes. In this sense, the governance mode transition is related to governance inseparability.

Although the concept of transition costs derives from the transaction costs theory, the transition process is clearly affected by a notion from the resource-based view of the organisation.

The consequence of such perspective is that the opportunity of governance mode change is affected by the potential resources of the authority. A multi-activity authority (for instance in France, a municipality) would overcome the transition process difficulties more easily than a one-activity dedicated authority (for instance a federation of municipalities dedicated to water supply). This stresses the potential consequences of organisational changes within local water authorities.

The institutional framework and transition costs

The case study shows through various ways the impacts of the institutional context on the transition costs. We detail some of these aspects.

The administrative nature of the operator

The institutional context for the management of economic public service defines the possible juridical forms of the operator. In the delegated management model, the operator is a private firm under private laws⁷. The public operators are public organisations, either with juridical identity (*régie personnalisée*) or integrated into the authority identity with only a financial autonomy (*régie autonome*). It is also possible to delegate the operation to an institutionalized PPP (*SEML*, private-law firm partly owned by local governments), but in that case under a formal contract like in the delegation model. Recently the law authorized local governments to create SPL (*société publique locale*), i.e. private-law firm fully owned by several local governments. Their ability to operate under the in-house exception remains however unclear⁸.

Table 5 : Comparison of organisational rules for public operators and private delegatee

Domain	Public operator	Private delegatee
Procurement	Public procurement rules (with a few relaxations of the general rules)	No specific rule
Accountability	Public accountability	Private accountability
Employment regulation	Private law employees except the director and the accountant	Private law employees

The “institutional distance” – i.e. the difference regarding the organisational rules set by the institutional framework – between the two types of organisation is important. The activity transfer from one to the other actually requires the creation of a completely new organisation, under different rules. It is not just transferring the organisation’s property from private investors to the public authority. The creation of the new SPL framework could ease the situation. However, no such case has been witnessed up to now. Moreover private operators are generally not organised according to the contracts but on a regional basis. For the bigger utilities the authority could ask the operator to create a dedicated subsidiary. Such an evolution could reduce the transition cost in the future.

The context is quite different in other European countries where authorities are allowed to own private-law firms for the management of public services. This is the case in Italy and Germany (Citroni, 2010) and it became mandatory for the bigger drinking water supply

⁷ It may be a public organisation controlled by another water authority but this case is rare.

⁸ Indeed, the delegating local government can never fully own the SPL as the ownership is shared among several local governments. The situation is different in Italy or Germany (Grossi et al., 2010).

utilities in Denmark, after the water reform in 2010. In such contexts, the transfer from private operators to public could be only an ownership transfer. The institutional distance between the types of organisation impacts the transfer process and the transition costs.

Physical assets and information transfer

The jurisprudence defined revertible assets, i.e. assets that belong to the operator but are essential for the service operation. These assets are necessarily transferred to the new operator with potential financial compensation (for non-fully amortized assets for instance). This arrangement secures the transfer of indispensable service production factors and limits the former operator's potential opportunism. This is all the more important that the continuity of the service has to be preserved.

Nevertheless, we noted that revertible assets are generally physical site-specific assets, that cannot be easily removed by the former operator. The strategic specific assets are rather the information (on the infrastructure and on the customers). The law on water and the aquatic environments (law n°1772 – 30th December 2006) specifies that intangible specific assets be transferred even if it was not been laid down in the delegation contract. An order (20th December 2011) details the information of the customer file to be transferred, six months before the end of the contract and at the end of the contract. Thus the national regulation aims at reducing the transfer barriers, either between operators or in the case of remunicipalisation. However, as we mentioned, the quality of the information is strategic and can not be easily assessed in the short term. Only the organisation at the local level can find solutions to overcome this potential difficulty (as for instance billing in the first month of public operator activity).

Staff transfer

As we underlined earlier and noted in the case study, the staff is a key issue in the transfer process. Firstly, the employment conditions are the same for most of the staff of a public operator as for a private operator. Water services as economic public services hire private status workers, except for the director and the book-keeper (if any) whose statuses are public. In this context the transfer is easier than if the general status was different.

On an institutional framework perspective, the French law on subcontracting (1975) protects staff in case of economic activity transfer: the employment contract remains valid within the new operator. The staff is normally transferred into the new public entity, with conservation of the advantages. The law however intends to protect the workers in the case of economic

activity transfer, not to transfer the knowledge and know-how. The former operator can retain some workers and offer them other positions. The framework provides thus an advantage for staff transfer but let the negotiation between the former operator, the new one and the workers (individually or as a group – in the case of negotiations with trade unions) set the details of the transfer. The continuation of employment contracts gives a framework and a main situation the parties are invited to follow.

The institutional framework plays a role in the level of potential transition costs, as it impacts the transfer of specific assets necessary for the continuity of service. If the institutional framework reduces the potential opportunism of the former operator, it lowers the transition costs. If the rules for the various models of service management are too different, the transfer operations are more complex and then more costly.

In this perspective, transaction costs and transition costs are both affected by the governance modes and the institutional framework, in so far as they limit stakeholders opportunism, first at the situation level (the contract for instance) and second at the broader (national) level.

Perspectives

The framework built from the literature appeared to be operational for the case study we analysed. The various dimensions of the transition costs were assessed with an exploration of their antecedents. This analysis grid could then be useful for studying other switching processes, in the water sector or in other economic public services. It could also be useful to assess ex-ante transition costs and determine switching inclination in case of political will. Finally the framework can provide a better preparation of change process by anticipation of difficulties (i.e. the factors that increase transition costs). The new public operator can then develop strategies to limit opportunism, to build more precise frames for change (such as protocol), to adapt contracts.

In the case we studied, the transition costs are very limited. Nevertheless, if the magnitude of the ex-post transition costs remains limited, the uncertainty of the process is high, due to staff transfer mainly, that preconditions the future organisation of the public operator. Taken into account in an ex-ante assessment of transition costs, this could explain that remunicipalisation is still a marginal trend in the water sector in France. Moreover, the compensation to pay to the incumbent delegatee for early contractual termination is then a major financial barrier that explains why the authority waits for the end of the contract to switch governance mode. The

transition process is then time-bounded, with a continuity imperative. Managing the change process is then a key asset for the authority, which requires specific resources.

Beyond asset specificity, resources – in the sense introduced by the resource-based approach of the firm (Wernerfelt, 1984) – appear to be a key concept in the change of governance mode. We can then distinguish between distinct resource levels. (i) Some authorities encompass several management modes within their territory. In this case, change is rather an extension of the scope of the public operator. It can be either production chain extension – for instance Paris' public operator for water production becoming responsible for the whole water supply – or territorial expansion – for instance the Urban Community of Rouen public water operator becoming responsible for suburban areas previously delegated (Bordonneau et al., 2010). The technical and managerial skills in addition to an existing organisation make then the change easier (though not easy) than building a completely new one. (ii) Some authorities are responsible for a wide range of services, for instance cities, which manage roads, elementary schools, sport premises, social services. They can rely on resources for changing management model, such as administrative services, procurement services, generic technical staff. If the specific technical skills are missing, the other resources can provide a useful and reactive support. (iii) In many cases, the local water authorities are small and specialised; when they delegate the services, for scale economies in general, they rely mostly on external expertise and lack the organisational resources to undertake a change of management mode. In the organisation of water services in France, they weight a substantial share of the delegated services: 59% of the inter-municipal organisations responsible for water supply are responsible only for this task and serve less than 10,000 inhabitants (data from (Canneva, 2007) and French General Directorate for Local Governments). The potential of remunicipalisation is then affected by the evolutions of the organisational landscape of water services, with merging of small services into greater and less specialised authorities (Canneva et Pezon, 2008).

Finally the analysis highlighted the role of the regulatory framework. A very different juridical nature between private operators and public ones makes the transition more difficult. In the perspective of facilitating the free choice of management model, the institutional framework could evolve, for instance by creating a transitory status of private firm owned by the authority.

In conclusion, we can underline that the transition to a public operator after a delegation is not a U-turn to a past situation. First, management rules oblige the water public services to

balance their revenues with their full costs, which force them to a strict economic balance. But also, the incorporation of the private operator's methods and status, mainly through staff integration, draws the new public operator in the corporatisation tracks. And finally, the previous contractual relationship between the authority and the delegatee can lead to a pseudo-contractual framework between the authority and the public operator. Paris and Hamilton case studies (Pigeon et al., 2012) provides example of such an evolution from an old in-house management to a new public managerial relationship.

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Appendices

Table 6 : Transition process and interviews chronology

Date	Event	Document available
March 2008	Council election	
July 2008	Administrative set up of the public operator	
6 Sept. 2008	Initial end date of the delegation contracts – extended for 8 months	
2 Dec. 2008	Council meeting of deputy-mayors – proposals from the future director of the public operator: <ul style="list-style-type: none"> - extension of lease rather than service contracts to give enough time for setting up a strong public operator - proposals for the public operator where all the operational tasks are carried out in-house 	Note written by the future director to the council of deputy-mayors.
10 Feb. 2009	Interview with the director	Interview report
16 Feb. 2009	Director’s official start date	
30 March 2009	Exchange of e-mails with the director	Email
1 st April 2009	End of the delegation contracts, after a first extension-extended for another 4 months (maximum authorized by the law)	
April 2009	Interview with the director	Interview report
20 May 2009	Council meeting of deputy-mayors	Note on progress and schedule for switching to public operator
5 juin 2009	Supervisory board meeting	
26 May 2009	Letter from public treasurer on terms and practical details for transferring the accounts	Reply from the public treasurer (letter)
June 2009	Interview with the director	Interview report
August 2009	Interview with the director	Interview report
1 st Sept 2009	Start date of management by public operator	
June 2010	Interview with the director Interview with transferred employees Interview with First deputy-mayor	Interview reports

Box 1 : Estimation of the transition costs related to the last meter reading

Data:

Aggregated negative indexes: -1500m^3 for 50 customers

Indexes at zero: 200 customers (i.e. 2%)

Proportional part of the private operator (water and sanitation): $\text{€}1.067/\text{m}^3$. We only take into account the proportional part of the private operator as the municipal part was transferred to the water service through the private operator's payment.

Hypotheses:

We consider 3 hypotheses to assess the transition costs linked to the last reading.

H1: we only consider the reimbursement by the public operator of the excess payments received by the private operator

H2: we consider the reimbursement by the public operator of the excess payments received by the private operator but also the loss of profit for the public operator due to non-billed consumptions, on the basis of an average consumption of the cases over the 4 months corresponding to the customers' average consumption ($1000\text{ m}^3/\text{year}$). This is a hypothesis of a high loss of profit.

H3: the same as H2 but based on an average consumption reduced by half to take into account the fact that the 2% of customers with a level zero consumption could be, for some of them, small consumers. This is an intermediary hypothesis.

We do not have access to more precise information on consumptions which could allow us to build finer hypotheses.

Assessments

According to these hypotheses, the costs related to the last invoice are:

H1: $\text{€}1,600$

H2: $\text{€}10,500$

H3: $\text{€}6,000$

Table 7 : The determinants of transition costs in water services

Dimension and sub-dimension of the transition	Situation – cost factor	Cost aggravating factor	Factor mitigating the cost
Contractual costs	In case of an anticipatory breach of contract, the delegatee can demand a compensation equivalent to its loss of profit.		The switch of management model takes place at the end of the contract.
Costs of building the new relationship - search for alternatives	Searching for alternatives is not a predominant factor in the case of water and sanitation services because of regulations.		Searching for alternatives can be considered as a statutory obligation as the local government must justify its management model, even prior to organising a delegation of service provision.
- investment/equipement costs	The premises are rather specific for the water service, as they accommodate at the same time the technical teams and the equipment, the administrative departments and the customer reception.		The possibility to access premises owned by the local government and to count on the help of maintenance staff to quickly fit them out according to the needs.
	The tools for customer management are also rather specific.	The systems are rarely completely compatible and importing data from the operator’s customer file can prove difficult. The difficulty to access the delegatee’s data and thus to know the way data is structured increases this difficulty.	There are several IT tools on the market, which allows getting a competitive offer. The opportunity to access data before the formal end of the contract enables to anticipate data transfer issues.

Dimension and sub-dimension of the transition	Situation – cost factor	Cost aggravating factor	Factor mitigating the cost
- Cost of transferring staff, recruiting and training.	The staff employed in a water service has rather specific skills. Furthermore, in the absence of a network plan, the technical staff usually has a good knowledge of it.	The training and recruitment costs will be higher if only a small part of the staff is transferred.	The 1975 law protects the employees in the case of the repossession of economic activity. Their contracts are automatically transferred, if they agree. The local government can constitute a pool of employees if necessary.
- Cost of developing the new management system	The development of the management system is absorbed in the organisation of the public operator (role of the director) and by the city's maintenance and management services.		The opportunity to pool these costs with those of the city or of another local government with multiple competences.
- costs of transferring specific assets	Negotiations led to the repurchase of the meters at a reasonable price. However, the information gathered from the delegatee was not up to date, for the network as well as for the customer file.		The possibility of transferring staff who knows the infrastructures limits the impact of the bad transfer of information related to specific physical assets (for instance network).
Costs associated to sunk investments	We don't identify any sunk investment in the sector of water which could be made by the local government.		
Continuity costs - uncertainty about the public operator's future performance	It is a difficult element to take into account in the ex-post assessment – however, the interview with the First deputy mayor shows that the elected officials were not very aware of the uncertainties which could have threatened the setting-up of the public operator..		

Dimension and sub-dimension of the transition	Situation – cost factor	Cost aggravating factor	Factor mitigating the cost
- cost of retaliatory actions	<p>Retaliatory actions consist in limiting the functionality of the infrastructures, just before the public operator becomes operational.</p> <p>They can also take the shape of a last meters reading and a last invoice issued at the expense of the public operator.</p>		<p>Anticipating the possible retaliatory actions allows the public operator to prevent them from leading to high costs.</p> <p>Furthermore, other contractual relationships (subcontract or other contracts maybe in other sectors) limit the risk of opportunism at the end of the contractual relationship. Finally, the continuity of staff enables to reduce the risks of sabotage.</p>
Relational costs	<p>The delegatee may have very good interpersonal relationships with the elected officials and thus plead for his activity to be maintained – at least partially.</p>		<p>When the decision of switching has been made, the weight of interpersonal relationships is noticeably less strong.</p>