

Make or Buy Urban Public Transport Services: A Rational Choice?

Miguel Amaral
CES, Université Paris 1
Miguel.Amaral@univ-paris1.fr

Anne Yvrande-Billon
CES, Université Paris 1
Yvrande@univ-paris1.fr

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Abstract

A great variety of institutional arrangements coexist today in the provision of public utilities such as water supply, urban transport or waste management. In this extensive set of modes of governance, a first distinction has to be made between direct public management and private provision of services.

A large body of the theoretical as well as empirical literature has dealt with the performance effects of the procurement mode (either in-house or outsourced provision) (Hart, Shleifer, and Vishny [1997], Ménard and Saussier [2002], Roy and Yvrande-Billon [2007]). But few analyses have looked at the determinants of organizational choices in utilities. Yet, it is reasonably assumed that organizational choices are endogenous as they may be related to the characteristics of the service to be provided and to the institutional environment in which decisions are made.

In this article, our aim is to study the determinants of the trade-off between in-house and outsourced utilities provision. More precisely, we focus on the French urban public transport sector. With regard to the issue we are interested in, this case is a particularly rich domain since, in France, the local authorities in charge of regulating the procurement of urban public transport services can choose between direct provision and outsourcing. In this latter case, they even have an additional option since they can contract out the operation of service either to semi-public companies or to fully private firms. Using an original database covering 159 different French urban transport networks over the period 1995-2002, we estimate the impact on organisational choices of network and service characteristics (*e.g.* size, level of demand uncertainty) and institutional dimensions (*e.g.* legal status of local regulators)

Our results allow shedding light on the economic rationale behind the choice of a mode of governance.

JEL Codes: H0, H7, L33.

Keywords: Public/private provision; Urban public transport.

1 Introduction

Since the seminal article by Coase [1937], a large body of the literature in industrial organization has tried to analyze the rationale behind the organizational choices made by firms. The so-called make or buy decision has been the subject of many theoretical developments and empirical works, especially in transaction cost economics and incomplete contract theory (Garrouste and Saussier [2005], Gibbons [2005]). The basic arguments are that the main drivers of vertical integration are the need to secure relationship-specific investments in a context of environmental uncertainty (Williamson [1985]) and the existence of verifiability problems (Grossman and Hart [1986], Hart and Moore [1988]). These propositions have originally been made to explain the behaviour of private firms operating in competitive markets. But, they can also be applied to the public sector, and more particularly to utilities. The make or buy decision then becomes a trade-off between in-house public provision (*via* a public bureau for instance) and delegation to a private operator (*via* a franchise agreement or a PPP contract). The two most common ways that governments can use to provide services are indeed in-house provision using salaried city employees and performance requirements contracts with private sector firms.

With the waves of regulatory reforms and privatization experienced in utilities industries since the 1980's, a huge number of theoretical developments have been made in an incomplete contracting perspective to explain the make-or-buy decision in the context of utilities (Grout [1997], Hart, Shleifer, and Vishny [1997], Besley and Ghatak [2001], Bennett and Iossa [2002], Hart [2003], Levin and Tadelis [2007]). In this account, the choice between public and private provision of services is dictated by efficiency considerations and depends on the level of contracting difficulties arising when it is hard to foresee and contract about the uncertain future. But although the question of when public or private provision of public services is optimal has been extensively dealt theoretically, few empirical tests have been done so that the ratio empirical tests/models is very low. A first objective of the paper is to fill this gap by proposing a test of the determinants of organizational choices of local governments in the French urban public transport sector.

A second objective is to introduce institutional determinants as well as political economy considerations in the analysis. Indeed, the logic underlying the propositions derived from the theoretical literature mentioned above focuses on economic determinants. It is assumed that agents have a strong incentive to choose the most efficient mode of governance. Although this assumption is quite reasonable when we study actors operating in highly competitive markets, it can be seriously challenged, however, in an analysis of the decisions made by local governments for utilities that are largely protected

from competition. In these circumstances, it is likely that important factors other than economic efficiency, *e.g.*, support of key political constituencies, will play an important role. For example, local governments may choose a form that will allow them to influence local employment, a much easier task with a public bureau than with a private operator whose autonomy of decision is protected by a long term contract. Political orientation may also be a factor. A second objective of our paper is then to take into account such non-economic aspects, that we call institutional factors.

To tackle these issues, we focus on the French urban public transport sector at the local (city) level. This case is a particularly rich domain since, in France, the local governments in charge of regulating the procurement of urban public transport services can choose between direct provision and outsourcing. In this latter case, they even have an additional option since they can contract out the operation of service either to semi-public companies or to fully private firms. Furthermore, our study deals with organizational choices made at the level of city government, which is a useful level at which to study such decisions for several reasons. First, we are able to observe many cities making decisions about service provision in parallel. In this sense cities are a useful laboratory for making statistical comparisons. Second, cities differ in a variety of interesting aspects -by size, location, form of government and political orientation. At last, urban transport service provision at the city level is important from both economic and public policy standpoint as local government spending in the recent years equaled about 2 billion euros per year (GART [2007]).

These characteristics of the French local urban public transport sector thus allow us to answer the questions that are at the core of our study: what are the determinants of the organizational choices made by local governments to provide public services? Are their decisions mainly driven by economic efficiency considerations or by institutional and political constraints?

To address these issues, we use an original database covering 159 different French urban transport networks over the period 1995-2002 and we estimate, *via* a probit model, the impact of network and service characteristics (population density, level of demand uncertainty) and institutional dimensions (legal status of local regulators, political orientation) on organizational choices. The results of our estimates indicate that local governments tend to choose in house provision when the service is complex and contracting difficulties are expected. In that sense, local governments' decisions regarding the organization of public services provision are driven by efficiency considerations. But at the same time our results also indicate that political and institutional determinants play a major role in their decisions. Indeed we show that the political orientation of local governments as well as the

choices made by surrounding cities are significant determinants of organizational decisions.

The paper is organized as follows. Section 2 gives an overview of the French local urban public transport sector. Section 3 presents our theoretical background and the testable propositions we can derive. In section 4 we describe our data and variables. Section 5 provides the results of our estimations and section 6 offers concluding remarks.

2 Urban transport service provision: an overview

Since the 1982 law on the organization of transport within France, responsibility for urban public transportation in France is, as in most European countries, decentralized to the local governments (a city or a group of cities). This means that each local government has the responsibility to manage its own urban public transport system, by setting the characteristics of services to be procured (route structure, quality, fares, and ownership regime) and selecting a mode of organization for the provision of such services. As regard organizational choices, there are two methods to provide urban public transport services. Either the local authorities operate the service directly *via* a public bureau (“*régie*”) or it delegates the responsibility for providing the service to a transport operator within the framework of a contractual agreement. In the latter case, the operator can be a private or a semi-public company¹ (“*Société d’Economie Mixte*” (SEM)).

It is to be noted that regulatory rules prevent the coexistence of several operators in the same urban network. In each urban area, public transport activities are therefore supplied by a single operator. Figure 1 below provides a snapshot of how urban public transport services are provided: of the 159 cities in our sample², 11% provide the service using only city employees, 19% use contracts with semi-public firms and 70% deliver the provision of the service to private firms *via* contracts. France is one among the rare European countries where private companies play such a role in the urban public transport sector³

As in most European countries, the sector has been structurally generating losses and, thus, is subsidized. One of the main reasons for the budget

¹In this case, the majority of the capital stock is under public control.

²Our data set covers 159 urban public transport networks out of a total of 241 existing in France

³The majority of the transport operators are members of the three largest groups dominating the market. In 2006, these three groups, namely Keolis, Transdev and Veolia Transport, controlled about 66% of all urban public transport systems (Source : GART [2007]).

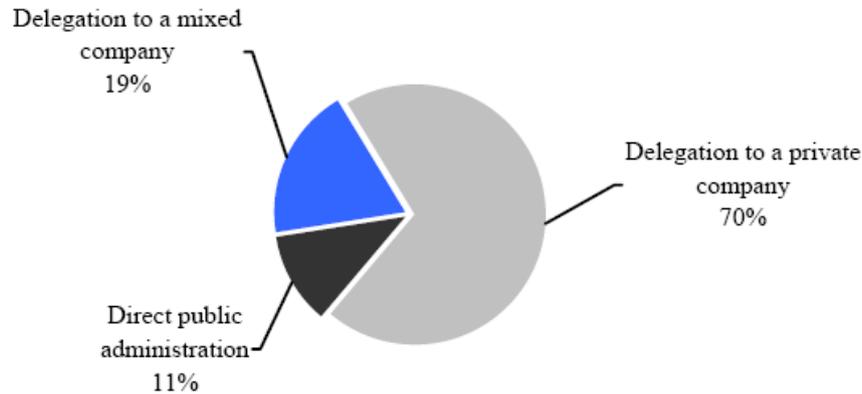


Figure 1: Modes of organization in 2002

being unbalanced relies on the fact that transport companies, either public or private, face various universal service obligations. Since 1969⁴, European Commission has indeed authorized member States to impose public service obligations, *i.e.* “obligations which the transport undertaking in question, if it were considering its own commercial interests, would not assume or would not assume to the same extent or under the same conditions” (art.2, par.1). These obligations encompass the tariff obligation, *i.e.* “obligation imposed upon transport undertakings to apply, in particular for certain categories of passenger, for certain categories of goods, or on certain routes, rates fixed or approved by any public authority which are contrary to the commercial interests of the undertaking and which result from the imposition of, or refusal to modify, special tariff provisions” (art.2, par.5). As a consequence, for 2006, revenues from fares were estimated to cover only 32% of the operating costs in average, which corresponds to an operating deficit of more than 2 billions. The main additional sources of financing can come from the budget of the local authorities (2,026m in 2006), from selective state subsidies (93m in 2006) or from a special tax (“*le versement transport*”) (2,422m in 2006)⁵.

⁴Regulation (EEC) No 1191/69 of the Council of June, 26 1969 on action by Member States concerning the obligations inherent in the concept of a public service in transport by rail, road and inland waterway (OJ L 156, 28.6.1969, p. 1), as last amended by Regulation (EEC) No 1893/91 (OJ L 169, 29.6.1991, p. 1).

⁵Source : GART [2007]

3 Contracting for services: theory

With the waves of regulatory reforms and privatization experienced in utilities industries since the 1980's, a huge number of theoretical developments have been made in an incomplete contracting perspective to explain the make-or-buy decision in the context of utilities (Grout [1997], Hart, Shleifer, and Vishny [1997], Besley and Ghatak [2001], Bennett and Iossa [2002], Hart [2003], Levin and Tadelis [2007]). In this perspective, the trade-off between public and private provision of public services depends on the costs of contracting with an external provider.

Ignoring external contracting costs, that is the costs of writing, monitoring and adjusting delegation contracts, production will be organized and carried out more efficiently in a privatized firm than in a public firm for at least two main reasons. Firstly, because the objectives of a private firm are clearer and less diffuse and secondly because better incentives can be given to the managers and workers (Schmidt [1996], Hart, Shleifer, and Vishny [1997]). Moreover, as in the case of the French urban transport sector, private participation is often associated with *ex ante* competition since delegation contracts are awarded through a tendering process, while direct public administration is not subject to such competitive pressures. Competition issues therefore reinforce the expectation that public service provision tends to be less efficient than private service provision. Such prediction is confirmed in the case of the French urban public transport sector by several empirical studies (Gagnepain and Ivaldi [2002], Roy and Yvrande-Billon [2007]).

However, accounting for contracting costs implies that outsourcing imposes additional costs that are not incurred if in-house provision is chosen. The optimal provision mode will then weigh the added contractual costs of using delegation contracts against the added benefits of the increased productive efficiency. Hence the following central proposition :

Proposition 1: *Public authorities are less likely to outsource the provision of public services when external contracting difficulties increase, that is when it is harder to specify, enforce and adjust delegation contracts.*

Several empirical works have confronted this proposition to facts and the evidence they provide confirm that a key determinant in the make-or-buy decision of cities is contracting difficulties. For instance, Ménard and Saussier [2002] in a study of the water sector in France come to the conclusion that local governments tend to provide water services in house when relationship-specific investments are at stake, that is when contracting with an external provider would incur risks of opportunism. In the same vein, Levin and

Tadelis [2007] relying on a dataset of service provision choices by U.S. cities in a range of domains (*e.g.* public works, transportation, safety, health and human service, etc.) show that services for which it is harder to write and administer delegation contracts are less likely to be outsourced.

Whether theoretical or empirical, what this series of works highlights is the economic rationale behind the choices made by public authorities. In this account, outsourcing to private firms is dictated by efficiency considerations. It is however likely that considerations other than economic efficiency, *e.g.*, support of key political constituencies, play an important role. For example, local governments may choose a form that will allow them to influence local employment, a much easier task with a public bureau than with a private operator whose autonomy of decision is protected by a contract. Political leanings may also be a determinant, as well as the form of governance of local governments which may influence the autonomy of decision at the local level (Lopez de Silanes, Shleifer, and Vishny [1997]). Thus, this view, advanced by Boycko, Shleifer, and Vishny [1996] among others, emphasizes the role played by political and institutional constraints in the service provision choices made by public authorities. This translates into a general proposition that we will refine when we will come to our specific case:

Proposition 2: *Institutional and political concerns play a role in the service provision decisions made by local authorities.*

A set of political economy predictions can be derived from this broad proposition which have lead to several empirical tests. One can mention Chong, Huet, and Saussier [2006] and Plunket, Huet, and Saussier [2008] who show that the choices made by local authorities are influenced by the decisions taken by the cities surrounding them. Another interesting result is obtained by Levin and Tadelis [2007] who find that cities run by an appointed manager rather than an elected mayor are more likely to contract for service provision.

4 Urban public transport service provision by French cities: our data

The database we use to test our propositions assembles the results of two annuals surveys conducted by the Centre d'Etude et de Recherche du Transport Urbain (CERTU) and the Groupement des Autorités Responsables de Transport Urbain (GART)⁶. This dataset covers 165 urban public transport networks (out of 241) between 1995 and 2002. Eliminating observations

⁶CERTU is a ministerial agency. GART is a nonprofit organization that gathers most of french local authorities in charge of an urban public transport system.

with missing data further reduces the sample to 159 networks. The unit of observation is a local authority (a city or a group of cities) in 2002.

Our dependent variable is the organizational mode chosen by the local government i ($DELEG_i$). This variable takes the value 1 if in 2002 the local government provided the service in house; it takes the value 2 if in 2002 the urban public transport service was provided by a semi-public company; at last, it takes the value 3 if in 2002 the provision of the service was outsourced to a private firm.

To test whether our predictions are corroborated in the French urban public transport sector, we need to relate our predictions to the data. As our propositions stress the importance of contracting difficulties on the one hand and institutional and political constraints on the other hand, we need to identify variables that impact on these aspects. The set of variables we introduce in the right-hand side are the following.

Complexity and physical characteristics of the network

Our first set of variables accounts for the complexity of the service performed by the operator. These variables proxy not only for the complexity of the service, but also for the level of (human) specific investments needed to operate the service, an important variable from an incomplete contract perspective. Our intuition is that city size may influence the ease with which local governments can contract with external providers. The idea is that the bigger the city the more difficult it will be for a government to write a contract specifying the performance of the service provider, to monitor it and to adapt it to changing circumstances. Hence we expect city size to have a negative impact on the probability of outsourcing. The variables we use to test this proposition are $POPSIZE1_i$, $POPSIZE2_i$, $POPSIZE3_i$. These are dummy variables that take the value 1 respectively when the number of inhabitants in the transport perimeter of the local authority is less than 50,000, comprised between 50,000 and 100,000, and more than 100,000. These categories correspond to the traditional ones used in the sector. Official statistics indeed distinguish the various networks according to these thresholds. Figure 2 reports the share of each category for the three organizational modes.

We also proxy the level of contracting difficulties by the variable $NBCITIES_i$ which measures the number of cities covered by the local government i . Our intuition is that the more cities served by public transport in the area monitored by the local government i , the more complex the organisation of the competitive tendering process if delegation is the selected mode of organization. We also conjecture that the more cities in the area the more difficult

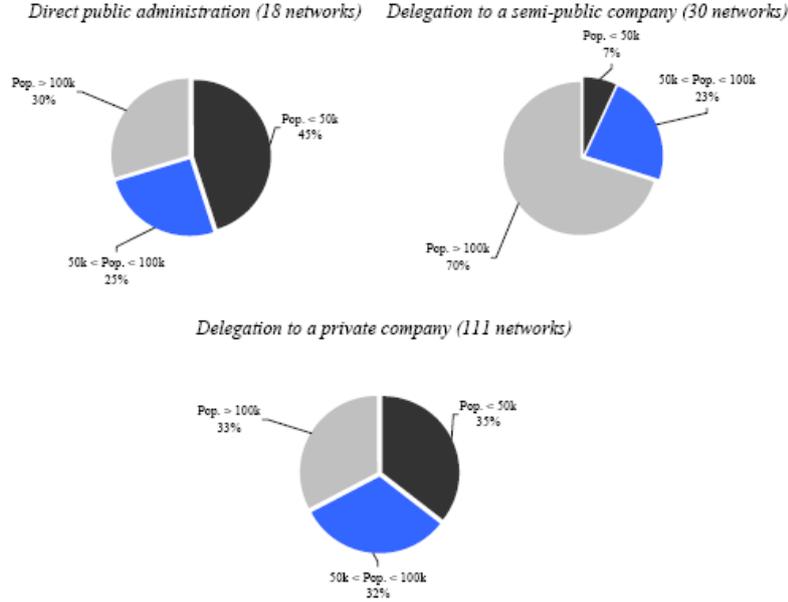


Figure 2: Modes of organization and size of the networks in 2002

the specification of the contract with an external provider. Hence our proposition is that $NBCITIES_i$ might have a negative impact on the degree of delegation.

The variety of public transport modes provided in the area is also considered as a proxy for the complexity of the service to be delivered. To take into account this aspect, we introduce the dummy variable $HEAVYMODE_i$, which takes the value 1 if the network includes a mass transit system (tramway and/or subway). We expect this variable to have a negative impact on the degree of delegation because we assume that networks with mass transit system are more complex to operate.

At last, we control for the size of the urban transport network with the variable $SIZE_i$ which measures the length of the network in kilometres.

Uncertainty

The level of contracting difficulties incurred when outsourcing is the chosen organizational mode is also likely to be correlated with the degree of uncertainty characterizing the provision of service because uncertainty impacts

on contracting difficulties. For instance, the more uncertain the demand for transport, the higher the probability of contract renegotiation, hence the more costly the outsourcing solution. Consequently, the more volatile the demand, the more likely the probability to provide the service in house.

To assess the impact of uncertainty on the degree of delegation, we include in the right-hand side a set of variables that capture the variance of hazards impacting on revenues and costs. A first variable ($VREC_i$) is the volatility of commercial revenues measured as the standard deviation of commercial revenues during the period 1995-2002. In line with Caillaud and Quinet [1993], we expect that the more volatile the commercial revenues, the more integrated the organizational mode. Using a measure of the volatility of operating costs would also have been fruitful but, unfortunately, the corresponding data suffer from availability and reliability problems.

The second variable used as a proxy for uncertainty is the average commercial speed on the network ($SPEED_i$). The commercial speed is an important qualitative characteristic of the service, largely determined by exogenous factors such as the intensity of traffic and congestion in the urban area. As such, it is expected that the higher the commercial speed, the higher the degree of delegation.

Political economy determinants of contracting

We introduce a set of variables to take into account the influence of several non economic factors, such as political orientation and organizational choices made by surrounding cities.

To assess the political leaning of a particular city, we use a qualitative variable ($POLITICS_i$) that takes values 1 if there is, in the region to which the local government i belongs, an absolute majority for left-wing orientated parties; 2 if there is a relative majority for left-wing orientated parties; 3 if left and right-wing orientated parties have the same number of seats; 4 if there is a relative majority for right-wing orientated parties; and 5 if there is a absolute majority for right-wing orientated parties. This qualitative variable is based on the results of the 1998 regional elections. It is worth noting that the use of this variable relies on the strong assumption that the political orientation of local authorities and of the region to which they belong are correlated. It is undoubtedly an important limit of this variable and, for this reason, we are now collecting political data on the municipality level.

We also intend to assess the incidence of the organizational choices made by surrounding cities on the decision taken by a particular city. In accordance with some recent works in spatial economics (Chong, Huet, and Saussier

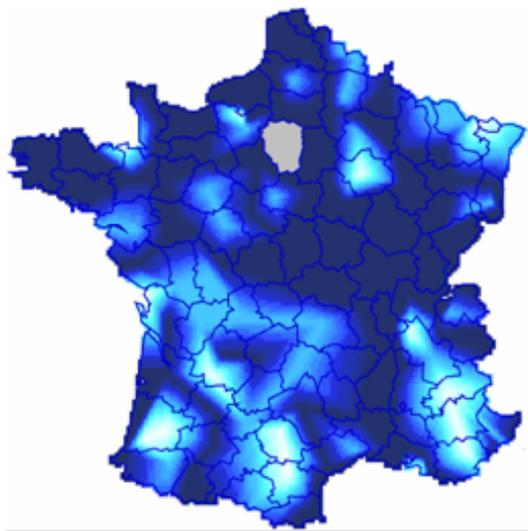


Figure 3: **Geographical repartition of organizational modes in 2002**

[2006], Plunket, Huet, and Saussier [2008]), we expect local authorities to be influenced by their neighbours' choices. To test this proposition, we introduce a variable $DELEGREG_i$ which measures the proportion of networks managed by private operators in the same region (city i excluded). We expect this variable to have a positive impact on the degree of delegation. Figure 3 shows the geographical repartition of organizational modes in 2002. The darker the colour the less integrated the organization mode. Thus, the white areas refer to local authorities that chose direct administration of UPT services. The dark blue areas refer to local authorities that delegate the provision of UPT services. We can see that some regions are very rich in public management (*e.g.* Provence-Alpes-Cte d'Azur, the south east region), whereas, in some others, delegated management predominates (*e.g.* Bourgogne, the center region). This supports the intuition according to which the organisational choice made by a particular city is correlated with the choices made by its neighbours.

Legal status of local authorities

The various decentralization laws implemented in France since the 1970's have contributed to give local authorities more and more powers. To endorse their new and growing responsibilities, many municipalities have chosen to gather and jointly provide services. To go further in the analysis of institutional determinants of organizational choices, we distinguish between the various types of inter-cities arrangements. Indeed, we know that some inter-cities arrangements (SIVU, Syndicats mixtes) are ad hoc, that is were

created especially to ensure the operation of urban public transport services. On the other hand, other institutional arrangements (such as *communautés de communes* or *communautés d'agglomérations*) were originally created for other reasons than being able to finance and provide urban transport services and have therefore no specific competences as regard transport. Hence we created a variable $ADHOC_i$ that takes the value 1 if local government i is part of an inter-cities arrangement which was specifically designed to manage urban public transport service and 0 otherwise. We expect this variable to have a negative impact on the degree of delegation. The intuition behind this proposition is that local governments that are part of an inter-cities arrangement created specifically to coordinate urban public transport services are more likely to have a pro-active policy regarding transport, hence to provide the service in house.

Table 1 provides definitions of all variables used in the empirical model along with descriptive statistics.

Table 1: Checklist of our variables

Variable	Definition	Obs.	Mean	Std.	Min.	Max.
$DELEG_i$	Mode of organisation (1 if in house, 2 if semi-public firm, 3 if private firm)	159	2.58	0.69	1	3
$DELEGREG_i$	Proportion of networks managed by private operators in the same region (city i excluded)	159	0.72	0.22	0.13	1
$POLITICS_i$	Political orientation of city i (the bigger the variable the more right-wing orientated the city)	159	2.67	1.03	1	5
$SPEED_i$	Average commercial speed on network i	151	16.44	2.61	11.40	30.00
$INTERCOMADHOC_i$	Dummy taking the value 1 when the inter-cities arrangement is ad hoc	159	0.28	0.45	0	1
$POPSIZE1_i$	Dummy taking the value 1 when the number inhabitants of the city i is less than 50,000	159	0.32	0.47	0	1
$POPSIZE2_i$	Dummy taking the value 1 when the number inhabitants of the city i is comprised between 50,000 and 100,000	159	0.30	0.46	0	1
$POPSIZE3_i$	Dummy taking the value 1 when the number inhabitants of the city i is more than 100,000	159	0.40	0.49	0	1
$NBCITIES_i$	Number of cities governed by the local authority i	157	15.91	14.87	1	87
$VREC_i$	Standard deviation of commercial revenues during the period 1995-2002 (100,000)	159	10.47	59.97	1.7e-7	677.77
$MYREC_i$	Average commercial revenues during the period 1995-2002 (10,000)	159	0.41	0.98	0.4e-3	8.90
$SIZE_i$	Length of the network i in kilometres	143	204.90	200.46	19	1140.80
$HEAVYMODES_i$	Dummy taking the value 1 when the network i includes a mass transit system	159	0.08	0.27	0	1

5 Economic and political economy determinants of governance choices: results

Table 2 reports results of our estimations.

Table 2: Determinants of organizational choices⁷

	Probit DELEG(1)	Probit DELEG(2)	Probit DELEG(3)	Probit DELEG(4)	Probit DELEG(5)	Probit DELEG(6)	Probit DELEG(7)	Probit DELEG(8)	Probit DELEG(9)
<i>POPSIZE1</i>	-0.184	-0.185	-0.142	-0.132	0.672**	0.644**	-	-	-
<i>POPSIZE2</i>	-	-	-	-	0.543**	0.524**	-	-	-
<i>POPSIZE3</i>	-0.479**	-0.448*	-0.536**	-0.516**	-	-	-	-	-
<i>NBCITIES</i>	-0.012*	-0.010	-0.019***	-0.017**	-0.019***	-0.017**	-0.018**	-0.016**	-0.028**
<i>HEAVYMODES</i>	-	-	-	-	-	-	-0.121	-0.247	-0.416
<i>SIZE</i>	-	-	0.0006	-0.0008	-0.0006	-0.0008	-0.0000	-0.0002	-0.0001
<i>VREC</i>	0.009**	0.010**	0.010*	0.011**	0.010**	0.011**	-	-	-
<i>MYREC</i>	-0.068**	-0.073**	-0.078**	-0.086**	-0.079**	-0.086**	-0.072*	-0.075*	-0.128**
<i>SPEED</i>	-0.068**	-0.080***	-0.068*	-0.076**	-0.068*	-0.076**	-0.076***	-0.084***	-0.151***
<i>DELEGREG</i>	1.148***	-	1.424***	-	1.425***	-	1.307***	-	1.942***
<i>POLITICS</i>	-	0.209***	-	0.190**	-	0.191**	-	0.181**	0.174
<i>INTERCOMADHOC</i>	-0.048	-0.084	-0.298	-0.272	0.292	-0.267	0.239	0.210	0.312
<i>VREC*POPSIZE1</i>	-	-	-	-	-	-	97.67*	93.29**	195.30*
<i>VREC*POPSIZE3</i>	-	-	-	-	-	-	0.013***	0.011**	0.018***
<i>Log - L</i>	-112.65	-113.77	-98.66	-101.20	-98.58	-101.13	-98.73	-100.75	-97.84
<i>LRχ^2(K - 1)</i>	18.32	16.07	23.53	18.44	23.68	18.59	23.38	19.34	25.17
<i>FseudoR²</i>	0.075	0.066	0.107	0.083	0.107	0.084	0.105	0.087	0.114
<i>Prob > χ^2</i>	0.019	0.041	0.005	0.030	0.005	0.029	0.005	0.022	0.005
<i>N</i>	149	149	137	137	137	137	137	137	137

⁷* $p < 0.15$; ** $p < 0.10$; *** $p < 0.05$.

Impact of complexity and physical characteristics of the network

Consistently with our predictions, city size appears as a significant determinant of the organizational choices made by local governments. Models 1 to 4 indicate that large cities (*i.e.* with more than 100,000 inhabitants) are less likely to outsource the provision of urban transport services than medium size cities (the omitted case). The coefficient associated to the variable *POPSIZE3* is indeed negative and significantly different from zero. On the contrary, *POPSIZE1* does not appear as a significant determinant in these models. However, models 5 and 6 reveal that medium size cities (*i.e.* with a population comprised between 50,000 and 100,000 inhabitants) and small cities (*i.e.* with less than 50,000 inhabitants) outsource more than large cities (the omitted case in these models). Moreover, medium size cities tend to delegate less than small ones. This might be due to the fact that medium size cities have more abilities to supply the service themselves because they might have the necessary human resources in house.

We also find a significant negative correlation between the probability to outsource and *NBCITIES*. This is consistent with the view that local governments monitoring several cities might face more contracting difficulties if they decide to delegate the provision of the service. Hence the higher the number of cities served in the transport area, the lower the probability to delegate service provision.

At last, our proposition regarding the impact of the variety of transport modes is not corroborated as *HEAVYMODE* does not appear as a significant explanatory variable.

Impact of uncertainty

In all models, *VREC* has a positive impact on the probability to outsource and the coefficient is statistically significant. Our proposition regarding the impact of demand uncertainty is therefore not corroborated. This might be due to the fact that in presence of a high level of uncertainty, local governments might prefer to transfer commercial risks to private companies operating on several different networks and hence able to mutualize these risks. Moreover, these firms might have more technical competencies to forecast traffic variation.

To assess whether uncertainty has a differentiated impact depending on the city size, we introduce in models 7 and 8 the crossed variables *VREC*POPSIZE1* and *VREC*POPSIZE3*. Results of our estimates indicate that these variables are significant determinants of the probability

of outsourcing. More precisely, the smaller the city and the higher the level of uncertainty, the higher the probability of outsourcing. In other words, small cities are even more sensitive to uncertainty than medium and large size ones (the coefficient of $VREC*POPSIZE1$ is much bigger than the coefficient of $VREC*POPSIZE3$).

As opposed to our predictions, *SPEED* has a significant negative impact on the probability of outsourcing. This might be due to the fact that high commercial speed is the result of a proactive transport policy implemented by local governments. Such local governments who develop a policy to improve commercial speed might also be those who prefer and are able to provide the service directly.

Impact of political and institutional constraints

Consistently with our proposition and with results obtained in other studies (Plunket, Huet, and Saussier [2008]), the fact that neighboring cities outsource the provision of transport services (*DELEGREG*) has a significant and positive impact on the choice to delegate. This result might not only reveal mimetic behaviors but also rational decisions. Indeed, one can easily imagine that local governments that choose to delegate like their neighbors take this decision to benefit from their experience as regard for instance the organization of tenders or the monitoring of contracts.

Moreover, in the models where *POLITICS* is introduced alone, this variable has a positive impact on the probability to delegate, consistently with what appears in other studies taking into account such political economy variables. Cities located in left-wing orientated areas tend to provide the service in-house whereas cities located in right-wing orientated areas are more likely to outsource to private operators. However in model 9, where *POLITICS* and *DELEGREG* are introduced together as explanatory variables, *POLITICS* is no longer significant. This might be due to colinearity problems between these variables (see correlation matrix in the appendix).

At last, the variable *INTERCOMADHOC*, that was introduced to capture the impact of the form of governance of local governments, is not a significant determinant of the likelihood of outsourcing. This might indicate that the form of governance of local authorities does not influence the organizational choices regarding public services provision.

6 Conclusions

Our objective in this paper was to explore a question that is central in industrial organization: what determines the choice of a specific mode of organization of public services provision? Although this issue has generated many theoretical developments especially in an incomplete contract perspective, few empirical studies have analyzed the trade-off among different governance modes in provision of public utilities. Additionally, to our knowledge, this issue has never been addressed for the urban public transport sector.

To explore what drives the decision to make or buy public services, we concentrated on the French local urban public transport sector and used a detailed set of data covering 159 cities over the period 1995-2002. Although this is still an exploratory paper, our initial econometric results are very encouraging. Indeed in a sector in which most interpretations of the organizational decisions made by local governments rely heavily on political factors, we show that there are rooms for economic explanations. Our estimates clearly indicate that when deciding whether to provide the service in house or to contract out local authorities take into account economic efficiency considerations. More precisely, we provide evidence that cities where outsourcing is likely to induce high contracting costs (*e.g.* because the service is hard to specify or because demand is uncertain) tend to provide the service directly that is through a public bureau. Political and institutional considerations are however not absent from local governments' decisions. Our estimates indeed also reveal that the political orientation of cities as well as the organizational modes chosen by neighboring cities are key determinants of the decision to make or buy.

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Appendix: Correlation matrix

	DEL.	POL.	SP.	INT.	P1	P2	P3	NBC.	V.	MY.	SIZE	HM.
<i>DEL.</i>	1.00											
<i>POL.</i>	0.23	1.00										
<i>SP.</i>	0.02	0.15	1.00									
<i>INT.</i>	-0.09	-0.14	-0.07	1.00								
<i>P1</i>	-0.00	0.06	0.05	-0.01	1.00							
<i>P2</i>	-0.13	-0.07	-0.03	-0.10	-0.31	1.00						
<i>P3</i>	0.12	0.01	-0.02	0.12	-0.51	-0.64	1.00					
<i>NBC.</i>	0.10	-0.11	-0.11	0.12	-0.27	-0.22	0.41	1.00				
<i>V.</i>	0.05	-0.02	-0.09	0.14	-0.10	-0.12	0.20	0.41	1.00			
<i>MY.</i>	0.05	0.01	-0.17	0.12	-0.22	-0.25	0.41	0.48	0.80	1.00		
<i>SIZE</i>	0.13	-0.03	-0.07	0.13	-0.37	-0.30	0.58	0.64	0.57	0.76	1.00	
<i>HM.</i>	0.05	0.05	-0.17	0.07	-0.17	-0.22	0.34	0.43	0.48	0.67	0.55	1.00