

# When Does Ideology Matter?

## An Empirical Analysis of French Municipalities' Make-or-Buy Choices \*

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### Abstract

Many empirical studies have analyzed the factors that influence local government decisions regarding the management of public services. In those studies, ideological motives are often found to be not, or at least very slightly, significant. This absence of ideological impact is often interpreted as a proof that local governments are more guided by pragmatic rather than ideological motivations, notably because contracting out has become less controversial. Nevertheless, ideological factors are almost always estimated by the percentage of left-wing (or right-wing) votes in the last local election and this measure of ideological motives ignores the fact that management of public services might be path-dependent, *i.e.* strongly connected to choices made by previous officials. In this paper, we show that the configuration of public services procurement at the local level can be explained by ideological motives when ideology is properly measured, that is over a long-term past period. We also find that the influence of ideology is all the more important when services are considered as highly sensitive by local voters.

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# 1 Introduction

The study of municipalities' make-or-buy choices is of primary importance, because in many countries, most of the investment is made at the municipal level. In France, local public administrations' investment represents about 60% of public investment, and 10% of total investment.<sup>1</sup> A poor management of public services can therefore lead to an significant waste of public money. Traditionally, governments have produced services in-house, that is with their own workers, offices, and equipments. Yet, over the past decades, governments (and especially local governments) have increasingly relied on external actors to produce services. Up to now, a large amount of research, theoretical as well as empirical, has analyzed why local governments choose to outsource public services. From a theoretical point of view, two main reasons are generally put forward. On the one hand, Public Choice scholars conceive contracting out as a way to circumvent public inefficiencies [Savas, 1989]. From this perspective, private operators may be more efficient than public providers because of their better management techniques, that rely on the use of advanced technology and on more efficient and flexible deployment of workers [Donahue, 1989]. On the other hand, Transaction Cost Theory insists on the intrinsic characteristics of services to explain the choice between contracting out and in-house service provision [Brown and Potoski, 2003; Hefetz and Warner, 2004; Levin and Tadelis, 2010].

It is important to note that there is no consensus about the influence of externalization on the costs of public services; recent studies find no systematic relation between externalization and cost savings [Boyne, 1998a; Hodge, 2000; Bel et al., 2010]. The potential gains from externalization differ, according to the characteristics of services (in particular the asset specificity and the level of competition), and the geographic area [Bel et al., 2010]. The make-or-buy choice should therefore be analyzed cautiously by each city for each service, and the decisions should be motivated by pragmatism in order to save on costs while maintaining the quality. In a normative way, mayors' ideology<sup>2</sup> shall not impact their contracting out choices.

The existing literature identifies a range of factors that influence how governments choose to produce services, and the latter can be grouped into four categories: economic efficiency, fiscal restrictions, interest groups, and ideological attitudes [Bel and Fageda, 2007]. Curiously, Bel and Fageda [2007] find that the ideology of mayors in office is the less studied motive. Moreover, its impact is most of the time found to be non-significant, and the authors conclude that the debate over privatization has moved from ideology to pragmatism [Hefetz and Warner, 2004; Bel and Fageda, 2007]. The general consensus is that if political considerations

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<sup>1</sup>Data from OECD.

<sup>2</sup>In this paper as in most public administration studies, mayors' ideology is measured by their political affiliation. This measure captures what Kalt and Zupan [1984] name "impure" ideology (see Section 2.1).

may have played a role in make-or-buy decisions in the eighties, and especially in the United States (US), today's governments are more guided by practical reasons as contracting out has become less controversial [Bel and Fageda, 2009]. This result is surprising, and especially in European contexts, as it is part of collective imagination that left-wing governments generally fight for greater state intervention. Therefore, a recent set of studies challenges Bel and Fageda [2007]'s statement, and some authors do find an important role of ideology in explaining externalization decisions [Picazo-Tadeo et al., 2010; Sundell and Lapuente, 2012; Gradus et al., 2014]. Picazo-Tadeo et al. [2010] indeed highlight that most previous studies use cross-sectional data, and do not measure ideology at the time the externalization decision was taken. However, while the papers that use more accurate measures of mayors' ideology find that right-wing mayors conclude more contracts with the private sector, they surprisingly do not find any impact of left-wing affiliations on the propensity to (re-)integrate public services Gradus et al. [2014]. This finding is puzzling: if right-wing mayors prefer externalization, why don't left-wing mayors try to re-integrate public services?

This result is especially surprising as it seems that public services re-integration is an important campaign argument for left-wing candidates; a recent municipal campaign in the city of Paris provides an interesting example for that. In Paris, water services have been externalized to private companies by the right-wing mayor Jacques Chirac in 1984, using delegation contracts of a duration of 25 years (the contracts therefore expired in 2009). In 2001, a left-wing candidate (Bertrand Delanoë) was elected mayor of Paris.<sup>3</sup> During the 2008 municipal campaign, one of the important promises of the incumbent Bertrand Delanoë, who ran for a second mandate, was to go back to in-house provision of water services [Bauby and Similie, 2013]. Bertrand Delanoë was re-elected, and he re-internalized water services in 2009, when delegation contracts expired. If this example does not prove that left-wing mayors systematically propose to go back to internal provision, it seems to indicate that make-or-buy choices can be constrained by previous decisions, made by previous mayors.

Therefore, our aim is to show that the management of public services is path-dependent, *i.e.* strongly connected to choices made by previous politicians. We investigate how the history of cities' ideology explains the way they allocate contracting out and in-house provision in the present. The reasoning is that once a public service has been externalized, current mayors' hands are tied for two reasons: first, because of the length of delegation contracts concluded with the private sector (see the example of water services in Paris above), and second because of the loss of competencies that externalization implies. Our results also highlight that the influence of ideology is all the more important when public services are characterized by high levels of resident sensitivity.

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<sup>3</sup>In France, municipal elections took place in 1983, 1989, 1995, 2001, 2008 and 2014.

The dataset employed in this paper describes the mode of provision of a range of 7 services (childhood care, collective catering, parking lots, street lighting, waste collection, water distribution and water treatment) for 156 French municipalities of more than 10,000 inhabitants. Our work includes a careful examination of the impact of successive mayors’ ideology (number of left-wing mayors over a 26-year period, which represents 5 elections) on the propensity to produce services internally. We also investigate the impact of the sensitivity of residents (that is the degree to which citizens are sensitive to problems that might be encountered in the provision of each service) on in-house provision. We indeed replicated [Levin and Tadelis \[2010\]](#)’s survey and methodology to assess the characteristics of the 7 public services. We finally control for the impact of economic factors (population and density of cities), fiscal stress (level of debt per capita), and the presence and strength of interest groups (unemployment and income per capita) – all these variables being measured over the 2006-2013 period.

The remainder of the article stands as follows: Section 2 depicts the related literature, and permits to formulate 3 propositions; Section 3 contains a description of the dataset, of the variables that were constructed, and of the empirical strategy; Section 4 comments the main results, and a final section discusses the implications of our results.

## 2 Related Literature and Propositions

In a first subsection, the influence of ideology on make-or-buy decisions is examined, and three propositions are established. In a second subsection, the other motives that impact local governments make-or-buy choices are described.

### 2.1 The impact of ideology on “make-or-buy” decisions

The ideology of elected officials is a concept that is challenging to measure, because it requires to perfectly understand what shall be called “ideology”. In order to better comprehend this concept, [Kalt and Zupan \[1984\]](#) distinguish between “pure” and “impure” ideology. The manifestations of pure ideology give the individuals the satisfaction of knowing that they have improved the situation of others, they have served public interest. In contrast, impure ideology implies that political representatives may serve their own interests, for instance their desire to be reelected; politicians may then rely on the dictates of an ideology as a shortcut to the service of their constituents’ goals. [Kalt and Zupan \[1984\]](#) are able to disentangle the two types of ideology, because they study the vote of a law in the US Senate about strip mining. Since this law has a positive impact on the environment, senators motivated by pure ideology would systematically vote in favor of the latter. In the case of contracting out decisions, we suspect that there is no such thing as “pure ideology”, because the total welfare gains

(or losses) associated with the externalization of public services are unknown. For instance, while empirical works conducted in the seventies find a negative effect of externalization on costs (see for example [Crain and Zardkoohi \[1978\]](#) or [Pommerehne and Frey \[1977\]](#)), more recent meta-analyses find no systematic relation between contracting out of public services and cost savings [[Boyne, 1998a](#); [Hodge, 2000](#); [Bel et al., 2010](#)]. Nonetheless, as emphasized by [Sundell and Lapuente \[2012\]](#), right-wing politicians may have a greater use of contracting out because they *believe* in the benefits of market competition (contrary to left-wing politicians). However, the authors show that the use of contracts by right-wing mayors increases with political competition, and conclude that externalization is used in a “Machiavellian” fashion, in order to “purchase” the electoral support of certain constituents. In this article, we follow public administration scholars and measure ideology by the political affiliation of mayors. This type of ideology must be seen as “impure” in [Kalt and Zupan \[1984\]](#)’s categorization, and will measure the willingness of mayors to please the constituents that belong to their political affiliation.<sup>4</sup>

If many empirical studies have investigated the determinants of make-or-buy choices operated by local governments, the ideology remains the less tested factor. In 2007, a review of the existing literature concludes that “*the ideological attitudes of policy makers do not seem to influence in a systematic way the service delivery choices of local governments.*” [[Bel and Fageda, 2007](#), page 529]. Among the 28 papers included in this review, only 13 incorporate a variable capturing ideology. However, most of these studies, which do investigate the influence of ideology, do not find any significant impact of this variable on local governments’ decisions, both in the US [[McGuire et al., 1987](#); [López-de Silanes et al., 1997](#); [Warner and Hebdon, 2001](#); [Levin and Tadelis, 2010](#); [Brown et al., 2008](#)] and in Europe [[Bel and Miralles, 2003](#); [Ohlsson, 2003](#)]. This low explanatory power of ideology variables is often considered as a proof that the debate over externalization has become less controversial, and that local governments are more guided by pragmatic rather than ideological motivations [[Hefetz and Warner, 2004](#); [Bel and Fageda, 2007](#)]. If this assertion is plausible, it is nonetheless surprising since it is part of collective imagination that left-wing governments are in favor of greater state intervention, and more reluctant to privatization.

In that sense, scholars have continued to study the impact of ideological motives to explain contracting out decisions, and a set of recent studies pleads that ideology still plays a role in

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<sup>4</sup>Preferences vary across constituents depending on their political affiliation. For instance, a survey of 1,000 French constituents that was conducted before the 2014 municipal elections reveals that the maintenance of high quality public services is considered as of “very high priority” by 43.5% of left-wing voters, against 35.5% of right-wing constituents. Moreover, the electorate of the left-wing parties attaches a higher priority to the issues of housing (37%) and social actions (37%), while right-wing voters accord a higher priority to the issues of local taxes (65%) and security (68%). A summary of this Harris Interactive survey, “The French, municipal elections and the mayors’ political label”, is available in Appendix B, Section 6.1.1.

externalization decisions, but it is most of the time inappropriately measured (see for instance [Picazo-Tadeo et al. \[2010\]](#)). Most empirical studies are indeed based on cross-sectional data and simultaneously observe the proportion of public services that are contracted out and ideological measures at date  $t$ . [Picazo-Tadeo et al. \[2010\]](#) claim that ideology variables should rather be measured at the time the externalization decision was taken. The authors adopt this methodology to study Southern Spain water sector, and find that left-wing mayors reject delegating the management of water services to private firms. This first result is therefore in line with the assertion that left-wing governments are more reluctant to privatization. In the same vein, [Sundell and Lapuente \[2012\]](#) study the case of Swedish municipalities, and find that center-right governments have a greater propensity to contract out public services.<sup>5</sup> [Gradus et al. \[2014\]](#) study the shifts from and to the market for refuse collection services in Dutch municipalities. Very interestingly, they find that shifts to the market (*i.e.* from in-house provision to externalization) are more likely for right-wing governments; but shifts from the market (*i.e.* backward integration) are *not* more likely for left-wing governments. Their puzzling result seems to indicate that if ideology plays a role in explaining the externalization of public services, political affiliation does not explain in-house provision. Our paper proposes an explanation for that puzzle. If studies which measure ideology at the time of contracting out decisions have made a certain contribution to the literature, we further argue that make-or-buy decisions are path-dependent, and ideology should be measured in the long-run. Our argument is that it is not straightforward for a left-wing mayor to go back to public provision once previous officials have contracted out some services.

First of all, contracts concluded with private operators to develop, exploit and maintain public services are long-term contracts, that cannot be terminated by future administrations. Hence mayors' hands can be tied, and they may not be able to reintegrate services that have previously been externalized. In public-private relationships, private suppliers have to protect themselves from governmental opportunism, that is from the fact that governments may try to change the rules of the game for political reasons. Additionally, both parties have to protect against "third-party opportunism", that comes from parties that are not directly part of the contract, but may have an interest in its success or failure [[Spiller, 2008](#)]. This theory, developed by [Spiller \[2008\]](#), explains why contracts concluded with a public partner present high levels of rigidity, that is they are longer and include more clauses than contracts in the private sector. Since public agreements are long-term and rigid contracts, they cannot be terminated easily.

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<sup>5</sup>The authors' dependent variable is actually defined as *the share of the cost for public services spent on acquiring services from providers* [[Sundell and Lapuente, 2012](#), page 474]. They do not distinguish between different types of public services, and argue that the influence of ideology does not differ among services. This assertion will be challenged in this article.

Moreover, municipalities may lose the capabilities needed to manage public services themselves once they have been outsourced, and consequently lose the ability to use re-integration as a credible sanction. The difficulties experienced by municipalities when it comes to the re-integration of a public service can be compared to the difficulties of a switch of supplier. Such an argument was first defended by Williamson [1976] through his concept of “fundamental transformation”. As a result of specific investments incurred by the operator in place, “*bidding parity between the incumbent and prospective rivals at the contract renewal interval is unlikely to be realized*” [Williamson, 1976, page 81]. In other words, when a contract expires, the incumbent benefits from an advantage over its potential competitors, because it has developed specific investments during the contractual relationship. But the incumbent’s advantage can also lie in the information the company possesses after having operated the service for a long period of time. On that subject, Chong et al. [2015], in their study of the water sector in France, find that franchisees acquire specific knowledge on water systems (locations of leaks, condition of particular conduits and pieces of equipment, etc.) they can withhold from cities. Indeed, if general information has to be shared with local governments, the incumbent still benefits from a privileged access to detailed information thanks to the day-to-day management of the system. Therefore, switching of operator can be hard to achieve; just as a switch back to internal provision can be arduous.

Finally, it is also important to note that going back to public provision is often associated with legal difficulties<sup>6</sup> and potential conflict that can be politically costly. For instance, Masten [2011] notes in his study on the shift to public ownership of water utilities in the US that those phenomena generate costly negotiations. In this process, water providers can deteriorate the quality of the service for residents, in order to generate pressure on municipal administrators, by scheduling repairs and upgrades to be as disruptive as possible. Those three elements (length and rigidity of contracts, loss of capabilities, and legal or political costs) lead to Proposition 1, where we argue that ideology can explain the proportion of public services produced in-house, when it is measured over a long period:

**Proposition 1.** *A municipality’s in-house provision of services at time  $t$  is positively associated with the extent to which that municipality has been governed by left-wing officials in multiple prior time periods.*

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<sup>6</sup>In an institutional report entitled “Quelle compétition pour l’amélioration du service public ? Comparabilité, Transparence et Réversibilité” (“Which competition for the improvement of public services? Comparability, Transparency and Reversibility”), the French Institute of Delegated Management describes all the difficulties associated with a shift back to public provision in the case of France (loss of competences, legal rules of staff transfers, legal taxing rules, etc.).

Additionally, we expect the influence of long-run ideology to differ, depending on the characteristics of services. Three noteworthy studies investigate the influence of service characteristics on local governments’ make-or-buy decisions [Brown and Potoski, 2003; Levin and Tadelis, 2010; Hefetz and Warner, 2012]. Brown and Potoski [2003] apply a transaction cost framework completed with institutional and market theories to examine governments’ service production in the US. They use survey data to measure service characteristics, and notably demonstrate that local governments rely more on internal production when the level of asset specificity increases,<sup>7</sup> when the service is extremely difficult to measure, and when cities do not benefit from enough market competition (*i.e.* small municipalities). Based on the same kind of approach and methodology, Levin and Tadelis [2010] and Hefetz and Warner [2012] also analyze make-or-buy choices through service characteristics such as asset specificity, difficulties of contracting, and market characteristics, but expand the focus and also include place (type of geographic/demographic area), and citizen characteristics (public interest in the service delivery process). Both Levin and Tadelis [2010] and Hefetz and Warner [2012] find that greater levels of citizen sensitivity are associated with higher levels of in-house provision. Since a private operator can deteriorate the quality of a service to put pressure on officials Masten [2011], the propensity to keep control over services increases with their level of sensitivity. However, those studies do not include ideology in their analysis [Brown and Potoski, 2003; Hefetz and Warner, 2012] or do not find any statistical significance for this factor. As a (counter-intuitive) result, Levin and Tadelis [2010] find that cities located in counties that voted Republican for the 2000 presidential election<sup>8</sup> use less contracts; but the authors outline that this result seems to be sensitive to their empirical specification. We contribute to this literature by studying simultaneously the impact of service characteristics and long-run ideology on mayors’ propensity to produce services in-house.

First, we believe that the influence of ideology should be more important for services that are closely scrutinized by citizens. As exposed in the beginning of this subsection, mayors’ political affiliation is a measure of their “impure” ideology Kalt and Zupan [1984]. This ideology refers to their willingness to pursue local policies in accordance with their constituents’ ideology. The latter should therefore play a more important role when the sensitivity of residents is high. Indeed, the priority of left-wing mayors should be to keep control over the services that are highly sensitive; while contracting out (and reintegration) is less of a concern for services that are not or little sensitive. This argument justifies the formulation of our second proposition:

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<sup>7</sup>More precisely, they find a non-linear effect, since very high levels of asset specificity are associated with lower levels of internal service production.

<sup>8</sup>The authors use cross-section data from two datasets, in 1997 and 2002



**Proposition 2.** *The impact of ideology is more important for services that are characterized by high levels of resident sensitivity.*

Second, we expect the impact of long-run ideology to be more important for complex services, that are characterized by long-term contracts on the market. Indeed, when services require investments in long-lived assets and in capabilities, contract duration is higher and the issues of the length of contracts and of capabilities' depletion are more important. As explained above, such contracts are associated with situations in which incumbents are likely to be in privileged bidding positions [Chong et al., 2015], due to their ownership of specialized assets and/or to the specialized knowledge developed during the operation of the initial contract. In contrast, mayors' choices are less likely to be restricted for "short-term services", as contracts concluded by previous administrations for those services may not (or at least less) lead to a loss in competences; and they are more likely to be expired because of their shorter length.<sup>9</sup> In other words, the path-dependency of make-or-buy choices should be greater for services which induce long-term contracts on the market. This is the essence of the third and last proposition:

**Proposition 3.** *The impact of ideology in the long-run is more important for services that are characterized by long-term contracts on the market.*

In order test for those propositions, we need to take into account a range of control variables. The following subsection describes the main factors that are taken into account in the existing literature on local governments' make-or-buy decisions, and briefly details their expected impact on the proportion of services internally produced.

## 2.2 The other determinants of local governments' make-or-buy choices

As analyzed by Bel and Fageda [2007], the factors that influence make-or-buy decisions of local governments can be grouped into four categories: economic efficiency, political processes, fiscal stress, and ideological attitudes. As we have dealt with the latter above, this subsection focuses on the three other factors.

### *Economic efficiency*

Cost reduction is one of the main arguments in favor of contracting out public services. The potential of cost reduction mainly depends on two macroeconomic characteristics of local governments: their size and density. The size is usually measured by population variables, that can play two adverse effects on the propensity to keep public services in-house. On the one hand, delegation of public services should be preferred when it offers the possibility to

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<sup>9</sup>In France, mayors are in office for six years.

exploit economies of scale, that is when the public service has been delivered over a suboptimal jurisdiction [Donahue, 1989]. Small municipalities should thus have greater incentives to rely upon companies, which operate in wider areas, on potentially a more efficient scale [Bel and Fageda, 2011; Gradus et al., 2014]. However, the literature on the private sector showed that large firms can suffer from dis-economies of scale [Puranam et al., 2013]; in the same way, large municipalities can suffer from the same evils. For instance, good management practices are more difficult to implement at a large level. As a consequence, contracting out may also result in cost-reductions for large municipalities. Moreover, these big cities can take advantage of competition from a larger number of service providers. Hence studies have found that large and urban areas tend to externalize public services to private firms more often [Levin and Tadelis, 2010]. In the same vein, Miralles [2008] considers that bigger cities, as they exhibit a higher density of population, are more prone to delegate public services for complexity reasons. Since the difficulty to design and operate public services increases with the density of population, it is worthwhile for dense municipalities to delegate public services to more experienced and competent private operators. In order to take into account these two potential effects, our empirical tests will include variables controlling for the size of municipalities and for their density.

#### *Interest groups*

Among non-economic factors, the presence of interest groups might also play a role in explaining the decision of local governments to outsource public services. Interest groups may have a particular interest in the rents derived from a given mode of provision of public services. For instance, public employees and unions should act in favor of internal production [Miralles, 2008]. In contrast, highly vulnerable municipalities (low income per capita and high unemployment) can encourage elected officials to maintain in-house provision of public services, in order to support employment in the public sector. Here-again, empirical studies tend to confirm such hypotheses. For instance, some works find a negative relationship between the amount of delegation and the degree of unionization in the public sector [Warner and Hebdon, 2001; Levin and Tadelis, 2010], or alternatively a positive relationship between privatization and the weight of high-income households [Warner and Hefetz, 2002].

Three comments have to be made at this point. First, as in many other countries, it is illegal to measure the number of public employee union members in French municipalities. Consequently, an alternative is to follow Lopez de Silanes et al. [1997] and take labor market conditions as an approximation of interest groups. In general, we would expect a government to be less willing to change ownership to the market if unemployment is high, as this change would decrease the probability for workers to be hired locally. Moreover, the weight of public employees is an explanatory variable that should be taken very cautiously. Indeed,

such a measure is statistically biased since the determination of service delivery choices and the percentage of public employees is simultaneous: a more intense use of external suppliers implies *per se* a reduction in the number of public employees [Bel and Fageda, 2007]. Third and finally, the influence of income per capita on service delivery choices also has to be considered carefully. Indeed, if high-income households may prefer privatization they can also afford additional taxes that are usually associated with in-house provision [Boyne, 1998b].

### *Fiscal stress*

The provision of local public services can be financed by local governments in two ways: through local taxes paid by citizens, or through transfers from the national government. Nevertheless, those two sources of funding are not endlessly expandable and even tend to decrease in time of economic recession. For this reason, most empirical studies include fiscal variables designed to measure the effects of such restrictions, and the usual hypothesis is that those constraints positively impact the likelihood of externalization. The variables commonly used to test this hypothesis are the tax burden, legal limitations on local tax levels, and the size of transfers from the central government. Most of the time, empirical studies provide consistent results with the fiscal stress hypothesis (see for instance McGuire et al. [1987]; Brown et al. [2008]; Hebdon and Jalette [2008] in the US and Dijkgraaf et al. [2003] in Netherlands).<sup>10</sup> High levels of fiscal stress reduce the ability of municipalities to raise revenues, affect their ability to finance their own local public services, which leads to an increase in the likelihood to delegate public services.

The following section describes the empirical setting used to test for our three propositions.

## **3 Empirical setting**

This section describes the dataset which is employed in the empirical tests, the variables that were constructed, and the empirical methodology used to test our propositions.

### **3.1 Data sources**

We obtained data from a survey carried out by the French Institute of Delegated Management (“Institut de la Gestion Délégée”, hereafter IGD). The questionnaire was administrated by the IGD during the year 2014, to 210 French municipalities of more than 10,000 inhabitants, by telephone and/or Internet. The IGD conducted this survey after the last French municipal elections,<sup>11</sup> and the questionnaire was completed by the year 2015. The final

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<sup>10</sup>Most of the studies conducted on US data that find a positive relationship between privatization and fiscal restrictions, rely on a multi-service setting [Bel and Fageda, 2007].

<sup>11</sup>The last municipal elections were held in March, 2014.

dataset we exploit consists of 156 municipalities and 7 public services (childhood care, collective catering, parking lots, street lighting, waste collection, water distribution, and water treatment). Every municipality was asked to indicate the actual mode of provision for each public service. We thus know whether, in 2015, each service is provided in-house by a municipality (“make”), or whether long-term contracts are concluded with companies (“buy”).<sup>12</sup>

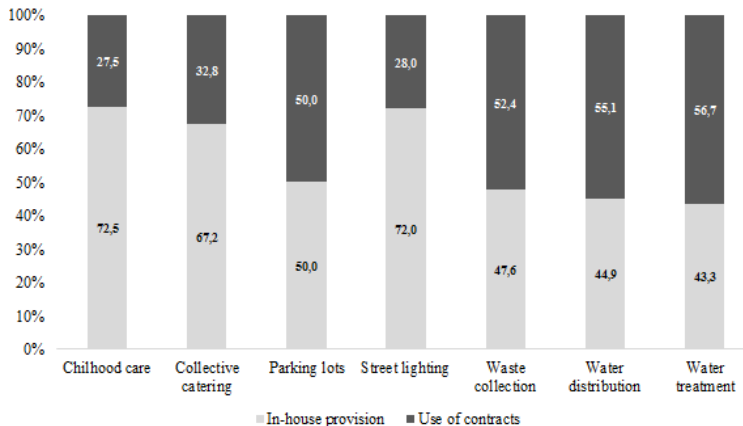
It is important to note that, in France, it is mandatory by law for every municipality to provide each public service. Therefore we do not have to control for the fact that cities decide to provide public services only if citizens ask for them, as it may be the case in the US [Brown and Potoski, 2003]. Nonetheless, French municipalities can delegate the management of some public services to higher layers of local government through inter-municipal cooperation. In the existing literature, some papers consider that municipalities can either make, buy, or conclude contracts with other governments [Warner and Hebdon, 2001; Brown and Potoski, 2003]. For instance, Brown and Potoski [2003], whose study is based on American data issued by the International City/County Management Association (ICMA), construct a multinomial logit and examine inter-municipal cooperation as one choice among others. However, in France as in most European countries, inter-municipal cooperation is the result of a long historical process initiated from the end of the nineteenth century [Hulst and Van Montfort, 2007]. Inter-municipal entities were originally created in order to overcome considerable deficiencies of scale at the municipal level, but today most examples of inter-municipal cooperation have a compulsory nature [West, 2007; Bel and Warner, 2015]. Therefore it is not relevant to consider inter-municipal cooperation as one choice among others when studying European data, and we only examine the services for which municipalities have not delegated the competency to an inter-municipal body, and actually choose between in-house provision and contracting out. This explains why the number of observations falls from 210 to 156 cities. Indeed, we only keep cities that have at least three (over the seven previously mentioned) services that are managed at the city level. In the end, those 156 cities correspond to a set of 612 services (*i.e.* the average city of the sample is responsible for 3.9 services).

If the decision to make-or-buy obviously depends on the characteristics of services, we still observe some heterogeneity among cities: Figure 1 shows that for each service, some municipalities decide to conclude long term contracts with the private sector while others decide to provide the service in-house, indicating that services’ characteristics are not the only drivers of the make-or-buy decision. Consequently, municipal characteristics, among which the political affiliation of successive mayors, might play a role in the choice of the mode of provision.

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<sup>12</sup>We only consider contracts for which the company is endowed with a global mission (conception, exploitation, maintenance, etc.), and does incur a financial risk associated with the project.

**Figure 1:** Level of in-house provision by service among municipalities (in %)



### 3.2 Variables

In order to test for the impact of successive mayors’ ideology on the propensity to provide public services in-house, we construct a range of dependent, ideological and control variables. Our study includes distinct analysis for different datasets, that are described in the following, together with the dependent variables.

#### *Dependent variables*

We consider two datasets in the empirical investigation: one at the municipal level (*i.e.* one observation by municipality, the “aggregated dataset” hereafter), and one at the service level (*i.e.* one observation by service, , the “service dataset” hereafter). The first dependent variable is constructed over the aggregated dataset as the proportion of services in-house (in 2015). In other words, the variable  $Pct\_inhouse_i$  is computed as the ratio between the number of services provided in-house by municipality  $i$ , and the total number of services provided by this municipality.<sup>13</sup> This type of variable is frequently used in studies that investigate make-or-buy choices [Boyne, 1998b]. Moreover, we are especially interested in the study of the aggregated dataset because we suspect externalization choices for a given service to be correlated with previous make-or-buy decisions, made for other services. Outsourcing one service to the private sector when all other services are produced in-house may be both more politically sensitive and more difficult to manage. On the other hand, one service may also be more difficult to externalize when all other services are already managed by the private sector, as this last outsourcing decision would represent a complete stepping down of the municipality. In other words, we expect contracting out decisions to be correlated among services. Descriptive statistics for this aggregated dataset are displayed in Table 1. The average municipality provides slightly less than 63% of services in-house; and the distribution

<sup>13</sup>That is the number of services that are not delegated to a higher layer of government - see Section 3.1.

of the dependent variable ranges from 0 (every service contracted out) to 100 (every service provided with public employees).<sup>14</sup>

**Table 1:** Descriptive statistics on the aggregated dataset

Variable	N	Mean	Std. Dev.	Min	Max
<i>Dependent variable</i>					
Percentage of public services provided in-house (2015)	156	62.91	33.34	0	100
<i>Ideology Variables</i>					
<i>Political variables (municipal elections)</i>					
Number of Left-wing Mayors since 1989	156	2.29	1.94	0	5
Left-wing mayors since 1989	156	0.21	0.41	0	1
Left-wing mayors since 1995	156	0.23	0.42	0	1
Left-wing mayors since 2001	156	0.26	0.44	0	1
Left-wing mayors since 2008	156	0.32	0.47	0	1
Left-wing mayors since 2014	156	0.33	0.47	0	1
<i>Political variables (presidential elections)</i>					
Number of Left-wing Presidential Majority since 1988	156	1.79	2.03	0	5
Left-wing presidential majority since 1988	156	0.19	0.39	0	1
Left-wing presidential majority since 1995	156	0.19	0.39	0	1
Left-wing presidential majority since 2002	156	0.21	0.40	0	1
Left-wing presidential majority since 2007	156	0.21	0.40	0	1
Left-wing presidential majority since 2012	156	0.46	0.50	0	1
<i>Control Variables</i>					
<i>Cities' Characteristics<sup>a</sup></i>					
Mean Population <sup>b</sup>	156	98.14	195.53	9.75	2222.98
Mean Density <sup>c</sup>	156	41.42	44.93	1.46	254.13
Mean Unemployment	156	9.21	3.21	5	34.44
Mean Income per Capita <sup>d</sup>	156	12.26	3.65	7.24	41.89
Mean Debt per Capita <sup>d</sup>	156	1229.73	626.75	95.63	3975.50
<i>Services' Characteristics<sup>e</sup></i>					
Mean Resident Sensitivity	156	0.064	0.486	-0.409	0.712
Mean Service Specificity	156	-0.145	0.474	-0.849	0.356

<sup>a</sup>: mean values (2006-2013). <sup>b</sup>: in thousands of inhabitants; <sup>c</sup>: in hundreds of inhabitants per square kilometer; <sup>d</sup> in thousands of Euros per inhabitant. <sup>e</sup>: average value of Resident Sensitivity (resp. Service Specificity) among the services provided at the city level (see Appendix A in Section 6.1).

<sup>14</sup>More precisely, among the 156 municipalities of the dataset, 15 cities contract out every service ( $Pct\ inhouse_i = 0$ ), and 30 cities provide every service in-house ( $Pct\ inhouse_i = 100$ ).

In a second time, we further explore the impact of ideology variables on in-house provision, according to the type of service that is considered. We want to challenge [Sundell and Lapuente \[2012\]](#)'s statement; the authors argue that the effect of political factors on the decision to contract out is not expected to differ among services. On the contrary, we believe that the influence of ideology should be more important for some services, and especially for the ones that display high levels of resident sensitivity (Proposition 2). As a consequence, we study the service dataset (which contains 612 observations). This approach allows to introduce service fixed effects in the specifications, but also to take into account the central issues of resident sensitivity and asset specificity. Descriptive statistics for the service dataset are provided in [Table 2](#).

**Table 2:** Descriptive statistics on the service dataset

Variable	N	Mean	Std. Dev.	Min	Max
<i>Dependent variable</i>					
In-house provision of the public service (in 2015)	612	0.62	0.49	0	1
<i>Ideology Variables</i>					
<i>Political variables (municipal elections)</i>					
Number of Left-wing mayors since 1989	612	2.25	1.93	0	5
Left-wing mayors since 1989	612	0.20	0.40	0	1
Left-wing mayors since 1995	612	0.22	0.41	0	1
Left-wing mayors since 2001	612	0.25	0.44	0	1
Left-wing Mayors since 2008	612	0.32	0.47	0	1
Left-wing Mayors since 2014	612	0.33	0.47	0	1
<i>Control Variables</i>					
<i>Cities' Characteristics<sup>a</sup></i>					
Mean Population <sup>b</sup>	612	100.54	227.49	227.49	227.49
Mean Density <sup>c</sup>	612	43.13	48.21	48.21	48.21
Mean Unemployment	612	9.33	3.60	3.60	3.60
Mean Income Per Capita <sup>d</sup>	612	12.40	3.87	3.87	3.87
Mean Debt per Capita <sup>d</sup>	612	1254.57	623.35	623.35	623.35
<i>Services' Characteristics<sup>e</sup></i>					
Resident Sensitivity	612	0.55	0.50	0	1
Service Specificity	612	0.38	0.49	0	1

<sup>a</sup>: mean values (2006-2013). <sup>b</sup>: in thousands of inhabitants; <sup>c</sup>: in hundreds of inhabitants per square kilometer; <sup>d</sup> in thousands of Euros per inhabitant. <sup>e</sup>: Dummies indicating whether Resident Sensitivity (resp. Service Specificity) is high (above 0) or low (below 0).

### *Ideology variables*

Different categories of independent variables are created. In order to assess the past and present ideology of cities' governments, we gathered data from the Center for Socio-Political Data (CDSP) for the five last municipal elections, which took place in 1989, 1995, 2001, 2008 and 2014.<sup>15</sup> In French municipalities of more than 1,000 inhabitants, municipal councils are elected through two-rounds elections. The final winner of the election is endowed with half of the council's seats. The remaining seats are distributed among candidates who reached the second round (including the winner).<sup>16</sup> This voting system insures the mayor a clear majority within the municipal council; and the political affiliation of the mayor is thus a good proxy for the ideology of the local government. The first variable we consider,  $Nb\_leftwing\_mayors_i$ , counts the number of left-wing mayors for each city between 1989 and 2014 (this variable varies from 0 to 5). The left-hand chart of Figure 2 displays the distribution of this variable, and shows that 32 municipalities have always been governed by the left since 1989 ( $Nb\_leftwing\_mayors_i = 5$ ), while 42 cities have never had a left-wing mayor at office over the past 26 years ( $Nb\_leftwing\_mayors_i = 0$ ). However, this first measure of the history of ideology may not be accurate enough. The impact of one right-wing mayor at office on today's proportion of in-house provision may not be the same whether this right-wing mayor was at office in 1989, or in 2014. Indeed, contracts concluded in the eighties are likely to be expired today, and newly elected left-wing mayors could, to some extent, go back to public provision. We thus construct a set of variables in order to account for the "longevity" of the left, and consider dummies which equal one if the city has been governed by the left since 2008 ( $Left\_since\_2008_i$ ), since 2001 ( $Left\_since\_2001_i$ ), etc. Table 3 enables the reader to better picture these variables, and the right-hand chart of Figure 2 depicts the distribution of these dummies; for instance, 36 cities have been governed by a left-wing mayor since 1995.

It is important to note that local elections are sometimes qualified as "personality-oriented". In France, 79% of the voters consider the personality of candidates as "much" or "enough" important in their choice for local elections.<sup>17</sup> One way to tackle this issue is to measure ideological preferences of the local electors that are independent of local stakes. This can be done by taking, for each city, the repartition of votes for the first-round of presidential elections. We collected this data from the CDSP for the five last presidential elections, which took place in 1988, 1995, 2002, 2007 and 2012. We replicate the methodology used to create the variables on mayors' political affiliation, and create variables about ideological preferences of the

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<sup>15</sup>Recall that the IGD survey was conducted after the elections of 2014.

<sup>16</sup>Additional information about the French electoral system: (i) to pass the first round, a party must obtain at least 10% of votes ; (ii) a candidates who obtains more than 10% of votes does not have to participate to the second round ; (iii) a candidate must receive more than 5% of the votes in the second round to obtain seats.

<sup>17</sup>According to the Harris Interactive survey previously mentioned.

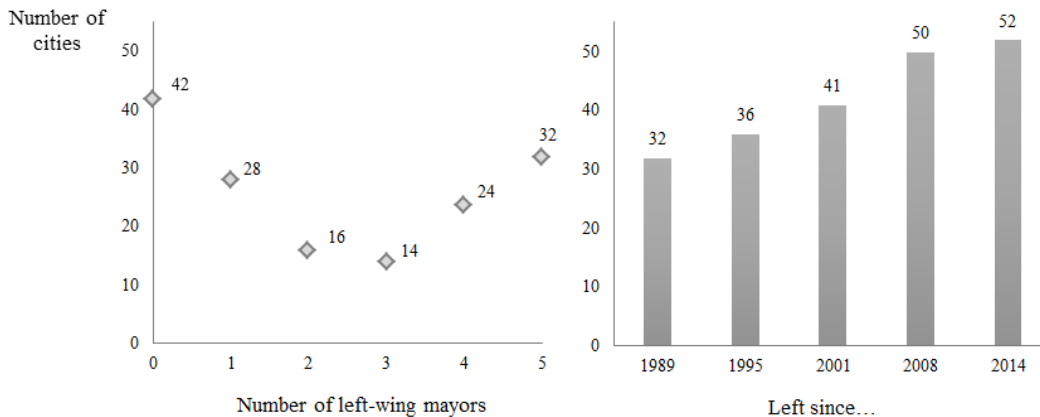


constituents. The first variable we consider,  $Nb\_leftwing\_presid.\_majority_i$ , counts the number of times the proportion of votes for left-wing presidential candidates exceeds the proportion of votes for right-wing contenders between 1988 and 2012 in municipality  $i$ , and thus varies from 0 to 5. We then construct a set of variables in order to account for the “longevity” of left-wing preferences, and consider dummies which equal one if the city is characterized by a left-wing presidential majority since 2012 ( $Leftwing\_presid.\_majority\_since\_2012_i$ ), since 2007 ( $Leftwing\_presid.\_majority\_since\_2007_i$ ), etc. (see Table 3).

**Table 3:** Construction of the ideology variables “Left since...”

Municipal Elections	1989 (26 years ago)	1995 (20 years ago)	2001 (14 years ago)	2008 (7 years ago)	2014 (1 year ago)
<i>Left Mayors since 1989 = 1</i>	L	L	L	L	L
<i>Left Mayors since 1995 = 1</i>		L	L	L	L
<i>Left Mayors since 2001 = 1</i>			L	L	L
<i>Left Mayors since 2008 = 1</i>				L	L
<i>Left Mayors since 2014 = 1</i>					L
Presidential Elections	1988 (27 years ago)	1995 (20 years ago)	2002 (13 years ago)	2007 (8 years ago)	2012 (3 years ago)
<i>Left Pres. Majority since 1988 = 1</i>	L	L	L	L	L
<i>Left Pres. Majority since 1995 = 1</i>		L	L	L	L
<i>Left Pres. Majority since 2002 = 1</i>			L	L	L
<i>Left Pres. Majority since 2007 = 1</i>				L	L
<i>Left Pres. Majority since 2012 = 1</i>					L

**Figure 2:** Distribution of ideology variables “Number of left-wing mayors” and “Left since...”



### *Control variables at the city level*

Our empirical analysis includes a range of control variables that are usually included in studies that explore make-or-buy decisions of local governments [Bel and Fageda, 2007]. The data comes from the French National Institute of Statistics and Economic Studies (INSEE). The variables  $Mean\_population_i$  (mean population of municipality  $i$  in thousands of inhabitants, between 2006 and 2013) and  $Mean\_density_i$  (mean density between 2006 and 2013, in hundreds of inhabitants per square kilometer) respectively account for the size of the city and the density of population. The presence and strength of interest groups are captured by the variables  $Mean\_unemployment_i$  (mean unemployment between 2006 and 2013, in percentage) and  $Mean\_income_i$  (mean income per capita between 2006 and 2013, in thousands of Euros per inhabitant). While the level of income per capita can be computed at the municipal level, the level of unemployment can only be computed at the more aggregated level of the “employment area”. Employment areas are defined by the French central government in order to compute statistics for unemployment at the local level. Finally, we compute  $Mean\_debt_i$ , the mean level of municipality  $i$ ’s debt between 2006 and 2013 (in thousands of Euros per capita), in order to take cities’ fiscal constraints into account. Let us highlight that  $Mean\_debt_i$  can suffer from endogeneity issues: the number of services kept in-house is likely to increase the level of debt in the municipality; this variable should thus be analyzed with caution in the following. Descriptive statistics for this set of control variables can be found in Table 1 for the aggregated dataset and in Table 2 for the service dataset.

### *Control variables at the service level*

Besides information on city characteristics, it might be necessary to take service characteristics into account. According to the arguments raised in section 2.1, two dimensions appear to be particularly crucial for the analysis of public services management. First, we are interested in the sensitivity of residents to problems that might be encountered during service delivery. Indeed, as problems with service provision may trigger a response from city residents, public decision-makers should be more influenced by their ideology when residents are more aware of (and more sensitive to) problems with services. Second, provider scarcity and potential lock-in effects might play an important role in our analysis. As developed previously, the loss of capabilities that can be associated to outsourcing may imply, for some services, difficulties to shift back to public provision. This can be due either to specialized expertise, information, or physical capital developed during the outsourcing relationship. To assess those dimensions, we replicate the methodology proposed by Levin and Tadelis [2010] and addressed a survey<sup>18</sup> to one hundred general directors of local public services, and received 21 complete answers.

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<sup>18</sup>Brown and Potoski [2003] and Hefetz and Warner [2012] also use a survey to measure service characteristics. We refer to Levin and Tadelis [2010] because they shared their survey with us, and we were thus able to replicate exactly their methodology.

The survey description and analysis are provided in Appendix A, Section 6.1.

Respondents were asked to rank each of the seven services studied in this paper along two dimensions, namely (i) resident sensitivity and (ii) difficulty to replace contractors due to specificity and/or lack of competition.<sup>19</sup> As Levin and Tadelis [2010], we standardized the answers of each respondent for each question in order to have a zero mean and unit variance, then we averaged those standardized responses to obtain an average response to each question for each service. As we replicate Levin and Tadelis [2010] methodology, we are exposed to the two same concerns with the reliance of the survey data to construct our measures, namely the risk that received answers are idiosyncratic to individual city-service pairs, and the possibility of reverse causality if general directors' perceptions are influenced by predominant practices. However, we have good reasons to think that the survey provides us with reliable measures. First, the high levels of correlation between answers for each question across respondents<sup>20</sup> suggest that the service characteristics are commonly understood, and do not differ much across cities. The second concern is alleviated by the fact that the survey was sent to highly experienced general directors of local public services. Indeed, the average experience of respondents is equal to 24 years, and people usually reach those senior management positions after long careers in the local public services sector, during which they might have worked on different types of services, geographic regions and/or city sizes.

In the empirical strategy that follows, we will use the two measures obtained with the survey in two different ways. For the estimations at the city level (aggregated dataset),  $Mean\_resident\_sensitivity_i$  stands for the mean value of “resident sensitivity” on the set of services which is provided by municipality  $i$  (either through in-house or contracting out); then, for the estimations at the service level (service dataset),  $Resident\_sensitivity_j$  corresponds to a dummy variable which equals 1 when resident sensitivity for the service is high (above zero), and 0 when this sensitivity is low (below zero).<sup>21</sup> The same reasoning applies for the variables  $Mean\_service\_specificity_i$  and  $Service\_specificity_j$ .

The following subsection defines the empirical strategy.

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<sup>19</sup>In total, respondents were asked to judge services among six dimensions. Some of them are highly correlated (for instance, the level of lock-in effects and the need for flexibility, or the resident sensitivity, the cost-quality conflicts, and the importance of the service to create local jobs – see the correlation matrix in Appendix A, Section 6.1). These high levels of correlation, and the fact that we are particularly interested in resident sensitivity and lock-in effects, explain why we retain those two indicators in our analysis.

<sup>20</sup>The coefficients of variation are respectively equal to 27% and 32% for sensitivity and specificity answers.

<sup>21</sup>Recall that survey answers are normalized to have mean zero and unit standard deviation.

### 3.3 Empirical model

In the first part of our empirical methodology, we run OLS regressions on the aggregated dataset in order to assess the impact of long-run ideology on the proportion of public services that are internally produced by municipality  $i$  ( $Pct\_inhouse_i$ , see equations 1 to 4). In each of those four equations,  $C_i$  is a matrix of control variables at the city level, which contains  $Mean\_population_i$ ,  $Mean\_density_i$ ,  $Mean\_unemployment_i$ , and  $Mean\_debt_i$ . We also include a matrix of control variables for the services provided by each municipality:  $S_i$  entails the two variables  $Mean\_resident\_sensitivity_i$  and  $Mean\_service\_specificity_i$ . The coefficient of interest in the four specifications is  $\beta_1$ , which is associated with the variables measuring ideology. In equation 1, ideology is measured with the number of left-wing mayors at office since 1989; while equation 2 is estimated five times, one for each longevity variable ( $Left\_since\_...$ ). Equations 3 and 4 are estimated using the ideology variables constructed on the repartition of votes in presidential elections. We thus take into account the fact that mayors' political affiliation might be an imperfect measure of constituents' ideological affiliations; and we aim to capture the influence of voters' political preferences in order to verify that mayors follow policies which satisfy those preferences.

$$Pct\_inhouse_i = \beta_0 + \beta_1 Nb\_leftwing\_mayors_i + \beta_2 C_i + \beta_3 S_i + \epsilon_i \quad (1)$$

$$Pct\_inhouse_i = \beta_0 + \beta_1 Left\_since\_..._i + \beta_2 C_i + \beta_3 S_i + \epsilon_i \quad (2)$$

$$Pct\_inhouse_i = \beta_0 + \beta_1 Nb\_leftwing\_presid\_majority_i + \beta_2 C_i + \beta_3 S_i + \epsilon_i \quad (3)$$

$$Pct\_inhouse_i = \beta_0 + \beta_1 Leftwing\_presid\_majority\_since\_..._i + \beta_2 C_i + \beta_3 S_i + \epsilon_i \quad (4)$$

In the second part of the empirical investigation, we use the service dataset (equations 5 to 8). The dependent variable is a dummy, which indicates whether service  $j$  is provided internally ( $Inhouse_{ij} = 1$ ) or contracted out ( $Inhouse_{ij} = 0$ ). The independent variables of interest, which measure the ideology, as well as the set of control variables by city ( $C_i$ ), are exactly the same as in the previous set of regressions. Control variables for services are first defined as dummies indicating whether the levels of resident sensitivity and service specificity are high (equations 5 and 6). In a second time, and in order to test for the robustness of our results, we

introduce service fixed effects, that will absorb all the observable and non-observable factors which do not vary across each service.

$$Inhouse_{ij} = \beta_0 + \beta_1 Nb\_leftwing\_mayors_i + \beta_2 C_i + \beta_3 S_{t,j} + \epsilon_{ij} \quad (5)$$

$$Inhouse_{ij} = \beta_0 + \beta_1 Left\_since\dots_i + \beta_2 C_i + \beta_3 S_j + \epsilon_{ij} \quad (6)$$

$$Inhouse_{ij} = \beta_0 + \beta_1 Nb\_leftwing\_mayors_i + \beta_2 C_i + \beta_3 S_j^{FE} + \epsilon_{ij} \quad (7)$$

$$Inhouse_{ij} = \beta_0 + \beta_1 Left\_since\dots_i + \beta_2 C_i + \beta_3 S_j^{FE} + \epsilon_{ij} \quad (8)$$

## 4 Results

In the following, the first subsection comments the set of results on the aggregated dataset, while the second one is devoted to the results on the service dataset. In a last subsection, we finally separate the aggregated dataset between two subsamples, restricted to short-term and long-term services.

### 4.1 Ideology and in-house provision

#### 4.1.1 Mayors' ideology

Table 4 displays the results of regressions on the aggregated dataset (one observation per municipality). Model 1 shows the results of equation 1, while columns 2 to 6 present the results of the alternative versions of equation 2, that include dummies if left-wing mayors have been at office since 1989, 1995, 2001, 2008 and 2014. For every regression, standard errors are clustered at the regional level,<sup>22</sup> to correct for a potential correlation between cities of a same region, that would lead to incorrect inference.

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<sup>22</sup>From 1956 to 2015, there were 27 regions in France. On the 1<sup>st</sup> of January, 2016, the regional division was modified, and there are today 12 regions. Our analysis is based on the ancient territorial division, and standard errors are adjusted for 26 clusters.

**Table 4:** Impact of left-wing mayors on the propensity to provide public services in-house (aggregated dataset)

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	OLS
<i>Dependent variable: Percentage of in-house provision at the municipal level</i>						
<i>Ideology</i>						
Number of Left-wing Mayors since 1989	2.826** (1.258)					
Left since 1989		12.156 (8.006)				
Left since 1995			13.152* (7.268)			
Left since 2001				10.875* (6.083)		
Left since 2008					7.071 (6.168)	
Left since 2014						6.593 (5.132)
<i>Services' characteristics<sup>a</sup></i>						
Mean Resident Sensitivity	22.270 (14.410)	18.102 (15.367)	17.337 (15.255)	21.465 (14.462)	23.984 (14.185)	23.997 (14.188)
Mean Service Specificity	7.491 (15.607)	10.424 (15.838)	9.209 (15.632)	8.260 (15.548)	7.427 (15.870)	8.041 (15.617)
<i>Cities' characteristics<sup>b</sup></i>						
Mean Population	-0.007 (0.005)	-0.004 (0.006)	-0.003 (0.006)	-0.008* (0.005)	-0.007* (0.004)	-0.007 (0.004)
Mean Density	-0.227*** (0.033)	-0.233*** (0.037)	-0.236*** (0.034)	-0.236*** (0.034)	-0.225*** (0.037)	-0.223*** (0.036)
Mean Unemployment	-0.625 (0.504)	-0.754 (0.465)	-0.722 (0.460)	-0.653 (0.488)	-0.640 (0.513)	-0.661 (0.509)
Mean Income per Capita	1.531*** (0.405)	1.229*** (0.328)	1.302*** (0.333)	1.254*** (0.331)	1.119*** (0.358)	1.102*** (0.319)
Mean Debt per Capita	-0.014*** (0.002)	-0.014*** (0.002)	-0.014*** (0.002)	-0.014*** (0.002)	-0.014*** (0.002)	-0.014*** (0.002)
Constant	67.939*** (13.664)	78.574*** (10.144)	77.218*** (10.561)	76.590*** (11.256)	76.894*** (11.932)	77.734*** (10.793)
<i>N</i>	156	156	156	156	156	156
<i>R</i> <sup>2</sup>	0.184	0.181	0.186	0.180	0.171	0.170

Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors clustered at the regional level in parenthesis. <sup>a</sup>: the variable *Mean Resident Sensitivity* (respectively *Mean Service Specificity*) stands for the average value of resident sensitivity (respectively service specificity) of all the services provided at the municipal level. <sup>b</sup>: mean values (2006-2013). For every regression, the dependent variable is the percentage of public services provided in-house per municipality. Column 1 displays the results of the OLS regression where the independent variable of interest is the number of left-wing mayors since 1989. Column 2 (respectively Column 3, 4, 5 and 6) displays the results of the regression where the independent variable of interest is a dummy identifying whether left-wing mayors have been at office since 1989 (respectively 1995, 2001, 2008 and 2014).

### *Ideology*

Model 1 shows that the number of left-wing mayors in one municipality significantly increases the proportion of public services provided in-house in 2015. Thus, one additional left-wing mayor over the 1989-2014 period is correlated with an increase of today's in-house provision of almost 3%. Furthermore, the coefficients associated with the variables of interest in models 3 and 4 are much larger. The larger is the one associated with the variable *Left\_since\_1995<sub>i</sub>*: municipalities that have had left-wing mayors at office since 1995 (*i.e.* over the past 20 years) have on average 13% more of their services provided in-house compared to the other cities of the sample. This is consistent with our Proposition 1 which states that the proportion of in-house provision is significantly higher for municipalities which have been governed by left-wing officials over a long period. It is also of prime importance to note that the independent variables of interest in Models 5 and 6 are not significant: cities that have been governed by the left since 2008 or 2014 do not exhibit higher levels of internal provision in 2015. This result is essential as it reveals that studies which only take into account the results of past elections to assess the impact of mayors' ideology on make-or-buy decisions do not properly measure ideology. There indeed exists a path-dependency in choices, and newly elected mayors cannot easily go back to in-house provision if past governments have contracted out some services.

### *Controls*

The first set of control variables relates to service characteristics. The coefficients associated to those variables are not found to be statistically different from zero. The influence of service characteristics will be further investigated using the service dataset in the following. The coefficients associated with the second set of control variables (at the city level) controls are in line with prior literature (see Section 2). Cities' population and density allow to control for the economic and complexity considerations of cities. As previously mentioned, the impact of population can either be positive or negative. On the one hand, small cities suffer from deficiencies of scale and have more to gain from contracts with the private sector: small municipalities should then provide less services with public employees. On the other hand, large municipalities face a higher number of potential suppliers on the private market, and should then benefit from better deals with companies: large cities should be less eager to keep services in-house. With these two conflicting effects, the coefficient associated to the variable *Mean\_population<sub>i</sub>* is negative but not statistically different from zero in our six specifications in Table 4.<sup>23</sup> In contrast, we observe a negative and significant coefficient associated with the variable *Mean\_density<sub>i</sub>*, as the latter generally increases the complexity of public services.

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<sup>23</sup>The small impact of the population variable can also be explained by the nature of our data, which only include large municipalities. This result follows the conclusions of [Bel and Fageda \[2009\]](#).

The levels of unemployment and income per capita take into account the presence of interest groups in municipalities, which are in favor (or against) contracting out of public services. Unemployment should have a positive impact on the proportion of in-house provision, as unemployed workers should have a preference for public provision, which permits to fight against municipal unemployment. However, our results do not confirm this hypothesis, as the coefficients associated with the  $Mean\_unemployment_i$  variable are negative, though barely significant. Let us recall that local unemployment can only be measured at the “employment area” level in France, and our variable may not properly capture the presence of interest groups at the municipal level. The strength of “pro-business” groups is captured by the variable  $Mean\_income_i$ . However, as previously explained, high-income cities also have a better ability to raise taxes in order to finance public services, and can rely more on internal provision than low-income cities. This effect appears to prevail, as the coefficients associated with the income variable are positive and significant in Table 4. For instance, the estimates of Model 1 show that an increase of 1,000 Euros per capita is associated with a rise of 1.48% of internal provision. In general, our results do not corroborate the importance of political pressures in make-or-buy choices of large French municipalities. This result is in line with [Bel and Fageda \[2009\]](#) who find in their meta-analysis that the impact of interest groups is especially relevant in the early studies of the US. Let us further note that the presence of interest groups, which is also referred to as “political processes” in the literature, is likely to be captured by the ideology variables. As argued before, left-wing politicians may favor in-house provision because their electors prefer in-house provision. Following that reasoning, high-income citizens, who are supposed to be in favor of externalization, are more likely to vote for a right-wing mayor; while members of unions or unemployed people are more likely to vote for a left-wing candidate. This statement is of course a huge simplification of reality, but we want to insist on the fact that the presence and strength of interest groups, and the political affiliation of mayors, are in fact very difficult to disentangle. Finally, in order to take cities’ fiscal stress into account, our specifications include the variable  $Mean\_debt_i$ . As expected, the coefficients associated with this variable are negative and significant across all Models in Table 4.

#### 4.1.2 Political preferences of constituents and in-house provision

As previously exposed, our measure of ideology corresponds to “impure” ideology [[Kalt and Zupan, 1984](#)]. The reasoning is that politicians favor policies that please their constituents [[Sundell and Lapuente, 2012](#)]. However, the political affiliation of mayors may be an imperfect measure of voters’ preferences, and in particular because municipal elections are often considered as “personality-oriented”. An alternative way to measure those preferences is to consider citizens’ vote to presidential elections (see Section 3.2).



Equations 3 and 4 use this alternative measure and look at the impact of a majority of left-wing voters in municipality  $i$ . As displayed in Table 5, results are perfectly consistent with those obtained in previous subsection. Indeed, Model 1 shows that the number of left-wing majorities during the first rounds of the past five presidential elections increases the proportion of public services provided in-house in 2015. Then, one additional left-wing presidential majority over the 1988-2012 period is correlated with an increase of today’s in-house provision of more than 2.5%. Furthermore, the coefficients associated with the variables of interest in models 2 and 3 are much larger. The larger is the one associated with the variable *Leftwing\_presid.\_majority\_since\_1988<sub>i</sub>*: municipalities that have had left-wing majorities (for the first round of presidential elections) since 1988 (*i.e.* over the past 27 years) have on average nearly 24% more of their services provided in-house compared to the other cities of the sample<sup>24</sup>. As for the other results, all the effects associated with the set of cities’ controls are perfectly stable. The coefficients associated with the variable *Mean\_Resident\_Sensitivity<sub>i</sub>* become slightly significant, indicating that cities which provide a set of services that are sensitive have a higher proportion of in-house provision; this result is consistent with previous findings Levin and Tadelis [2010]; Hefetz and Warner [2012].

Additionally, we run equation 3 by successively including the average share of voters for each party during the five last presidential elections (rather than making a dichotomous distinction between left-wing and right-wing candidates). Results provided in Table 16 (see Appendix C, Section 6.2) indicate that the percentage of in-house provision is positively and significantly correlated with the proportion of extreme-left voters, while it is negatively and significantly correlated with the proportion of right-wing constituents. Altogether, those results corroborate the fact that municipalities deeply rooted in the left side of the political spectrum have higher proportion of public services that are kept in-house.

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<sup>24</sup>In Table 5, coefficients for models 2 and 3 are identical. This is due to the fact that municipalities with left wing presidential majority since 1988 and 1995 are exactly the same.

**Table 5:** Impact of left-wing majorities at presidential elections on the propensity to provide public services in-house (aggregated dataset)

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	OLS
<i>Dependent variable: Percentage of in-house provision at the municipal level</i>						
<i>Ideology</i>						
Number of Left-wing Presidential Majorities since 1988	2.572*					
	(1.407)					
Lef-wing Pres. Maj. since 1988		23.724***				
		(4.287)				
Lef-wing Pres. Maj. since 1995			23.724***			
			(4.287)			
Lef-wing Pres. Maj. since 2002				16.753		
				(10.045)		
Lef-wing Pres. Maj. since 2007					13.858	
					(9.897)	
Lef-wing Pres. Maj. since 2012						-1.897
						(6.060)
<i>Services' characteristics<sup>a</sup></i>						
Mean Resident Sensitivity	23.418	24.793*	24.793*	25.212*	25.415*	25.649*
	(13.875)	(14.451)	(14.451)	(14.537)	(14.617)	(14.625)
Mean Service Specificity	7.905	8.965	8.965	8.522	10.558	10.052
	(15.837)	(15.092)	(15.092)	(15.320)	(15.221)	(15.101)
<i>Cities' characteristics<sup>b</sup></i>						
Mean Population	-0.004	-0.002	-0.002	-0.002	-0.003	-0.005
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.005)
Mean Density	-0.241***	-0.253***	-0.253***	-0.238***	-0.232***	-0.206***
	(0.039)	(0.036)	(0.036)	(0.042)	(0.042)	(0.041)
Mean Unemployment	-0.744	-0.677	-0.677	-0.692	-0.879	-0.669
	(0.530)	(0.489)	(0.489)	(0.465)	(0.570)	(0.532)
Mean Income per Capita	1.371***	1.245***	1.245***	1.139***	1.059***	0.729
	(0.418)	(0.278)	(0.278)	(0.358)	(0.343)	(0.468)
Mean Debt per Capita	-0.014***	-0.016***	-0.016***	-0.016***	-0.015***	-0.015***
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
Constant	75.792***	83.496***	83.496***	82.925***	84.119***	85.647***
	(12.354)	(11.225)	(11.225)	(11.017)	(11.595)	(13.137)
<i>N</i>	156	156	156	156	156	156
<i>R</i> <sup>2</sup>	0.17	0.18	0.18	0.18	0.17	0.16

Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors clustered at the regional level in parenthesis. <sup>a</sup>: the variable *Mean Resident Sensitivity* (respectively *Mean Service Specificity*) stands for the average value of resident sensitivity (respectively service specificity) of all the services provided at the municipal level. <sup>b</sup>: mean values (2006-2013). For every regression, the dependent variable is the percentage of public services provided in-house per municipality. Column 1 displays the results of the OLS regression where the independent variable of interest is the number of left-wing presidential majorities since 1988. Column 2 (respectively Column 3, 4, 5 and 6) displays the results of the regression where the independent variable of interest is a dummy identifying whether there has been a left-wing presidential majority since 1988 (respectively 1995, 2002, 2007 and 2012).

## 4.2 Ideology and resident sensitivity to local public services

Previous results showed that long-term ideology matters; and we obtained findings on resident sensitivity that are consistent with previous literature. In this subsection, we use the dataset at the service level in order to test for Proposition 2, which states that ideology should impact more when citizen interest for the service delivery is higher.

Table 6 provides the marginal effects of logit estimations outputs for equations 5 and 6, where the dependent variable ( $Inhouse_{ij}$ ) is a dummy which indicates whether service  $j$  is provided in-house by municipality  $i$ . For every regression, standard errors are now clustered at the municipal level. Model 1 investigates the influence of the number of left-wing mayors between 1989 and 2014, and Models 2 to 6 focus on the longevity of left-wing mayors at office. The results are perfectly consistent with the ones derived in previous subsection: the number of left-wing mayors is positively and significantly correlated with the likelihood to provide a service in-house. Moreover, the longevity of left-wing mayors is only statistically (and positively) correlated with internal provision when left-wing mayors have been at office since 1989, 1995 or 2001, while we find no impact of the variables  $Left\_since\_2008_{ij}$  and  $Left\_since\_2014_{ij}$ . Recall that the average probability for one public service to be provided in-house is of 62% (see Table 2). Table 6 indicates that the estimated probability change for the variable  $Left\_since\_1988_{ij}$  is equal to 15.9. In other words, for an otherwise average service in an average city (meaning all the other variables being at their mean values), a left-wing mayor since 1988 increases the probability for one public service to be provided in-house by 25.6% (*i.e.* this probability changes from 62% to 77.9%). The same reasoning can be applied to analyze the influence of  $Resident\_Sensitivity_{ij}$  and  $Service\_Specificity_{ij}$ ; a one standard deviation increase in resident sensitivity is associated with an increase of 19.4% in the probability for one public service to be provided in-house, and a one standard deviation increase in service specificity is associated with a decrease of this same probability of 19.7%. This somewhat surprising finding is nonetheless consistent with the potential existence of a non-linear effect of asset specificity, that is the fact that very high levels of asset specificity would lead to more outsourcing, because private operators may have more abilities to manage costly and complex services (Brown and Potoski [2003]).<sup>25</sup> Finally, the coefficients associated with cities' controls are highly similar with the previous results.

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<sup>25</sup>This effect service specificity will also be discussed in next subsection.

**Table 6:** Impact of left-wing mayors and service characteristics on the likelihood to provide public services in-house (service dataset) - Marginal Effects

	(1)	(2)	(3)	(4)	(5)	(6)
	Logit	Logit	Logit	Logit	Logit	Logit
<i>Dependent variable: Probability of in-house provision at the service level</i>						
<i>Ideology</i>						
Number of Left-wing Mayors since 1989	0.034** (0.014)					
Left since 1989		0.159** (0.071)				
Left since 1995			0.155** (0.068)			
Left since 2001				0.130** (0.064)		
Left since 2008					0.071 (0.058)	
Left since 2014						0.064 (0.058)
<i>Services' Characteristics<sup>a</sup></i>						
Resident Sensitivity	0.108** (0.045)	0.104** (0.045)	0.104** (0.045)	0.107** (0.045)	0.108** (0.044)	0.108** (0.044)
Service Specificity	-0.075* (0.041)	-0.073* (0.041)	-0.075* (0.041)	-0.076* (0.041)	-0.075* (0.041)	-0.075* (0.041)
<i>Cities' characteristics<sup>b</sup></i>						
Mean Population	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000* (0.000)	-0.000 (0.000)	-0.000 (0.000)
Mean Density	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Mean Unemployment	-0.006 (0.005)	-0.007 (0.005)	-0.006 (0.005)	-0.006 (0.004)	-0.006 (0.005)	-0.006 (0.005)
Mean Income per Capita	0.022** (0.010)	0.018** (0.009)	0.018** (0.009)	0.017** (0.009)	0.015* (0.008)	0.015* (0.008)
Mean Debt per Capita	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
<i>N</i>	612	612	612	612	612	612
<i>Pseudo-R<sup>2</sup></i>	0.06	0.06	0.06	0.06	0.05	0.05

Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered at the municipal level in parenthesis. The reported coefficients correspond to the marginal effects at mean (MEM). <sup>a</sup>: the variable *Resident Sensitivity* is a dummy variable which equals 1 when resident sensitivity is positive, and 0 when resident sensitivity is negative. The same applies for the variable *Service Specificity*. <sup>b</sup>: mean values (2006-2013). For every regression, the dependent variable is a dummy which equals one when the service is provided in-house. Column 1 displays the results of the Logit regression where the independent variable of interest is the number of left-wing mayors since 1989. Column 2 (respectively Column 3, 4, 5 and 6) displays the results of the regression where the independent variable of interest is a dummy identifying whether left-wing mayors have been at office since 1989 (respectively 1995, 2001, 2008 and 2014).

Table 7 gives more insights on the links between service characteristics and in-house provision. Indeed, we run equation 5 on different subsamples. In Models 1 and 2, we successively look at the likelihood to provide each service in-house on a subsample of services characterized by low resident sensitivity ( $Resident\_Sensitivity_j < 0$ )<sup>26</sup> and on a subsample of high resident sensitivity ( $Resident\_Sensitivity_j > 0$ ).<sup>27</sup> The ideology variable, which stands for the number of left-wing mayors elected among the five last municipal ballots, is only significant for highly sensitive services. More precisely, marginal effects indicate that one additional left-wing mayor over the 1989-2014 period increases the probability for a *sensitive* service to be provided in-house by 6.8%. On the contrary, there is no impact of an additional left mandate on the probability for a *non sensitive* service to be provided in-house. This finding provides support to Proposition 2.

Moreover and interestingly, the comparison between Model 3 (subsample of services with low specificity,  $Service\_Specificity_j < 0$ )<sup>28</sup> and Model 4 (subsample of services with high specificity,  $Service\_Specificity_j > 0$ )<sup>29</sup> reveals that ideology matters only when specificity is low. In such a case, marginal effects suggest that one additional left mandate over the 1989-2014 increases the probability for a *non specific* service to be provided in-house by 7.6%; while we find no impact of ideology on *specific* services. A reasonable interpretation is that when asset specificity is low, municipalities can opt easily for the mode of provision they want, notably based on their ideological preferences. On the contrary, when asset specificity is high, their choice is more constrained, and as noted by Brown and Potoski [2003] cities might not have the capabilities needed to management highly specific services. It is worth noting that those results are perfectly similar if we replace the measure of mayors' ideology by the measure of constituents' ideology (see Table 17 in Appendix C).

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<sup>26</sup>The services that display low levels of resident sensitivity are street lightening, water treatment, and car parks (see Table 13 in Appendix A).

<sup>27</sup>Water distribution, collective catering, waste collection and childhood care have high levels of citizen sensitivity (see Table 13 in Appendix A).

<sup>28</sup>Street lightening, car parks, and collective catering are characterized by low levels of specificity.

<sup>29</sup>Water treatment, water distribution, waste collection and childhood care display high levels of specificity.

**Table 7:** Impact of left-wing mayors on the propensity to provide public services in-house depending on the levels of Resident Sensitivity and Service Specificity (service dataset) - Marginal Effects

	(1) Logit	(2) Logit	(3) Logit	(4) Logit
<i>Dependent variable: Probability of in-house provision at the service level</i>				
	<i>Resident Sensitivity</i>		<i>Service Specificity</i>	
	Low	High	Low	High
<i>Ideology</i>				
Number of Left-wing Mayors since 1989	0.026 (0.017)	0.041** (0.018)	0.047*** (0.016)	0.016 (0.018)
<i>Cities' characteristics<sup>a</sup></i>				
Mean Population	-0.000 (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)
Mean Density	-0.001* (0.001)	-0.003*** (0.001)	-0.002*** (0.001)	-0.002** (0.001)
Mean Unemployment	0.016 (0.012)	0.026* (0.015)	0.032*** (0.012)	0.010 (0.011)
Mean Income per Capita	-0.009 (0.006)	-0.002 (0.006)	-0.003 (0.006)	-0.009 (0.006)
Mean Debt per Capita	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000 (0.000)
<i>N</i>	274	338	381	231
<i>Pseudo-R<sup>2</sup></i>	0.03	0.08	0.08	0.03

Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered at the municipal level in parenthesis. The reported coefficients correspond to the marginal effects at mean (MEM). <sup>a</sup>: mean values (2006-2013). For every regression, the dependent variable is a dummy which equals one when the service is provided in-house. Columns 1 and 2 compare situations of low and high Resident Sensitivity, and the independent variable of interest is the number of left-wing mayors since 1989. Columns 4 and 5 compare situations of low and high Service Specificity, and the independent variable of interest is the number of left-wing mayors since 1989.

Finally, Table 8 provides the estimations results of equations 7 and 8 where we include service fixed effects. Coefficients associated with the six services in Table 8 have to be compared to parking lots services. We chose parking lots as the reference service because of its “intermediary situation”. Indeed, this service is very close to the mean value (0) for both resident sensitivity and service specificity (see Table 13 in Appendix C) and shows a perfect balance between in-house provision (50%) and contracting out (50%) (see Figure 1). Three services are more contracted out than parking lots (water collection, water treatment and waste collection), while three services are contracted out less often (childhood care, collective catering and street lightning). The coefficients associated with service fixed effects in Table 8 validate these descriptive statistics as childhood care, collective catering and street lightning are significantly more likely to be internally produced. If we compare the characteristics of those three services to parking lots, it appears that two services are more sensitive than parking lots (childhood care and collective catering), and only one is more specific (childhood

care). This observation suggests that resident sensitivity is a more important driver of the decision to keep public services in-house than service specificity. Most importantly, our results about ideology are perfectly similar to those obtained in all previous estimations.

**Table 8:** Impact of left-wing mayors and service fixed effects on the likelihood to provide public services in-house (service dataset) - Marginal Effects

	(1)	(2)	(3)	(4)	(5)	(6)
	Logit	Logit	Logit	Logit	Logit	Logit
<i>Dependent variable: Probability of in-house provision at the service level</i>						
<i>Ideology</i>						
Number of Left-wing Mayors since 1989	0.035** (0.014)					
Left since 1989		0.154** (0.075)				
Left since 1995			0.152** (0.072)			
Left since 2001				0.128* (0.067)		
Left since 2008					0.073 (0.060)	
Left since 2014						0.063 (0.061)
<i>Services Fixed Effects<sup>a</sup></i>						
Street lightning	0.234*** (0.065)	0.236*** (0.065)	0.236*** (0.065)	0.234*** (0.065)	0.234*** (0.065)	0.234*** (0.065)
Collective catering	0.180*** (0.055)	0.179*** (0.055)	0.176*** (0.055)	0.178*** (0.054)	0.181*** (0.054)	0.181*** (0.054)
Childhood care	0.248*** (0.059)	0.245*** (0.059)	0.244*** (0.059)	0.246*** (0.059)	0.248*** (0.059)	0.248*** (0.058)
Waste collection	0.087 (0.118)	0.082 (0.119)	0.077 (0.121)	0.082 (0.119)	0.091 (0.116)	0.092 (0.116)
Water distribution	-0.071 (0.080)	-0.065 (0.079)	-0.066 (0.079)	-0.067 (0.079)	-0.073 (0.079)	-0.072 (0.079)
Water treatment	-0.075 (0.105)	-0.070 (0.106)	-0.077 (0.105)	-0.081 (0.105)	-0.076 (0.105)	-0.073 (0.105)
<i>Cities' characteristics<sup>b</sup></i>						
	See Table 18 in Appendix C					
<i>N</i>	612	612	612	612	612	612
<i>Pseudo-R<sup>2</sup></i>	0.09	0.1	0.09	0.09	0.09	0.09

Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors clustered at the municipal level in parenthesis. The reported coefficients correspond to the marginal effects at mean (MEM). <sup>a</sup>: the six services are compared to the parking lots service; the latter was selected for its intermediate level of outsourcing ratio (50%). <sup>b</sup>: mean values (2006-2013). For every regression, the dependent variable is a dummy which equals one when the service is provided in-house. Column 1 displays the results of the Logit regression where the independent variable of interest is the number of left-wing mayors since 1989. Column 2 (respectively Column 3, 4, 5 and 6) displays the results of the regression where the independent variable of interest is a dummy identifying whether left-wing mayors have been at office since 1989 (respectively 1995, 2001, 2008 and 2014).



### 4.3 Results on the subsamples restricted to long-term and short-term services

Our results so far highlight that ideology variables should be computed on a long period, and that current mayors' ideology does not explain today's proportion of public services produced in-house. Those results thus show that make-or-buy decisions of local governments are path-dependent. We find that ideology plays a more important role for services that are characterized by high levels of resident sensitivity; and our results suggest that ideology is more important for services with low levels of specificity (see Table 7). This last section offers a last categorization of the services: we distinguish between services that are characterized by long-term contracts on the market (hereafter long-term services) and services for which short-term contracts are concluded (short-term services).

Let us note that the concept of service specificity might be correlated with the length of contracts concluded when municipalities decide to externalize the service. Indeed, specific services (in our dataset, water treatment, water distribution, waste collection and childhood care) can be more complex, require higher levels of investments, and thus result in longer contracts on the market, than less specific services. However, Table 9 shows that specific services are not necessarily the ones that induce long-term contracts.<sup>30</sup> This last distinction thus has an interest, because it does not capture exactly the same notion as service specificity.

**Table 9:** Average length of contracts

Sample	Service	Average length	Reference
Long-term contracts	Parking lots	16.6 years <sup>a</sup> or 30.6 years <sup>b</sup>	Beuve et al. [2014]
	Street lighting	17 years	Chong et al. [2013]
	Water distribution	12 years	Desrieux et al. [2013]
	Water treatment	16.8 years	Chong et al. [2015]
Short-term contracts	Childhood care	5 to 7 years	Johannes [2013]
	Collective catering	5 years <sup>a</sup> or 6 to 10 years <sup>b</sup>	MINEFI [2005]
	Waste collection	5.4 years	Beuve et al. [2013]

<sup>a</sup>: for public service delegation contracts. <sup>b</sup>: for concession contracts.

As argued in Section 2, the time dependency of make-or-buy choices should be stronger for long-term services. This does not mean that ideology should play a more important role for those services, but rather that it is more important to measure ideology on the long-run for them. First, long-term contracts by definition expire less frequently, and thus allow municipalities to switch the governance mode less often. Second, the loss of competences of the

<sup>30</sup>We define long-term services as the ones for which contracts last on average more than ten years.

municipality should be higher with these long-term services, as operators have more time to develop specific investments and/or specific knowledge that can impede backward integration.

For the two subsamples, the dependent variables are computed in the exact same way than the one on the aggregated dataset, and are defined as the proportion of long-term (respectively short-term) services that the municipality provides in-house. Descriptive statistics for the datasets of short-term and long-term services are provided in Table 19, in Appendix C. In order to put to the test our third and last proposition, we also created a new set of independent variables (see Table 10). These new variables are dummies, which identify whether a left-wing mayor was at office for one specific mandate, and they allow to further assess the importance of long-run ideology. Results are displayed in Tables 11 and 12. In each table, the first four columns show the results of regressions where the independent variables of interest are the longevity of the left, and the five last columns include dummies, identifying whether a left-wing mayor was at office on a specific mandate.<sup>31</sup>

**Table 10:** Construction of the ideology variables “*Left in...*”

Municipal Elections	1989 (26 years ago)	1995 (20 years ago)	2001 (14 years ago)	2008 (7 years ago)	2014 (1 year ago)
<i>Left Mayor in 1989 = 1</i>	L				
<i>Left Mayor in 1995 = 1</i>		L			
<i>Left Mayor in 2001 = 1</i>			L		
<i>Left Mayor in 2008 = 1</i>				L	
<i>Left Mayor in 2014 = 1</i>					L

As expected, the longevity variables are associated with bigger and more significant coefficients for long term contracts (see Models 1 to 4 in Table 11), than the ones estimated on the aggregated dataset (*cf.* Table 4). For instance, municipalities which have been governed by the left since 1995 produce, on average, 17.25% more of their long-term services in-house. In line with our predictions, those coefficients are also bigger than those estimated on the short-term contracts sample, which are not statistically different from zero (*cf.* Table 12). These results provide support to Proposition 3, by showing that past ideology of municipalities play a different role, depending on the length of contracts they induce when they are externalized.

One could suppose that current mayors’ ideology should explain today’s proportion of short-term services internally produced. However, the political affiliation of the mayor at office in

<sup>31</sup>As in previous models, we consider OLS regressions for which standard errors are clustered at the regional level.

2014 does not significantly impact the dependent variable in Model 9 of Table 12, and the coefficient associated with the political affiliation in 2008 (*cf.* Model 8) is barely significant. However, we observe that cities which were governed by the left in 1995 and in 2001 do exhibit higher proportions of in-house provision (see Models 6 and 7). This suggests that contracts were concluded by right-wing mayors in those years, and that following left-wing governments did not go back to in-house provision. Altogether, our results indicate that there exists an inertia in the mode of provision of public services, even for short-term ones, which suggests that backward integration is not easy.

**Table 11:** Impact of left-wing mayors on the proportion of long-term services provided in-house (aggregated dataset of long-term contracts)

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS	(8) OLS	(9) OLS
	<i>Dependent variable: proportion of long-term services provided in-house.</i>								
<i>Ideology</i>									
Left since 1989	17.655** (7.778)								
Left since 1995		17.246** (7.658)							
Left since 2001			14.291** (6.449)						
Left since 2008				8.785 (7.039)					
Left in 1989					7.547 (5.767)				
Left in 1995						5.226 (7.972)			
Left in 2001							9.024 (6.253)		
Left in 2008								3.048 (6.394)	
Left in 2014									8.740 (5.835)
<i>Cities' characteristics<sup>a</sup></i>									
Mean Population	0.016* (0.008)	0.016** (0.008)	0.010 (0.008)	0.011 (0.007)	0.014** (0.006)	0.014* (0.007)	0.011 (0.008)	0.012 (0.007)	0.011 (0.008)
Mean Density	-0.164*** (0.052)	-0.169*** (0.051)	-0.166*** (0.055)	-0.146*** (0.050)	-0.128*** (0.043)	-0.133*** (0.044)	-0.147*** (0.048)	-0.133*** (0.045)	-0.145*** (0.049)
Mean Unemployment	-1.186* (0.614)	-1.121* (0.623)	-1.013 (0.658)	-0.967 (0.713)	-1.098 (0.720)	-1.030 (0.745)	-0.907 (0.669)	-0.933 (0.720)	-0.990 (0.703)
Mean Income per Capita	1.361** (0.553)	1.424** (0.527)	1.381** (0.559)	1.206** (0.544)	1.257* (0.618)	1.109** (0.520)	1.327** (0.524)	1.052* (0.524)	1.209** (0.528)
Mean Debt per Capita	-0.015*** (0.004)	-0.016*** (0.004)	-0.016*** (0.004)	-0.015*** (0.004)	-0.015*** (0.004)	-0.016*** (0.004)	-0.016*** (0.004)	-0.016*** (0.004)	-0.015*** (0.004)
Constant	72.358*** (12.250)	71.701*** (12.379)	71.978*** (12.948)	72.901*** (13.677)	70.741*** (15.789)	74.629*** (14.827)	70.825*** (13.234)	75.338*** (15.076)	73.156*** (12.940)
N	143	143	143	143	143	143	143	143	143
R <sup>2</sup>	0.131	0.134	0.126	0.112	0.109	0.105	0.114	0.102	0.112

Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered at the regional level in parenthesis. <sup>a</sup>: mean values (2006-2013). The dataset is restricted to long-term contracts (mean duration higher than 10 years: parking lots, street lighting, water distribution, and water treatment). For every regression, the dependent variable is the proportion of long-term services provided with public employees. Column 1 (respectively Column 2, 3, and 4) presents the results of the OLS regression where the independent variable of interest is a dummy which equals one if the city has been governed by left-wing mayors since 1989 (respectively 1995, 2001 and 2008). Columns 5 to 9 display the results of the OLS regressions where the independent variables are dummies identifying whether the city was governed by a left-wing mayor in 1989, 1995, 2001, 2008 and 2014.

**Table 12:** Impact of left-wing mayors on the proportion of short-term services provided in-house (aggregated dataset of short-term contracts)

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS	(8) OLS	(9) OLS
	<i>Dependent variable: Proportion of short-term services provided in-house</i>								
<i>Ideology</i>									
Left since 1989	11.317 (9.953)								
Left since 1995		12.973 (8.561)							
Left since 2001			12.864 (8.411)						
Left since 2008				9.723 (7.971)					
Left in 1989					7.912 (6.760)				
Left in 1995						18.938** (7.040)			
Left in 2001							20.793*** (7.108)		
Left in 2008								12.549* (6.816)	
Left in 2014									8.239 (7.359)
<i>Cities' characteristics<sup>a</sup></i>									
Mean Population	-0.021** (0.009)	-0.020** (0.009)	-0.026*** (0.008)	-0.025*** (0.007)	-0.021** (0.009)	-0.019** (0.009)	-0.027*** (0.008)	-0.026*** (0.009)	-0.024*** (0.007)
Mean Density	-0.304*** (0.053)	-0.310*** (0.046)	-0.310*** (0.044)	-0.298*** (0.051)	-0.283*** (0.050)	-0.298*** (0.041)	-0.314*** (0.038)	-0.294*** (0.047)	-0.294*** (0.052)
Mean Unemployment	-0.155 (0.862)	-0.117 (0.851)	-0.052 (0.833)	-0.044 (0.793)	-0.222 (0.818)	-0.151 (0.657)	0.226 (0.832)	0.160 (0.782)	-0.079 (0.803)
Mean Income per Capita	1.534*** (0.409)	1.634*** (0.380)	1.628*** (0.359)	1.520*** (0.345)	1.576*** (0.451)	2.052*** (0.438)	2.185*** (0.424)	1.818*** (0.482)	1.464*** (0.317)
Mean Debt per Capita	-0.011*** (0.004)	-0.012*** (0.003)	-0.012*** (0.003)	-0.011*** (0.003)	-0.011*** (0.003)	-0.012*** (0.003)	-0.012*** (0.003)	-0.012*** (0.003)	-0.012*** (0.003)
Constant	78.612*** (13.835)	76.994*** (13.433)	76.731*** (13.063)	77.437*** (12.832)	76.332*** (15.188)	65.578*** (14.724)	62.995*** (15.056)	68.753*** (15.497)	78.993*** (12.519)
N	144	144	144	144	144	144	144	144	144
R <sup>2</sup>	0.153	0.158	0.159	0.152	0.149	0.187	0.195	0.160	0.150

Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered at the regional level in parenthesis. <sup>a</sup>: mean values (2006-2013). The dataset is restricted to short-term contracts (childhood care, collective catering, and waste collection). The dataset is restricted to short-term contracts (mean duration lower than 10 years: childhood care, collective catering, waste collection and water distribution). For every regression, the dependent variable is the proportion of short-term services provided with public employees. Column 1 (respectively Column 2, 3, and 4) presents the results of the OLS regression where the independent variable of interest is a dummy which equals one if the city has been governed by left-wing mayors since 1989 (respectively 1995, 2001 and 2008). Columns 5 to 9 display the results of the OLS regressions where the independent variables are dummies identifying whether the city was governed by a left-wing mayor in 1989, 1995, 2001, 2008 and 2014.

## 5 Conclusion

In their study of local government restructuring in 2001, [Warner and Hebdon \[2001\]](#) conclude about the absence of ideological influence that “*a major finding is that local governments are more concerned with practical issues of service quality, and less with ideology, politics, and unionization. Pragmatism wins out over politics as local governments give a keen eye to market structure, service quality, and efficiency concerns*”, a conclusion that was also reached by many empirical studies (see [Bel and Fageda \[2007\]](#)). Our analysis clearly departs from this conclusion. By defining a better measure of ideology, while at the same time taking dimensions such as resident sensitivity and service specificity into account, our results contribute to restore the relevance of ideology as an important determinant in municipalities make-or-buy choices. Indeed, this paper demonstrates that ideological attitudes play a major role in the analysis of local governments’ contracting out decisions as soon as mayors’ ideology is properly measured, that is over long time periods. We claim that the moderate explanatory power of ideological motives in past empirical research should be considered with caution, and should not necessarily be interpreted as a shift from ideology to pragmatism. Our results, and especially our methodology, allow to better understand why and when ideology matters in choices made by local governments.

Once demonstrated that left-wing mayors have a significant ideological preference for in-house provision, and even more for services characterized by high levels of resident sensitivity, our estimates allow to investigate the issue of the loss of skills due to previous outsourcing decisions. Hence, the presence of at least one right-wing mayor in the past is sufficient to significantly decrease the level of in-house provision today. Conversely, having left-wing mayors at office in recent mandates does not necessarily imply higher levels of in-house provision today. Such findings suggest that it is easier to move from public to private provision than the reverse.

Our results are important for at least three reasons. First, they indicate that the estimates of previous studies, which do not properly measure mayors’ ideology, can be biased. In that sense, it would be interesting to apply our methodology to other settings, in order to further assess the influence of ideology in various institutional settings, but also to confirm the influence of the other usually tested variables. Second, our results can contribute to explain why the externalization of public services is not steadily associated with cost decreases or performance enhancements. Because make-or-buy choices are not systematically motivated by pragmatism, the benefits of outsourcing can be limited. Finally, our study highlights the crucial issue of path-dependency in make-or-buy decisions of successive administrations. This aspect is all the more important that local public services represent huge amounts of public

money, as exposed in the Introduction. Since one externalization decision made at time  $t$  impacts the management of the public service over a long period of time (at least for the duration of the contract, and probably more because of the loss of competencies externalization implies), it is crucial to take careful decisions regarding the mode of provision of each public service.

Our study suggests avenues for future research. As above mentioned, our methodology could be replicated in other institutional settings, and/or for the study of other public services, in order to better understand the importance of ideology at the local level. Moreover, panel data indicating when delegation contracts expire could be useful, because this data would enable a finer study of the mechanisms we describe, and would in particular allow to better distinguish between the issue of the length of contracts and the issue of the loss of competencies. Finally, further investigations of the links between contracting out decisions and performance increases would be highly valuable. They would for instance show whether externalizations motivated by ideology are indeed less likely to lead to cost decreases than externalizations based on pragmatism.

## 6 Appendix

### 6.1 Appendix A. Survey to the General Directors of Local Public Services

In order to obtain measures of services' characteristics, we replicate the exact methodology and survey used by [Levin and Tadelis \[2010\]](#). We sent the survey to 100 general directors of local public services, and asked them to assess a list of services along several dimensions. A list of the services analyzed in this paper follows each question below. Respondents were asked to rank each service on a scale from 1 to 5. A complete copy of the survey is available upon request to the authors. We below re-produce the questions that we rely upon in this paper.

#### Respondents' characteristics and rate of response

According to the French National Directory of Professional Certification, the position of General Director of Local Public Services is defined as follows: “*To contribute to the definition of community orientations and to the development of a public action project shared by all stakeholders, under the responsibility of the political team. To manage the services and to pilot the territorial organization in coherence with pre-defined guidelines*”. As argued in the paper, those positions are generally occupied by experienced seniors who developed detailed knowledge about local public services and their management during their careers. It is confirmed by the very high average experience of respondents (23.9 years, with a standard deviation of 10.8 years). For those reasons, we are highly confident about the relevance of their judgments. Out of the 100 surveys, we received 21 complete answers, which corresponds to a satisfying rate of response (21%).

#### Questions

##### *Question 1: Measuring and Monitoring Service Quality*

To evaluate performance, it is important to measure and monitor the quality of the service provided. For each service listed below, imagine you were considering contracting out the service. Assess how easy or difficult it would be to measure and monitor the quality of service provision.

1 : Easy / 2 : Relatively Easy / 3 : Average / 4 : Relatively Hard / 5 : Hard



*Question 2: Need for Flexibility*

For some services there is significant uncertainty about precisely what (or when) things need to be done. Other services are more predictable, making it easier to specify in advance what needs to be done. For services that are less predictable there is a greater need for flexibility and adaptive guidance. Please rank the need for flexibility and adaptive guidance.

1 : No Need / 2 : Little Need / 3 : Moderate Need / 4 : Stronger Need / 5 : Strong Need

*Question 3: Provider Scarcity or Lock-in*

For some services it may be hard to find qualified providers or to switch providers once an initial provider is found. This could be due either to specialized expertise, specialized or expensive physical capital, or the lack of a closely related private sector market. Please assess the ease of finding or switching outside providers.

1 : Easy / 2 : Relatively Easy / 3 : Average / 4 : Relatively Hard / 5 : Hard

*Question 4: Cost/Quality Conflicts*

There is always the potential for conflict between the desire to save on cost and the desire to provide a higher quality of service. Please assess the severity of conflict between controlling costs and providing quality. (We are not asking which services are relatively expensive, but rather for each given service, the potential for conflict between cost control and quality provision).

1 : No Conflict / 2 : Little Conflict / 3 : Moderate Conflict / 4 : Stronger Conflict / 5 : Strong Conflict

*Question 5: Resident Sensitivity and Response*

Problems with service provision may trigger a response from city residents. Residents are more aware of, and more sensitive to problems with some services as compared to others. Please assess the level of resident sensitivity to problems that might be encountered in the provision of that service.

1 : No Sensitivity / 2 : Little Sensitivity / 3 : Moderate Sensitivity / 4 : Stronger Sensitivity / 5 : Strong Sensitivity

*Question 6: Provision of jobs for the community*

The provision of city services can provide important jobs for the local community. The actual provider of the service, whether it be the city, a neighboring government, or a private provider, has a degree of control over who gets these jobs. Please assess the importance to the local community of the jobs created in the provision of this service.

1 : Not Important / 2 : Little Important / 3 : Moderate Important / 4 : Higher Important / 5 : High Important

## Analysis of the survey data

As described in the text, responses by each manager to each question were standardized to have mean zero and standard deviation one. We then averaged those standardized responses to obtain an average response to each question for each service. Summary statistics are provided in Table 13. As noticed in the correlation matrix (see Table 14), services' indicators obtained through the survey are highly correlated. For instance, resident sensitivity is strongly correlated with difficulty to measure quality (0.658) and even more strongly correlated with the need for flexibility (0.897), the level of conflicts between cost and quality (0.904) and the importance of the service in terms of job provision for the community (0.905). According to those levels of correlation, collinearity issues prevent us from including the six indicators in our estimations and we only keep the two variables *Resident Sensitivity* and *Specificity* in the empirical strategy of the paper.

**Table 13:** Summary Statistics of Survey Data on Services

Service	Quality	Flexibility	Specificity	Cost-Quality	Resident Sensitivity	Jobs
Street Lightning	-0.393 (3/7)	-0.366 (2/7)	-0.700 (2/7)	-0.871 (1/7)	-0.409 (1/7)	-0.705 (2/7)
Water Treatment	0.136 (5/7)	-0.345 (3/7)	0.302 (6/7)	-0.033 (3/7)	-0.251 (2/7)	-0.043 (3/7)
Car Parks	-0.408 (2/7)	-0.382 (1/7)	-0.535 (3/7)	-0.642 (2/7)	-0.042 (3/7)	-0.707 (1/7)
Water Distribution	0.160 (6/7)	-0.172 (4/7)	0.356 (7/7)	-0.107 (4/7)	0.524 (4/7)	-0.043 (4/7)
Collective Catering	-0.123 (4/7)	0.229 (6/7)	-0.849 (1/7)	0.639 (7/7)	0.530 (5/7)	0.638 (6/7)
Waste Collection	-0.634 (1/7)	0.109 (5/7)	0.156 (5/7)	0.115 (5/7)	0.681 (6/7)	0.538 (5/7)
Childhood Care	0.254 (7/7)	0.439 (7/7)	0.075 (4/7)	0.607 (6/7)	0.712 (7/7)	0.738 (7/7)

Services are ranked by the level of "Resident Sensitivity". The ranking of each service depending on survey indicators are provided between parenthesis.

**Table 14:** Correlation Matrix of Services' Indicators

	Quality	Flexibility	Specificity	Cost-Quality	Resident Sensitivity	Jobs
Quality	1					
Flexibility	0.689	1				
<b>Specificity</b>	0.632	<b>0.228</b>	1			
Cost-Quality	0.708	0.939	<b>0.219</b>	1		
<b>Resident Sensitivity</b>	0.658	0.897	<b>0.381</b>	0.904	1	
Jobs	0.699	0.962	<b>0.270</b>	0.985	0.905	1

### **6.1.1 Appendix B. “The French, municipal elections and the mayors’ political label” survey**

In March 2014, in view of the forthcoming municipal elections, Harris Interactive (a full service, consultative custom market research agency) conducted an Online Survey of 1,000 people representative of the French voting population (quota sampling and statistical recovery methods were applied for gender, age, socio-professional category and residential area of the respondent). The survey, entitled *The French, municipal elections and the mayors’ political label*, targeted people registered as voters in municipalities of at least 1,000 people (*i.e.* who share the same voting system for municipal elections) and aim to examine, among other things, the voters depending on the importance they attach to mayor’s political label, in various areas of municipal action. Some of their observations are of primary importance for the subject of this paper.

What can we learn from this survey?

#### **1. Citizens care about municipal elections**

Three voters over four (74%) are interested by municipal elections (31% even declare to be “much” interested). On the contrary, only 6% announce that they are interested “not at all” by these elections. Moreover, 77% of voters claim they are “absolutely certain” to vote for the next election.

#### **2. Citizens care about public services**

The French believe that local government finances will be the main priority of their municipal team for the coming years: 55% consider both the thematics of “municipality spendings” and “local taxes” as issues of top level priority. The third thematic which shows the highest level of priority is the safety of people and property (48%), ahead of promoting economic development and employment (45%). Three issues related to public services are also identified as “total priorities” by more than one over three voters: the maintenance and quality of public services (39%), the issue of transport (37%) and the maintenance of schools and extra-curricular activities system (35%). About one over three voters also accords high priority to cleanliness (32%), preservation of the environment (31%) and housing (31%). 29% hold this view on helping businesses, 28% of urban development, 27% on social services and actions, 25% on the participation of citizens in decisions and only 20% on cultural and sport activities (see the second column of Table 15 below).

#### **3. Citizens care more about mayors’ projects than mayors’ political labels...**

Respondents declare that their choice to vote for the municipal elections primarily relies on

local considerations: local stakes (90%), candidates' projects (88%) or balance sheet of the incumbent mayor (84%). 79% of voters indicate that the candidates' personality will play "much" or "enough" in their choice (however, 65% of respondents indicate that the political label of the candidates plays a role in their decision).

#### 4. ...but their preferences differs among ideological affiliations

As observable in the columns 3 to 7 in Table 15 below, the electorate of the main left-wing party stands by the higher priority it attaches to the issue of housing (37%) and services and social actions (37%). Even more than the average French, voters of the right-wing party and of the extreme right-wing party accord high priority to the issues of local taxes (right: 65%; extreme right: 71%) and security (right: 68%; extreme right: 61%). Right-wing voters also seem to give more importance to their immediate conditions of living: 44% say that the transport, cleanliness and urban development are of "very high priority".

**Table 15:** Priority of mayors' missions according to citizens and to their political affiliations

% of "very high priority"	All sample	Extreme left-wing voters	Left-wing voters	Center-right voters	Right-wing voters	Extreme right-wing voters
Municipality spendings	55%	55%	47%	58%	<b>61%</b>	59%
Local taxes	55%	44%	44%	45%	<b>65%</b>	<b>71%</b>
Safety of people and property	48%	33%	36%	42%	<b>68%</b>	<b>61%</b>
Promotion of economic development and employment	45%	40%	50%	46%	46%	38%
Maintenance and quality of public services	39%	43%	44%	20%	36%	35%
Urban transports and car parks	37%	22%	37%	25%	<b>44%</b>	43%
Maintenance of schools and extra-curricular activities	35%	33%	41%	19%	37%	27%
Cleanliness	32%	28%	25%	20%	<b>44%</b>	38%
Preservation of the environment	31%	36%	32%	18%	27%	23%
Housing	31%	33%	<b>37%</b>	10%	27%	25%
Provision and maintenance of shops	29%	18%	25%	35%	28%	34%
Urban developments	28%	22%	26%	35%	<b>33%</b>	22%
Social services and actions	27%	22%	<b>37%</b>	15%	23%	20%
Participation of citizens in decisions	25%	22%	18%	14%	20%	<b>33%</b>
Cultural and sports activities	20%	12%	24%	11%	17%	14%

The question asked to the respondent was the following: "Should the following issues be considered as "very high priority", "high priority", "low priority" or "not priority" for the Mayor and the municipal team of your city in the coming years?". Numbers in **bold** correspond to answers statistically higher than sample average.

## 6.2 Appendix C. Additional Tables

**Table 16:** Impact of the proportion of voters during the first round of presidential elections on the propensity to provide public services in-house (aggregated dataset)

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	OLS
<i>Dependent variable: Percentage of in-house provision at the municipal level</i>						
<i>Ideology<sup>a</sup></i>						
Extreme left	0.980** (0.470)					
Left		0.636 (0.434)				
Greens			-0.990 (3.068)			
Center right				-0.831 (0.880)		
Right					-0.990* (0.511)	
Extreme right						-0.550 (0.476)
<i>Services' characteristics<sup>c</sup></i>						
Mean Resident Sensitivity	24.287 (14.256)	24.832 (14.632)	25.032* (14.028)	24.383* (14.002)	24.152 (14.184)	25.008 (14.667)
Mean Service Specificity	11.538 (15.754)	6.584 (16.419)	8.945 (15.208)	9.694 (15.400)	12.217 (16.100)	6.533 (16.648)
<i>Cities' characteristics<sup>b</sup></i>						
Mean Population	-0.004 (0.005)	-0.005 (0.005)	-0.004 (0.004)	-0.005 (0.005)	-0.006 (0.006)	-0.004 (0.005)
Mean Density	-0.231*** (0.039)	-0.236*** (0.038)	-0.212*** (0.035)	-0.226*** (0.037)	-0.230*** (0.037)	-0.225*** (0.036)
Mean Unemployment	-0.422 (0.533)	-0.988* (0.537)	-0.849 (0.544)	-0.910* (0.528)	-0.218 (0.567)	-0.826 (0.561)
Mean Income per Capita	1.429*** (0.435)	1.448*** (0.502)	0.795** (0.289)	1.166** (0.422)	2.122** (0.802)	0.792** (0.292)
Mean Debt per Capita	-0.016*** (0.002)	-0.013*** (0.003)	-0.015*** (0.003)	-0.015*** (0.003)	-0.015*** (0.002)	-0.013*** (0.003)
Constant	65.369*** (12.295)	58.425** (22.567)	89.193*** (18.379)	95.342*** (16.685)	91.414*** (11.272)	91.412*** (12.566)
<i>N</i>	156	156	156	156	156	156
<i>R</i> <sup>2</sup>	0.171	0.170	0.162	0.164	0.171	0.167

Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors clustered at the regional level in parenthesis. <sup>a</sup>: the variables stands for the mean number of votes obtained by political parties at the first round of presidential elections through the five last elections (1988, 1995, 2002, 2007 and 2012). <sup>b</sup>: mean values (2006-2013). <sup>c</sup> The variable *Mean Resident Sensitivity* (respectively *Mean Service Specificity*) stands for the average value of resident sensitivity (respectively service specificity) of all the services provided at the municipal level. For every regression, the dependent variable is the percentage of public services provided in-house per municipality. Column 1 (respectively Column 2, 3, 4, 5 and 6) displays the results of the OLS regression where the independent variable of interest is the number of votes of the extreme left-wing party (respectively Left, Greens, Center Right, Right and Extreme right) during presidential elections since 1988.

**Table 17:** Service dataset - Impact of presidential votes on the propensity to provide public services in-house depending on the levels of Resident Sensitivity and Service Specificity

	(1) Logit	(2) Logit	(3) Logit	(4) Logit
	<i>Dependent variable: Probability of in-house provision at the service level</i>			
	<i>Resident Sensitivity</i>		<i>Service Specificity</i>	
	Low	High	Low	High
<i>Ideology</i>				
Number of Left-wing Presidential Majority since 1988	0.023 (0.020)	0.046** (0.021)	0.050*** (0.018)	0.016 (0.020)
<i>Cities' characteristics<sup>a</sup></i>				
Mean Population	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Mean Density	-0.001* (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	-0.002** (0.001)
Mean Unemployment	-0.009 (0.006)	-0.002 (0.006)	-0.002 (0.006)	-0.009 (0.006)
Mean Income per Capita	0.016 (0.013)	0.030* (0.018)	0.035*** (0.013)	0.010 (0.011)
Mean Debt per Capita	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000 (0.000)
<i>N</i>	274	338	381	231
<i>Pseudo-R<sup>2</sup></i>	0.03	0.08	0.08	0.03

Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors clustered at the municipal level in parenthesis.  
<sup>a</sup>: mean values (2006-2013). For every regression, the dependent variable is a dummy which equals one when the service is provided in-house. Columns 1 and 2 compare situations of low and high Resident Sensitivity, and the independent variable of interest is the number of left-wing presidential majorities since 1988. Columns 3 and 4 compare situations of low and high Service Specificity, and the independent variable of interest is the number of left-wing presidential majorities since 1988.

**Table 18:** Impact of left-wing mayors and service fixed effects on the likelihood to provide public services in-house - Control variables coefficients (service dataset)

	(1)	(2)	(3)	(4)	(5)	(6)
	Logit	Logit	Logit	Logit	Logit	Logit
<i>Dependent variable: Probability of in-house provision at the service level</i>						
<i>Ideology</i>	See Table 8 in Section 4.2					
<i>Services Fixed Effects<sup>a</sup></i>	See Table 8 in Section 4.2					
<i>Cities' characteristics<sup>b</sup></i>						
Mean Population	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000* (0.000)	-0.000 (0.000)	-0.000 (0.000)
Mean Density	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Mean Unemployment	-0.007 (0.005)	-0.008 (0.005)	-0.007 (0.005)	-0.007 (0.005)	-0.007 (0.005)	-0.007 (0.005)
Mean Income per Capita	0.023** (0.011)	0.019** (0.009)	0.019** (0.009)	0.019** (0.009)	0.016* (0.009)	0.016* (0.009)
Mean Debt per Capita	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
<i>N</i>	612	612	612	612	612	612
<i>Pseudo-R<sup>2</sup></i>	0.09	0.1	0.09	0.09	0.09	0.09

Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors clustered at the municipal level in parenthesis. <sup>a</sup>: the six services are compared to the parking lots service ; the latter was selected for his intermediate level of outsourcing ratio (50%). <sup>b</sup>: mean values (2006-2013). For every regression, the dependent variable is a dummy which equals one when the service is provided in-house. Column 1 displays the results of the Logit regression where the independent variable of interest is the number of left-wing mayors since 1989. Column 2 (respectively Column 3, 4, 5 and 6) displays the results of the regression where the independent variable of interest is a dummy identifying whether left-wing mayors have been at office since 1989 (respectively 1995, 2001, 2008 and 2014).



**Table 19:** Descriptive statistics on the datasets restricted to long-term and short-term contracts.

	Long-term contracts <sup>a</sup>				Short-term contracts <sup>b</sup>					
	N	Mean	Std. Dev.	Min	Max	N	Mean	Std. Dev.	Min	Max
<i>Dependent variable</i>										
Service provided in-house (2015)	143	57.52	37.11	0	100	144	69.56	42.24	0	100
<i>Political variables</i>										
Left since 1989	143	0.17	0.38	0	1	144	0.22	0.42	0	1
Left since 1995	143	0.20	0.40	0	1	144	0.25	0.43	0	1
Left since 2001	143	0.24	0.43	0	1	144	0.28	0.45	0	1
Left since 2008	143	0.30	0.46	0	1	144	0.33	0.47	0	1
Left in 1989	143	0.55	0.50	0	1	144	0.54	0.50	0	1
Left in 1995	143	0.45	0.50	0	1	144	0.48	0.50	0	1
Left in 2001	143	0.38	0.49	0	1	144	0.42	0.49	0	1
Left in 2008	143	0.52	0.50	0	1	144	0.55	0.50	0	1
Left in 2014	143	0.31	0.47	0	1	144	0.34	0.48	0	1
<i>Control variables<sup>c</sup></i>										
Mean Population	143	97.36	203.15	9.75	2222.98	144	102.67	202.77	9.75	2222.98
Mean Density	143	39.34	44.16	1.46	254.13	144	43.16	46.02	1.46	254.13
Mean Unemployment	143	9.34	3.32	5	34.44	144	9.27	3.32	5	34.44
Mean Income per Capita	143	12.21	3.60	7.24	41.89	144	12.32	3.77	7.24	41.89
Mean Debt per Capita	143	1247.85	622.07	95.63	3975.50	144	1229.80	635.37	95.63	3975.50

<sup>a</sup>: Long-term contracts: mean duration higher than 10 years (parking lots, street lighting, water distribution, and water treatment). <sup>b</sup>: Short-term contracts: mean duration lower than 10 years (childhood care, collective catering, and waste collection). <sup>c</sup>: mean values (2006-2013)

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