Public Choice (2014) 161:367–383
DOI 10.1007/s11127-014-0206-y

The causes of legal rents extraction: evidence from Spanish municipalities

Bernardino Benito · Francisco Bastida · Ana-María Ríos · Cristina Vicente

Received: 13 June 2013 / Accepted: 6 October 2014 / Published online: 12 October 2014

Abstract This paper analyzes the causes of legal political rent extraction by using a direct measure of it, namely, local top politicians' wages. In particular, we investigate whether local politicians' incentives to extract rents by setting their own wages are influenced by the degree of political competition and voter information. We use a sample of the largest Spanish municipalities over the years 2008–2010. The results indicate that weaker political competition and lesser voter information are related to more rent extraction. In an additional analysis, we show that higher wages do not ensure better financial management. These findings confirm that when politicians can set their own salaries, higher wages do not mean better management, but they are just political rents.

Keywords Political rents · Politicians' wages · Local governments

JEL Classification D72 · H1 · H7

1 Introduction

In the modern economics literature, the public choice school was the originator of the view that politicians, like everyone else, pursue chiefly their own interests (Hillman 2013). Therefore, what motivates actors in the public sector is not the interests of the public at

B. Benito (✉) · F. Bastida · A.-M. Ríos · C. Vicente
Department of Accounting and Finance, Faculty of Economics and Business, University of Murcia, Campus of Espinardo, 30100 Murcia, Spain
e-mail: benitobl@um.es

F. Bastida
e-mail: alba@um.es

A.-M. Ríos
e-mail: anamaria.rios1@um.es

C. Vicente
e-mail: cristina.v.o@um.es

large, but enhancing their own welfare, measured in votes, money, power, or whatever (McChesney 1997). Politicians are in positions that allow them to divert public funds into their own pockets, getting rents illegally, i.e., engaging in corrupt activities, or legally, i.e., setting their own wages (Svaleryd and Vlachos 2009).

The ways in which politicians can gain rents illegally have been analyzed widely in recent years, with the focus mainly on the determinants of corruption. Recent empirical studies show that as the levels of democracy, political competition and press freedom rise, corruption falls (see e.g., Besley and Burgess 2002; Adserà et al. 2003; Brunetti and Weder 2003; Alt and Lassen 2008). However, few empirical studies have focused on the determinants of legal political rents (Di Tella and Fisman 2002), and most of these do not use direct measures of those rents (Svaleryd and Vlachos 2009). The majority of the previous literature has used tax rates, public employment and wages, growth-promoting policies, and politician quality as measures of legal rents (see e.g., Besley and Case 2003). Nevertheless, as Svaleryd and Vlachos (2009) state, these variables are not related to rents, per se, but rather to bureaucratic slack and inefficiencies.

This paper aims to examine the causes of legal political rent extraction. Specifically, we investigate whether local politicians' incentives to extract rents by setting their own wages are influenced by the degree of political competition and voter information. Therefore, the paper extends the existing literature on the causes of legal political rent extraction by using a direct measure of it, namely, local top politicians' wages.

Using a sample of the largest Spanish municipalities for 2008–2010, we find that political competition and voter information reduce the amount of rent extracted in the form of top politicians' wages.

In addition, we analyze, to the best of our knowledge for the first time, the impact of politicians' wages on financial management in a context in which politicians can fix their own wage (Spanish local governments). Our estimates indicate that higher wages do not ensure a better financial management.

The paper is structured as follows. Section 2 reviews the literature on political rents. Section 3 describes the Spanish municipal sector. Section 4 provides details of the sample, econometric model and variables. Section 5 presents the empirical results and the additional analysis relating to the effect of wages on the quality of top politicians' financial management practices. Section 6 concludes.

2 Literature

The search for rents, defined as rewards in excess of opportunity cost or not consistent with competitive market returns, is an ancient issue (Congleton et al. 2008). The modern rent seeking literature, initially developed by Tullock (1967), Krueger (1974) and Posner (1975), is focused on the interaction between the government and private parties. The former has a monopoly on defining, distributing and enforcing property rights by issuing regulations or imposing taxes and tariffs. Since these activities usually imply the creation (or redistribution) of rents, private parties have incentives to influence public policies in ways that promote their own interests. Private parties use resources to gain access to artificially created rents. Such investments do not create value but merely redistribute existing wealth; they are wasted from society's point of view. Under this approach, private parties are seen as private rent seekers who influence the creation and assignment of rents arising from political decisions, whereas politicians serve only as passive brokers of the transfers.

In a latter work, McChesney (1997) questions the role attributed to politicians in rent seeking theory. He considers them not mere brokers among competing private parties, but independent actors with their own claims. This conceptual reversal of roles allows one to consider other ways, apart from rent creation, that politicians can gain personally. McChesney develops a rent-extraction theory wherein politicians extort payments from private parties by making threats to expropriate wealth. Therefore, whereas in rent seeking theory politicians accept payments to create political favors in the form of rents, rent extraction theory assumes that politicians accept payments to avoid actions that would diminish existing private rents.

Traditional rent seeking and rent extraction approaches built upon by public choice economists Tullock (1967) and McChesney (1997), have in common that politicians need the active collaboration of private parties to obtain economic benefits. In contrast, if the assumptions of political agency models are taken into account, politicians can get rents from private parties (or citizens) even without their awareness. In these models, an agency problem exists between politicians and the voters. Voters, the principals, elect a politician, the agent, who in turn governs the voters (Barro 1973; Ferejohn 1986). The interests of politicians and voters are not perfectly aligned, so the decision-making authority delegated to politicians gives them an advantage in achieving their goals. In a reformulation of this theory, Persson et al. (1997) model this political agency problem as one of rent extraction. Voters pay taxes to fund public goods that are provided by politicians with uncertain costs. Given that politicians know these costs, they take advantage of this asymmetry of information by extracting rents from the tax collected for personal benefit, which reduces the funds available for supplying public goods. Therefore, voters' utility decreases as the amount of rents extracted increases (Alt and Lassen 2003). Both approaches (rent extraction and political agency costs) have in common the fact that politicians are portrayed as active actors. In the former model, however, politicians need to identify and secure the active collaboration of private parties to extract rents from them. In the latter model, politicians appropriate rents out of the taxes previously collected from private parties (or citizens), even without their awareness.

Therefore, a major problem in every political system is that politicians in office may use their power to pursue their own interests, rather than those of the citizens. Although all of the ways of obtaining political rents can be seen as unethical, only some of them actually are illegal. Traditional rent seeking theory commonly makes a distinction between (legal) lobbying and unlawful public corruption as forms of rent seeking. One of the key differences between these activities appears to relate to the way in which politicians are influenced. If they offer to accept (or demand) bribes, this clearly represents a case of using public office for personal gain. If, on the other hand, influence is sought by, for instance, donating funds to finance political campaigns, neither the rent seekers nor the benefitting politicians would be seen as engaging in corruption (Lambsdorff 2002). In this respect, there is a large theoretical and empirical literature on campaign finance policy (see e.g., Potters et al. 1997; Prat 2002; Coate 2004; Houser and Stratmann 2008). The assumption underlying most of these studies is that campaign contributions are used in electoral races to provide information to citizens, but that candidates obtain contributions by promising political favors.

Many recent studies explore several determinants of corruption. Goel and Rich (1989) were the first to provide an empirical analysis of the factors affecting bribe-taking by public officials. Among these are included the probability of being convicted, severity of punishments, government salary relative to private sector income, the "demonstration effect" and the unemployment rate.[1] Subsequently, other works have analyzed the effects of other factors on corruption: industrial policy (Ades and Di Tella 1997), government size (Goel and Nelson 1998), abundance of natural resources (Leite and Weidmann 1999), political context (Treisman 2000), electoral rules (Persson et al. 2003), political competition (Alt and Lassen 2008), press freedom (Besley and Burgess 2002; Adserà et al. 2003; Brunetti and Weder 2003), level of democracy (Besley and Burgess 2002; Adserà et al. 2003) and fiscal decentralization (Arikan 2004). Many of the above studies were conducted at national level, given the limited availability of surveys needed to build corruption indices at other levels of government. To tackle this issue, Picci (2005) used data on Italian regions and presented a new measure of corruption based on the difference between the amounts of physically existing public facilities and the amounts of money paid by government to build them. According to him, the proposed measure may be useful for analyzing variations in the causes of corruption at the subnational level.

In contrast to the above studies focusing on how politicians get rents illegally (i.e., engaging in corrupt activities), there is little empirical research on legal sources of rents, with the exception of the vast literature on campaign finance, as mentioned previously. Some studies used tax rates, public employment and wages, growth-promoting policies, and politician quality as measures for legal rents (see e.g., Besley and Case 2003). Svaleryd and Vlachos (2009), however, question the use of these variables as measures of legal rents since they are more closely associated to slack and inefficiencies in the public sector than to rents, per se. Taking as their basis the definition of political rents from Persson and Tabellini (2000), the authors use public funding of political parties and top politicians' salaries as direct measures of rent extracted by incumbents.[2] In this respect, Svaleryd and Vlachos (2009) argue that top politicians' wages, which are determined by politicians themselves, can be considered as a way of estimating political rents. In fact Peichl et al. (2013), using a sample of German members of parliaments, find that the average politician earns substantially more than the average voter holding executive positions in the private sector. They conclude that this wage premium can be interpreted as rent extraction as long as the members of parliaments in Germany fix their own salary. This suggests that politicians may extract rents from being in office in contexts where they can decide themselves on the level of office remuneration (Peichl et al. 2013). Similarly, Di Tella and Fisman (2002) find evidence supporting the idea that politicians' wages are partly set by rent extraction motives. In a recent study, Vaubel (2013) finds that net salaries at the European Commision are much higher than comparable salaries in the central governments of selected members states. This author points out that, for example, the European Court of Justice decided that the Council's determination to limit the wage rise for EU public servants to 1.89 % was invalid and that wages had to increase by 3.7 % as suggested by the Commission. Therefore, the members of the European Court of Justice increased their own wages.

The incentives for politicians to extract rents by setting their own wages are shaped mainly by two factors: the levels of political competition and voter information. According to Wittman (1989), with perfect political competition and well-informed voters, rents are usually driven down to zero. In this vein, Svaleryd and Vlachos (2009) analyze theoretically and empirically the effects of political competition and voter information on rents.

[1] The "demonstration effect" is used to describe the impact that the actions of some individuals have on the behavior of a given individual. As for corruption, it refers to the fact that the levels of corruption in a place may induce neighbors to get involved in corruption as well.

[2] Persson and Tabellini (2000) state that rents are monetary transfers in the form of salaries for top politicians and public funding of political parties.

They develop a model in which stronger political competition and more voter information keep rent extraction at bay. Incumbents care only about rents and remaining in power. However, the larger is the share of informed voters and the stronger is political competition, the more likely it is that voters will respond to evidence of rent extraction. Therefore, this situation keeps rents low since voters punish the incumbent by reducing their chances of reelection. Svaleryd and Vlachos' results support this theory, given that they find that more vigorous political competition and improved voter information reduce the level of rents extracted in the setting top politicians' wages. Di Tella and Fisman (2002) also investigate whether political competition plays a role in disciplining politicians' rent extraction activities. In particular, they analyze the relationship between political competition and gubernatorial wages in US states. These authors find that as political competition increases, the ability of politicians to extract rents by setting higher wages declines.

3 The institutional framework

The Spanish public sector is divided into three levels: the national state, 17 regional governments and 8,116 municipalities. The relation between them is based upon competencies, not hierarchy. Each municipality has a municipal council, a mayor and a municipal government. The municipal council is the deliberative branch, whereas the municipal government holds executive power, headed by the mayor as chief executive.

Local elections in Spain are based on closed party lists and municipal council members are elected on a proportional basis. Thus, the mayor is elected by the members of the municipal council; he/she is responsible for appointing the officials of the municipal government from among the municipal council members. Obviously, the mayor selects the officials of the municipal government from the members of the party or parties that support him/her.

The Spanish Constitution lays down two basic principles with regard to local governments: financial autonomy and financial self-sufficiency. The former constitutional provision means that local governments can make their own decisions on collecting revenue and how to spend it. The latter provision aims to ensure that all municipalities have the resources necessary to exercise their competences. Local governments' finances rely on the following revenue sources: income from self-owned assets, local taxes, surcharges on regional government taxes, shares in state and regional governments' taxes, subsidies, public fees and fares, credit transactions, fines and other monetary sanctions. Municipalities are allowed to raise local taxes and charge tariffs for the services they provide. In fact, Spanish local governments enjoy a high degree of tax autonomy compared with other countries (Giuriato and Gastaldi 2009).

Moreover, a number of important tasks are decided upon and carried out at the municipal level. Spanish local governments decide upon town planning, since they can classify land for urban development with little or no consultation. Land development decisions are, therefore, under the control of local politicians, so there is a serious risk that they might accept bribes from real estate developers in exchange for rezoning their lands. According to Jiménez et al. (2012), cases of corruption increased dramatically during the last housing boom. In this sense, a recent article on Spanish corruption in the *New York Times* reads as follows: "The concentration of power in the hands of regional and municipal officials and their ties to the local savings banks created ideal conditions for corruption in the construction boom years" ("Small-Town Mayor's Millions as Exhibit A on Graft in Spain", *New York Times*, May 4th, 2013).

Spanish laws also permit local politicians to extract rents legally, by allowing them to set their own salaries. Spanish laws establish that municipalities, apart from providing some

Table 1 Aggregate number of salaries (in €) paid to all top politicians according to population level

Population level	Max.	Min.	SD
<75,000	972,473.18	254,970.28	223,141.22
75,001–100,000	1,395,849.92	267,337.44	259,142.53
100,001–200,000	3,798,596.70	153,549.19	607,941.30
200,001–500,000	3,562,992.14	688,595.70	670,189.26
>500,000	16,992,778.24	2,603,384.00	5,117,997.27

obligatory basic services according to their population, can decide on their own revenues and where to spend them, as we said above. Each year, the municipal government submits a budget for approval by the municipal council. In this respect, the top politicians' wage has its own separate line item in the municipal budget. Top politicians are defined as the members of the municipal council who comprise the municipal government and they are responsible for elaborating the municipal budget; accordingly, they are able to determine their own salary in the budget. The budget must be approved as minimum by a simple majority of the municipal council. Although the council has the power to reject this budget, it will be passed when the ruling party or parties govern in majority. In these cases, top local politicians are totally free to set their own salaries. If the ruling party or parties govern in minority, they need the support of one or more opposition parties to pass the budget, and hence the amount allocated to top politicians' wage. Consequently, decisions on top politicians' wages are up to local authorities and the differences across municipalities bear witness to this. For instance, some municipalities spend around 13 % of their annual non-financial budget on for top politicians' wages, while others devote a much smaller percentage (the 2010 average budget share was 1.5 %). Moreover, as Table 1 shows, top politicians' salaries vary widely for municipalities of the same population. For example, the aggregate average of the salaries paid to all top politicians in municipalities with more than 500,000 inhabitants ranged from 2,603,384.00 euros to 16,992,778.24 euros in 2010. Therefore, since Spanish local authorities have autonomy in wage setting, salaries may be used to divert municipal resources for their own personal gain (i.e., political rents).

The Spanish law on the local electoral system states that the number of seats in the council depends on municipal population. Specifically, the number of council seats is determined on the scale shown in Table 2.

Table 2 Number of seats in the council by municipal population

Number of inhabitants	Number of seats in the council
<100	3
101–250	5
251–1,000	7
1,001–2,000	9
2,001–5,000	11
5,001–10,000	13
10,001–20,000	17
20,001–50,000	21
50,001–100,000	23
>100,001	One seat more per 100,000 inhabitants

Since municipal government members (top politicians), have to be chosen from among the individuals who have seats on the municipal council, which is limited by population, it is not possible that differences in rents received by top politicians merely are the result of a larger group of potential rent recipients.

4 Methodology

4.1 Sample

The sample consists of the 100 largest Spanish municipalities from 2008 through 2010. No municipal elections were held in this three-year period. The population of the municipalities in the sample ranges between 35,241 and 3,273,049 inhabitants.

We use data on these municipalities since they are the only ones included in a database on municipal transparency created by the organization "Transparency International Spain" (TI-Spain). This information is crucial for our study, given that it is used to measure one of the key variables (the level of voter information). Furthermore, the panel data also includes financial, political and demographic variables. The municipal financial data were taken from the Spanish Ministry of the Treasury. We obtained political information from the Spanish Home Office. The Spanish National Statistics Institute, the Klein Institute and the Economic Annual of "La Caixa" provided the information needed to construct the socio-economic and demographic variables.

It is important to note that this sample offers two clear advantages. First, this sample period allows us to analyze the extraction of legal rents in a post-housing boom context, in which rent extraction from corruption is less pervasive. According to Jiménez (2009), the Spanish town-planning model and the extraordinary last building boom were the main sources of local political corruption in Spain. Therefore, it is not surprising that, after the bursting of the Spanish housing bubble at the beginning of 2008, corruption scandals were markedly fewer. It seems that the opportunity for politicians to gain rents through corruption has diminished with the ending of the housing market crisis, so we consider it to be interesting to analyze the causes of legal rent extraction, when corruption is a less feasible option. Second, in Spanish local governments, top politicians' wages are self-determined, which allows us to use these wages as a measure of legal rent extraction. This is because, as discussed later in more detail, top politicians' wages are a good measure of legal political rents when top politicians can set their own salaries (Svaleryd and Vlachos 2009). The autonomy of Spanish local authorities in the form of wage setting can be easily seen from Table 3. For instance, whereas in one municipality citizens paid only 0.86 euros per year and per capita to top politicians, in other municipalities citizens spend annually 29.26 euros per capita annually on top politicians' wages (see the minimum and maximum of the variable *Politicians wages* in Table 3, respectively).

4.2 Econometric model

The main aim of our empirical analysis is to assess the causes of legal political rent extraction. For this purpose, we use the top politicians' wages (*Politicians wages*) as a measure of legal rent extraction. This measure was chosen because, according to Persson and Tabellini (2000), top politicians' salaries and public funding of political parties literally are rents. In fact, Di Tella and Fisman (2002) show that politicians' salaries are partly set by rent extraction motives. Svaleryd and Vlachos (2009) employ the two direct

Table 3 Definition of variables and descriptive statistics

Variable	Description	Calculation	Source	Mean	SD	Min.	Max.
Politicians wages	Wage paid to top politicians (€/pc)	Annual salary paid to the highest ranking politicians in euros/population	Taken from Spanish Ministry of the Treasury	7.74	3.76	0.86	29.26
Municipal wage	Average wage in the municipality (€/pc)	Average wage in the municipality in euros per capita	Own elaboration from the Spanish National Statistics Institute	24,968.59	5,435.34	16,999.43	57,347.05
Political competition	Municipal political competition	Value 1: the percentage of votes cast for the ruling party is less than 50 % Value 0: Otherwise	Taken from Spanish Home Office	0.51	0.50	0	1
Voter information	Voter information (0–100)	Municipal Transparency Index: 0 scant or no information; 100 extensive information	Taken from TI-Spain web	63.04	20.81	12.5	100
Political ideology	Political ideology of the mayor	Value 1:conservative/right Value 0: progressive/left	Taken from Spanish Home Office	0.46	0.50	0	1
Mayor gender	Mayor gender	Value 1: woman Value 0: man	Taken from municipal webs.	0.19	0.39	0	1
Economic level	Economic level (€/pc)	Income in euros/population	Taken from "Lawrence R. Klein" Economic Institute	15,646.96	3,635.84	10,814.93	33,659.75
Population density	Population density of the municipality (inhab/ Km^2)	Population/Km^2	Taken from the Spanish National Statistics Institute	2,825.15	3,566.30	52.67	18,989.87
Taxes	Tax revenue (€/pc)	Tax revenue in euros/population	Taken from Spanish Ministry of the Treasury	577.01	155.07	302.00	1,299.16

measures of rent extraction proposed by Persson and Tabellini (2000) in an empirical study of Swedish local governments. They argue that top politicians' wages and financial support for political parties are good measures of rents extracted by Swedish local governments, given that those two outcomes are determined by the elected representatives themselves in the budget after a vote in the local council. The same scenario plays out in Spain.[3] Financial support for political parties cannot be used in our analysis since no such data are available in Spain. We therefore estimate the following OLS regression with top politicians' wages (*Politicians wages*) as the dependent variable:

$$\begin{aligned} Politicians\ wages_{it} = \alpha + \gamma_1 Municipal\ wage_{it} + \gamma_2 Political\ competition_{it} \\ + \gamma_3 Voter\ information_{it} + \beta_j X_{jit} + \varepsilon_{it}, \end{aligned} \tag{1}$$

where i indicates municipalities, α is the constant of the equation, γ_1, γ_2, γ_3 and β_j are the parameters to be estimated, X_{jit} is the vector of control variables and ε_{it} is the error term.

First of all, it should be noted that this empirical model would be misspecified if the *Municipal wage* variable had not been entered on the right-hand side. Obviously, not all of the full salaries of top politicians can be considered as political rents. For instance, if the amount earned by a top politician is similar to the one that could be earned in an analogous private job, we cannot state that the politician is involved in rent extraction activities. In contrast, if the top politician's salary exceeds the wage paid in a similar private job position, this wage premium can be seen as a political rent. Since our dependent variable is defined as a top politicians' wage, we need to include on the right side of the model a variable that allows us to control for the part of the salary that cannot be considered as a rent. The latter variable should be measured as the income that politicians could have earned in their next-best job as an executive in the private sector. However, because of data availability, we use the average wage in the municipality in euros per capita (*Municipal wage*) as a proxy for politicians' opportunity costs.[4] The inclusion of the variable *Municipal wage* as an independent variable prevents our empirical model from being a misspecified estimation of the causes of legal rents extraction. Without entering this variable, our model would serve only to estimate the determinants of top politicians' wages, but not the causes of legal rent extraction through salary setting. A positive and significant coefficient on this variable (γ_1) would provide empirical evidence in favor of political rent extraction.

The key independent variables in our model are *Political competition* and *Voter information,* which capture the effects of the level of political competition and voter information on the amount of rent extraction, respectively. The former is a dummy variable that takes a value of one if the percentage of votes cast for the ruling party is less than 50 %, and zero otherwise. A municipal transparency index is used as a proxy of the level of voter information. *Voter information* measures the information about local politics provided to citizens. The organization "Transparency International Spain" (TI-Spain) has published this indicator for all municipalities of our sample annually since 2008. This index ranges from zero to 100, where the greater the score, the higher the degree of voter information. According to Svaleryd and Vlachos (2009), both stronger political competition and more voter information reduce the level of rent extraction. Consequently, the coefficients on *Political competition* and *Voter information* (γ_2 and γ_3) are expected to be negative.

[3] See Sect. 3. Since top politicians enjoy greater freedom to determinate their own salaries when they govern in majority than when they govern in minority, we tackle this issue in our model by controlling for the degree of political competition in the municipal council.

[4] See in this respect, Peichl et al. (2013).

4.3 Control variables

In order to isolate the effect of our variables of interest (*Political competition* and *Voter information*), it is necessary to control for the effects of other factors on political rents. Among the control variables, we consider the mayor's political ideology by including the variable *Political ideology*. This is a dummy variable that takes a value of one if the mayor belongs to a right-wing party.[5] As Svaleryd and Vlachos (2009) state, this variable allows us to determine whether or not rent extraction varies according to political ideology.

We also control for sex of the mayor by entering the dummy variable *Mayor gender*, that is equal to one if the mayor is a woman. In this regard, some authors suggest that the incumbents' gender influences his/her political preferences and therefore their policy outcomes. For instance, Ferreira and Gyourko (2011) examine, in a sample of US cities, the effect of gender on policy outcomes. They find, though, that the level of municipal expenditure and its composition, including the budget share for salaries, do not depend on the mayor's gender.

Economic level controls for the municipality's level of economic development, gauged as municipal income per capita in euros. According to Svaleryd and Vlachos (2009), a positive impact of income on incumbents' wages is expected. They state that rents are monetary transfers in the form of wages for top politicians. Therefore, rent extraction becomes much easier when more resources are available to extract. In fact, Di Tella and Fisman (2002), using a sample of US states, find a strong positive relation between gubernatorial wages and state income, which is a possible variant of Wagner's familiar law.

We also consider the population density of the municipality (*Population density*). If higher population density leads to economies of scale in the provision of public goods (Pettersson-Lidbom 2001), then rent extraction would be easier since there would be more resources to extract as the average costs of public good provision decline. Consequently, we would expect top politicians' wages to be higher in more densely populated cities. However, the contrary effect would be expected in the presence of diseconomies of scale.

Finally, we include the level of taxes (*Taxes*) as control variable, since higher taxes are needed to finance politicians' wage increases (Besley 2004).

Table 3 summarizes the variables and basic statistics.

5 Results

Table 4 presents the results of the OLS regression.

As expected, the greater the average wage in the municipality (*Municipal wage*), the higher are the top politicians' wages (*Politicians wages*), everything else equal. This supports the existence of a wage premium, which represents the political rents to which we have referred. This result is in line with Peichl et al. 2013, who find that the average member of German parliaments earns more than the average voter and of citizens holding executive positions in the private sector and, moreover, that this wage premium can be seen as a form of political rent extraction. As local top Spanish politicians do, members of parliaments in Germany fix their own salaries. This finding suggests that politicians may extract rents in contexts where they can decide themselves the level of remuneration from positions of public trust (Peichl et al. 2013).

[5] The political parties at the Spanish national level also operate in local governments. There are, therefore, two main national parties at the local level: "PSOE" (progressive) and "Partido Popular" (conservative).

Table 4 Municipal rents extraction

Dependent variable	Politicians wages
Constant	6.80 (5.42)***
Municipal wage	0.0002 (2.07)**
Political competition	−1.12 (−2.19)**
Voter information	−0.02 (-2.02)**
Political ideology	−0.20 (−0.39)
Mayor gender	−0.91 (−1.65)*
Economic level	0.00002 (0.17)
Population density	−0.0001 (−1.73)*
Taxes	−0.0024 (−1.41)
N	294
R^2	0.12

OLS estimation. *T*-values in brackets. Maximum VIF: 5.07

Significance: *** 1 %, ** 5 %, * 10 %

The negative and significant coefficients of *Political competition* and *Voter information* indicate that weaker political competition and lesser voter information are associated with more rent extraction levels (*Politicians wages*).

These findings are in line with theoretical models that associate political rents with political agency problems. As Ferejohn (1986) posits, agency costs arise because voters and their elected representatives do not have identical preferences. Incumbents have their own parochial interests, which do not always maximize citizens' welfare. Persson et al. (1997) extend this theoretical idea by developing a model assuming that this political agency problem leads to rent extraction: voters pay taxes to fund public goods that are provided by incumbents. The cost of the public good provision is known by incumbents, but unknown by voters. This information asymmetry makes it possible for incumbents to extract rents from tax payments for their own personal benefit. Therefore, rents should be driven down to zero when voters are well informed and political competition is perfect (Wittman 1989). This theoretical prediction has been confirmed widely for the case of illegal political rents, i.e., corruption. For instance, Alt and Lassen (2008) show that stronger political competition is associated with less public corruption. Similarly, Besley and Burgess (2002), Adserà et al. (2003) and Brunetti and Weder (2003) find that as voter information increases, corruption decreases. The relevance of our results thus is obvious since we show that stronger political competition and more voter information also reduce the amount of rent extraction in the form of politicians' wages when they are free to set their own salaries. To the best of our knowledge, only one other study, Svaleryd and Vlachos (2009), analyzes the impact of the levels of political competition and voter information on the incentives for politicians to extract rents legally. Those authors also find that Swedish local politicians are more likely to engage in legal rent extraction when political competition is weak and voter information is low.

Regarding our control variables, the mayor's political ideology appears not to affect the level of rent extraction: top politicians' wages do not vary according to political ideology. This finding also agrees with the results of Svaleryd and Vlachos (2009).

However, *Mayor gender* has a weak, but significant effect on *Politicians wages*. We therefore conclude that if the mayor is male, rent extraction increases, other things being the same. This, too, confirms previous literature, which argues that the incumbents' gender influences policy outcomes.

Economic level does not have a significant effect on *Politicians wages*. This result contrasts with the findings of Di Tella and Fisman (2002) and Svaleryd and Vlachos (2009), which suggest that economic development has a positive effect on rent extraction.

With regard to population density (*Population density*), the estimates reveal that rent extraction is less evident in more densely populated municipalities. That finding contradicts out initial prediction based on economies of scale in the provision of public goods. Our results suggest the presence of diseconomies of scale in Spanish municipalities. If higher population density leads to diseconomies of scale in the provision of public goods, then rent extraction would be more difficult since there would be less resources to extract.

Finally, the coefficient of variable *Taxes* is not significant, which shows that, ceteris paribus, top politicians do not raise taxes to finance their own wage increases.

In an additional empirical analysis, we examine whether top politicians' wages affect their financial management practices. As dependent variables, we employ five budget indicators to evaluate local financial management: budget deficit (*Deficit*), savings (*Savings*), net savings (*Net savings*), deviation in tax revenues (*Deviation in revenue*) and deviation in current expenditures (*Deviation in expenditure*). Regarding the independent variables, we enter the top politicians' wages (*Politicians wages*) and the following control variables: political competition (*Political competition*), mayor's political ideology (*Political ideology*), economic level (*Economic level*), unemployment (*Unemployment*), population density (*Population density*), taxes (*Taxes*) and transfers received by the local governments (*Transfers*). See Table 5 (Appendix 1) for a complete description of the variables included in the additional analysis.

The results reveal that higher salaries are not associated with better financial management.[6] These findings differ from previous studies (see e.g., Ferraz and Finan 2009; Gagliarducci and Nannicini 2013), which show that better paid local politicians perform better in other countries, such as Brazil and Italy. The reason for the difference may lie in the fact that Spanish local politicians determine their own wages, while the wages of local Brazilian and Italian politicians are set by law based on municipal populations. Gersbach (2009) states that policy outcomes are better with predetermined wages. According to this author, politicians have a level of competence (high or low) which is known by themselves. The more competent politicians produce a larger surplus than those who are less competent. If politicians' wages are determined unilaterally, the more competent politicians set a wage that allows them to capture the entire extra surplus they generate. If, on the other hand, wages are set by law, the extra surplus that the more competent politicians generate goes to the voters (Gersbach 2009). So the question is: why do better paid incumbents produce better outcomes when the salary is set by law, for example, depending on the population size? Coates (1999) states that higher salaries attract more competent politicians, resulting in an increase in the effectiveness of government. To sum up, if top politicians' do not set their own pay, higher wages will foster better performance. However, in line with our results, if politicians determine their own wages, higher wages do not ensure better financial management. These findings confirm our previous section's results that wages are, in fact, legal rents, as we show that higher wages are not a cause for better financial management.

6 Conclusions

This paper analyzes the causes of legal political rent extraction, focusing primarily on the effect of political competition and voter information. In this regard, our analysis focuses on one of the legal forms of rent extraction, the unilateral setting of wages by top politicians. According to Svaleryd and Vlachos (2009), top politicians' wages are proxies for legal

[6] See Table 6 (Appendix 1) for additional analysis' results.

political rent extraction when politicians themselves determine their own wages, as it is the case in Spanish local governments.

Using a sample of the 100 largest Spanish municipalities, we find that weaker political competition and lesser voter information are associated with higher public sector salaries, that is, more legal rent extraction. This finding is consistent with political agency models, in which the informational asymmetry about the costs of providing public goods costs creates incentives for incumbent politicians to extract rents. It is important to point out that most of the empirical work on political rent extraction is based on the rents that politicians get illegally, i.e., engaging in corrupt activities. However, since politicians are also able legally to divert public funds to their own pockets in the form of higher salaries, we considered it interesting to explore this form of rent extraction. In this respect, our paper, along with Svaleryd and Vlachos (2009), is the first to deal with this issue. Both studies provide evidence that stronger political competition and more voter information limit legal political rent extraction. The relevance of these results is clear, since it is not only confirmed that, as in the case of public corruption, political competition and voter information reduce legal political rent extraction, but that evidence also exists for this link using a direct measure of legal rents, i.e., top politicians' wage setting.

Nevertheless, these findings are only a first step toward an understanding of the politicians' incentives for extracting legal rents. Future research should work along these lines by evaluating the long-term evolution of legal rent extraction. Furthermore, efforts should be undertaken to investigate the relationship between illegal and legal political rent extraction in greater detail. An important area for future studies centers on how politicians choose between these two forms of rent extraction and should examine the factors behind their decisions, for example, if they govern in a democratic context or the extent of autonomy they enjoy.

In addition, we investigate whether top politicians who extract more rents by raising their own salaries are better financial managers of the public budget. We find that top municipal politicians whose salaries are higher (by their own wage choices) are not better managers of the public accounts under their control. Those findings contradict, at least in the case of Spanish cities, previous empirical evidence suggesting that better paid politicians perform better (Ferraz and Finan 2009; Gagliarducci and Nannicini 2013). The difference may lie in the fact that previous studies have focused on countries where local politicians' wages are set by law.

One of the policy implications of our study is that it seems desirable to fix local top politicians' wages by law as a way to prevent them from extracting rents through setting their own wages. Certain countries, such as Brazil or Italy, already set local top politicians' wages by law. Empirical evidence shows that those countries are on the path, since fixing local top politicians' wages at the national level could constrain legal rent extraction. In the case of Spain, the government is in the process of drafting a new law that aims to set local politicians' salaries. According to this law, the population of the municipality will be the main criterion for determining local politicians' wages.

Acknowledgments This study has benefited from the financial support of the Spanish National R&D Plan under research project ECO2010-20522 (Spanish Ministry of Science and Innovation). It has also received support from the Ministry of Education (University's Teacher Training, under the National Plan for Scientific Research, Development and Innovation 2008–2011).

Appendix 1

See Table 5 and 6.

Table 5 Definition of variables and basic statistics of the additional analysis

Variable	Description	Calculation	Source	Mean	SD	Min.	Max.
Deficit	Budget deficit (€/pc)	(Non-financial expenditure—non-financial revenue)/population	Taken from Spanish Ministry of the Treasury	34.29	113.63	−415.23	439.20
Savings	Savings (€/pc)	(Current revenue—current expenditure, excluding interest expense)/population	Taken from Spanish Ministry of the Treasury	93.45	108.61	−248.31	603.98
Net savings	Net savings (€/pc)	(Savings—financial expenditures, including interest expense)/population	Taken from Spanish Ministry of the Treasury	20.77	110.38	−389.16	526.50
Deviation in revenue	Deviation in tax revenues (%)	($\text{budgeted}_{i,t}$—$\text{actual}_{i,t}$)/$\text{budgeted}_{i,t}$	Taken from Spanish Ministry of the Treasury	5.24	12.98	−25.65	58.31
Deviation in expenditure	Deviation in current expenditures (%)	($\text{budgeted}_{i,t}$—$\text{actual}_{i,t}$)/$\text{budgeted}_{i,t}$	Taken from Spanish Ministry of the Treasury	1.38	7.58	−29.23	52.91
Politicians wages	Wage paid to top politicians (€/pc)	Annual salary paid to the highest ranking politicians in euros/population	Taken from Spanish Ministry of the Treasury	7.74	3.76	0.86	29.26
Political competition	Municipal political competition	Value 1: the percentage of votes cast for the ruling party is less than 50 % Value 0: Otherwise	Taken from Spanish Home Office	0.51	0.50	0	1
Political ideology	Political ideology of the mayor	Value1: conservative/right Value 0: progressive/left	Taken from Spanish Home Office	0.46	0.50	0	1
Economic level	Economic level (€/pc)	Income in euros/population	Taken from "Lawrence R. Klein"Economic Institute	15,646.96	3,635.84	10,814.93	33,659.75
Unemployment	Unemployment rate of the municipality (%)	Number of unemployed/population	Takenfrom Anuario Económico "La Caixa"	10.66	3.59	3.40	21.40
Population density	Population density of the municipality (inhab/Km^2)	Population/Km^2	Taken from the Spanish National Statistics Institute	2,825.15	3,566.30	52.67	18,989.87
Taxes	Tax revenue (€/pc)	Tax revenue in euros/population	Taken from Spanish Ministry of the Treasury	577.01	155.07	302.00	1,299.16
Transfers	Regional and central transfers (€/pc)	Regional and central transfers ineuros/population	Taken from Spanish Ministry of the Treasury	428.32	147.12	115.97	1,066.87

Table 6 Municipal financial management

Dependent variables	Deficit	Savings	Net savings	Deviation in revenue	Deviation in expenditure
constant	33.31 (0.58)	13.44 (0.27)	−70.74 (−1.36)	22.73 (3.72)	1.97 (0.53)
Politicians wages	4.26 (2.33)**	−5.11 (−3.22)***	−4.69 (−2.82)***	0.84 (4.41)***	0.13 (1.13)
Political competition	−8.79 (−0.55)	23.56 (1.69)*	18.31 (1.25)	−0.70 (−0.40)	−0.24 (−0.23)
Political ideology	15.61 (0.97)	14.71 (1.05)	18.61 (1.27)	3.06 (1.81)*	3.65 (3.56)***
Economic level	−0.0016 (−0.70)	0.0090 (4.44)***	0.0084 (3.94)***	0.00001 (0.04)	0.0004 (2.13)**
Unemployment	−1.22 (−0.52)	−3.13 (−1.53)	−1.81 (−0.84)	−0.35 (−1.40)	−0.07 (−0.44)
Population density	−0.0013 (−0.67)	0.0055 (3.29)***	0.0052 (3.00)***	−0.0004 (−1.90)*	−0.0002 (−1.48)
Taxes				−0.03 (−4.89)***	−0.01 (−2.06)**
Transfers				−0.01 (−2.52)**	−0.01 (−2.81)***
N	294	294	293	294	294
R^2	0.04	0.21	0.16	0.21	0.15

OLS estimation. T-values in brackets. Maximum VIF: 2.34

Significance: *** 1 %, ** 5 %, * 10 %

References

Ades, A., & Di Tella, R. (1997). National champions and corruption: Some unpleasant interventionist arithmetic. *The Economic Journal, 107*(443), 1023–1042.

Adserà, A., Boix, C., & Payne, M. (2003). Are you being served? Political accountability and quality of government. *Journal of Law Economics and Organization, 19*(2), 445–490.

Alt, J. E., & Lassen, D. D. (2003). The political economy of institutions and corruption in American states. *Journal of Theoretical Politics, 15*(3), 341–365.

Alt, J. E., & Lassen, D. D. (2008). Political and judicial checks on corruption. Evidence from American state governments. *Economics and Politics, 20*(1), 33–61.

Arikan, G. G. (2004). Fiscal decentralization: A remedy for corruption? *International Tax and Public Finance, 11*(2), 175–195.

Barro, R. J. (1973). The control of politicians. *Public Choice, 14*, 19–42.

Besley, T. (2004). Paying politicians: theory and evidence. *Journal of the European Economic Association, 2*(2–3), 193–215.

Besley, T. J., & Burgess, R. (2002). The political economy of government responsiveness. Theory and evidence from India. *Quarterly Journal of Economics, 117*(4), 1415–1452.

Besley, T., & Case, A. (2003). Political institutions and policy choices: Evidence from the United States. *Journal of Economic Literature, 41*(1), 7–73.

Brunetti, A., & Weder, B. (2003). A free press is bad news for corruption. *Journal of Public economics, 87*(7), 1801–1824.

Coate, S. (2004). Pareto improving campaign finance policy. *American Economic Review, 94*(3), 628–655.

Coates, D. (1999). *Efficiency wages for politicians: do better paid elected officials produce better outcomes*. Baltimore: University of Maryland. http://userpages.umbc.edu/~coates//work/salaryre.pdf.

Congleton, R. D., Hillman, A. L., & Konrad, K. A. (2008). *40 years of research on rent seeking 1: Theory of rent seeking*. Berlin: Springer.

Di Tella, R., & Fisman, R. (2002). *Are politicians really paid like bureaucrats?* No. w9165. Cambridge, MA: National Bureau of Economic Research.

Ferejohn, J. (1986). Incumbent performance and electoral control. *Public Choice, 50*, 5–26.

Ferraz, C., & Finan, C. (2009). *Motivating politicians: the impacts of monetary incentives on quality and performance*. NBER Working Paper 14906. Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w14906.

Ferreira, F., & Gyourko, J. (2011). *Does gender matter for political leadership? The case of US mayors*. NBER Working Paper 17671. Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w17671.

Gagliarducci, S., & Nannicini, T. (2013). Do better paid politicians perform better? Disentangling incentives from selection. *Journal of the European Economic Association, 11*(2), 369–398.

Gersbach, H. (2009). Competition of politicians for wages and office. *Social Choice and Welfare, 32*(4), 533–553.

Giuriato, L., & Gastaldi. F. (2009). *The Domestic Stability Pact in Italy: A rule for discipline?* Munich Personal RePEc Archive, MPRA Paper No. 15183, Munich.

Goel, R. K., & Nelson, M. A. (1998). Corruption and government size: A disaggregated analysis. *Public Choice, 97*(1–2), 107–120.

Goel, R. K., & Rich, D. P. (1989). On the economic incentives for taking bribes. *Public Choice, 61*(3), 269–275.

Hillman, A. L. (2013). Rent seeking. In M. Reksulak, L. Razzolini, & W. F. Shughart II (Eds.), *The Elgar Companion to Public Choice* (2nd ed.). Cheltenham: Edward Elgar Publishing.

Houser, D., & Stratmann, T. (2008). Selling favors in the lab: Experiments on campaign finance reform. *Public Choice, 136*(1–2), 215–239.

Jiménez, F. (2009). Building boom and political corruption in Spain. *South European Society and Politics, 14*(3), 255–272.

Jiménez, F., Villoria, M., & Garcia-Quesada, M. (2012). Badly designed institutions, informal rules and perverse incentives: Local government corruption in Spain. *Lex localis- Journal of Local Self-Government, 10*(4), 363–381.

Krueger, A. O. (1974). The political economy of the rent seeking society. *The American Economic Review, 64*, 291–303.

Lambsdorff, J. G. (2002). Corruption and rent seeking. *Public Choice, 113*(1–2), 97–125.

Leite, C., & Weidmann, J. (1999). *Does mother nature corrupt? Natural resources, corruption, and economic growth*. IMF Working Paper 99/85. Washington: International Monetary Fund. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=259928.

McChesney, F. S. (1997). *Money for nothing: Politicians, rent extraction, and political extortion*. Cambridge: Harvard University Press.

Peichl, A., Pestel, N., & Siegloch, S. (2013). The politicians' wage gap: Insights from German members of parliament. *Public Choice, 156*(3–4), 653–676.

Persson, T., Roland, G., & Tabellini, G. (1997). Separation of powers and political accountability. *Quarterly Journal of Economics, 112*, 1163–1202.

Persson, T., & Tabellini, G. (2000). *Political economics*. Cambridge: MIT Press.

Persson, T., Tabellini, G., & Trebbi, F. (2003). Electoral rules and corruption. *Journal of the European Economic Association, 1*(4), 958–989.

Pettersson-Lidbom, P. (2001). An empirical investigation of the strategic use of debt. *Journal of Political Economy, 109*(3), 570–583.

Picci, L. (2005). Proposal for a new measure of corruption, illustrated with Italian data. *Economics and Politics, 17*(1), 37–75.

Posner, R. A. (1975). The social costs of monopoly and regulation. *The Journal of Political Economy, 83*, 807–828.

Potters, J., Sloof, R., & Van Winden, F. (1997). Campaign expenditures, contributions, and direct endorsements: The strategic use of information and money to influence voter behavior. *European Journal of Political Economy, 13*, 1–31.

Prat, A. (2002). Campaign advertising and voter welfare. *Review of Economic Studies, 69*(4), 999–1018.

Svaleryd, H., & Vlachos, J. (2009). Political rents in a non-corrupt democracy. *Journal of Public Economics, 93*(3), 355–372.

Treisman, D. (2000). The causes of corruption: A cross-national study. *Journal of Public Economics, 76*(3), 399–457.

Tullock, G. (1967). The welfare costs of tariffs, monopolies, and theft. *Western Economic Journal, 5*, 224–232.

Vaubel, R. (2013). International organization. In M. Reksulak, L. Razzolini, & W. F. Shughart II (Eds.), *The Elgar Companion to Public Choice* (2nd ed.). Cheltenham: Edward Elgar Publishing.

Wittman, D. (1989). Why democracies produce efficient results. *Journal of Political Economy, 97*(6), 1395–1424.