Partisan Alignment and Political Corruption. Theory and Evidence from Spain

Miguel Ángel Borrella Mas

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Abstract

I study the effect of partisan alignment between local and regional governments on political corruption. I estimate the effect by using rich panel data on three consecutive municipal and regional elections in Spain and also on corrupt practices carried out by local politicians. I find significantly more corruption in aligned municipalities. Partisan alignment increases corruption by 2.2 percentage points with respect to the 5.7% mean level of non-aligned municipalities. This effect is more pronounced among municipalities with *i)* more than 10,000 inhabitants, *ii)* a budget size above the mean level, *iii)* local and regional elections held on the same day and the regional government ruling the Autonomous Community with absolute majority and *iv)* the main right-wing party in the country ruling both government layers. The empirical results are consistent with a simple model of electoral accountability in which politicians in office have to decide between pleasing voters and extracting rents for their own benefit conditional on alignment. Specifically, the model highlights that corruption is an increasing function of the benefits of being aligned and the budget size, with a complementary response due to the interaction between both effects.

Keywords: corruption, elections, partisan alignment, political career concerns, political economy, Spain.

JEL classification numbers: D72, D73, H77, P16.

** Universidad de Alicante, Departamento de Fundamentos del Análisis Económico, Apartado de Correos 99, 03080 Alicante, Spain, Email: miguelangel.borrella@ua.es

1 Introduction

Political corruption and, more generally, malfunctioning governments are a widespread phenomenon worldwide.[1] Institutions such as the World Bank highlight that politicians abusing their entrusted power to divert funds for private benefits is one of the most important threats to many developed economies (Kaufmann *et al.*, 2004, 2009).[2] In particular, recent empirical evidence shows that its cost equals more than 5% of global GDP (OECD, 2013), increasing by 10% the average cost of doing business (World Economic Forum, 2008). Despite its well documented economic importance, evidence on re-election of corrupted politicians in different government layers in modern democracies suggests that political corruption is a complex phenomenon and so is the methodological challenge faced by researchers in measuring it and in teasing out politicians' incentives in different government tiers.[3]

In this paper I study both theoretically and empirically whether partisan alignment between local and regional governments has an impact on political corruption at the municipal level in Spain. This is possible thanks to a novel dataset I constructed by carefully collecting information on corruption and by matching it with local and regional elections data over three consecutive electoral cycles (1999-2011). In particular, I extracted from press news published over the last 15 years relevant information about fraud in over-invoicing, diversion of public funds and bribing, measuring corruption with a dummy equal to 1 if corruption was observed in a municipality and 0 otherwise.[4]

By focusing on political corruption, I extend the recent literature analysing partisan alignment, that has so far focused on monetary transfers from upper-tier to local governments (Bracco *et al.*, 2014; Brollo and Nannicini, 2012; Migueis, 2013; Solé-Ollé and Sorribas-Navarro, 2008), by scrutinizing whether transfers lead to corruption. By also studying if the wealth of the

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[1]It is important to distinguish between political corruption and bureaucratic one (Amundsen, 1999). The latter solely arises from unlawful behaviour by bureaucrats in the public administration given a set of laws. The former may arise likewise, and in addition, when policy formulation and legislation is tailored to benefit politicians and legislators. See Fitzpatrick (2007) for a comprehensive definition and classification of this phenomenon.

[2]See Perspectives (1998) for a detailed description of the pervasive impact of corruption. See instead Pellegrini and Gerlagh (2008) for an empirical survey of its sources.

[3]See Manzetti and Wilson (2007); Miller (1999); Reed (1999) for assessments of the weak relationship between corruption and re-election at the national level and Jiménez and García (2012); Costas-Pérez *et al.* (2012) at the local one in Spain. See instead Anderson and Tverdova (2003); Bowler and Karp (2004); Warren (2004) for documenting the negative relationship between corruption and public confidence in democratic systems; and Mendez and Sepulveda (2006) for assessing its detrimental consequences for economic growth, mainly through lowering private and foreign investment (Mauro, 1995; Wei, 2000) and international trade (de Jong and Bogmans, 2011).

[4]In all news, I checked case-by-case when the corruption scandal appearing in the media actually occurred.

municipality and the characteristics of the electoral systems affect corruption, I contribute to the literature finding that additional resources foster corruption, either by incentivizing more transfers from upper government layers (Brollo *et al.*, 2013) or thanks to the exploitation of new natural resources (Tella and Ades, 1999).

The effect is identified thanks to a fixed-effect model by exploiting the quasi-randomness of partisan alignment, which relies on two assumptions. First, the high degree of uncertainty in the electoral process, as a large number of parties have real chances of winning the elections at the local level. Second, the behaviour of Spanish voters, who traditionally reward their (national) most preferred party in the regional elections and the most valuable politician in local ones (Delgado, 2010; Sanz Cazorla, 2007). Hence, alignment is not key in voters' preferences when going to the polls and can be considered a post-electoral outcome.

I find that aligned municipalities are significantly more corrupt than municipalities that are not. Specifically, partisan alignment increases corruption by 2.2 percentage points with respect to the 5.7% mean level of non-aligned municipalities. In addition, a larger budget size also raises corruption in aligned municipalities. In particular, corruption is 4.0 percentage points higher in aligned municipalities above the per capita average budget compared to those aligned ones that are below this threshold. Conversely, the effect is not significant if I use population size as proxy to determine wealthy municipalities. In both cases, I also find that the effect of alignment is more pronounced in wealthier municipalities.

In addition, the effect is stronger in aligned localities in which regional governments have absolute majority and local and regional elections are held the same day. And so it is in those municipalities ruled by the main right-wing party (*People's Party*). In contrast, the effect is not significant when the party ruling both government layers is the main left-wing party (*Socialist party*) in the country. Finally, the results are robust to the inclusion of additional controls, to the use of different definitions of alignment and to falsification tests assessing that neither past nor future alignment had influence on current corruption.

I rationalise the empirical evidence by using a simple political agency model with career concerns à la Persson and Tabellini (2000) in which politicians in office maximise re-election probability by choosing whether to extract rents, that is not perfectly observed and hence is not punished with certainty. Extending the baseline model by allowing incumbents' competence and probability of detection to depend on alignment, I obtain the following testable predictions. First, the direction of the alignment effect on corruption depends on the difference

in the competence in providing public goods and also on the difference in the probability of being caught between aligned and non-aligned incumbents.

On the one hand, the alignment effect may be positive if the local politicians benefit from either better connections when obtaining public contracts and projects with firms or a lack of monitoring from the upper-tier governments when the same party controls both levels. On the other, it may be negative if regional governments are able to influence aligned municipalities to act according to law by credibly threaten them.[5] Finally, it may be zero if regional governments behave similarly towards aligned and non-aligned local governments.

In addition, the model yields two more testable predictions. First, the effect of the budget size on rent-extraction depends on the effect of being aligned. In particular, unless alignment has a strong negative effect on rent-extraction, corruption is higher the greater the budget size is. Second, the interaction between these two effects implies a complementarity: because of alignment and a larger budget size, an incumbent can afford to grab higher rents without changing her re-election chances.

At the theoretical level, studying the alignment effect in a decentralized economy extends the literature analysing the effect of decentralization on corruption (Albornoz and Cabrales, 2013; Shleifer and Vishny, 1993). In addition, providing theoretical mechanisms rationalizing why politicians in office can carry out corrupt practices without affecting their re-election probability complements the current literature studying why Spanish voters react softly in the polls after a corruption scandal (Jiménez et al., 2013). Since the chances of being re-elected even increase in some cases, it also complements evidence on corruption being rewarded in those cases in which side benefits are generated (Barbera et al., 2015).

Overall, I make a twofold contribution to the literature studying corruption and its implications. First, by theoretically illustrating that the effect of partisan alignment on corruption is not clear-cut ex-ante since aligned municipalities may have different rent-extraction opportunities, I extend theoretical studies on the political economy of rent-extraction analysing the causes of corruption (Damania and Yalcin, 2008; Mookherjee and Bardhan, 2000; Shleifer and Vishny, 1993). Second, by putting forward a new mechanism through which local politicians become corrupt in a decentralized economy, I complement the literature showing that decentralization increases corruption (Erlingsson et al., 2008; Fisman and Gatti, 2002; Gerring and

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[5]For instance, by menacing them with removing the party support in case they are accused of corruption, forcing them to resign from office and to leave the party. It may also has a negative effect if regional governments are directly informed of the corrupt practices at the local level, but both levels share the benefits.

Thacker, 2004). In addition, both the homogeneous and the heterogeneous alignemnt effect for different subgroups of municipalities suggests that the design of policy reforms should carefully account for the role that institutions have in the emergence of a phenomenon as important as corruption, given its negative aggregate implications (Alfano *et al.*, 2013; Ferraz and Finan, 2011). Finally, the paper contributes to the literature evaluating partisan alignment (Bracco *et al.*, 2014; Brollo and Nannicini, 2012; Migueis, 2013; Solé-Ollé and Sorribas-Navarro, 2008) by highlighting that political alliances and politicians' incentives among different government layers are key components in the strategic interaction between them.

The structure of the rest of the paper is as follows. In section 2 I provide a simple career concern model that accounts for the different incentives that local politicians have regarding corruption under partisan alignment. Section 3 describes the institutional setting. Section 4 explains the research design and details the data, and section presents 5 the results. Finally, section 6 discusses the results and concludes.

2 Theoretical framework

2.1 A career concerns model

This section studies a version of the "career concerns" model discussed in section 4.5 of Persson and Tabellini (2000). Throughout, I will focus on a two-period economy where taxes are fixed and the government budget must be balanced in both electoral cycles. Policy commitments are not possible ahead of the elections. Politicians in office, hereafter incumbents, raise tax revenues τ and choose over the optimal rent-extraction level r_t, that is beneficial to them but at the cost of under supplying public good g_t, to maximize re-election probability. The government budget constraint is then:

$$g_t = f_t(\theta)(\tau - r_t) \tag{1}$$

where $f_t(\theta) = \theta(1 + \beta_1 A_{i1})$ reflects the politician's competence in providing the public good if elected. More competent incumbents have higher value of θ, and hence can provide public goods at a lower cost. I assume that political competence is a random permanent feature that depends on the incumbents' aligned status with the regional government. Specifically, θ is an uniformly distributed random variable over $\left[1 - \frac{1}{2\xi}, 1 + \frac{1}{2\xi}\right]$, thus having mean equal 1 and density ξ. In addition, under alignment between the regional and the local government, $(A_{i1} = 1)$, $f_t(\theta) = \theta(1 + \beta_1)$. When there is not alignment, $(A_{i1} = 0)$, $f_t(\theta) = \theta$.

Following the original model, I assume that the realization of θ becomes known to each politician, and also to voters if she is elected to office, only at the end of period 1. However, voters are not able to observe whether alignment influences the competence of the incumbent. At the time of elections, nor do they observe political rents, thus observing only their own utility (i.e., the public good g_1).

This assumption plays a crucial role. It is intended to capture the idea that partisan alignment may affect the competence in providing the public good, depending on the value of $\beta_1 \in [-1, 1]$. The intuition is as follows: well connected incumbents can benefit from some supports through different channels (obtaining more state procurement contracts, development of a legal framework favouring activity in their municipalities or creation of patronage networks). If alignment stimulates these connections ($\beta_1 > 0$), the possibilities of rent-extraction without affecting the total amount of public good provided to voters for aligned incumbents are greater than for non-aligned ones, although it could very well happen that the actual competence of a non-aligned incumbent is greater than that of an aligned one.

Rent-extraction (corruption) is constrained to be non-negative and it cannot exceed a given upper bound depending on the size of the budget $r_t \leq \bar{r} \equiv \varphi\tau$. I also assume, with no loss of generality, that the probability of being caught is dependent on alignment only in the first period. Specifically, with probability $q(r_1) = q^j r_1$ an incumbent who grabbed political rents r_1 is caught and suffers an utility loss of $\lambda \in [0, 1]$, where $j = \{A,\ NA\}$. Thus, the expected loss of utility for aligned and non-aligned incumbents may be different if caught cheating. It is meant to capture the idea that the different attitude that regional governments have towards aligned and non-aligned municipalities affect the probability of detection. For instance, if the upper-tier government tries to hide corruption of aligned municipalities or to bring out corruption of non-aligned municipalities with electoral incentives, then $q^A < q^{NA}$.

As standard in the literature on political agency, politicians care about political rents (net of the expected penalty) and enjoy other exogenous benefits from being in office (ego rents), summarized by the exogenous variable R. Thereby, the expected utility of the aligned incumbent in period 1 is

$$V_I^A = \beta_2^A\, r_1 + p_I^A \delta(R + r_2) \tag{2}$$

where $\beta_2^A = 1 - \lambda q^A$ denotes the expected value of political rents for politicians belonging to aligned municipalities, p_I^A is the incumbent re-election probability when setting the optimal rent r_1 and $0 < \delta < 1$ is a discount factor. Notice that $\beta_2^A > 0$ given the assumption made

6

about λ. Finally, voters only care about obtaining the highest possible quantity of the public good in each period, since taxes are fixed. Thus, their preferences in period $t = 1, 2$ are:

$$W_t = g_t + y(1 - \tau) \tag{3}$$

The timing of the events is as follows:

1. The incumbent sets rents r_1 in period 1 without knowing her own competence θ.

2. The actual realization of θ becomes known to the incumbent.

3. Eletions are held. When voting, voters observe their own utility and g_1, which was residually determined to satisfy (1). They do not observe neither r_1 nor θ nor β_1. If the incumbent wins and continues being aligned, her competence remains $\theta(1 + \beta_1)$. If she wins and there is a change in the regional government, her competence in period 2 is just θ. If she loses, an opponent is appointed with competence drawn at random from the same distribution.

4. At the start of period 2, the incumbent (new or not) sets r_2 and public goods are again residually determined to satisfy (1).

2.2 Corruption in equilibrium

The model is solved by backward induction. Incumbent in period 2 always appropriate maximum rents. Consequently, $r_2 = \bar{r} \equiv \varphi\tau$ and $g_2 = f_2(\theta)(1 - \varphi)\tau$. This is because they do not have incentives to behave well. Notwithstanding, voters are better off the greater θ is, as this provides them higher period 2 utility.

This is also true in period 1, where the incumbent is reappointed only if her estimated competence exceeds her opponent's expected competence. In particular, optimal voting behaviour implies that voters know g_1 and τ when voting, and hence can compute $\hat{r}_1$, the solution to the maximization problem of the incumbent in the first period. Thus, by (1), voters can infer the estimated incumbent competence as

$$f_1(\hat{\theta}) = \frac{g_1}{\tau - \hat{r}_1} \tag{4}$$

and the incumbent wins the elections with probability 1 if and only if $f_1(\hat{\theta}) \geq E(\theta) = 1$.

From the point of view of the aligned incumbent, the probability of winning the elections is

given by

$$
\begin{aligned}
\hat{p_I}^A &= Pr[f_1(\hat{\theta}) \geq 1] = Pr\left(\theta \geq \frac{\tau - \hat{r}_1}{(1 + \beta_1)(\tau - r_1)}\right) \\
&= \frac{1}{2} + \xi\left(1 - \frac{\tau - \hat{r}_1}{(1 + \beta_1)(\tau - r_1)}\right)
\end{aligned}
\tag{5}
$$

where the first line follows by using (1) for $t = 1$ and (4),[6] and the second from the assumption about the distribution of θ.[7] The aligned incumbent thus maximizes (2) subject to (5) with respect to r_1. The resulting first-order condition is

$$
\frac{\partial V_I^A}{\partial r_1} = \beta_2^A - \xi \frac{\tau - \hat{r}_1}{(1 + \beta_1)(\tau - r_1)^2} \delta(R + \varphi\tau) = 0
\tag{6}
$$

I obtain the equilibrium rents in the first period by imposing $\hat{r}_1 = r_1$, since politicians' optimal choice must be consistent with the voters' conjectures.[8] Therefore:

$$
r_{1,A}^* = \tau - \frac{\xi \delta(R + \varphi\tau)}{(1 + \beta_1)\beta_2^A}
\tag{7}
$$

Similarly, imposing again $\hat{r}_1 = r_1$, the equilibrium probability of reappointment is $p_I^* = \frac{1}{2} + \xi\frac{\beta_1}{1 + \beta_1}$. Notice that election outcomes in equilibrium only depend on the different competence between aligned and non-aligned incumbents, and not on actual policies. Intuitively, incumbents have more information than voters. Therefore, the latter cannot correctly guess the aligned incumbents' true competence so they can take advantage of this asymmetric information to increase their probability of re-election.

Hence, the following testable predictions can be derived from the model. For simplicity, I focus on the case in which there are no differences in the competence of aligned and non-aligned incumbents ($\beta_1 = 0$). In Appendix I, I analyse the case in which the probability of being caught is equal to zero ($\beta_2 = 1$).

Proposition 1. *As long as $q^A < q^{NA}(\beta_2^A > \beta_2^{NA})$, aligned municipalities are more corrupt. The opposite happens if $q^A > q^{NA}$. There is no partisan alignment effect when $q^A = q^{NA}$.*

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[6]

$$
Pr[f_1(\hat{\theta}) \geq 1] = Pr\left(\frac{g_1}{\tau - \hat{r}_1} \geq 1\right) = Pr\left(\frac{\theta(1 + \beta_1)(\tau - r_1)}{\tau - \hat{r}_1} \geq 1\right) = Pr\left(\theta \geq \frac{\tau - \hat{r}_1}{(1 + \beta_1)(\tau - r_1)}\right)
$$

[7]In particular, given that θ is drawn from an uniform distribution with $E(\theta) = 1$ and density ξ,

$$
Pr(\theta > X) = \frac{1}{2} + \xi(1 - X)
$$

[8]The solution to the maximization problem of non-aligned incumbents when the probability of being caught is equal to zero is shown in Persson and Tabellini (2000). Specifically, equilibrium rents are $r_{1,NA}^* = \tau - \xi\,\delta(R + \varphi\tau)$.

This can also be shown in equation (8), where the difference in the equilibrium level of corruption between aligned and non-aligned municipalities is computed as:

$$r_{1,A}^* - r_{1,NA}^* = \frac{\xi\,\delta(R + \varphi\tau)(\beta_2^A - \beta_2^{NA})}{\beta_2^A\,\beta_2^{NA}} \tag{8}$$

Corollary 1. *Corruption is a decreasing function of the probability of being caught cheating,*
$\frac{\partial r_{1,A}^*}{\partial \beta_2^A} = \frac{\xi\,\delta(R + \varphi\tau)}{(\beta_2^A)^2} > 0$

A direct implication from either (7) or (8). Intuitively, from $(f_1(\hat{\theta}) = \frac{g_1}{\tau - \hat{r_1}})$ and substituting $\hat{r_1}$ by $r_{1,A}^*$, the greater is β_2^A, the lower the impact on voters' inference about the incumbent unobserved ability when extracting rents. Hence, the lower is the probability of being caught, the higher is rent-extraction and the benefits of being aligned if this probability is smaller in aligned municipalities.

Proposition 2. *Corruption is an increasing function of budget size as long as $\beta_2^A > \xi\delta\varphi$,*
$\frac{\partial r_{1,A}^*}{\partial \tau} = 1 - \frac{\xi\delta\varphi}{\beta_2^A} > 0$. *The opposite happens if $\beta_2^A < \xi\delta\varphi$.*

This also follows immediately from (7). In words, the effect of budget size on corruption depends on partisan alignment. Then, unless detection has a strong negative impact on corruption, the incentives of incumbents to please voters decline when increasing the budget size, and rent-extraction increases with τ.

Proposition 3. *The effect of the budget size on corruption is higher the lower is the probability of detection,* $\frac{\partial^2 r_{1,A}^*}{\partial \beta_2^A \partial \tau} = \frac{\xi\delta\varphi}{(\beta_2^A)^2} > 0$

This effect between τ and β_2^A reflects that corruption is an increasing function of the interaction between the *benefits of being aligned* effect and the *budget size* effect. Intuitively, from (7) when the budget size increases by one euro, the incumbent grabs the extra euro less a quantity which is a function of the product between the value of winning the elections, the electoral threshold and the inverse of the effect of being caught cheating. Hence, the higher the difference in the probability of being caught between aligned and non-aligned municipalities in favour of aligned ones is, the bigger the share of the extra euro of budget that the aligned politician appropriates.

3 Institutional setting

Spain is a parliamentary monarchy with three different tiers of government: Central, Regional, and Local. The Spanish territory is divided in 17 regions, called *Autonomous Communities*

(AC), and in more than 8,000 municipalities. There is also an intermediate upper-local layer between the central and the local ones, called *Diputación*, in those ACs with more than one province. While the regional governments are in charge of quite important spending responsibilities, such as education, health care or welfare, municipal governments are the main players in the local public sector.

About 84% of the municipalities have less than 5,000 inhabitants, accounting for no more than 15% of the population.[9] They are ruled by an elected mayor (*alcalde*) and by an elected city council (*Ayuntamiento*). Local responsibilities increase with population size, which is recognized by the financing system in the form of higher per capita transfers and greater tax autonomy. Municipal governments are in charge of providing basic services such as public transport, civil protection, environmental services and, more interestingly, urban development. The funding of the latter expenditure category depends heavily on unconditional grants provided by upper-tier government levels, which overall represents one third of the total revenue.[10] The other two thirds are self-financed from their own revenues, mainly through local taxes: fees, special contributions and duties.

The Spanish local electoral system is based on proportional representation. It has a multi-party system, specially in the so-called *historical regions*, where regional parties like *Basque Nationalist Party* (EAJ-PNV) from the Basque Country and *Convergencia and Union* (CIU) from Catalonia have played key roles in Spanish politics. However, since the 1990s, two parties have been predominant: the *Spanish Socialist Workers' Party*, hereafter *PSOE*, and the *People's Party*, henceforth *PP*.

Municipal elections are held simultaneously in all municipalities, with more than 66,000 local representatives elected every four years.[11] The number of councillors vary according to the number of residents, with a minimum of five in those municipalities below 250 inhabitants and a maximum of 57 in Madrid. In these elections there is a single local district with closed lists and the D'Hondt formula with a minimum vote share threshold of 5% is used to allocate votes into councillors. The mayor is then indirectly elected by a majority of the council 20 days after the elections. If no one is elected on the first ballot, the councillor allocated first

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[9]See (AA.PP., 2008) for a complete report of the Spanish local government system carried out by the Spanish Ministry of Public Administration.

[10]In the year 2004, municipalities received capital transfers mainly from the Central (10%), Regional (almost 50%) and upper-local (almost 20%) governments.

[11]Regional elections are also held the same day in 13 out of 17 autonomous communities, being Galicia, Cataluña, Andalucia and Pais Vasco the ones in which elections are held in other year for historical reasons.

in the party list with most votes in the elections is appointed as the new mayor. This implies that there is a high proportion of coalitions because any single party requires majority of seats to guarantee that it obtains the power in the municipality. The same holds at the regional level, although traditionally voters reward their (national) most preferred party in the latter elections and the most valuable/popular politician in the local ones.

The city council behaves as a small representative democracy. The mayor is the highest representative authority of the municipality and responsible for its government and administration. Nevertheless, he can be removed through a censure vote if another candidate have majority support of the council. In any case, the mayor is in charge of organizing and leading the sessions and debates of the plenary, but a majority vote is needed to pass any law discussed within the council. Parties are highly disciplined given the closed-list system, what implies that in practice there are few opportunities to change any mayor's proposal when their party or coalition has absolute majority.

In addition, citizens do not have relevant ways of participating in the council decisions and the transparency degree in the municipality usually depends on the will of local representatives. Hence, mayors have a great discretionary power to set his preferred agenda. As illustrative examples, they could set their own wage, develop land use regulations or amend already developed plans without relevant opposition when having a sufficient majority.

As a result of the described environment, it is not surprising the recent rise in political corruption. During the term 1999-2003 there were 120 cases of corruption. The switch in the housing market situation and the economic boom in the country raised the number of new corruption events to 325 during the term 2003-2007. Finally, between 2007 and 2011 the number of new cases declined to 170. This reduction could be explained by the crisis in the real estate market sector, which began in 2007 and reached its peak in the following years.

4   Empirical strategy and data

I describe the empirical strategy which I use to study the effect of partisan alignment in section 4.1 and the data on Spanish municipalities used to estimate it in section 4.2.

4.1   Empirical strategy

The specification of the corruption equation is built upon the theoretical predictions stated in section 2. I define the outcome variable $Corr_{it}$ as a dummy that is equal to 1 if a municipality

had a corruption case in period t and it is equal 0 otherwise. I also define several dummies as the treatment of interest. The first one, "partisan alignment", is an indicator function equal to one when the same party controls the local council and the regional government at the same time and 0 otherwise. The second one, "coalition alignment", is broader and it is equal to one when the party ruling the municipality is also in the coalition running the regional government, regardless if it is the main party or a secondary one. Finally, "alignment (PP)", "alignment (PSOE)" and "alignment (PP-PSOE)" are dummies equal to one when both government layers are ruled, respectively, by i) the main right-wing party in the country (*People's Party*), ii) the main left-wing party one (*Socialist party*) and iii) any of them (*PP* or *PSOE*).[12]

Table 1 provides an illustration of the first two cases for the main left-wing party in the country. In the top panel there is only alignment when *PSOE* is the leader party both at the local and at the regional level. In the bottom panel, there is one extra case of alignment: when this party has the municipal power and forms part of the regional government, independently of its position within the coalition.

In any case, the objective is to identify the effect of the treatment on municipalities' corruption. However, corruption cannot be simultaneously observed in the event that the municipality is aligned (treatment) and in the counterfactual event in which it is not (control), due to the fundamental problem of causal inference. Hence, I exploit the quasi-random variation of partisan alignment over time to identify the effect of having alignment in the municipality on corruption thanks to a fixed-effect model. I let the dummy A_{it} be equal to 1 for treated municipalities and 0 otherwise. Then, the effect is estimated as the difference in the mean probability of corruption between municipalities that are aligned ($A_{it} = 1$) and those that are not ($A_{it} = 0$).

$$Corr_{it} = \alpha_i + \gamma_t + \beta A_{it} + X'_{it}\delta + \epsilon_{it} \tag{9}$$

Equation (9) provides information about the impact on corruption of partisan alignment, independently of the party ruling the municipality and of the date when the scandal appeared in the media. The parameter of interest in this equation is β. I interpret it as the change in the probability of being corrupt that is due to partisan alignment, holding all other factors fixed, what delivers a direct test of proposition (1).

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[12]Notice that aligned municipalities controlled by other parties are not included in the definition of this three dummies.

Table 1: Illustration of the treatment

	Panel A: Partisan alignment	
	PSOE (main party in regional gov.)	PSOE (secondary party in regional gov.)
PSOE (ruling local gov.)	$Alignment = 1$	$Alignment = 0$
PSOE (not ruling local gov.)	$Alignment = 0$	$Alignment = 0$
	Panel B: Partisan alignment within a coalition	
	PSOE (main party in regional gov.)	PSOE (secondary party in regional gov.)
PSOE (ruling local gov.)	$Alignment = 1$	$Alignment = 1$
PSOE (not ruling local gov.)	$Alignment = 0$	$Alignment = 0$

Note: The table shows two different definitions of partisan alignment. In panel A there is only partisan alignment when the same party is in charge of both government layers at the same time. In panel B, the definition of alignment is slightly changed to include those cases in which the party that is ruling the municipality is also in a coalition at the regional level, regardless if it is the leader party or a secondary one. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data used.

28

In this equation, α_i and γ_t are municipality and term fixed effects, respectively, and the error term ϵ_{it} is clustered at the municipal level. X_{it} is a vector of three different types of control variables. First, a set of electoral variables including the vote share of the current incumbent, participation rate, the in-power party both at the local and at the regional level and dummies for incumbency, changes in the local government within an electoral cycle and absolute majority at both levels. Second, measures of unemployment and population over the term and their growth rates, number of saving banks and number of small businesses in the municipality. Finally, a set of income variables that gives a measure of the resources available at the local level. In particular, I include direct and indirect taxes, property income and current and capital transfers from other government layers.

The voting behaviour and the multi-party system in the country are key to provide support to the identifying assumption. When going to the polls, unobserved factors such as incumbent popularity, voters' preferences or popularity of the party at the national level matter for winning any of the two elections separately. But partisan alignment, that can be considered a post-electoral outcome, is not pivotal in voters' decision when casting their vote. This is because i) the high degree of uncertainty in the outcome of local elections given the large number of parties involved and ii) the different voters' attitude towards both elections, since they vote for their most preferred party at the national level in the regional elections and for the most valuable politician in the local ones.

I provide some evidence of such behaviour in table 2. It shows the average vote share by region obtained by the three main parties in the country and also by the remaining parties over the 1999, 2003 and 2007 local and regional elections. For each region, the table presents i) the mean vote share of those parties for the three local elections in columns (1) and (4), ii) the mean vote share of the same parties for the same elections at the regional level in columns (2) and (5) and iii) the difference between them in columns (3) and (6).[13] Consider for instance the Autonomous Community of Madrid. The average vote share obtained by *PP*, *PSOE* and *United Left* is higher in regional elections. Conversely, the average vote share obtained by other parties is 18 percentage points higher in local elections, thus suggesting that voting decisions are different for both elections. This is the general pattern in all regions and also when computing the analysis separately for each electoral term, what stresses the different behaviour of voters who give greater support to i) local parties at the municipal level and ii)

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[13]Only regions in which both elections are held simultaneously are shown.

Table 2: Difference in the party vote share between local and regional elections

	(1)	(2)	(3)	(4)	(5)	(6)
	Vote share		Difference	Vote share		Difference
	Local	Regional	between	Local	Regional	between
	elections	elections	(1) - (2)	elections	elections	(4) - (5)
1999, 2003 and 2007 elections						
	Aragón			*Asturias*		
People's party	0.320	0.334	-0.014	0.322	0.377	-0.054
Socialist party	0.368	0.366	0.003	0.437	0.428	0.009
United Left	0.011	0.037	-0.026	0.104	0.099	0.005
Other parties	0.303	0.243	0.060	0.122	0.075	0.047
	Baleares			*Canarias*		
People's party	0.389	0.450	-0.061	0.177	0.272	-0.096
Socialist party	0.179	0.281	-0.102	0.323	0.280	0.043
United Left	0.014	0.047	-0.033	0.009	0.016	-0.006
Other parties	0.403	0.203	0.199	0.480	0.418	0.062
	Cantabria			*Castilla La Mancha*		
People's party	0.392	0.422	-0.030	0.429	0.398	0.030
Socialist party	0.234	0.292	-0.058	0.485	0.544	-0.059
United Left	0.018	0.031	-0.013	0.022	0.033	-0.011
Other parties	0.342	0.234	0.107	0.042	0.012	0.031
	Castilla y León			*Cataluña*		
People's party	0.553	0.495	0.058	0.044	0.107	-0.063
Socialist party	0.286	0.358	-0.072	0.221	0.320	-0.098
United Left	0.013	0.040	-0.027	0.002	0.005	-0.003
Other parties	0.084	0.084	-0.000	0.704	0.556	0.148
	Comunidad Valenciana			*Extremadura*		
People's party	0.460	0.492	-0.032	0.364	0.390	-0.026
Socialist party	0.363	0.348	0.015	0.480	0.509	-0.029
United Left	0.029	0.068	-0.039	0.053	0.057	-0.004
Other parties	0.117	0.077	0.039	0.086	0.032	0.055
	Madrid			*Murcia*		
People's party	0.411	0.510	-0.099	0.491	0.560	-0.069
Socialist party	0.287	0.363	-0.076	0.370	0.340	0.030
United Left	0.069	0.084	-0.015	0.066	0.063	0.002
OTHER	0.205	0.025	0.180	0.061	0.023	0.038
	Navarra			*La Rioja*		
People's party	0.133	0.417	-0.284	0.529	0.496	0.033
Socialist party	0.096	0.213	-0.118	0.320	0.380	-0.060
United Left	0.014	0.067	-0.053	0.009	0.022	-0.013
Other parties	0.627	0.283	0.344	0.126	0.083	0.043

Note: The table shows the average vote share by region obtained by the three main parties in the country and also by the remaining parties over the 1999, 2003 and 2007 local and regional elections, for those regions in which both elections were held simultaneously. For each region, the table shows i) the mean vote share of those parties for the three local elections in columns (1) and (4), ii) the mean vote share of the same parties for the three regional elections in columns (2) and (5) and iii) the difference between them in columns (3) and (6). Overall, the average vote share obtained by *PP*, *PSOE* and *IU* is higher in regional elections. Conversely, the average vote share obtained by other parties is higher in local elections, thus suggesting that citizens vote for their most preferred party at the national level in the regional elections and for the most valuable politician in the local ones. Electoral data comes from the Spanish Interior Ministry. Section 3 offers additional information on the institutional setting, section 4 on the empirical strategy and on the data, and section 5 on the empirical results.

national parties at the regional one.[14]

Therefore, partisan alignment is expected to be as good as random, given that voting behaviour depends on the election type in a country with a multi-layer electoral system and a highly fragmented local representation. In contrast, clusters of aligned municipalities are expected if other unobserved components play a role in the formation of alignment, thus invalidating the research design. Figure 1 shows the map of aligned versus non-aligned municipalities for the whole country and also for the *Comunidad de Madrid* region for the 2003-2007 electoral cycle. Visual inspection of both maps suggests that alignment is quasi-random, hence supporting the validity of the research design.[15]

In line with the theoretical model, I also assess whether political corruption depends on the total amount of resources available in the municipality, which I measure with the following municipal characteristics: budget capacity and population size. In particular, I define *budget_size* as a dummy equal 1 if the municipality is above the per capita average budget. Similarly, I also define *city* as another dummy equal 1 if a municipality has more than 10,000 inhabitants. This is because local responsibilities and tax autonomy increase with population size and richer municipalities may be less financial constrained. Then, I let $\tau_{it}^1 = I\{budget_{it} > \overline{budget_t}\}$ and $\tau_{it}^2 = I\{population_{it} > 10,000\}$ be two indicator functions equal to 1 for municipalities above the per capita mean budget and for big municipalities, respectively.

$$Corr_{it} = \alpha_i + \gamma_t + \beta_0 A_{it} + \beta_1 \tau_{it}^j + \beta_2 \tau_{it}^j * A_{it} + X_{it}'\delta + \epsilon_{it}, \quad j = 1, 2 \tag{10}$$

In equation (10) the coefficient β_0 captures the effect of partisan alignment for the subgroup of municipalities below *i*) the per capita average budget when using τ_{it}^1 and *ii*) 10,000 inhabitants when using τ_{it}^2. Similarly, β_1 captures the change in the probability of being corrupt that is due to the *i*) budget capacity and *ii*) municipality size in non-aligned municipalities. Finally, β_2 measures the difference in the effect of partisan alignment between the subgroups of, respectively, *i*) municipalities above and below the mean budget threshold and *ii*) big and small localities. Hence, the latter parameter of the interaction between alignment and wealth represents a direct test of proposition (3). And $\beta_1 + \beta_2$, that captures the difference in corruption between wealthier and non-wealthier municipalities under alignment, corresponds to a test of proposition (2).

In the empirical analysis, I test the significance of the interaction effect between alignment and

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[14]Results available upon request.

[15]The evidence is similar if another region or another electoral term is chosen.

Figure 1: Partisan alignment by municipalitiy

Spain. 2003-2007

Continued on the next page...

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Comunidad de Madrid. 2003-2007
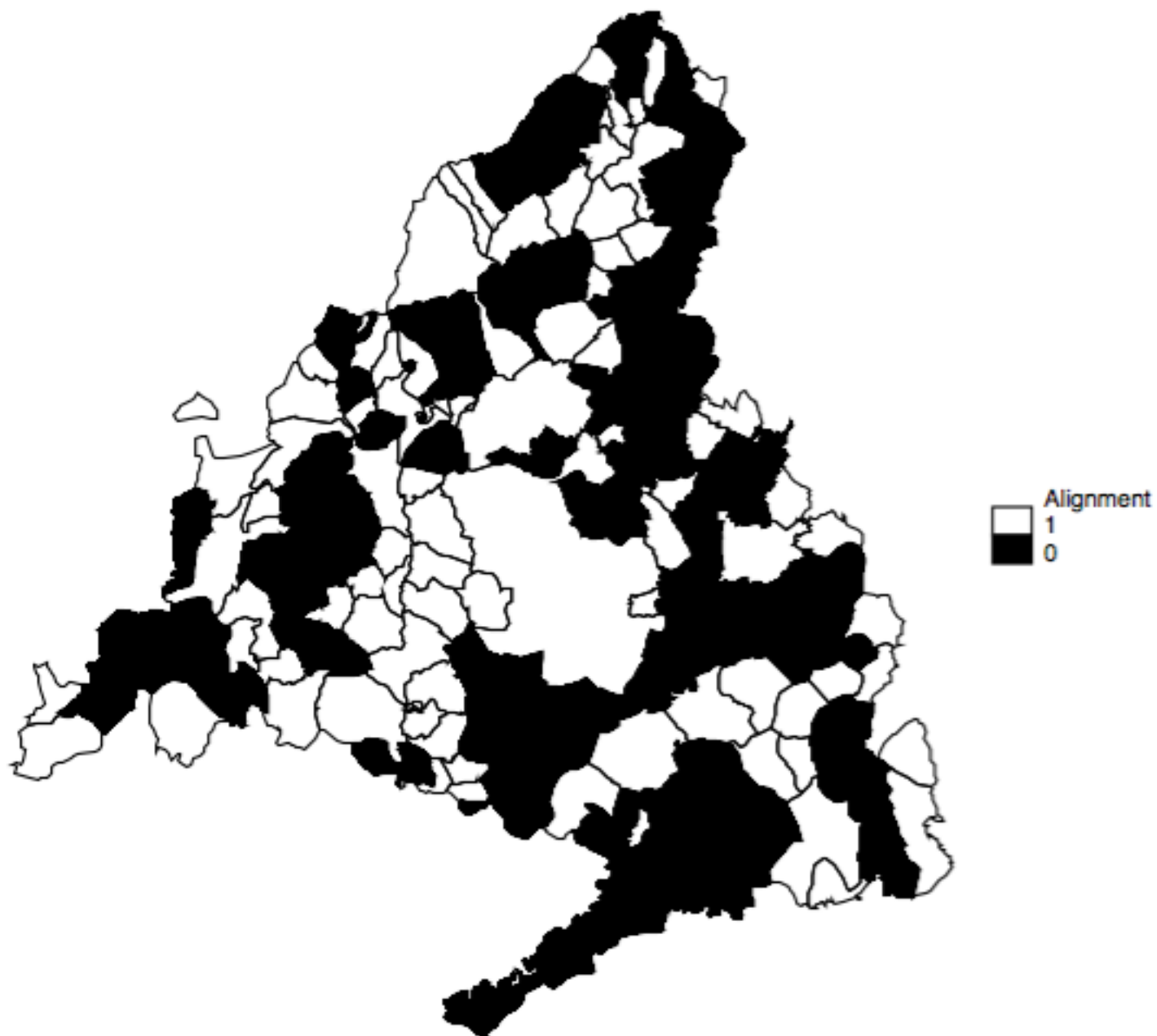
Notes: The figure shows partisan alignment by municipality. The map in the top panel is obtained by using data for the whole country, while in the bottom one only the Spanish region *Comunidad de Madrid* is plotted. If partisan alignment is as good as random, it offers support to the validity of the research design to identify its effect on corruption. Visual inspection of the allocation of alignment suggests that no suspicious clusters of municipalities. Section 3 offers additional information about the institutional setting and the validity of the research design.

wealth ($\beta_2 = 0$) by using a t-test. I also test the effect that wealthier municipalities are more corrupt under alignment by testing as null hypothesis the linear restriction $\beta_1 + \beta_2 = 0$. For simplicity, I re-parametrize equation (10) defining $\phi = \beta_1 + \beta_2$ to test this null hypothesis using a t-test in the tables showing the main results. Therefore, the estimated equation becomes:

$$Corr_{it} = \alpha_i + \gamma_t + \beta_0 A_{it} + \phi \tau_{it}^j + \beta_2 \tau_{it}^j * (A_{it} - 1) + X_{it}'\delta + \epsilon_{it}, \qquad (11)$$
$$j = 1, 2 \qquad \phi = \beta_1 + \beta_2$$

4.2 Data

Empirical research on corruption has been traditionally hindered by lack of data on such illegal activity. In this paper I circumvent this limitation by constructing a novel dataset on this phenomenon that contains information on corrupt practices occurred at the municipal level between 1999 and 2011. In particular, I analysed two corruption studies carried out by the main left-wing ('El Pais') and the main right-wing ('El Mundo') newspapers in Spain.[16] I also took the approach followed in (Saiz and Simonsohn, 2013) consisting on internet-guided searches to complete the database. In all cases, I identified those municipalities in which local politicians were involved in a corruption scandal related to fraud in over-invoicing, diversion of public funds or bribing.[17] Then, I checked case by case when the corruption scandal appearing in the media actually occurred. Hence, I collected information about in which electoral term corruption was happening, regardless of when citizens had knowledge about these practices, a key element in the empirical analysis.

Then, I estimate the effect of partisan alignment on political corruption by using this novel corruption dataset and by matching it with a panel data of municipalities in Spain consisting on three different sources of information. The first one contains data about three consecutive local elections held in 1999, 2003 and 2007 and it is provided by the Spanish Interior Ministry.[18] In particular, there is information about the number of votes, vote share and number of city councillors of each party by municipality, as well as the in-power party and the name of the mayor at the beginning and at the end of each term. Then, two types of variables are created. First, the vote variable is calculated as the vote share obtained by the incumbent party at the local level in each municipality at the municipal elections. Second, dummies about whether

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[16]Both studies provide similar information. See (Alternativas, 2007) and (Mundo, 2006) for more details. See also Jerez Darias *et al.* (2012) for a geographical description of corruption scandals.

[17]Only those cases in which there was judicial intervention were considered. However, I am not able to sort out the cases between finished and unfinished because the majority of them have not been resolved yet.

[18]Source http://www.infoelectoral.mir.es/min/home.html

i) the party ruling the municipality had absolute majority, *ii*) the previous incumbent was re-elected and also *iii*) there was a change in the local government within the electoral cycle. This may happen due to a mayor's change within the same party and also because of a change in the party ruling the municipality. Similar voting data in the case of regional elections is directly collected from each of the Regional governments, thus having the same information at the regional level.

Budgetary data comes from the yearly budget survey conducted by the Spanish Finance Ministry.[19] It includes information about the income sources and expenditures programs of the initial budget and its settlement by municipality. As explained in the theoretical analysis, corruption may be influenced by the budget size. Hence, I focus the analysis on the main municipal income sources coming from the budget liquidation to capture the actual disposable budget of each municipality. Specifically, the income variables used in the empirical analysis are: direct and indirect taxes (chapters 1 and 2 of the budget), current and capital transfers from other government layers (chapters 4 and 7) and property income (chapter 5), all of them measured in per capita terms.[20]

Finally, socio-economic and demographic characteristics of municipalities are obtained from *La Caixa* to control for additional municipal characteristics that are likely to be correlated with corrupt practices.[21] This set includes: measures of unemployment and population growth over the whole term, number of saving banks and also number of small businesses in the municipality.

The data sample used in the empirical analysis is restricted to municipalities above 1,000 inhabitants due to the lack of socio-economic data for those localities below this threshold. This leads to a final sample of 8,705 observations in the years 1999-2011.[22] About half of them are in the treatment group in each electoral cycle. In particular, there are 53.80%, 48.32% and 49.84% aligned municipalities in the first, second and third electoral terms considered.

Table 3 shows summary statistics of the outcome of interest, corruption, and of the socio-economic, budgetary and electoral variables used in the empirical analysis. The table shows across columns means separately for the subgroup of aligned municipalities, that were hence ruled by the same party at the regional and the local level; and for those that were not, and

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[19]Source: http://serviciosweb.meh.es/apps/EntidadesLocales/

[20]I construct the variables dividing their mean value over the four years term-of-office between the population of the municipality at the beginning of each period, using data from local elections.

[21]Source: *Economic Yearbook of Spain* - http://www.anuarioeco.lacaixa.comunicacions.com

[22]Of those, 2,764 correspond to the first term, 2,891 to the second and 3,066 to the third one.

Table 3: Summary statistics by partisan alignment

	(1)	(2)	(3)	(4)	(5)	(6)
	Partisan alignment			Partisan alignment (coalition)		
	Yes	No	P-value	Yes	No	P-value
	Outcome variable					
Corruption	0.078	0.057	0.000	0.077	0.057	0.000
	Baseline characteristics					
=1 if 1999 electoral cycle	0.337	0.296	0.000	0.332	0.300	0.002
=1 if 2003 electoral cycle	0.317	0.347	0.003	0.319	0.346	0.010
=1 if 2007 electoral cycle	0.346	0.357	0.300	0.349	0.354	0.606
Population (log)	8.443	8.425	0.477	8.442	8.424	0.461
Population gr. rate	-0.034	-0.045	0.000	-0.034	-0.046	0.000
Unemployment	0.066	0.063	0.000	0.066	0.063	0.000
Unemployment gr. rate	-0.188	-0.203	0.031	-0.191	-0.201	0.157
Number of saving banks	7.856	5.703	0.013	7.702	5.744	0.025
Number of small business	330.128	264.629	0.032	326.580	264.563	0.043
=1 if city	0.225	0.230	0.566	0.225	0.231	0.546
	Income variables (per capita)					
Direct taxes	339.637	260.941	0.460	335.759	260.419	0.481
Indirect taxes	73.578	57.755	0.447	72.682	57.784	0.475
Current transfers	362.723	296.385	0.273	359.303	296.117	0.298
Property income	38.024	26.160	0.234	37.667	25.819	0.236
Capital transfers	215.775	172.363	0.000	214.563	171.006	0.000
=1 if above mean total income	0.165	0.205	0.000	0.168	0.204	0.000
	Electoral variables (local)					
Participation rate	0.743	0.735	0.000	0.741	0.737	0.020
Vote share current incumbent	0.510	0.449	0.000	0.504	0.451	0.000
PP in power (local)	0.350	0.254	0.000	0.337	0.263	0.000
PSOE in power (local)	0.534	0.298	0.000	0.511	0.309	0.000
PP or PSOE in power (local)	0.884	0.552	0.000	0.848	0.573	0.000
Other party in power (local)	0.116	0.448	0.000	0.152	0.427	0.000
=1 if change in local party power	0.006	0.119	0.000	0.007	0.125	0.000
=1 if mayor's change	0.073	0.165	0.000	0.073	0.171	0.000
=1 if previous incumbent re-elected	0.578	0.472	0.000	0.570	0.475	0.000
=1 if absolute majority at local level	0.737	0.530	0.000	0.717	0.540	0.000
	Electoral variables (regional)					
PP in power (regional)	0.350	0.331	0.075	0.332	0.350	0.085
PSOE in power (regional)	0.536	0.541	0.630	0.547	0.528	0.082
PPSOE in power (regional)	0.885	0.872	0.064	0.879	0.878	0.877
Other party in power (regional)	0.115	0.128	0.064	0.121	0.122	0.877
=1 if absolute majority at regional level	0.655	0.498	0.000	0.619	0.530	0.000
=1 if concurrent elections	0.547	0.505	0.000	0.539	0.512	0.012
N. Observations	4,412	4,309		4,669	4,052	

Note: The table shows summary statistics separately for municipalities that had political alignment and were hence controlled by the same party both at the local and at the regional level, and for those that had not and hence were not ruled by the same party. Columns (1)-(2) show means for the subgroup of aligned and non-aligned municipalities and column (3) shows the p-value of the null hypothesis that the difference in means between the subgroup of aligned and non-aligned is equal to zero. Columns (4) to (6) show the same information as in the first three columns but allowing partisan alignment in coalitions. Corruption is a dummy that is equal to 1 if a municipality had a corruption case and 0 otherwise. Income data comes from the Spanish Finance Ministry and it is measured as the mean value of each component in the budget over the whole term in per-capital terms. Electoral data comes from the Spanish Interior Ministry. Corruption data is self-constructed using online-news search. Section 3 offers additional information on the institutional setting, section 4 on the empirical strategy and on the data, and section 5 on the empirical results.

were hence not ruled by the same party. In the third column it is also assessed whether the difference in the summary statistics of both subgroups is statistically significant. Then, I report the p-value of the test of the null hypothesis that the difference in means between the subgroup of aligned and non-aligned municipalities is equal to zero. Overall, aligned municipalities tend to be more corrupt and more concentrated in *PP* or *PSOE* hands. In addition, they seem to be more stable, meaning that they have a higher probability of the incumbent being re-elected and a lower probability of having a change in the party ruling the municipality within an electoral term. The same procedure is replicated in columns (4) to (6) with similar results, but using the alternative definition of partisan alignment explained in section 4.1. Altogether, the table highlights the importance of assessing whether the association between being aligned and being more corrupt has a causal interpretation.

5   Results

In this section I implement the empirical strategy described in section 4.1 to test the theoretical predictions stated in section 2.2.

5.1   Main results

I start by investigating the effect of partisan alignment on corruption (proposition 1). Table 4 shows OLS and fixed-effect estimates of this effect between 1999 and 2011. They are obtained by using municipalities above 1,000 inhabitants in which there is available information about both the party ruling the municipality and the vote share of each party. The number of treated municipalities and the mean value of the dependent variable for the subgroup of non-treated ones are also reported. Consistently with the theory, column (2) in panel A shows that the effect of partisan alignment increases significantly the probability of having a corruption case by 2.2 percentage points for the full sample of municipalities.

Next, I also study whether political corruption is dependent on the municipality wealth (proposition 2) and on the interaction between this effect and the alignment effect (proposition 3). As explained in section 4.1, I use 2 different municipal characteristics, namely, budget capacity and population size to proxy for total disposable resources or wealth in a municipality. Let for example τ be a dummy equal to 1 if a municipality is above 10,000 inhabitants and equal to 0 otherwise. The alignment effect for small localities, i.e. $\tau = 0$, is captured by the parameter associated to the partisan alignment dummy. Similarly, the wealth effect for big municipalities

Table 4: Effect of partisan alignment on political corruption. All parties included

	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
Alignment (A_{it})	0.016***	0.022***	0.012**	0.017**	0.005	0.010
	(0.006)	(0.008)	(0.006)	(0.009)	(0.006)	(0.007)
Budget size (τ_{it}^1)			0.046***	0.040**		
			(0.014)	(0.017)		
Budget size * $(A_{it} - 1)$			0.027**	0.032*		
			(0.016)	(0.018)		
City (τ_{it}^2)					0.045***	-0.002
					(0.016)	(0.035)
City * $(A_{it} - 1)$					0.047***	0.047**
					(0.017)	(0.021)
N. treated municipalities		4,412		3,684		3,418
Mean dep. var. non-treated		0.057		0.056		0.034
N. Observations	8,721	8,721	8,721	8,721	8,721	8,721

Note: The table shows pooled OLS and FE estimates of the effect of partisan alignment on political corruption for the full sample of parties in the country. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants. I first present estimates by defining as treated the municipalities that are ruled by the same party than in the regional government at the same time. Then, I show estimates in which the treated are aligned municipalities which party in power is also in the regional government coalition. The first two columns show the effect of partisan alignment for the full sample of municipalities. In the rest of the columns I show the budget size effect and the interaction response between alignment and budget size using as proxies for wealthier municipalities total available income and population size. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Budget size* and *City* capture the difference in corruption between wealthier and non-wealthier municipalities under alignment, as I reparameterised *Budget size * alignment* and *City * alignment* as the difference with respect to *Budget size* and *City*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

is measured by the parameter associated to τ. Finally, the difference in the alignment effect between big municipalities, i.e. $\tau = 1$, and those that are small, i.e. $\tau = 0$, is captured by the parameter associated to the interaction $\tau * (A_{it} - 1)$.

The theoretical predictions are well confirmed when using budget capacity as proxy for wealth in the municipality. First, alignment matters for corruption both for wealthy and non-wealthy municipalities. The first row in column (4) shows that partisan alignment significantly increases corruption in non-wealthier municipalities by almost 2 percentage points. Second, the effect of alignment is larger for wealthy municipalities (proposition 3). Third row in the same column shows that wealthier aligned municipalities are 3.2 percentage points more corrupt than non-wealthier aligned ones. And third, aligned municipalities are more corrupt when they are wealthy (proposition 2). A greater budget size significantly increases corruption by 4.0 percentage points in aligned municipalities (second row in the same column).[23]

On the other hand, column (6) in the table shows that there is no partisan alignment effect for small municipalities (first row). Similarly, the fourth row also shows that there is no budget size effect when using municipality size as proxy for total resources available in the municipality. In addition, corruption is significantly higher in big aligned municipalities. In particular, the fifth row shows that corruption increases in aligned localities above 10,000 inhabitants by almost 5 percentage points with respect to those below this threshold.

5.2   *PP* and *PSOE* effect

Table 5 replicates the previous estimates considering only the two main parties in the Spanish political scenario. Panel A shows the effect for aligned municipalities ruled by the main right-wing party in the country (*PP*), while estimates of the effect on corruption for aligned municipalities controlled by the main left-wing party (*PSOE*) are presented in panel B. Finally, panel C shows the joint effect of partisan alignment when either *PP* or *PSOE* are in charge of both government tiers.[24]

The results of this table show that the effect of alignment on corruption is stronger only when *PP* is ruling both government layers. In particular, column (2) in panel A shows that corruption significantly increases by about 5.3 percentage points for aligned municipalities

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[23]The results are similar when I perform the same analysis using standard errors at the province level and also when using per capital total income as control for total resources available in the municipality. They are available upon request.

[24]The number of observations in each panel is lower than in table 4 because all municipalities in which there is alignment from any other party but the relevant one are excluded from the definition of the dummies for specific party alignment, as explained in section 4.1.

Table 5: PP-PSOE effect of partisan alignment on political corruption

	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
Panel A: Sub-sample of aligned municipalities ruled by PP						
Alignment (A_{it})	0.027**	0.053**	0.018	0.045*	0.000	0.023
	(0.013)	(0.024)	(0.013)	(0.024)	(0.013)	(0.023)
Budget size (τ_{it}^1)			0.076**	0.078**		
			(0.028)	(0.037)		
Budget size * ($A_{it} - 1$) (PP)			0.056**	0.070*		
			(0.029)	(0.039)		
City (τ_{it}^2)					0.106***	0.077
					(0.027)	(0.056)
City * ($A_{it} - 1$) (PP)					0.115***	0.130***
					(0.026)	(0.040)
N. treated municipalities		1,542		1,289		1,178
N. Observations	5,851	5,851	5,851	5,851	5,851	5,851
Panel B: Sub-sample of aligned municipalities ruled by PSOE						
Alignment (A_{it})	0.014	0.010	0.012	0.006	0.010	0.008
	(0.011)	(0.018)	(0.012)	(0.018)	(0.011)	(0.018)
Budget size (τ_{it}^1)			0.025	0.044**		
			(0.017)	(0.021)		
Budget size * ($A_{it} - 1$) (PSOE)			0.016	0.024		
			(0.018)	(0.023)		
City (τ_{it}^2)					0.033*	-0.035
					(0.020)	(0.038)
City * ($A_{it} - 1$) (PSOE)					0.020	0.004
					(0.020)	(0.029)
N. treated municipalities		2,364		2,018		1,847
N. Observations	6,673	6,673	6,673	6,673	6,673	6,673
Panel C: Sub-sample of aligned municipalities ruled by PP or PSOE						
Alignment (A_{it})	0.018***	0.031***	0.013**	0.025***	0.004	0.018**
	(0.007)	(0.010)	(0.007)	(0.010)	(0.007)	(0.009)
Budget size (τ_{it}^1)			0.052***	0.053***		
			(0.016)	(0.020)		
Budget size * ($A_{it} - 1$) (PP-PSOE)			0.033*	0.053**		
			(0.018)	(0.022)		
City (τ_{it}^2)					0.059***	0.009
					(0.017)	(0.037)
City * ($A_{it} - 1$) (PP-PSOE)					0.062***	0.056**
					(0.018)	(0.024)
N. treated municipalities		3,906		3,307		3,025
N. Observations	8,215	8,215	8,215	8,215	8,215	8,215

Note: The table shows pooled OLS and FE estimates of the effect of partisan alignment on political corruption for the two main parties in the Spanish political scenario. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants. In the first panel I present estimates obtained by defining as treated the municipalities that are ruled by PP. In the central one, I show estimates in which the treated are aligned municipalities ruled by PSOE. Finally, in the bottom panel I show estimates of the joint effect of any of the two parties ruling both government layers. The first two columns show the effect of partisan alignment for the full sample of municipalities. In the rest of the columns I show the budget size effect and the interaction response between alignment and budget size using as proxies for wealthier municipalities total available income and population size. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Budget size* and *City* capture the difference in corruption between wealthier and non-wealthier municipalities under alignment, as I reparameterised *Budget size * alignment* and *City * alignment* as the difference with respect to *Budget size* and *City*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

controlled by this party. Moreover, the same column in panel C shows that the joint effect is a bit lower but still highly significant, increasing corruption by 3.1 percentage points when any of the two parties is in charge of both government layers. In contrast, there is no effect for aligned municipalities ruled by *PSOE* (second column in panel B), what emphasizes that the joint effect of both parties is mainly driven by the main right-wing party in the country.

In addition, second row in column (4) shows that the effect of a greater budget size is positive and significant if *Budget size* is used as proxy for wealthier municipalities when *PP* is the party in charge of both the regional and the local governments. Conversely, this effect is positive but not significant when using *City* as proxy for richer municipalities (fifth row in column (6)). Moreover, the interaction response between the alignment and the wealth effect is strong and significant, meaning that aligned municipalities above per capita average budget size (10,000 inhabitants) are 7.0 (13.0) percentage points more corrupt than those below these thresholds. Instead, panel B shows that only wealthier municipalities under alignment are more corrupt if municipalities are ruled by *PSOE*, with no further effects neither when distinguishing between rich versus poor municipalities (column 4) nor when doing it for small and big ones (column 6). Finally, the same columns in panel C show that the joint effect for both parties are in line with the baseline estimates presented in the previous table. Therefore, the theoretical predictions are well confirmed when considering the two main parties in the country together. However, they only hold for the main Spanish right-wing party in the separate analysis.

5.3 Additional heterogeneous effects

To further assess the mechanisms behind the results, I interact the alignment dummy with three different potentially disturbing variables, using again equation (11) described in section 4.1. In particular, I consider that the alignment effect may depend on whether *i*) the party in power at the municipal level has absolute majority, *i*) the party in power at the regional government is ruling the Autonomous Community with absolute majority and *iii*) the timing of local and regional elections. To capture these effects, I use three different dummies. First, *Majority (loc)* is a dummy equal 1 if the local government is ruling the municipality with absolute majority. Second, *Majority (reg)* is another dummy equal 1 when the government of the Autonomous Community has absolute majority at the regional level. Finally, *Concurrent* is a dummy equal 1 if local and regional elections are held the same day.

Table 6 shows pooled OLS and fixed-effect estimates of the heterogeneous effect of partisan alignment by electoral characteristics. Column (2) shows, respectively in panels B and C, that

Table 6: Heterogeneous effect of partisan alignment on political corruption.

	(1)	(2)	(3)	(4)	(5)	(6)
	All parties		**Aligned People's party mun.s**		**Aligned Socialist party mun.s**	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
	Panel A: Effect by absolute majority at the local level					
Alignment (A_{it})	0.013	0.019	0.030	0.059*	0.010	0.000
	(0.010)	(0.014)	(0.023)	(0.031)	(0.015)	(0.022)
Majority (loc) (τ_{it})	0.006	0.008	-0.001	-0.012	0.008	0.013
	(0.010)	(0.013)	(0.022)	(0.027)	(0.012)	(0.016)
Majority (loc) * ($A_{it}-1$)	0.008	0.004	-0.000	-0.009	0.008	0.016
	(0.012)	(0.016)	(0.023)	(0.028)	(0.014)	(0.019)
Mean dep. var. non-treated		0.060		0.060		0.060
	Panel B: Effect by absolute majority at the regional level					
Alignment (A_{it})	0.012	0.008	0.026	0.055	0.016	0.001
	(0.008)	(0.010)	(0.035)	(0.046)	(0.014)	(0.021)
Majority (reg) (τ_{it})	0.035***	0.031**	0.031	0.021	0.029***	0.036**
	(0.009)	(0.015)	(0.032)	(0.049)	(0.011)	(0.016)
Majority (reg) * ($A_{it}-1$)	0.011	0.033**	0.004	-0.004	-0.000	0.016
	(0.011)	(0.014)	(0.034)	(0.045)	(0.013)	(0.019)
Mean dep. var. non-treated		0.049		0.049		0.049
	Panel C: Effect by local and regional elections held the same day					
Alignment (A_{it})	0.010	0.003	-0.019	-0.014	0.028**	0.008
	(0.008)	(0.010)	(0.021)	(0.036)	(0.013)	(0.020)
Concurrent (τ_{it})	0.000	-	0.048**	-	-0.035***	-
	(0.008)		(0.017)		(0.011)	
Concurrent * ($A_{it}-1$)	0.014	0.040**	0.057***	0.089**	-0.026**	0.004
	(0.010)	(0.014)	(0.018)	(0.037)	(0.012)	(0.021)
Mean dep. var. non-treated		0.061		0.061		0.061
N. Observations	8,721	8,721	5,851	5,851	6,673	6,673

Note: The table shows pooled OLS and FE estimates of the heterogeneous effect of partisan alignment on political corruption for the full sample of parties in the country and also for the two main parties in the Spanish political scenario. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants. In the first panel I present estimates by whether the local government was ruled with absolute majority, while estimates by whether the regional one was ruled with absolute majority are shown in the central one, Finally, in the bottom panel I show estimates by whether local and regional elections were held the same day. The first two columns show the effect of partisan alignment for the full sample of parties. Columns (3) and (4) present the results by defining as treated the municipalities that are ruled by PP. Finally, columns (5) and (6) show the results in which the treated are aligned municipalities ruled by PSOE. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Majority (loc)*, *Majority (reg)* and *Concurrent* capture the difference in corruption for all dummies under alignment, as I reparameterised *Majority (loc) * alignment*, *Majority (reg) * alignment* and *Concurrent * alignment* as the difference with respect to *Majority (loc)*, *Majority (reg)* and *Concurrent* in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

the alignment effect is stronger in those municipalities in which there is absolute majority at the regional level and local and regional elections are held the same day. In addition, aligned municipalities are more corrupt when there is absolute majority at the regional level, increasing corruption by 3.1 percentage points (second row).[25] Conversely, having absolute majority in the municipality seems not to play a role in explaining observed corruption.

In columns (3) to (6) I repeat the analysis but for the two main parties in the country. For the sum-sample of aligned municipalities ruled by *PP*, the partisan alignment effect is more pronounced in those municipalities with concurrent elections. Instead, this effect is not significant in the case of aligned municipalities controlled by *PSOE*. Finally, aligned municipalities ruled by the latter party are more corrupt when the regional government is controlling the regional government with absolute majority, increasing significantly corruption by 3.6 percentage points.[26]

5.4 Robustness checks

The results are robust to several changes in the specification and also in the treatment definition. I briefly discuss the main conclusions of this analysis, performed in table 7. First, columns (1), (4) and (7) in the table show that the results are very similar when using *coalition alignment* as treatment, where I include in the alignment dummy those municipalities in which the ruling party at the local level also forms part of the regional government coalition. Second, I also investigate whether alignment between other government tiers has an impact on the effect of alignment between the local and the regional government. In particular, I estimate the effect by including in the main specification used in the empirical analysis two dummy equal one if the local government and the regional government are, respectively, aligned with the national one. Columns (2), (5) and (8) show the that the inclusion of these dummies do not affect the main results.[27]

Lastly, I use an alternative definition of the treatment and control groups. Specifically, I compare municipalities which experienced alignment for the first time during the term analysed (either 1999-2003, 2003-07 or 2007-11) with those that did not experience it in the previous terms (i.e. 1995-99, 1999-2003 and 2003-07 in the case of the 2007 elections, 1995-99 and

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[25]Notice that in panel B, the coefficient associated to *Concurrent* is not identified in the fixed-effects model since it is a time-invariant dummy.

[26]The previous results still hold when estimating the model including the interaction with the three variables at the same time. Results available upon request.

[27]If anything, alignment between other government layers decrease corruption, although the effect is small and weakly significant. Results available upon request.

Table 7: Robustness checks of the effect of partisan alignment on political corruption.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All parties			**Aligned People's party mun.s**			**Aligned Socialist party mun.s**		
	Coalition	Other level	DiD	Coalition	Other level	DiD	Coalition	Other level	DiD
	Panel A: Homogeneous effect								
Alignment (A_{it})	0.023***	0.025***	0.028*	0.032**	0.052**	0.092*	0.015	0.014	0.014
	(0.008)	(0.008)	(0.014)	(0.014)	(0.024)	(0.052)	(0.015)	(0.019)	(0.028)
N. treated municipalities	4,669	4,412	924	1,799	1,542	270	2,621	2,364	549
Mean dep. var. non-treated	0.057	0.057	0.063	0.057	0.057	0.063	0.057	0.057	0.063
	Panel B: Heterogeneous effect by income								
Alignment (A_{it})	0.018**	0.020**	-0.010	0.022	0.045*	0.008	0.012	0.011	-0.025
	(0.006)	(0.009)	(0.044)	(0.015)	(0.024)	0.084	(0.016)	(0.019)	(0.052)
Budget size (τ_{it}^1)	0.040**	0.041**	0.033	0.072**	0.073**	0.027	0.044**	0.048**	0.043
	(0.016)	(0.017)	(0.025)	(0.023)	(0.037)	(0.029)	(0.019)	(0.030)	(0.027)
Budget size * ($A_{it} - 1$)	0.035**	0.034**	0.021	0.068**	0.062*	0.000	0.025	0.030	0.000
	(0.018)	(0.018)	(0.021)	(0.032)	(0.037)	(0.000)	(0.022)	(0.024)	(0.000)
N. treated municipalities	3,885	3,684	783	1,490	1,289	227	2,219	2,018	476
Mean dep. var. non-treated	0.056	0.056	0.057	0.056	0.056	0.057	0.056	0.056	0.057
	Panel C: Heterogeneous effect by population								
Alignment (A_{it})	0.011	0.013*	-0.010	0.007	0.023	0.019	0.014	0.013	-0.014
	(0.007)	(0.008)	(0.019)	(0.013)	(0.023)	(0.050)	(0.014)	(0.018)	(0.026)
City (τ_{it}^2)	-0.001	-0.001	-0.005	0.064	0.075	0.146	-0.035	-0.034	0.055
	(0.035)	(0.035)	(0.081)	(0.055)	(0.056)	(0.123)	(0.038)	(0.038)	(0.077)
City * ($A_{it} - 1$)	0.050**	0.048**	0.122***	0.111**	0.129***	0.265***	0.003	0.005	0.084*
	(0.022)	(0.021)	(0.042)	(0.036)	(0.04)	(0.092)	(0.029)	(0.030)	(0.050)
N. treated municipalities	3,617	3,418	680	1,377	1,178	203	2,046	1,847	399
Mean dep. var. non-treated	0.034	0.034	0.037	0.035	0.034	0.037	0.035	0.034	0.037
N. Observations	8,721	8,721	2,952	5,851	5,851	2,298	6,673	6,673	2,577

Note: The table shows FE estimates of the effect of partisan alignment on political corruption for the full sample of parties in the country and also for the two main parties in the Spanish political scenario. I obtained them by *i*) defining as treated those municipalities that are aligned and which party in power is also in the regional government coalition in columns (1), (4) and (7), *ii*) including in the main specification two dummies for alignment between local and national government and also between regional and national ones in columns (2), (5) and (8) and *iii*) by using a different definition of the treatment and control groups in the rest of the columns. I first present the homogeneous effect of alignment in panel A, while in panels B and C I show the heterogeneous effect of the treatment by wealth using as proxies for wealthier municipalities, respectively, total available income and population size. The first three columns show the effect of partisan alignment for the full sample of parties. Columns (4), (5) and (6) presents the results by defining as treated the municipalities that are ruled by PP. Finally, the last three columns show the results in which the treated are aligned municipalities ruled by PSOE. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Budget size* and *City* capture the difference in corruption between wealthier and non-wealthier municipalities under alignment, as I reparameterised *Budget size * alignment* and *City * alignment* as the difference with respect to *Budget size* and *City*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

1999-2003 in the case of the 2003 elections, and 1995-99 in the case of the 1999 polls). The sample excludes all municipalities that experienced alignment in the past so as to guarantee that the comparison is between municipalities experiencing alignment for the first time and municipalities in which never occurred such situation. In this context, the parameter of interest in the main equation captures the effect on corruption of experiencing alignment for the first time compared with municipalities where this did not happen and where it had never happened in the past. Columns (3), (6) and (9) show that the results are similar in magnitude although more imprecise when using this alternative definition of alignment, probably because of the huge amount of observations dropped when creating both groups.

5.5   Validity of the results

Finally, I perform a set of falsification tests to give support to the causal interpretation of the results (Rothstein, 2010). Taking advantage of the panel structure of the data, two different type of tests can be implemented to discard the possibility that the omission of important variables are driven the main results. First, future treatments should not have an effect on current outcome. Second, the effect of current treatments on outcomes in a period of time before the treatment should also be zero. In addition, I also check whether corruption had an effect on alignment in the next period, although this test should be taken with caution since the corruption dummy do not measure when citizens had knowledge of these practices. Hence, it should not be expected an impact in the next elections since, on average, corruption scandals appeared in the media after the last elections considered in the empirical analysis.

Table 8 shows the whole set of such tests. I show estimates of the effect of future alignment on corruption in panels A and B, while the effect of the treatment on corruption in a period of time before the treatment are presented in panels C and D. Finally, reverse causality test of the effect of corruption on future alignment are shown in panels E and F. Following the structure of previous tables, the first two columns show the effect of partisan alignment for the full sample of parties. Moreover, columns (3) and (4) present the results by defining as treated the municipalities that are ruled by *PP*, while results in which the treated are aligned municipalities ruled by *PSOE* are shown in columns (5) and (6). The table shows that no estimate is significant, thus suggesting that the effect of partisan alignment on corruption is not driven by unobservables.

Table 8: Falsification test of the effect of partisan alignment on political corruption.

	(1)	(2)	(3)	(4)	(5)	(6)
	All parties		**Aligned People's party mun.s**		**Aligned Socialist party mun.s**	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
	Panel A: Current corruption					
Alignment ($A_{i,t+1}$)	-0.005	-0.009	-0.011	-0.009	-0.001	-0.010
	(0.005)	(0.007)	(0.008)	(0.013)	(0.008)	(0.011)
Mean dep. var. non-treated		0.065		0.065		0.065
N. Observations	8,721	8,721	6,444	6,444	6,205	6,205
	Panel B: Corruption in the previous term					
Alignment (A_{it})	0.000	0.017	-0.013	0.005	0.031*	0.035
	(0.008)	(0.014)	(0.017)	(0.038)	(0.017)	(0.029)
Mean dep. var. non-treated		0.071		0.071		0.071
N. Observations	5,957	5,957	4,022	4,022	4,755	4,755
	Panel C: Current corruption					
Alignment ($A_{i,t-1}$)	0.005	0.003	0.005	0.006	0.008	0.005
	(0.005)	(0.007)	(0.009)	(0.012)	(0.008)	(0.011)
Mean dep. var. non-treated		0.065		0.065		0.065
N. Observations	8,721	8,721	5,864	5,864	6,317	6,317
	Panel D: Corruption in the next term					
Alignment (A_{it})	-0.002	-0.007	-0.013	-0.011	-0.018	0.007
	(0.006)	(0.008)	(0.012)	(0.024)	(0.011)	(0.017)
Mean dep. var. non-treated		0.053		0.053		0.053
N. Observations	8,721	8,721	5,851	5,851	6,673	6,673
	Panel E: Reverse causality. Current alignment					
Corruption ($Corr_{i,t-1}$)	0.000	0.035	-0.019	-0.001	0.030*	0.026
	(0.023)	(0.029)	(0.016)	(0.021)	(0.016)	(0.021)
Mean dep. var. non-treated		0.490		0.240		0.364
N. Observations	5,957	5,957	4,022	4,022	4,755	4,755
	Panel F: Reverse causality. Alignment in the next term					
Corruption ($Corr_{it}$)	-0.019	-0.036	-0.027	-0.018	-0.001	-0.023
	(0.022)	(0.026)	(0.020)	(0.024)	(0.021)	(0.027)
Mean dep. var. non-treated		0.490		0.307		0.285
N. Observations	8,721	8,721	6,444	6,444	6,205	6,205

Note: The table shows several falsification tests of the effect of partisan alignment on political alignment for the full sample of parties in the country and also for the two main parties in the Spanish political scenario. I show estimates of the effect of future alignment on corruption in panels A and B, while the effect of the treatment on corruption in a period of time before the treatment are presented in panels C and D. Finally, reverse causality test of the effect of corruption on future alignment are shown in panels E and F. The first two columns show the effect of partisan alignment for the full sample of parties. Columns (3) and (4) present the results by defining as treated the municipalities that are ruled by PP. Finally, columns (5) and (6) show the results in which the treated are aligned municipalities ruled by PSOE. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

6 Conclusion

To study corruption and to look for effective methods to fight against it seems essential to promote economic development and democratic quality. Hence, understanding the mechanisms through which local governments' decisions and their interactions with upper-tier governments affect corrupt practices is key for two reasons. First, to increase the knowledge about the performance of local governments in the economy. And second, to shed light on the role that the institutional setting in Spain plays in the emergence of this phenomenon.

In this paper I have argued that partisan alignment between local and regional governments affects political corruption in Spain by influencing the political agency problem that local politicians face. An effect that might be aggravated by the total amount of resources available in the municipalities. To the best of my knowledge, there is no previous study trying to determine the role of alignment in the irruption of this phenomenon. Here I show that these new mechanisms that are at play for local politicians to become corrupt, rather than acting according to law, are supported by both systematic evidence from Spanish municipalities and theory.

The effect is identified thanks to a fixed-effect model by exploiting the quasi-randomness nature of partisan alignment in the country. Using a novel dataset of corrupt practices in Spanish municipalities, I find that partisan alignment significantly increases corruption by about 2-3 percentage points with respect to the 5.7% mean level of non-aligned municipalities. In addition, the effect of the budget size on corruption i) is positive and significant when wealthier aligned municipalities are determined by the budget capacity and ii) is not significant if I use municipality size as proxy to determine aligned localities that are wealthier. In both cases, I also find that the alignment effect is higher the wealthier is the municipality.

Furthermore, the effect is more pronounced among municipalities in which the party in power at the regional government is ruling the Autonomous Community with absolute majority and in which local and regional elections are concurrent. The response is also stronger when the main right-wing party in the country (PP) is ruling the aligned municipality, finding, in general, no effect when the main left-wing party ($PSOE$) is controlling both layers. Finally, I exploit the panel structure of the data to perform a set of falsification tests, based on the idea that past and future treatments should not affect current outcomes. The finding that there is no impact in any of the specification considered reinforce the confidence in the fixed-effect estimates.

I frame the empirical evidence in the context of a simple political agency model where local politicians with electoral incentives face a trade-off between rewarding voters to ensure reappointment and extracting rents for their own benefit conditional on alignment. The effect of partisan alignment on political corruption is not clear cut ex-ante, depending on the sign of the parameter associated to alignment. However, the model predicts that rent-extraction is an increasing function of the benefits of being aligned. Moreover, if alignment favours the appearance of corrupt procedures, corruption is also an increasing function of the budget size. Finally, there is a complementary response due to the interaction between both effects, implying that the higher is the budget size, the higher the effect of alignment on corruption.

Overall, the structure of the Spanish political scenario, where i) any single party can be in charge of different government layers at the same time, ii) the electoral system is based on proportional representation and iii) politicians are elected through closed party lists may contribute to increase corruption in local administrations (Persson *et al.*, 2003). For example, by exploiting the channels that a party can have when controlling both the local and the regional government. This could be due to a better ability of aligned politicians in obtaining contracts and projects with firms or because of regional governments are able to influence the judiciary so that the probability of detection is lower in aligned municipalities. If this is the case, then the result that these type of municipalities are still more corrupt than non-aligned ones suggests that my estimates are a lower bound for this effect. Moreover, they are in consonance with the finding that corruption is higher in those municipalities ruled with absolute majority at the regional level but not at the local one, since having absolute majority in the region implies a lower control over the regional government by other parties.

In addition, the result that wealthier municipalities tend to be more corrupt is in line with the current literature (Brollo *et al.*, 2013). When focusing the attention on subgroups of municipalities by size and budget capacity, it is observed that the corruption response to partisan alignment tends to vary within these subgroups. The mechanism driving the heterogeneity across different groups of aligned municipalities may be explained by the heterogeneity in preferences over revenue-extraction, re-election or efficiency across groups. For instance, one possible explanation is that regional governments allocate more transfers to those municipalities controlled by the same party (Solé-Ollé and Sorribas-Navarro, 2008). By obtaining more public resources, aligned mayors can i) invest more in projects related to urban development and ii) improve their popularity among the citizens, thus mitigating the possible electoral con-

sequences of having a corruption scandal in the municipality. Another possible explanation is that aligned municipalities obtained more resources through credits from saving banks (*Cajas de Ahorros*), given that *de facto* they were controlled by the corresponding regional government and board members were directly appointed by local and regional politicians. (Bentolila *et al.*, 2013; Cuat and Garicano, 2010).

Finally, the differences in the alignment effect between governments on the two sides of the Spanish political spectrum also suggest that the regional government ideology may play a role in explaining observed local corruption. It means that there might be differences in the attitude that regional governments have towards aligned and non-aligned municipalities depending on the colour of the in-power party at the regional level. However, this does not imply that there is no corruption in municipalities ruled by the main left-wing party in the country, but that alignment seems not to be the mechanism driving the emergence of corruption in these localities. This result is in line with previous studies analysing that cities controlled by right-wing parties convert much more land from rural to urban uses than similar cities controlled by the left (Kahn, 2011; Solé-Ollé and Viladecans-Marsal, 2013).

In future research I plan to extend the paper by fully scrutinising the main assumption on which I rely in the empirical analysis. As explained above, I assume that partisan alignment is as good as if randomized given the voting behaviour in Spain. However, local politicians' responses to alignment in terms of corruption may vary with unobserved characteristics within the same region over time and between regions. Hence, I plan to identify the effect of alignment on corruption by *i*) exploiting close electoral races at the local level and *ii*) comparing municipalities where the aligned vs. unaligned local candidate won. Specifically, I will use the marginal victory of aligned candidates with the regional government by subtracting the vote share obtained by those candidates in the local elections with the vote share obtained by non-aligned ones with the greater number of votes. In this setting, there should be alignment if this difference is positive since the aligned candidate should have won the local elections and the contrary should happen when it is negative. Given the particular features of the Spanish electoral system, in which winning the local elections do not imply obtaining the power in the municipality, I will use this theoretical alignment to instrument actual alignment in a fuzzy RDD.

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25

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Appendix I Theoretical predictions when $\beta_2 = 1$

Equilibrium rents when the probability of being caught is equal to zero are:

$$r^*_{1,A} = \tau - \frac{\xi\,\delta(R + \varphi\tau)}{(1 + \beta_1)} \tag{12}$$

Similarly to section 2, the following testable predictions can be derived from the model.

Proposition A 1. *As long as $\beta_1 > 0$, aligned municipalities are more corrupt. The opposite happens if $\beta_1 < 0$. There is no partisan alignment effect when $\beta_1 = 0$.*

This can also be shown in equation (13), where the difference in the equilibrium level of corruption between aligned and non-aligned municipalities is computed as:

$$r^*_{1,A} - r^*_{1,NA} = \frac{\beta_1}{1 + \beta_1}\,\xi\,\delta(R + \varphi\tau) \tag{13}$$

Corollary A 1. *Corruption is an increasing function of the different competence of aligned versus non-aligned politicians,* $\dfrac{\partial r^*_{1,A}}{\partial \beta_1} = \dfrac{\xi\,\delta(R + \varphi\tau)}{(1 + \beta_1)^2} > 0$

A direct implication from either (12) or (13). Intuitively, the greater is the effect of partisan alignment through a greater competence providing public goods to voters, the more opportunities to grab rents maintaining them constant. From (4) and substituting $\hat{r}_1$ by $r^*_{1,A}$, the impact on voters' inference about the incumbent unobserved ability when extracting rents is lower the greater is β_1.

Proposition A 2. *Corruption is an increasing function of budget size as long as $1 + \beta_1 > \xi\delta\varphi$,* $\dfrac{\partial r^*_{1,A}}{\partial \tau} = 1 - \dfrac{\xi\delta\varphi}{1 + \beta_1} > 0$. *The opposite happens if $1 + \beta_1 < \xi\delta\varphi$.*

This also follows immediately from (12). In words, the effect of the budget size on corruption depends on being aligned. For values of β_1 above the threshold, the incentives of incumbents to please voters declines when increasing the budget size, and rent-extraction increases with τ.

Proposition A 3. *The effect of the budget size on corruption is higher the higher is the competence of the aligned incumbent,* $\dfrac{\partial^2 r^*_{1,A}}{\partial \beta_1 \partial \tau} = \dfrac{\xi\delta\varphi}{(1 + \beta_1)^2} > 0$

Again this effect between τ and β_1 reflects that corruption is an increasing function of the interaction between the benefits of being aligned through a different competence providing the public good and the budget size effects.

Online appendix (not for publication)

Table A.1: Difference in the party vote share between local and regional elections

	(1)	(2)	(3)	(4)	(5)	(6)
	Vote share		Difference	Vote share		Difference
	Local	Regional	between	Local	Regional	between
	elections	elections	(1) - (2)	elections	elections	(4) - (5)
Panel A: 1999 elections						
	Aragón			*Asturias*		
People's party	0.377	0.383	-0.006	0.300	0.323	-0.023
Socialist party	0.328	0.307	0.021	0.428	0.459	-0.031
United Left	0.015	0.038	-0.023	0.093	0.090	0.003
Other parties	0.260	0.252	0.008	0.166	0.111	0.055
	Baleares			*Canarias*		
People's party	0.393	0.440	-0.047	0.181	0.271	-0.090
Socialist party	0.147	0.244	-0.097	0.332	0.240	0.092
United Left	0.015	0.079	-0.064	0.020	0.027	-0.007
Other parties	0.430	0.218	0.212	0.454	0.446	0.008
	Cantabria			*Castilla La Mancha*		
People's party	0.405	0.425	-0.020	0.450	0.404	0.046
Socialist party	0.240	0.331	-0.091	0.462	0.534	-0.072
United Left	0.021	0.037	-0.016	0.022	0.034	-0.012
Other parties	0.321	0.183	0.138	0.036	0.014	0.022
	Castilla y León			*Cataluña*		
People's party	0.562	0.506	0.056	0.057	0.095	-0.038
Socialist party	0.263	0.330	-0.067	0.187	0.379	-0.192
United Left	0.015	0.054	-0.039	0.004	0.014	-0.010
Other parties	0.070	0.084	-0.014	0.710	0.503	0.207
	Comunidad Valenciana			*Extremadura*		
People's party	0.456	0.479	-0.023	0.367	0.400	-0.033
Socialist party	0.364	0.339	0.025	0.473	0.485	-0.012
United Left	0.031	0.061	-0.030	0.057	0.064	-0.007
Other parties	0.092	0.106	-0.014	0.089	0.040	0.049
	Madrid			*Murcia*		
People's party	0.414	0.511	-0.097	0.463	0.530	-0.067
Socialist party	0.281	0.364	-0.083	0.387	0.358	0.029
United Left	0.073	0.077	-0.004	0.070	0.070	0.000
Other parties	0.196	0.027	0.169	0.068	0.028	0.040
	Navarra			*La Rioja*		
People's party	0.137	0.414	-0.277	0.529	0.513	0.016
Socialist party	0.093	0.203	-0.110	0.291	0.353	-0.062
United Left	0.017	0.069	-0.052	0.012	0.039	-0.027
Other parties	0.644	0.291	0.353	0.132	0.073	0.059

	(1)	(2)	(3)	(4)	(5)	(6)
	Vote share		Difference	Vote share		Difference
	Local	Regional	between	Local	Regional	between
	elections	elections	(1) - (2)	elections	elections	(4) - (5)
Panel B: 2003 elections						
	Aragón			*Asturias*		
People's party	0.316	0.307	0.009	0.336	0.392	-0.056
Socialist party	0.378	0.379	-0.001	0.432	0.405	0.027
United Left	0.005	0.031	-0.026	0.104	0.110	-0.006
Other parties	0.304	0.262	0.042	0.113	0.070	0.043
	Baleares			*Canarias*		
People's party	0.371	0.451	-0.080	0.185	0.306	-0.121
Socialist party	0.181	0.277	-0.096	0.317	0.254	0.063
United Left	0.019	0.057	-0.038	0.004	0.013	-0.009
Other parties	0.414	0.199	0.215	0.485	0.414	0.071
	Cantabria			*Castilla La Mancha*		
People's party	0.384	0.425	-0.041	0.421	0.367	0.054
Socialist party	0.237	0.300	-0.063	0.500	0.578	-0.078
United Left	0.023	0.037	-0.014	0.022	0.030	-0.008
Other parties	0.342	0.217	0.125	0.039	0.011	0.028
	Castilla y León			*Cataluña*		
People's party	0.553	0.486	0.067	0.043	0.119	-0.076
Socialist party	0.292	0.367	-0.075	0.224	0.312	-0.088
United Left	0.011	0.034	-0.023	0.000	0.000	0.000
Other parties	0.087	0.089	-0.002	0.708	0.560	0.148
	Comunidad Valenciana			*Extremadura*		
People's party	0.457	0.472	-0.015	0.359	0.384	-0.025
Socialist party	0.366	0.360	0.006	0.487	0.512	-0.025
United Left	0.028	0.064	-0.036	0.060	0.062	-0.002
Other parties	0.130	0.090	0.040	0.075	0.029	0.046
	Madrid			*Murcia*		
People's party	0.386	0.485	-0.099	0.488	0.567	-0.079
Socialist party	0.309	0.390	-0.081	0.371	0.341	0.030
United Left	0.067	0.085	-0.018	0.068	0.057	0.011
Other parties	0.219	0.023	0.196	0.060	0.020	0.040
	Navarra			*La Rioja*		
People's party	0.129	0.415	-0.286	0.526	0.486	0.040
Socialist party	0.097	0.212	-0.115	0.331	0.382	-0.051
United Left	0.015	0.088	-0.073	0.005	0.027	-0.022
Other parties	0.639	0.262	0.377	0.124	0.086	0.038

Continued from the previous page...

	(1)	(2)	(3)	(4)	(5)	(6)
	Vote share		Difference	Vote share		Difference
	Local elections	Regional elections	between (1) - (2)	Local elections	Regional elections	between (4) - (5)
Panel C: 2007 elections						
	Aragón			*Asturias*		
People's party	0.266	0.311	-0.045	0.331	0.415	-0.084
Socialist party	0.399	0.411	-0.012	0.451	0.420	0.031
United Left	0.012	0.041	-0.029	0.114	0.097	0.017
Other parties	0.346	0.215	0.131	0.088	0.044	0.044
	Baleares			*Canarias*		
People's party	0.403	0.460	-0.057	0.164	0.240	-0.076
Socialist party	0.211	0.322	-0.111	0.319	0.345	-0.026
United Left	0.006	0.004	0.002	0.004	0.007	-0.003
Other parties	0.364	0.193	0.171	0.501	0.393	0.108
	Cantabria			*Castilla La Mancha*		
People's party	0.386	0.415	-0.029	0.415	0.424	-0.009
Socialist party	0.223	0.245	-0.022	0.494	0.520	-0.026
United Left	0.010	0.019	-0.009	0.022	0.034	-0.012
Other parties	0.362	0.303	0.059	0.052	0.010	0.042
	Castilla y León			*Cataluña*		
People's party	0.543	0.492	0.051	.	.	.
Socialist party	0.303	0.377	-0.074	.	.	.
United Left	0.012	0.031	-0.019	.	.	.
Other parties	0.096	0.080	0.016	.	.	.
	Comunidad Valenciana			*Extremadura*		
People's party	0.466	0.525	-0.059	0.366	0.387	-0.021
Socialist party	0.357	0.345	0.012	0.480	0.530	-0.050
United Left	0.028	0.080	-0.052	0.042	0.045	-0.003
Other parties	0.128	0.036	0.092	0.094	0.026	0.068
	Madrid			*Murcia*		
People's party	0.433	0.533	-0.100	0.523	0.583	-0.060
Socialist party	0.272	0.336	-0.064	0.351	0.320	0.031
United Left	0.067	0.089	-0.022	0.059	0.063	-0.004
Other parties	0.201	0.026	0.175	0.055	0.021	0.034
	Navarra			*La Rioja*		
People's party	0.131	0.422	-0.291	0.531	0.488	0.043
Socialist party	0.098	0.225	-0.127	0.338	0.404	-0.066
United Left	0.009	0.043	-0.034	0.010	0.000	0.010
Other parties	0.597	0.296	0.301	0.122	0.091	0.031

Note: The table shows the vote share of the three main parties in the country and also of the rest of parties for local and regional elections held the same day by region, separately for each electoral term considered in the empirical analysis. Columns (1)-(2) show mean values of the average vote share obtained by each party in each region in each local election held, and also the vote share obtained by the same party in the same region in regional ones. Column (3) shows the difference between both values. Columns (4) to (6) show the same information as in the first three columns for the remaining regions. There is no information about Cataluña in panel C, since local and regional elections were not held the same day. Electoral data comes from the Spanish Interior Ministry. Section 3 offers additional information on the institutional setting, section 4 on the empirical strategy and on the data, and section 5 on the empirical results.

Table A.2: Effect of partisan alignment on political corruption. All coefficients

	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
			Panel A: Alignment			
Alignment (A_{it})	0.016***	0.022***	0.012**	0.017**	0.005	0.010
	(0.006)	(0.008)	(0.006)	(0.009)	(0.006)	(0.007)
Budget size (τ_{it}^1)			0.046***	0.040**		
			(0.014)	(0.017)		
Budget size * ($A_{it}-1$)			0.027**	0.032*		
			(0.016)	(0.018)		
City (τ_{it}^2)					0.045***	-0.002
					(0.016)	(0.035)
City * ($A_{it}-1$)					0.047***	0.047**
					(0.017)	(0.021)
Vote share incumbent	0.027	-0.007	0.029	-0.006	0.026	-0.010
	(0.021)	(0.026)	(0.022)	(0.026)	(0.021)	(0.026)
=1 if 1999 electoral cycle	-0.025***	-0.040***	-0.019**	-0.037***	-0.024***	-0.040***
	(0.009)	(0.013)	(0.009)	(0.014)	(0.009)	(0.013)
=1 if 2003 electoral cycle	0.037***	0.030***	0.040***	0.031***	0.036***	0.030***
	(0.008)	(0.010)	(0.008)	(0.011)	(0.008)	(0.010)
Participation rate	0.024	-0.050	0.033	-0.042	0.025	-0.055
	(0.034)	(0.071)	(0.035)	(0.072)	(0.034)	(0.072)
PP in power (local)	0.039***	0.044***	0.039***	0.044***	0.038***	0.042***
	(0.007)	(0.011)	(0.007)	(0.011)	(0.007)	(0.011)
Other party in power (local)	0.003	0.011	0.003	0.012	0.002	0.009
	(0.007)	(0.012)	(0.007)	(0.012)	(0.007)	(0.012)
=1 if change in local party power	-0.026	-0.042*	-0.026	-0.042*	-0.025	-0.040*
	(0.018)	(0.022)	(0.018)	(0.022)	(0.018)	(0.022)
=1 if mayor's change	0.046***	0.036**	0.045***	0.035**	0.045***	0.035**
	(0.014)	(0.017)	(0.014)	(0.017)	(0.014)	(0.017)
=1 if previous incumbent re-elected	0.005	0.009	0.005	0.010	0.006	0.009
	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)	(0.007)
=1 if majority at local level	0.008	0.006	0.007	0.006	0.008	0.007
	(0.007)	(0.009)	(0.007)	(0.009)	(0.007)	(0.009)
PP in power (regional)	-0.006	0.011	-0.007	0.011	-0.007	0.013
	(0.007)	(0.023)	(0.007)	(0.023)	(0.007)	(0.023)
Other party in power (regional)	-0.000	-0.003	-0.002	-0.003	0.002	0.002
	(0.009)	(0.011)	(0.009)	(0.012)	(0.009)	(0.011)
=1 if majority at reg. level	0.024***	0.020	0.027***	0.020	0.026***	0.020
	(0.007)	(0.014)	(0.007)	(0.014)	(0.007)	(0.014)
Direct taxes	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indirect taxes	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Current transfers	-0.000**	-0.000	-0.000**	-0.000	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Property income	0.000	-0.000	0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Capital transfers	0.000	-0.000*	-0.000	-0.000**	0.000	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Population gr. rate	-0.235***	-0.019	-0.183***	-0.007	-0.231***	-0.020
	(0.045)	(0.094)	(0.046)	(0.094)	(0.044)	(0.094)
Population (log)	0.044***	-0.085**	0.045***	-0.083**	0.038***	-0.079**
	(0.005)	(0.036)	(0.005)	(0.036)	(0.006)	(0.037)
Unemployment gr. rate	0.008	0.003	0.009	0.004	0.008	0.002
	(0.010)	(0.012)	(0.010)	(0.012)	(0.010)	(0.012)
Mean unemployment	-0.176	-0.290	-0.148	-0.286	-0.186*	-0.310
	(0.108)	(0.254)	(0.108)	(0.257)	(0.108)	(0.254)
Number of saving banks	-0.002***	-0.003**	-0.002***	-0.003**	-0.002***	-0.003**
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Number of small business	0.000***	0.000**	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.151***	-0.076	0.158***	-0.072	0.024	-0.055
	(0.038)	(0.065)	(0.038)	(0.066)	(0.030)	(0.066)
Mean dep. var. non-treated		0.057		0.056		0.034
N. Observations	8,705	8,705	8,705	8,705	8,705	8,705

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	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
	Panel B: Alignment between local and regional governments of PP					
Alignment (A_{it})	0.027**	0.053**	0.018	0.045*	0.000	0.023
	(0.013)	(0.024)	(0.013)	(0.024)	(0.013)	(0.023)
Budget size (τ_{it}^1)			0.076**	0.078**		
			(0.028)	(0.037)		
Budget size * ($A_{it} - 1$) (PP)			0.056**	0.070*		
			(0.029)	(0.039)		
City (τ_{it}^2)					0.106***	0.077
					(0.027)	(0.056)
City * ($A_{it} - 1$) (PP)					0.115***	0.130***
					(0.026)	(0.040)
Vote share incumbent	0.037	0.012	0.039	0.012	0.036	0.006
	(0.024)	(0.036)	(0.024)	(0.036)	(0.024)	(0.036)
=1 if 1999 electoral cycle	-0.036***	-0.054***	-0.031***	-0.051***	-0.034***	-0.054***
	(0.011)	(0.017)	(0.011)	(0.018)	(0.011)	(0.017)
=1 if 2003 electoral cycle	0.047***	0.036**	0.051***	0.036**	0.048***	0.033**
	(0.010)	(0.014)	(0.010)	(0.015)	(0.010)	(0.014)
Participation rate	0.061	0.044	0.062	0.050	0.040	0.046
	(0.040)	(0.097)	(0.040)	(0.098)	(0.039)	(0.097)
PP in power (local)	0.034***	0.032	0.034***	0.032	0.035***	0.031
	(0.010)	(0.022)	(0.010)	(0.022)	(0.010)	(0.022)
=1 if change in local party power	-0.044*	-0.057*	-0.042*	-0.054*	-0.045*	-0.055*
	(0.023)	(0.031)	(0.023)	(0.031)	(0.023)	(0.031)
=1 if mayor's change	0.063***	0.064**	0.061***	0.063**	0.064***	0.064**
	(0.020)	(0.027)	(0.020)	(0.027)	(0.020)	(0.027)
=1 if previous incumbent re-elected	0.014*	0.013	0.014*	0.013	0.015**	0.014
	(0.007)	(0.010)	(0.007)	(0.010)	(0.007)	(0.010)
=1 if absolute majority at local level	0.003	-0.006	0.002	-0.006	-0.001	-0.010
	(0.008)	(0.013)	(0.008)	(0.013)	(0.008)	(0.013)
PP in power (regional)	-0.008	-0.009	-0.008	-0.009	-0.008	-0.007
	(0.009)	(0.035)	(0.009)	(0.035)	(0.009)	(0.035)
=1 if absolute majority at regional level	0.018**	0.025	0.021**	0.028	0.019**	0.027
	(0.009)	(0.026)	(0.009)	(0.026)	(0.009)	(0.027)
Direct taxes	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indirect taxes	0.000*	0.000*	0.000	0.000*	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Current transfers	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Property income	0.000	-0.000	-0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Capital transfers	0.000	-0.000*	-0.000	-0.000**	0.000	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Population gr. rate	-0.254***	-0.058	-0.191***	-0.049	-0.244***	-0.065
	(0.053)	(0.120)	(0.056)	(0.120)	(0.053)	(0.120)
Municipality population (log)	0.050***	-0.100**	0.050***	-0.095**	0.043***	-0.095**
	(0.005)	(0.042)	(0.005)	(0.042)	(0.006)	(0.042)
Unemployment gr. rate	0.020	0.013	0.022*	0.014	0.021*	0.013
	(0.013)	(0.016)	(0.013)	(0.016)	(0.012)	(0.016)
Mean unemployment	-0.303**	-0.445	-0.271**	-0.442	-0.285**	-0.496
	(0.130)	(0.389)	(0.131)	(0.389)	(0.130)	(0.388)
Number of saving banks	-0.002***	-0.005**	-0.002***	-0.005**	-0.002***	-0.005**
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
Number of small business	0.000***	0.000**	0.000***	0.000**	0.000***	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.146***	-0.166*	0.159***	-0.160**	0.031	-0.149
	(0.039)	(0.092)	(0.039)	(0.093)	(0.034)	(0.093)
Mean dep. var. non-treated		0.057		0.056		0.034
N. Observations	5,832	5,832	5,832	5,832	5,832	5,832

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	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
Panel C: Alignment between local and regional governments of PSOE						
Alignment (A_{it})	0.014	0.010	0.012	0.006	0.010	0.008
	(0.011)	(0.018)	(0.012)	(0.018)	(0.011)	(0.018)
Budget size (τ_{it}^1)			0.025	0.044**		
			(0.017)	(0.021)		
Budget size * ($A_{it}-1$) (PSOE)			0.016	0.024		
			(0.018)	(0.023)		
City (τ_{it}^2)					0.033*	-0.035
					(0.020)	(0.038)
City * ($A_{it}-1$) (PSOE)					0.020	0.004
					(0.020)	(0.029)
Vote share incumbent	0.045*	-0.013	0.046*	-0.011	0.045*	-0.015
	(0.024)	(0.035)	(0.024)	(0.035)	(0.024)	(0.035)
=1 if 1999 electoral cycle	-0.010	-0.026	-0.008	-0.023	-0.009	-0.026
	(0.010)	(0.017)	(0.010)	(0.017)	(0.010)	(0.017)
=1 if 2003 electoral cycle	0.038***	0.032**	0.040***	0.034***	0.038***	0.032**
	(0.009)	(0.013)	(0.009)	(0.013)	(0.009)	(0.013)
Participation rate	-0.035	-0.094	-0.030	-0.087	-0.029	-0.092
	(0.040)	(0.097)	(0.040)	(0.098)	(0.040)	(0.098)
PSOE in power	-0.016*	-0.003	-0.016*	-0.004	-0.016*	-0.003
	(0.010)	(0.016)	(0.010)	(0.016)	(0.010)	(0.016)
=1 if change in local party power	-0.013	-0.018	-0.013	-0.019	-0.013	-0.018
	(0.019)	(0.024)	(0.019)	(0.024)	(0.018)	(0.024)
=1 if mayor's change	0.040***	0.027	0.039***	0.028	0.039***	0.027
	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.018)
=1 if previous incumbent re-elected	0.011*	0.014*	0.010*	0.014*	0.011*	0.013*
	(0.006)	(0.008)	(0.006)	(0.008)	(0.006)	(0.008)
=1 if absolute majority at local level	0.005	0.003	0.005	0.002	0.005	0.003
	(0.007)	(0.010)	(0.007)	(0.010)	(0.007)	(0.010)
PSOE in regional power	0.006	-0.004	0.007	-0.008	0.006	-0.004
	(0.009)	(0.017)	(0.009)	(0.017)	(0.009)	(0.017)
=1 if absolute majority at regional level	0.024***	0.029**	0.025***	0.029**	0.025***	0.029**
	(0.007)	(0.014)	(0.007)	(0.014)	(0.007)	(0.014)
Direct taxes	-0.000**	-0.000	-0.000**	-0.000	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indirect taxes	0.000**	0.000*	0.000**	0.000*	0.000**	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Current transfers	-0.000	0.000	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Property income	0.000	-0.000	0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Capital transfers	0.000	-0.000	0.000	-0.000*	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Population gr. rate	-0.164***	-0.050	-0.145***	-0.027	-0.164***	-0.049
	(0.054)	(0.113)	(0.056)	(0.113)	(0.054)	(0.113)
Municipality population (log)	0.028***	-0.087*	0.028***	-0.089**	0.022***	-0.080*
	(0.005)	(0.045)	(0.005)	(0.045)	(0.006)	(0.046)
Unemployment gr. rate	0.003	-0.001	0.004	0.000	0.003	-0.001
	(0.012)	(0.015)	(0.012)	(0.015)	(0.012)	(0.015)
Mean unemployment	-0.034	-0.064	-0.024	-0.034	-0.042	-0.060
	(0.117)	(0.284)	(0.117)	(0.287)	(0.116)	(0.284)
Number of saving banks	-0.003***	-0.001	-0.003***	-0.001	-0.003***	-0.001
	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)	(0.003)
Number of small business	0.000***	0.000	0.000***	0.000	0.000***	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.109***	-0.005	0.109***	0.000	0.028	0.009
	(0.031)	(0.084)	(0.031)	(0.084)	(0.031)	(0.085)
Mean dep. var. non-treated		0.057		0.056		0.034
N. Observations	6,671	6,671	6,671	6,671	6,671	6,671

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	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE

Panel D: Alignment between local and regional governments of PP-PSOE

	(1) Pooled OLS	(2) FE	(3) Pooled OLS	(4) FE	(5) Pooled OLS	(6) FE
Alignment (A_{it})	0.018***	0.031***	0.013**	0.025***	0.004	0.018**
	(0.007)	(0.010)	(0.007)	(0.010)	(0.007)	(0.009)
Budget size (τ_{it}^1)			0.052***	0.053***		
			(0.016)	(0.020)		
Budget size * ($A_{it} - 1$) (PP-PSOE)			0.033*	0.053**		
			(0.018)	(0.022)		
City (τ_{it}^2)					0.059***	0.009
					(0.017)	(0.037)
City * ($A_{it} - 1$) (PP-PSOE)					0.062***	0.056**
					(0.018)	(0.024)
Vote share incumbent	0.044*	0.010	0.047**	0.013	0.044*	0.006
	(0.024)	(0.032)	(0.024)	(0.032)	(0.023)	(0.032)
=1 if 1999 electoral cycle	-0.026***	-0.030**	-0.020**	-0.027*	-0.024***	-0.030**
	(0.009)	(0.014)	(0.009)	(0.014)	(0.009)	(0.014)
=1 if 2003 electoral cycle	0.038***	0.039***	0.042***	0.040***	0.038***	0.037***
	(0.008)	(0.011)	(0.008)	(0.011)	(0.008)	(0.011)
Participation rate	0.033	-0.044	0.042	-0.039	0.036	-0.047
	(0.036)	(0.079)	(0.036)	(0.079)	(0.035)	(0.079)
PPSOE in power	0.006	-0.008	0.005	-0.010	0.007	-0.007
	(0.007)	(0.013)	(0.008)	(0.013)	(0.007)	(0.013)
=1 if change in local party power	-0.021	-0.037	-0.020	-0.035	-0.020	-0.035
	(0.018)	(0.023)	(0.018)	(0.023)	(0.018)	(0.023)
=1 if mayor's change	0.045***	0.039**	0.044***	0.039**	0.044***	0.039**
	(0.015)	(0.017)	(0.015)	(0.017)	(0.014)	(0.017)
=1 if previous incumbent re-elected	0.006	0.011	0.006	0.011	0.006	0.011
	(0.006)	(0.008)	(0.006)	(0.008)	(0.006)	(0.008)
=1 if absolute majority at local level	0.013*	0.012	0.013*	0.012	0.012*	0.013
	(0.007)	(0.010)	(0.007)	(0.010)	(0.007)	(0.010)
PPSOE in regional power	-0.008	-0.011	-0.008	-0.014	-0.013	-0.016
	(0.011)	(0.015)	(0.011)	(0.015)	(0.011)	(0.015)
=1 if absolute majority at regional level	0.026***	0.023**	0.029***	0.023**	0.028***	0.024**
	(0.006)	(0.011)	(0.007)	(0.011)	(0.007)	(0.011)
Direct taxes	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indirect taxes	0.000**	0.000*	0.000**	0.000*	0.000**	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Current transfers	-0.000**	-0.000	-0.000**	-0.000	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Property income	0.000	-0.000	0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Capital transfers	0.000	-0.000	-0.000	-0.000**	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Population gr. rate	-0.216***	-0.016	-0.160***	0.002	-0.211***	-0.018
	(0.046)	(0.098)	(0.048)	(0.098)	(0.046)	(0.098)
Municipality population (log)	0.046***	-0.075**	0.047***	-0.075**	0.038***	-0.069*
	(0.005)	(0.037)	(0.005)	(0.038)	(0.006)	(0.038)
Unemployment gr. rate	0.007	0.000	0.008	0.001	0.007	-0.001
	(0.010)	(0.012)	(0.010)	(0.012)	(0.010)	(0.012)
Mean unemployment	-0.200*	-0.079	-0.167	-0.073	-0.206*	-0.119
	(0.111)	(0.264)	(0.110)	(0.265)	(0.111)	(0.263)
Number of saving banks	-0.002***	-0.003*	-0.002***	-0.003**	-0.002***	-0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Number of small business	0.000***	0.000**	0.000***	0.000**	0.000***	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.146***	-0.030	0.156***	-0.020	0.015	-0.009
	(0.039)	(0.073)	(0.039)	(0.073)	(0.031)	(0.073)
Mean dep. var. non-treated		0.057		0.056		0.034
N. Observations	8,199	8,199	8,199	8,199	8,199	8,199

Note: The table shows pooled OLS and FE estimates of the effect of partisan alignment on political corruption for the full sample of parties in the country and for the two main parties in the Spanish political scenario. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants. Panel A shows estimates by defining as treated the municipalities that are ruled by the same party at the same time. Then, I present estimates obtained by defining as treated the municipalities that are controlled by PP in panel C, while in panel D I show estimates in which the treated are aligned municipalities ruled by PSOE. Finally, in the bottom panel I show the joint effect of any of the two parties ruling both government layers. The first two columns show the effect of partisan alignment for the full sample of municipalities. In the rest of the columns I show the budget size effect and the interaction response between alignment and budget size using as proxies for wealthier municipalities total available income and population size. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Budget size* and *City* capture the difference in corruption between wealthier and non-wealthier municipalities under alignment, as I reparameterised *Budget size * alignment* and *City * alignment* as the difference with respect to *Budget size* and *City*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

Table A.3: Effect of partisan alignment on political corruption. S.e. clustered at the province level

	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
	Panel A: Alignment					
Alignment (A_{it})	0.016**	0.022**	0.012*	0.017*	0.005	0.010
	(0.007)	(0.010)	(0.006)	(0.010)	(0.007)	(0.009)
Budget size (τ_{it}^1)			0.046***	0.040**		
			(0.014)	(0.015)		
Budget size * ($A_{it} - 1$)			0.027	0.032*		
			(0.016)	(0.017)		
City (τ_{it}^2)					0.045***	-0.002
					(0.016)	(0.034)
City * ($A_{it} - 1$)					0.047**	0.047**
					(0.021)	(0.023)
	Panel B: Alignment (coalition)					
Alignment (A_{it})	0.017**	0.023**	0.012*	0.018*	0.006	0.011
	(0.007)	(0.010)	(0.006)	(0.009)	(0.007)	(0.008)
Budget size (τ_{it}^1)			0.046***	0.040**		
			(0.013)	(0.014)		
Budget size * ($A_{it} - 1$) (coalition)			0.028*	0.035**		
			(0.016)	(0.016)		
City (τ_{it}^2)					0.043***	-0.001
					(0.015)	(0.033)
City * ($A_{it} - 1$) (coalition)					0.046**	0.050**
					(0.021)	(0.023)
Mean dep. var. non-treated		0.057		0.056		0.034
N. Observations	8,721	8,721	8,721	8,721	8,721	8,721

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	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
	Panel C: Alignment between local and regional governments of PP					
Alignment (A_{it})	0.027	0.053*	0.018	0.045	0.000	0.023
	(0.018)	(0.031)	(0.016)	(0.029)	(0.015)	(0.023)
Budget size (τ_{it}^1)			0.076***	0.078***		
			(0.018)	(0.026)		
Budget size * $(A_{it} - 1)$ (PP)			0.056***	0.070**		
			(0.019)	(0.028)		
City (τ_{it}^2)					0.106***	0.077
					(0.022)	(0.049)
City * $(A_{it} - 1)$ (PP)					0.115***	0.130***
					(0.026)	(0.042)
N. Observations	5,851	5,851	5,851	5,851	5,851	5,851
	Panel D: Alignment between local and regional governments of PSOE					
Alignment (A_{it})	0.014	0.010	0.012	0.006	0.010	0.008
	(0.011)	(0.018)	(0.011)	(0.019)	(0.012)	(0.018)
Budget size (τ_{it}^1)			0.025	0.044**		
			(0.019)	(0.018)		
Budget size * $(A_{it} - 1)$ (PSOE)			0.016	0.024		
			(0.021)	(0.022)		
City (τ_{it}^2)					0.033*	-0.035
					(0.019)	(0.034)
City * $(A_{it} - 1)$ (PSOE)					0.020	0.004
					(0.018)	(0.025)
N. Observations	6,673	6,673	6,673	6,673	6,673	6,673
	Panel E: Alignment between local and regional governments of PP-PSOE					
Alignment (A_{it})	0.018	0.031**	0.013	0.025*	0.004	0.019*
	(0.011)	(0.015)	(0.010)	(0.014)	(0.008)	(0.011)
Budget size (τ_{it}^1)			0.052***	0.053***		
			(0.017)	(0.017)		
Budget size * $(A_{it} - 1)$ (PP-PSOE)			0.033*	0.053**		
			(0.021)	(0.021)		
City (τ_{it}^2)					0.059***	0.009
					(0.018)	(0.035)
City * $(A_{it} - 1)$ (PP-PSOE)					0.062**	0.056**
					(0.022)	(0.027)
N. Observations	8,215	8,215	8,215	8,215	8,215	8,215

Note: The table shows pooled OLS and FE estimates of the effect of partisan alignment on political corruption for the full sample of parties in the country and for the two main parties in the Spanish political scenario. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants. Panel A presents estimates by defining as treated the municipalities that are ruled by the same party at the same time, while panel B shows estimates in which the treated are aligned municipalities included in a coalition. Then, l I present estimates obtained by defining as treated the municipalities that are controlled by PP in panel C, while in panel D I show estimates in which the treated are aligned municipalities ruled by PSOE. Finally, in the bottom panel I show the joint effect of any of the two parties ruling both government layers. The first two columns show the effect of partisan alignment for the full sample of municipalities. In the rest of the columns I show the budget size effect and the interaction response between alignment and budget size using as proxies for wealthier municipalities total available income and population size. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Budget size* and *City* capture the difference in corruption between wealthier and non-wealthier municipalities under alignment, as I reparameterised *Budget size * alignment* and *City * alignment* as the difference with respect to *Budget size* and *City*, respectively, in all regressions. Standard errors are clustered at the province level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

9

Table A.4: Effect of partisan alignment on political corruption. Total income as control

	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
	Panel A: Alignment					
Alignment (A_{it})	0.016***	0.021***	0.011*	0.016**	0.005	0.010
	(0.006)	(0.008)	(0.006)	(0.008)	(0.005)	(0.007)
Budget size (τ_{it}^1)			0.044**	0.031**		
			(0.013)	(0.016)		
Budget size * ($A_{it}-1$)			0.025**	0.029*		
			(0.015)	(0.018)		
City (τ_{it}^2)					0.045***	-0.010
					(0.016)	(0.035)
City * ($A_{it}-1$)					0.047***	0.046**
					(0.016)	(0.021)
	Panel B: Alignment (coalition)					
Alignment (A_{it})	0.016***	0.022***	0.011**	0.017**	0.006	0.010
	(0.005)	(0.007)	(0.006)	(0.008)	(0.005)	(0.007)
Budget size (τ_{it}^1)			0.044**	0.030**		
			(0.012)	(0.015)		
Budget size * ($A_{it}-1$) (coalition)			0.027*	0.030*		
			(0.015)	(0.017)		
City (τ_{it}^2)					0.043***	-0.009
					(0.015)	(0.035)
City * ($A_{it}-1$) (coalition)					0.046***	0.048**
					(0.017)	(0.021)
Mean dep. var. non-treated		0.057		0.055		0.034
N. Observations	9,103	9,103	9,103	9,103	9,103	9,103

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	(1)	(2)	(3)	(4)	(5)	(6)
	Homogeneous effect		Heterogeneous effect by income		Heterogeneous effect by population	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
Panel C: Alignment between local and regional governments of PP						
Alignment (A_{it})	0.024*	0.055**	0.015	0.047**	-0.001	0.027
	(0.013)	(0.023)	(0.013)	(0.023)	(0.012)	(0.021)
Budget size (τ_{it}^1)			0.070***	0.059*		
			(0.025)	(0.034)		
Budget size * ($A_{it} - 1$) (PP)			0.051***	0.061*		
			(0.027)	(0.036)		
City (τ_{it}^2)					0.106***	0.076
					(0.026)	(0.056)
City * ($A_{it} - 1$) (PP)					0.116***	0.129***
					(0.026)	(0.040)
N. Observations	6,117	6,117	6,117	6,117	6,117	6,117
Panel D: Alignment between local and regional governments of PSOE						
Alignment (A_{it})	0.016	0.007	0.014	0.003	0.012	0.006
	(0.011)	(0.017)	(0.011)	(0.018)	(0.011)	(0.017)
Budget size (τ_{it}^1)			0.026	0.037*		
			(0.017)	(0.020)		
Budget size * ($A_{it} - 1$) (PSOE)			0.014	0.024		
			(0.018)	(0.022)		
City (τ_{it}^2)					0.032	-0.045
					(0.020)	(0.038)
City * ($A_{it} - 1$) (PSOE)					0.019	0.003
					(0.020)	(0.029)
N. Observations	6,957	6,957	6,957	6,957	6,957	6,957
Panel E: Alignment between local and regional governments of PP-PSOE						
Alignment (A_{it})	0.017**	0.029***	0.011*	0.023**	0.003	0.016*
	(0.007)	(0.009)	(0.007)	(0.010)	(0.006)	(0.008)
Budget size (τ_{it}^1)			0.049***	0.042**		
			(0.015)	(0.018)		
Budget size * ($A_{it} - 1$) (PP-PSOE)			0.032*	0.047**		
			(0.017)	(0.021)		
City (τ_{it}^2)					0.059***	-0.001
					(0.017)	(0.037)
City * ($A_{it} - 1$) (PP-PSOE)					0.062***	0.053**
					(0.018)	(0.024)
N. Observations	8,585	8,585	8,585	8,585	8,585	8,585

Note: The table shows pooled OLS and FE estimates of the effect of partisan alignment on political corruption for the full sample of parties in the country and for the two main parties in the Spanish political scenario. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants. Panel A presents estimates by defining as treated the municipalities that are ruled by the same party at the same time, while panel B shows estimates in which the treated are aligned municipalities included in a coalition. Then, l I present estimates obtained by defining as treated the municipalities that are controlled by PP in panel C, while in panel D I show estimates in which the treated are aligned municipalities ruled by PSOE. Finally, in the bottom panel I show the joint effect of any of the two parties ruling both government layers. The first two columns show the effect of partisan alignment for the full sample of municipalities. In the rest of the columns I show the budget size effect and the interaction response between alignment and budget size using as proxies for wealthier municipalities total available income and population size. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Budget size* and *City* capture the difference in corruption between wealthier and non-wealthier municipalities under alignment, as I reparameterised *Budget size * alignment* and *City * alignment* as the difference with respect to *Budget size* and *City*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

Table A.5: Additional results of the heterogeneous effect of partisan alignment on political corruption.

	(1)	(2)	(3)	(4)
	All parties		**Aligned PP-PSOE**	
	(coalition)		**municipalities**	
	Pooled OLS	FE	Pooled OLS	FE
Panel A: Effect by absolute majority at the local level				
Alignment (A_{it})	0.013	0.020	0.015	0.031*
	(0.010)	(0.013)	(0.012)	(0.016)
Majority (loc) (τ_{it})	0.007	0.008	0.013	0.012
	(0.010)	(0.012)	(0.011)	(0.015)
Majority (loc) * ($A_{it} - 1$)	0.008	0.003	0.007	-0.001
	(0.012)	(0.016)	(0.013)	(0.018)
Mean dep. var. non-treated		0.061		0.060
Panel B: Effect by absolute majority at the regional level				
Alignment (A_{it})	0.014*	0.008	0.005	0.008
	(0.008)	(0.009)	(0.011)	(0.015)
Majority (reg) (τ_{it})	0.035***	0.030**	0.044***	0.040***
	(0.009)	(0.015)	(0.009)	(0.013)
Majority (reg) * ($A_{it} - 1$)	0.009	0.029**	0.021*	0.034*
	(0.016)	(0.018)	(0.013)	(0.017)
Mean dep. var. non-treated		0.047		0.061
Panel C: Effect by local and regional elections held the same day				
Alignment (A_{it})	0.003	-0.000	0.006	0.000
	(0.008)	(0.009)	(0.010)	(0.014)
Concurrent (τ_{it})	0.006	-	0.007	-
	(0.008)		(0.010)	
Concurrent * ($A_{it} - 1$)	0.028***	0.051***	0.022*	0.054***
	(0.010)	(0.014)	(0.012)	(0.017)
Mean dep. var. non-treated		0.065		0.061
N. Observations	8,721	8,721	8,215	8,215

Note: The table shows pooled OLS and FE estimates of the heterogeneous effect of partisan alignment on political corruption for the full sample of parties in the country and also for the two main parties in the Spanish political scenario. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants.In the first panel I present estimates by whether the local government was ruled with absolute majority, while estimates by whether the regional one was ruled with absolute majority are shown in the central one, Finally, in the bottom panel I show estimates by whether local and regional elections were held the same day. The first two columns show estimates in which the treated are aligned municipalities which party in power is also in the regional government coalition, while in columns (3) and (4) estimates of the joint effect of any of the two main parties in the country ruling both government layers are presented. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Majority (loc)*, *Majority (reg)* and *Concurrent* capture the difference in corruption for all dummies under alignment, as I reparameterised *Majority (loc) * alignment*, *Majority (reg) * alignment* and *Concurrent * alignment* as the difference with respect to *Majority (loc)*, *Majority (reg)* and *Concurrent*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

Table A.6: Heterogeneous effect of partisan alignment on political corruption. All interactions at the same time

	(1)	(2)	(3)	(4)	(5)	(6)
	All parties		**Aligned People's party mun.s**		**Aligned Socialist party mun.s**	
	Pooled OLS	FE	Pooled OLS	FE	Pooled OLS	FE
	Panel A: Joint effect					
Alignment (A_{it})	0.001	-0.005	-0.009	-0.051	0.015	-0.004
	(0.011)	(0.015)	(0.041)	(0.064)	(0.016)	(0.024)
Majority (loc) (τ_{it})	0.009	0.007	-0.002	-0.000	0.010	0.012
	(0.010)	(0.013)	(0.022)	(0.028)	(0.012)	(0.016)
Majority (loc) * ($A_{it} - 1$)	0.004	0.004	-0.005	0.006	0.008	0.015
	(0.012)	(0.016)	(0.023)	(0.029)	(0.014)	(0.020)
Majority (reg) (τ_{it})	0.030***	0.028*	0.029	0.065	0.031***	0.036**
	(0.010)	(0.015)	(0.033)	(0.052)	(0.012)	(0.016)
Majority (reg) * ($A_{it} - 1$)	0.012	0.020	0.011	0.030	0.007	0.014
	(0.012)	(0.017)	(0.034)	(0.046)	(0.014)	(0.021)
Concurrent * ($A_{it} - 1$)	0.010	0.031*	0.034*	0.098**	-0.022	-0.003
	(0.012)	(0.017)	(0.018)	(0.040)	(0.014)	(0.022)
Mean dep. var. non-treated		0.039		0.039		0.039
N. Observations	8,721	8,721	5,851	5,851	6,673	6,673

Note: The table shows pooled OLS and FE estimates of the heterogeneous effect of partisan alignment on political corruption for the full sample of parties in the country and also for the two main parties in the Spanish political scenario. I obtained them thanks to a fixed-effect model which exploits the quasi-randomness of alignment by using municipalities above 1,000 inhabitants and by interacting the alignment dummy with 3 different dummies at the same time. First, a dummy about whether the local government was ruled with absolute majority. Second, a dummy about whether the regional government was ruled with absolute majority. And finally, a dummy about whether local and regional elections were held the same day. The first two columns show the effect of partisan alignment for the full sample of parties. Columns (3) and (4) present the results by defining as treated the municipalities that are ruled by PP. Finally, columns (5) and (6) show the results in which the treated are aligned municipalities ruled by PSOE. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables.The parameters associated to *Majority (loc)*, *Majority (reg)* and *Concurrent* capture the difference in corruption for all dummies under alignment, as I reparameterised *Majority (loc) * alignment*, *Majority (reg) * alignment* and *Concurrent * alignment* as the difference with respect to *Majority (loc)*, *Majority (reg)* and *Concurrent*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

Table A.7: Additional robustness checks of the effect of partisan alignment on political corruption.

	(1)	(2)	(3)
	Aligned PP-PSOE municipalities		
	Coalition	Other level	DiD
Panel A: Homogeneous effect			
Alignment (A_{it})	0.030***	0.035***	0.040*
	(0.009)	(0.010)	(0.022)
N. treated municipalities	4,163	3,906	819
Mean dep. var. non-treated	0.057	0.057	0.063
Panel B: Heterogeneous effect by income			
Alignment (A_{it})	0.024***	0.029***	-0.032
	(0.009)	(0.010)	(0.044)
Budget size (τ_{it}^1)	0.052***	0.055***	0.032
	(0.018)	(0.019)	(0.026)
Budget size * ($A_{it} - 1$)	0.054**	0.055**	0.000*
	(0.021)	(0.022)	(0.000)
N. treated municipalities	3,508	3,307	703
Mean dep. var. non-treated	0.056	0.056	0.057
Panel C: Heterogeneous effect by population			
Alignment (A_{it})	0.017**	0.022**	-0.002
	(0.008)	(0.009)	(0.020)
City (τ_{it}^2)	0.008	0.010	0.039
	(0.037)	(0.037)	(0.072)
City * ($A_{it} - 1$)	0.056**	0.056**	0.135***
	(0.024)	(0.024)	(0.045)
N. treated municipalities	3,224	3,025	602
Mean dep. var. non-treated	0.035	0.034	0.037
N. Observations	8,215	8,215	2,847

Note: The table shows FE estimates of the effect of partisan alignment on political corruption for the joint effect of any of the two main parties in the Spanish political scenario ruling both government layers. I obtained them by *i*) defining as treated those municipalities that are aligned and which party in power is also in the regional government coalition in column (1), *ii*) including in the main specification two dummies for alignment between local and national government and also between regional and national ones in column (2) and *iii*) by using a different definition of the treatment and control groups in column (3). I first present the homogeneous effect of alignment in panel A, while in panels B and C I show the heterogeneous effect of the treatment by wealth using as proxies for wealthier municipalities, respectively, total available income and population size. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. The parameters associated to *Budget size* and *City* capture the difference in corruption between wealthier and non-wealthier municipalities under alignment, as I reparameterised *Budget size * alignment* and *City * alignment* as the difference with respect to *Budget size* and *City*, respectively, in all regressions. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.

14

Table A.8: Additional falsification tests of the effect of partisan alignment on political corruption.

	(1)	(2)	(3)	(4)
	All parties (coalition)		**Aligned PP-PSOE municipalities**	
	Pooled OLS	FE	Pooled OLS	FE
	Panel A: Current corruption			
Alignment ($A_{i,t+1}$)	-0.006	-0.011	-0.003	-0.011
	(0.005)	(0.007)	(0.006)	(0.008)
Mean dep. var. non-treated		0.067		0.065
N. Observations	8,721	8,721	8,215	8,215
	Panel B: Corruption (previous term)			
Alignment (A_{it})	-0.003	0.011	0.001	0.018
	(0.008)	(0.013)	(0.009)	(0.014)
Mean dep. var. non-treated		0.073		0.071
N. Observations	5,957	5,957	5,745	5,745
	Panel C: Current corruption			
Alignment ($A_{i,t-1}$)	0.006	0.004	0.010	0.006
	(0.005)	(0.007)	(0.006)	(0.008)
Mean dep. var. non-treated		0.064		0.065
N. Observations	8,721	8,721	7,940	7,940
	Panel D: Corruption (next term)			
Alignment (A_{it})	-0.002	-0.007	-0.007	-0.015*
	(0.005)	(0.007)	(0.007)	(0.009)
Mean dep. var. non-treated		0.054		0.053
N. Observations	8,721	8,721	8,215	8,215
	Panel E: R-causality. Current alignment			
Corruption ($Corr_{i,t-1}$)	-0.008	0.027	0.002	0.036
	(0.024)	(0.029)	(0.022)	(0.027)
Mean dep. var. non-treated		0.524		0.470
N. Observations	5,957	5,957	5,745	5,745
	Panel F: R-causality. Alignment (next term)			
Corruption ($Corr_{it}$)	-0.026	-0.043	-0.012	-0.037
	(0.022)	(0.026)	(0.022)	(0.026)
Mean dep. var. non-treated		0.530		0.457
N. Observations	8,721	8,721	8,215	8,215

Note: The table shows several falsification tests of the effect of partisan alignment on political alignment for the full sample of parties in the country and also for the two main parties in the Spanish political scenario. I show estimates of the effect of future alignment on corruption in panels A and B, while the effect of the treatment on corruption in a period of time before the treatment are presented in panels C and D. Finally, reverse causality test of the effect of corruption on future alignment are shown in panels E and F. The first two columns show estimates in which the treated are aligned municipalities which party in power is also in the regional government coalition, while in columns (3) and (4) estimates of the joint effect of any of the two main parties in the country ruling both government layers are presented. Corruption is a dummy that is equal to 1 if a municipality had a corruption case in period t and 0 otherwise. I regressed it on a dummy that equals 1 if a municipality is aligned and 0 otherwise and on a set of income, electoral and economic variables. Standard errors are clustered at the municipal level. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Income data comes from the Spanish Finance Ministry. Electoral data comes from the Spanish Interior Ministry. Corruption date is self-constructed using online-news search. Section 3 offers additional information on the institutional setting and section 4 on the empirical strategy and on the data.