Powers that be? Political alignment, government formation, and government stability

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Abstract

We study how partisan alignment across levels of government affects coalition formation and government stability using a regression discontinuity design and a large dataset of Spanish municipal elections. We document a positive effect of alignment on both government formation and stability. Alignment increases the probability that the most-voted party appoints the mayor and decreases the probability that the government is unseated during the term. Aligned parties also obtain sizeable electoral gains in the next elections over unaligned ones. We show that these findings are not the consequence of favoritism in the allocation of transfers towards aligned governments.

Keywords: Government stability; government formation, political alignment, inter-governmental relations.

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1. Introduction

In parliamentary democracies, the head of government is chosen by the legislature after bargaining among parties. The most-voted party typically proposes a coalition to potential allies promising cabinet seats, some control over the agenda, or other benefits in exchange for support. If the proponent party gathers sufficient backing from other parties, then a government is formed. The stability of the resulting government is tightly linked to that of the majority that supports it, as the government might be unseated if some of the coalition partners quit to join an alternative coalition.

However, no government is an island, and external factors will affect its fate. Local governments cooperate and wrangle with those in the upper tiers, such as the region or the state. Similarly, national governments deal with international institutions and organizations. Partisan affinities cut through these layers and affect how different tiers of government interact with each other. A party aligned with upper-levels of government enjoys several benefits that can be offered to potential coalition members. To start, alignment comes with connections with high-ranking politicians that can help build trust and favor the transfer of government funds (Bracco et al., 2015; Curto-Grau, Solé-Ollé and Sorribas-Navarro, 2018). These connections can then also help in career-building efforts and grant local politicians greater visibility in the media or during electoral campaigns. In turn, an aligned party might have better chances to gather a coalition than a proponent which is not aligned. Moreover, a coalition formed by an aligned proponent might be more likely to survive and last all the way through the term.

Although rigorous empirical evidence is lacking, anecdotes about the importance of political alignment in shaping government dynamics are common. In 2015, Italian president Sergio Mattarella deemed Paolo Savona unfit as potential minister for the economy and finance because Savona had previously expressed anti-euro views. Conversely, later in the same term, Mattarella appointed the former European Central Bank governor and vigorously pro-EU Mario Draghi as the Prime Minister of a large government coalition. Unaligned politicians also suffer on the revenues side. In 2022, the European commission called for an estimated 7.5 billion in European funds to be withheld from Hungary, led by euro-sceptic Viktor Orbán, shortly after Orbán's faction left the People's Party in the European Parliament.

This paper investigates how political alignment shapes i) the formation of governments, ii) the survival of these governments over time, and iii) the electoral fortunes of parties in the next election. We study this question in the context of a parliamentary democracy, Spain, focusing on the local (municipal) councils and their alignment with the regional government (*Comunidad Autónoma*). This context allows us to deploy quasi-experimental methods to obtain credible estimates of the effects of interest. We define a municipality to be aligned with the regional government if the coalition in power at the regional level also has the majority of seats in the local election. Our empirical approach is based on a regression-discontinuity design (RDD) with close elections (Lee, 2008; Folke, 2014). To implement this strategy, we construct a dataset with information on more than thirty thousand municipal

legislatures in the period 1983-2014.

We find that local parties aligned with the regional government enjoy several advantages over non-aligned parties. To start, we document that the top party – i.e., the one with the most votes – is much more likely to appoint the mayor when parties belonging to the coalition in power at the regional level win the local elections. Correspondingly, we find a large negative effect of alignment on the probability that the runner-up appoints the mayor. Both of these results indicate that the aligned party has an advantage in the bargaining stage of coalition formation. Consistent with this interpretation, we find no effect of alignment in legislatures where one party wins the majority of municipal seats and, thus, can rule alone.

Aligned governments are also much more stable than unaligned ones. Estimates indicate that governments are almost 3 percentage points less likely to be unseated via a no-confidence vote when they are aligned. Compared to the baseline probability of being unseated of about 5% around the threshold, this effect is large and close in magnitude to the impact of having one party less in the local council estimated in a similar setting by Carozzi, Cipullo and Repetto (2022). In terms of resource allocation from upper tiers of government, we find that the large increase in transfers found by, e.g., Curto-Grau, Solé-Ollé and Sorribas-Navarro (2018), arises entirely from terms where one party holds the majority – more than 50% – of seats. Minority and coalition governments, instead, receive no additional transfers from alignment. These results suggest that upper tiers are willing to distribute resources along political lines only when the aligned local party has full control of the government.

Gains from alignment do not end with the current legislature, but persist. RDD estimates show that the top party obtains a 1.5 percentage points higher vote share in the subsequent elections when aligned, while alignment decreases the vote share of the runner-up party by 2 percentage points. When no single-party majority is available – i.e., in the case of minority or coalition governments – our results suggest that both the top party and the junior coalition partners benefit from alignment. When a single-party majority is present, alignment results in a transfer of votes from the non-aligned to the aligned party.

Taken together, our results indicate that political alignment strengthens the bargaining power of local parties, and does so substantially. This effect does *not* operate through providing parties with more resources via additional transfers – which only happens in terms where the mayor rules with a single-party majority. Instead, benefits from alignment for government formation and survival are exclusively present when the local party needs to either form a coalition or avoid an opposing coalition to rule, suggesting that political connections with upper tiers of government (or implicit bargaining norms) may be even more important than inter-governmental transfers in these settings.

The Spanish context presents several methodological advantages when it comes to studying the impact of partisan alignment on government formation and survival. In the first place, all government levels in Spain operate as autonomous parliamentary democracies. Because both who is appointed to lead the local government and whether that government survives is often shaped by coalition formation mechanics, there is room for upper tiers of

government to play a relevant role in the process. Secondly, during this period Spanish politics was dominated by two large parties which have substantial presence at all government levels. Thus, partisan alignment across tiers occurs frequently. Finally, the sample size given by the large number of municipal governments allows us to implement a regression-discontinuity design to exploit exogenous variation in alignment status. These three factors have implications for the external validity of our findings. In particular, our results provide useful insights to think about government formation and stability in parliamentary democracies with well-established parties.

A large empirical literature has shown that favoritism in the allocation of government resources across locations is common in many settings. Arulampalam et al. (2009), Bracco et al. (2015), Curto-Grau, Solé-Ollé and Sorribas-Navarro (2018) and Brollo and Nannicini (2012) – among others – document large impacts of partisan alignment with upper tiers of government on budget transfers for different countries. Favoritism need not run along partisan lines only. Using cross-country data, Gehring and Schneider (2018) show that EU commissioners allocate more funds to their home countries. Ethnic favoritism has also been widely shown to be a relevant phenomenon (see, e.g., Hodler and Raschky, 2014; Burgess et al., 2015). We contribute to this literature by focusing our attention on the influence that other tiers of government may have on government formation and stability.

Previous work on the effect of political institutions on government stability studied the effects of the electoral system (e.g., Linz, 1994; Cheibub, Przeworski and Saiegh, 2004), electoral rules such as vote share thresholds (Carozzi, Cipullo and Repetto, 2022), or the confidence vote (Huber, 1996). Our contribution to this literature lies in showing that political alignment has large effects at the government formation stage and also affects stability.

Finally, our paper also relates to the empirical literature on the determinants of government formation. Fujiwara and Sanz (2019) use data and a setting similar to ours to show that the rank ordering of parties in terms of electoral results determines their capacity to appoint the executive even when the number of seats won by each party is the same. Gonzalez-Eiras and Sanz (2021) study the impact of electoral systems on the propensity of women to be appointed as mayors. Using data for Finnish municipalities, Meriläinen and Tukiainen (2022) document the presence of an incumbency advantage in the allocation of executive roles across parties with representation in the local council. Our contribution to this growing literature is to emphasize the role of alignment as an important determinant of the capacity of parties to appoint the executive in parliamentary democracies.

2. Context and Data

2.1. Context

Spain has, as of 2011, 8,166 municipalities, covering all its territory. Municipalities are the smallest unit of government and take care of urban planning, upkeep of the transport network, provision of local services (e.g., sport facilities), waste disposal, and mass transit.

Municipal expenditures are predominantly financed by local taxes (the largest of which are a business tax and a property tax) and fiscal transfers from the national and regional

governments and the EU. On average, taxes contribute to over half of all municipal revenues.

Municipalities are governed by a mayor (*alcalde*) and the municipal council (*pleno* or *concejo municipal*). In municipalities with more than 250 inhabitants, council members are elected directly by citizens every four years via a closed-list proportional system.[1] Council seats are assigned following a D'Hondt rule with a 5% entry threshold. The mayor is chosen with by a majority of the municipality council, that meets right after the election for this purpose. If no candidate reaches the required support, then a default rule applies and the most-voted party has the right to appoint the mayor.[2] Analogously, the president of regional governments (*presidente de la comunidad autonoma*) and the prime minister (*presidente del gobierno*) are elected by the regional council and by Congress, respectively. The heads of the executive at all levels of government can be replaced during the term with a vote of the majority of members of the legislative (*moción de censura)*.

Spanish politics has traditionally been dominated by two large national parties, the center-left socialists *PSOE* and the center-right people's party *PP* (which ran as *Alianza Popular* in the 1980s). These two parties alone account for over 70% of all mayors in our sample. The third party running in all jurisdictions in this period is *IU*, a left-wing platform including the Spanish communist party. In addition, regional parties are often very important in their area of influence. For example, the center-right coalition *CiU* ruled over 50% of all municipalities in Catalonia between 1979 and 2014. About 95% of all mayors come from parties that also participate in elections at the national or regional level.[3] The fact that most mayoralties are held by parties with national representation is, arguably, an advantage of the Spanish setting in studying effects of political alignment.

After the transition to democracy, municipal elections have been taking place simultaneously across the country every fourth year since 1979. Regional elections take place every four years too. The first round of regional elections took place between 1979 (Navarra) and 1985 (Galicia), with most regions holding their elections in 1983. Due to these initial differences in the electoral calendar, regional elections continue to be scheduled at different points in time in different regions.

2.2. Data

Our dataset consists of a panel of municipalities covering the period 1983-2014.[4] Our main data sources consist of electoral records, data on individual mayors and mayoral changes, municipal demographics (population, surface), and data on the composition of regional governments. Electoral outcomes in municipal and regional elections are obtained from the Ministry of Internal Affairs. We complement this dataset with information on mayors and

[1] Municipalities with less than 250 inhabitants use an alternative open-list system and are excluded from the analysis.

[2] Fujiwara and Sanz (2019) document the existence of a bargaining norm that usually favors the selection of the most-voted party's candidate as the new mayor even when the default rule does not apply.

[3] These parties are PSOE, PP, IU, UCD, CDS, CIU, ERC, PNV, BNG, PAR and PA.

[4] We end our sample before the 2015 municipal elections, where *Podemos* ran with different names in local elections, rendering party identification problematic. The 1979–1983 term is excluded since there were no incumbent regional governments at the time of 1979 municipal elections.

their party of affiliation from the same source. Population data are taken from the residential registry (*Padrón continuo)*. Finally, we use data on capital transfers from regional to municipal governments – available since 1999 – as a measure of resource transfers between government levels.

TABLE 1
DESCRIPTIVE STATISTICS

	Mean	Std. dev.	Min	Max
Panel A. General Information				
Population (x1000)	7.81	54.90	0.25	3273.05
Surface (km2)	242.25	325.80	0.09	5023.12
N. Terms	7.06	1.41	1.00	8.00
Regional Transfers (logs)	11.61	1.51	-5.30	17.32
Panel B. Municipal Elections and Governments				
Aligned Council 1/0	0.64	0.48	0.00	1.00
PP Mayor 1/0	0.36	0.48	0.00	1.00
PSOE Mayor 1/0	0.42	0.49	0.00	1.00
Municipal Vote Share of PSOE	0.40	0.17	0.00	0.99
Municipal Vote Share of PP	0.38	0.20	0.00	1.00
Mayor Unseated 1/0	0.03	0.16	0.00	1.00
Top Party Appoints Mayor 1/0	0.92	0.27	0.00	1.00
Runner-up Party Appoints Mayor 1/0	0.07	0.25	0.00	1.00
Observations	38565			

Notes: Population and regional capital transfers are term-level averages. Surface is in km^2. Number of terms counts the number of full terms we have for each municipality in the sample. Mayor Unseated takes the value 1 if the mayor is replaced at some point during the term by a new mayor belonging to a different party.

We only include municipalities with more than 250 inhabitants in our sample because of a different electoral system in small towns, leaving us with just under 6,000 municipalities in the original dataset. We impose additional sample restrictions based on missing data or inconsistencies between sources, and lose 840 elections (2% of the remaining total), and exclude cases in which the party of the mayor cannot be identified, or only one party runs in the election. For each election in our sample, we have information on all party votes and seats received in the council, as well as blank and void votes. Our final sample relies on 38,565 observations.

Panel A of Table 1 provides municipal-level descriptive statistics for our sample. The average municipal population is just under 8,000 inhabitants, and the average surface is 242 km^2. Panel B includes descriptives on local governments. *PP* and PSOE are the dominant parties in this period, and together account for 78 percent of all mayors. In 64% of municipalities, the municipality council is aligned – that is, parties forming the governing block at the regional level hold the majority of seats in the municipality council. We code parties as belonging to the *regional bloc* if they supported the regional president in the investiture vote.[5] The most-voted party appoints the mayor in the vast majority of cases (92%), while

[5]Note that this definition of alignment includes parties that give external support to the regional president but do not enter the government directly.

the runner-up does so in 7% of the terms.

3. Research Design and Results

3.1. Regression-discontinuity Design

The goal of our analysis is to estimate the impact of partisan alignment with upper tiers of government on local government formation and survival. This can be empirically challenging because the alignment status of a municipality is likely to be correlated with unobservable features of the local electoral landscape, such as the strength of local parties or the competence of elected representatives. Reverse causality can also be an issue, particularly in the case of large municipalities where municipal outcomes can affect regional or even national politics and, hence, determine alignment status indirectly.

To overcome these issues, we implement a regression-discontinuity design (RDD) using close elections (Lee and Lemieux, 2010; Curto-Grau, Solé-Ollé and Sorribas-Navarro, 2018). The RDD relies on comparing municipalities where the parties in the regional bloc command a majority in the council with municipalities where these parties just failed to achieve that goal. The focus on regional alignment – instead of, say, alignment with the national government – is motivated by both institutional features and identification concerns. Regarding the former, regional governments are much closer to local governments and may be more likely to modify their decisions to pursue objectives at the level of municipalities. Regarding identification, the use of regional-level variation in the identity of ruling parties allows us to control for any direct impact of parties on the outcome variables of interest.

We define D_{irt} as an indicator taking value 1 if the parties in the coalition currently in the regional government of region r win a majority of seats in municipality i and election year t – i.e., if the combined seat share of those parties is larger than the combined seat share of parties belonging to the regional opposition. In these cases, we say that the local council is aligned with the region. To measure the vote share distance to (or from) being aligned, we construct our running variable W_{irt} building on recent work by Folke (2014) and Fiva, Folke and Sørensen (2018) that adapts the close-elections RD method to proportional systems.[6]

Our baseline regression-discontinuity model is then as follows:

$$Y_{irt} = \alpha + \beta D_{irt} + \gamma_1 W_{irt} + \gamma_2 W_{irt} D_{irt} + \lambda_{rt} + \epsilon_{irt}, \tag{1}$$

where Y is the outcome of interest, e.g., an indicator equal to one if the mayor was unseated with a no-confidence vote. Coefficient β will therefore measure the impact of having a council majority aligned with the regional bloc on government formation and survival.[7] Our analysis relies on exploiting variation in alignment status around the threshold $W_{irt} = 0$, where

[6] In particular, we follow Curto-Grau, Solé-Ollé and Sorribas-Navarro (2018) and redistribute votes to (or from) the opposition bloc until a majority change takes place. In each case, the transfer of votes is carried out by apportioning votes based on initial party vote shares. Details on the calculation of the running variable can be found in Appendix B.

[7] λ_{rt} is the region-year (i.e., cutoff) fixed effect, whose inclusion assures we only compare aligned and unaligned councils exposed to the same incumbent regional government.

elections were close. Hence, and as usual in RD designs, we are only able to estimate an average treatment effect for legislatures close to the threshold. Estimation is carried out using local linear regression within the Calonico, Cattaneo and Titiunik (2014)'s optimal bandwidth. Corresponding robust confidence intervals are also reported. For robustness, we also document in Figures A.4 and A.5 that our estimates are stable across a wide range of bandwidths.

To provide evidence of no manipulation of the running variable (see, e.g., Lee and Lemieux, 2010), we report its density histogram in Appendix Figures A.1. Standard statistical tests fail to detect a statistically significant discontinuity in the density at the zero threshold, with McCrary (2008) and Cattaneo, Jansson and Ma (2017)'s tests yielding p-values of 0.34 and 0.85, respectively. Appendix Tables A.1 and A.2 show balancing of several covariates at the threshold. There are no meaningful differences in measures of the size of the municipality (population, surface, number of seats in the council), political variables (number of votes casts, number of parties with votes, *PSOE* and *PP* vote shares, etc.), or lagged outcomes. Taken together, these tests indicate that the assumptions required for a valid RDD are satisfied in this setting.

One possible concern with our RD design relates to the role of geographic spillovers across local governments. If the partisan alignment of a municipality with its neighbors also jumps at the threshold, our RD estimates may capture spillover effects from neighboring municipalities in addition to the effect of partisan alignment between local and regional governments. In Appendix Figure A.2, we show that this is not an important concern in practice, as the proportion of neighbors of a municipality that are aligned varies smoothly at the threshold, as is the case for other predetermined covariates.

A final note on the research design is due regarding issues of lack of power in regression-discontinuity designs recently raised in, e.g., Stommes, Aronow and Sävje (2023). One limitation RD designs is that, by relying on relatively few observations for estimation, they may at times be underpowered to detect small effects. In Appendix C, we follow Cattaneo, Titiunik and Vazquez-Bare (2019) and estimate power functions for our main RDD estimates, in an effort to ensure that our design has enough power to detect effects of interest of reasonable sizes. Reassuringly, we find that power is high for the main outcomes, reaching the conventional threshold of 0.8 for effects as small as one-tenth of a standard deviation for the government formation and stability outcomes.

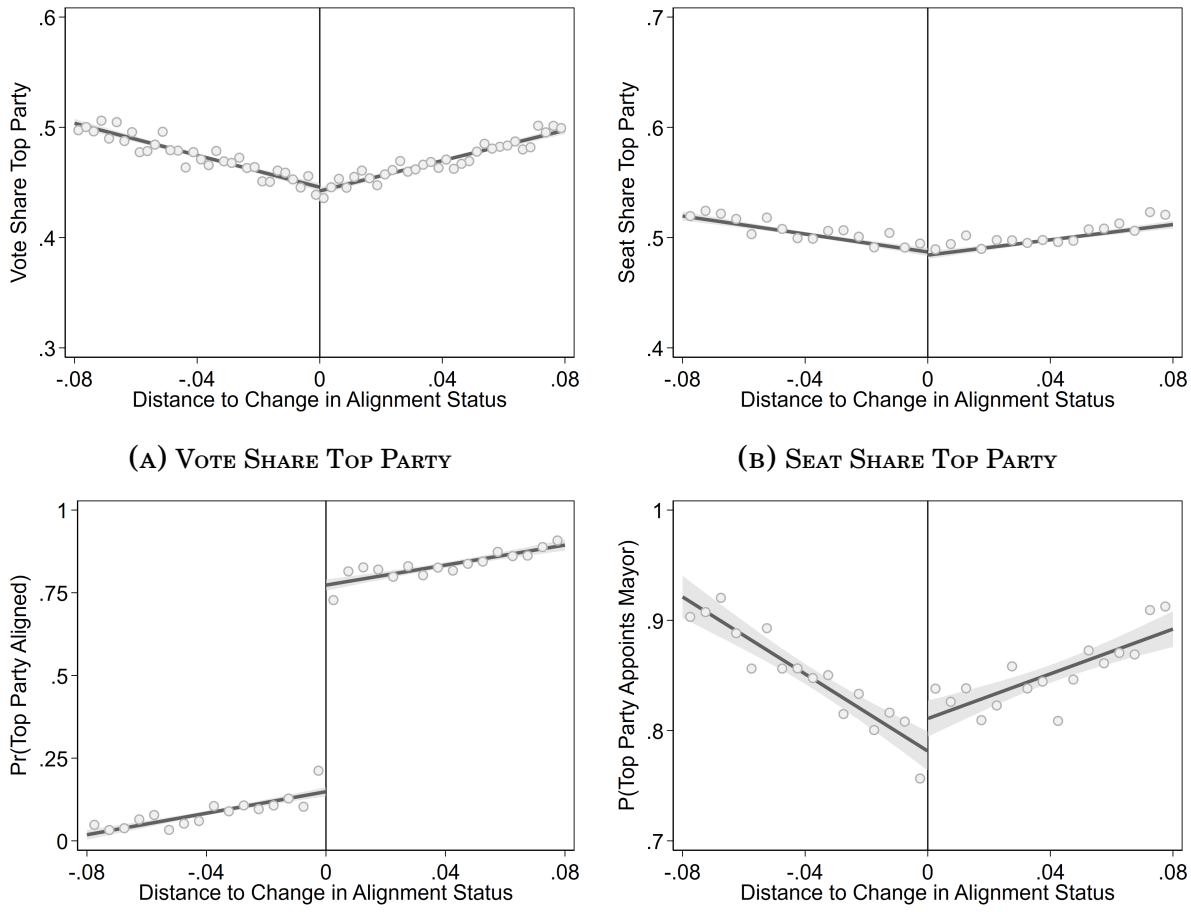
3.2. Aligned councils and government formation

We start by testing whether aligned parties are more likely to appoint a mayor using our regression-discontinuity design. To do so, we need to show that an aligned party is more likely to appoint the mayor than a unaligned one with similar electoral outcomes and, crucially, similar support in the council. We focus our attention on the top party, i.e., the most-voted party in a municipal election. The top party is generally also the party which obtains the largest number of seats in the council and, by law, has the right to appoint the mayor if other parties are unable to form an opposing coalition (see Section 2). We compare the probability that the top party appoints the mayor when it is aligned and when it is not.

Because of the RD design, municipalities close to the alignment threshold should be similar in all respects and only differ by alignment status. Importantly, the vote share and seat share of the top party should, on average, be very similar at either side of the threshold.

FIGURE 1

ALIGNMENT AND GOVERNMENT FORMATION – REDUCED-FORM PLOTS



(A) VOTE SHARE TOP PARTY

(B) SEAT SHARE TOP PARTY

(C) TOP PARTY ALIGNED

(D) TOP PARTY APPOINTS MAYOR

Notes: The horizontal axis is the running variable in all figures. Observations to the right of the zero threshold correspond to municipalities where the regional bloc coalition has the majority of seats in the municipal council. Correspondingly municipalities where the regional opposition has the majority are to the left of the threshold. The outcomes are: in the upper-left panel, the vote share of the most-voted party in the council; in the upper-right, its seats share; in the lower-left, the probability that it is aligned; and in the lower-right, an indicator equal to one when the most-voted party party appoints the mayor. Dots are averages in 0.05 percentage point bins of the running variable, and lines are linear regressions estimated on both sides of the threshold separately using the *lfitci* command in Stata. Shaded areas are the corresponding 95% confidence intervals.

In Figure 1, we illustrate this exercise graphically by showing reduced-form relationships between the distance to council alignment W_{it} and four outcomes of interest. We report binned-scatter plots and estimated regression lines in each panel to illustrate the change in each outcome at the threshold. Panels A and B of Figure 1 show, respectively, that both the vote share and the seat share of the top party are smooth at the threshold. This is in line with the balancing checks reported in the Appendix and confirms the assumption that top

parties at either side of the threshold have comparable electoral performance and seats in the council. Panel C shows a large jump in the probability that the top party is aligned with the regional bloc at the threshold. This is again not surprising and indicates that, in most cases, when the regional coalition wins the local election, the most-voted party belongs to it. Panel D of Figure 1 illustrates the main result of this section. We observe an appreciable jump in the probability that the top party appoints the mayor at the threshold. Taken together, the four panels indicate that, despite comparable electoral performance at the threshold, top parties of municipalities with aligned councils are more likely to be aligned and, critically, more likely to succeed in appointing the mayor.

In column 1 of Table 2 we estimate that the effect of alignment on the probability that the top party appoints the mayor is 3.3 percentage points, with a standard error of 1.3.[8] Hence, alignment appears to either facilitate the formation of a coalition for parties in the aligned bloc, or to make it harder for other parties. This effect can be explained by the fact that when the top party belongs to the coalition in power in the region, it enjoys greater visibility, is directly connected to higher tiers of the administration, and has potentially more to offer to potential allies in the bargaining stage of coalition formation. Part of the effect could also be explained by the existence of an implicit norm that designates the aligned party as the one to appoint the mayor in dubious cases.

To investigate this result further, we decompose this effect by distinguishing between cases in which the top party obtains the absolute majority (>50%) of seats and cases in which it does not. Corresponding estimates are provided in column 1 of Panels B and C and show that the change in the propensity to appoint the mayor is driven entirely by municipal councils where no single party has the majority of seats. This is to be expected, as single-party majorities successfully appoint the mayor in virtually all cases. Hence, the effect detected in the full sample must be originating from municipal councils where bargaining is needed to form a coalition government or to avoid an opposing coalition.

Reproducing this analysis by focusing instead on the runner-up (the second most-voted party) yields very similar insights. Results are illustrated in Appendix Figure A.3 and show that the electoral performance of the runner-up party is smooth at the threshold, both in terms of vote and seat shares; that the probability that the runner-up is aligned with the regional government *decreases* discontinuously at the threshold; and, finally, that the probability that it appoints the mayor drops discontinuously at the council alignment threshold. Unaligned runner-ups in municipal elections find it much harder to appoint the mayor than otherwise comparable runner-ups that are aligned. This evidence is again consistent with the notion that partisan affinities with higher government tiers facilitate government formation.

[8] Estimates for the other discontinuities in Figure 1 are reported in Appendix Table A.3, and show no change in electoral performance at the threshold and a large increase in the probability that the top party is aligned with the regional government bloc.

3.3. Alignment affects government stability and transfers

The benefits of alignment may go beyond the government formation stage and persist throughout the term. In particular, aligned local governments may be more stable and harder to unseat. To study this possibility, we use information on votes of no confidence at the municipality-term level. Successful votes of no confidence result in the incumbent mayor being ousted in favor of a new one from a different party, with a process similar to the replacement of prime ministers in parliamentary democracies. The successful approval of a no-confidence vote thus constitutes a good indicator of the government's inability to maintain the support of the council throughout the term.

The impact of council alignment with the regional bloc on government survival is illustrated in the top panel of Figure 2. We present results separately for councils where a party has the absolute majority of seats and councils where no party has it. As expected, single-party majorities are virtually never unseated, and whether they are aligned or not has no effect on stability. Instead, we document a large discontinuity at the threshold in the probability that coalition or minority governments are unseated. In particular, aligned councils are substantially less likely to pass a successful vote of no confidence against the appointed mayor than unaligned councils.

Formal estimates of the effect on the probability of unseating the incumbent mayor are reported in column 2 of Table 2. In Panel A, we show that aligned councils are 2.8 percentage points less likely to unseat the mayor. This is a large effect, as the baseline probability of unseating the mayor is about 5% in the sample, and indicates that aligned councils are more likely to support appointed mayors all the way to the next election. Panels B and C show that the effect of alignment on government survival is driven entirely by councils in which no party enjoys a majority of seats, consistently with the findings in Figure 2.[9,10]

What is the origin of this effect of alignment on government stability? A natural explanation is that political alignment affects the stream of revenues from upper-tiers of government. In fact, the presence of a large, positive alignment effect on transfers has been documented for Spain (Curto-Grau, Solé-Ollé and Sorribas-Navarro, 2018) and several other countries (see, e.g., Bracco et al., 2015).

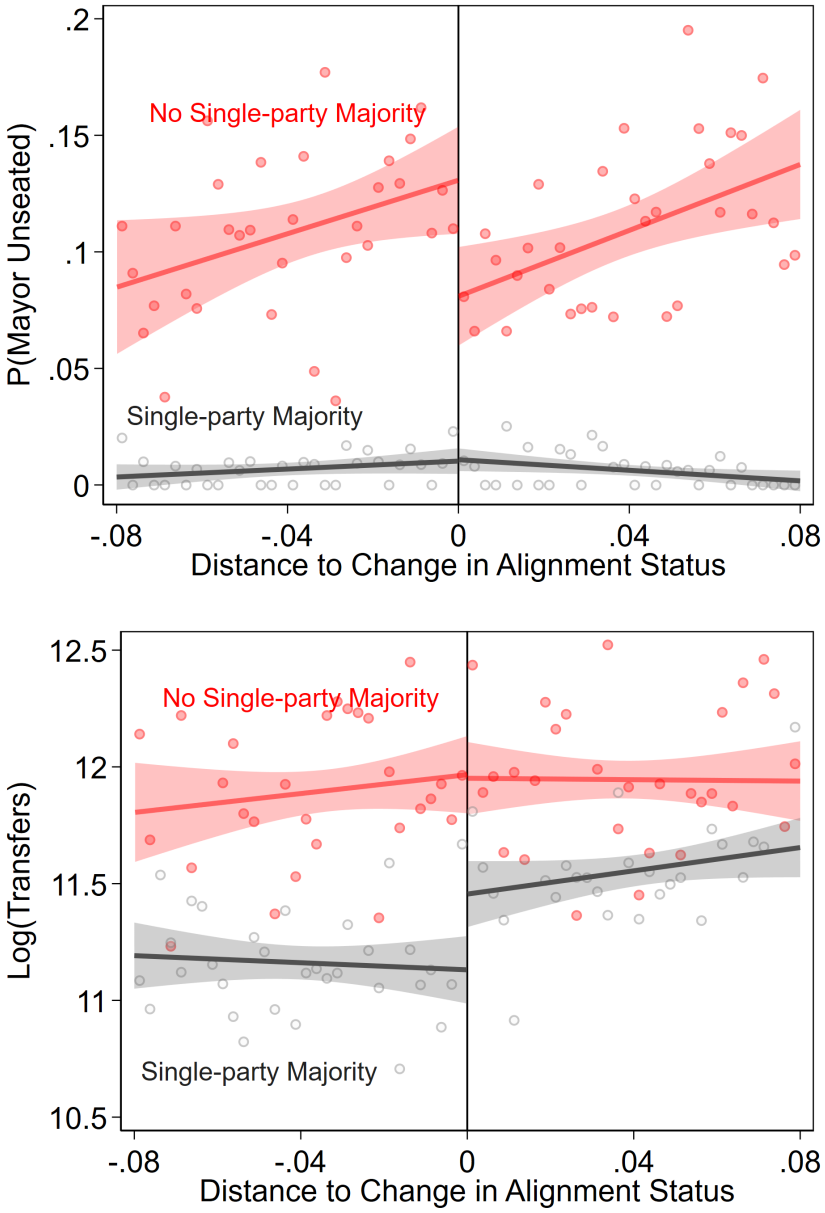
In the bottom panel of Figure 2, we show the effect of alignment on the (log of) regional capital transfers received by the municipality in the term. Interestingly, we observe that aligned local governments indeed receive more transfers from the region, but only if there is

[9]Table A.4 in the Appendix reports the 2SLS coefficients obtained from instrumenting an indicator equal to 1 if the mayor belongs to one of the parties in the regional coalition government with our *Aligned Council* indicator, consistently with Curto-Grau, Solé-Ollé and Sorribas-Navarro (2018). Table A.4 also documents that the estimates are robust to the introduction of additional control variables. In Figures A.6 and A.7 we document that the effects are stable when removing one election year at a time, while in Figure A.8 and A.9 we show that the effects survive when removing data from one comunidad autonoma at a time.

[10]Cases in which the municipality government is appointed a handful of days before the regional government result are not infrequent in our data, occurring in approximately 50 percent of the sample. In Table A.5, we replicate our main RD analysis excluding from the sample cases in which the regional government has not been appointed by the date in which the local government is decided. The overall validity of the results holds and, as expected, the estimated coefficient on the probability that the most voted party appoints the mayor increases substantially.

FIGURE 2

COUNCIL ALIGNMENT, GOVERNMENT STABILITY AND RESOURCES – REDUCED-FORMS



Notes: The horizontal axis is the running variable in all figures. Observations to the left of the zero threshold are municipalities where the regional bloc coalition has the majority of seats in the municipal council. Correspondingly, to the right of the threshold are municipalities where the regional opposition has the majority. In the upper panel, the outcome is an indicator for the mayor being unseated and replaced during the term. In the lower panel, the outcome is the logarithm of the average regional capital transfers received over the term. Dots are averages in 0.025 percentage point bins of the running variable, and lines are linear regressions estimated on both sides of the threshold separately using the *lfitci* command. Shaded areas are the corresponding 95% confidence intervals.

a single-party majority in power. The corresponding reduced-form regression estimates are reported in column 3 of Table 2. Collectively, these results confirm that regional governments are more willing to distribute resources to aligned mayors, but only where these mayors are

appointed by a party which has control of the council. Given that single-party majorities are stable regardless of alignment status, transfers alone cannot explain the effect of alignment status on government survival.

While aligned mayors in coalition or minority governments do not receive more transfers, they nonetheless appear to benefit from the connection with the upper tier through an effect on stability. This effect may be due to better coordination with the regional government – providing a better technology for coalition formation – or fear of retaliation on the newly appointed government.

Anecdotal evidence indicates that the role of regional party authorities in promoting votes of no confidence against their opponents has been important in the past. Perhaps the most significant municipal vote of no confidence in our sample is the one that took place in Madrid in June 1989. As a result of the vote, the incumbent socialist mayor of the Spanish capital was replaced by CDS councillor Mr Agustín Rodriguez. This action came as a result of a regional level agreement between PP and the centrist CDS, and was accompanied by an (unsuccessful) effort to oust the regional PSOE government. Another illustrative example can be found in the vote of no confidence that took place in the provincial capital of Tarragona in August 1989. In that case, CIU led a vote of no confidence against the socialist mayor, again with the support of CDS. Remarking on his recent removal from office, the ousted mayor Mr Josep Maria Recasens, mentioned that this action was done in retaliation for a vote of no confidence led by the socialists against CIU in Lleida. According to the ex-mayor's account, the support from CDS was secured by the regional CIU government in Barcelona in exchange for a better treatment in the Catalan parliament and an executive role in the regional broadcaster.[11] A review of the news coverage of votes of no confidence taking place in our sample indicates the presence of regional and province-level politicians to support their local-level colleagues is frequent when votes of no confidence takes place. Examples include the case of León in 2004, Leganés in 2007 and Chiclana de la Frontera in 2008, to name a few.[12]

3.4. Electoral effects of alignment

Being aligned with the regional government may also yield an advantage in the following elections, for at least two reasons. First, aligned local governments that receive extra transfers may provide more public goods and, as a result, be rewarded by voters in the next election. Second, aligned governments are more likely to survive until the end of the term – and, hence, to benefit from the incumbency advantage – than unaligned ones.

To study the impact of alignment on future electoral returns, in Table 3 we use as outcomes the vote share of the top party and the runner-up in the next election. Recall that council alignment increases the probability that the top party is aligned and reduces this probability for the runner-up (see e.g., Figure 1). Therefore, by focusing on these two par-

[11] See interview (in Spanish) here.

[12] See this link for León, this link for Leganés, this link for Chiclana de la Frontera, and this link for Vélez Málaga.

ties, we can evaluate whether aligned parties at the time of one election perform better on average in the next election.

The top party reaps significant electoral gains from being aligned, with effects ranging from 1.2 to 2.1 percentage points. At the same time, the runner-up performs substantially worse in the next election, with vote shares lowered by 1.7-2.6 percentage points. These results indicate that partisan affinities with upper levels of government not only affect the outlook of local governments in the short-run, but translate into better electoral results in future elections. In this way, the control of regional (and potentially state) governments can be instrumental in promoting the success of parties locally.

In panel (B), the damages of (lacking) alignment for the runner-up party are larger than the benefits from alignment enjoyed by the most voted party when a single-party majority is not feasible. This evidence suggests that junior coalition partners may benefit from alignment too. In column 3 of Table 3, we construct a dependent variable measuring the aggregate vote share of all other parties in the next municipality election and we use it as a proxy for the benefits enjoyed by junior coalition partners. The results estimated in Panel B are not statistically significant, yet suggestive that other parties may have benefited from supporting an aligned municipality government.

4. Discussion and conclusions

We study the effect of political alignment on government formation and stability. Consistently with the hypothesis that alignment endows the local government with additional bargaining resources and connections, we find that, in close elections, aligned local parties are more likely to form the government than parties that are non-aligned. Governments headed by aligned mayors are also substantially more stable. The benefits of alignment are not limited to the current term but persist, with the top party receiving an electoral boost in the next elections at the expense of the second most-voted party, that suffers large electoral losses. Overall, our results suggest that political alignment has important and long-lasting effects that extend beyond the transfer of additional resources traditionally emphasized and documented in the literature.

Our results are relevant to understand differences in the geographic polarization of voting preferences (Fiorina and Abrams, 2008). Previous work has emphasized the potential role of sorting in shaping apparent patterns of increased spatial polarization in voting preferences – occasionally referred to as the "big sort" in the political science literature (Bishop, 2009; Brown and Enos, 2021; Maxwell, 2019). Our results indicate an alternative mechanism that can drive the spatial segregation of electoral preferences. The control of intermediate levels of government – such as regions or states – can provide partisan support for aligned local governments, contributing to their appointment, survival, and success in subsequent elections.

Classic models of electoral competition (Downs, 1957; Osborne and Slivinski, 1996) stress the role of voter preferences and candidate characteristics – such as their competence and ideology – in determining who wins and who loses an election. An important implication of

our findings is that local political outcomes are also directly affected by the identity of governments in other tiers. This mechanism can have dynamic consequences, as circumstantial electoral victories at a higher level of government can influence who wins locally, hence affecting the long-term electoral performance of parties even in the absence of changes in the preferences of voters.

A final comment is due regarding the external validity of our findings. Spain has a parliamentary system with strong parties and closed lists, hence we expect our findings to be applicable, at least to some extent, to other similar contexts (Pearl and Bareinboim, 2022). Perhaps the key feature here is precisely the presence of strong parties, which makes alignment consequential. Our results are less informative about contexts where parties' control over local politics is weaker and where allegiances are more transient – as observed in some developing countries – or where local politics are sharply separated from regional or national organizations.

TABLE 2

GOVERNMENT FORMATION, STABILITY, AND TRANSFERS – REDUCED-FORM ESTIMATES

	(1)	(2)	(3)
Panel A. Full Sample			
	Top Party Mayor	Mayor Unseated	Log(Transfers)
Aligned Council	0.033**	-0.028***	0.158**
	(0.013)	(0.010)	(0.077)
Robust 95% c.i.	[0.010; 0.067]	[-0.053; -0.011]	[-0.014; 0.336]
Bandwidth	0.082	0.052	0.070
Mean dep. var.	0.851	0.052	11.601
Observations	13729	9013	5441
Panel B. No Single-party majority			
	Top Party Mayor	Mayor Unseated	Log(Transfers)
Aligned Council	0.113***	-0.055***	-0.051
	(0.033)	(0.021)	(0.112)
Robust 95% c.i.	[0.055; 0.199]	[-0.110; -0.017]	[-0.309; 0.198]
Bandwidth	0.040	0.043	0.070
Mean dep. var.	0.826	0.054	11.601
Observations	3225	3450	2283
Panel C. Single-party majority			
	Top Party Mayor	Mayor Unseated	Log(Transfers)
Aligned Council	-0.003	-0.000	0.439***
	(0.006)	(0.003)	(0.092)
Robust 95% c.i.	[-0.017; 0.014]	[-0.009; 0.007]	[0.208; 0.618]
Bandwidth	0.075	0.119	0.077
Mean dep. var.	0.846	0.042	11.602
Observations	7327	12086	3511

Notes: Reduced-form estimates, from equation 1, of the effect of council alignment on the probability that the top party appoints the mayor (column 1); that the mayor is unseated during the term with a no-confidence vote (column 2); and the log of regional capital transfers (column 3). In Panel A we use the full sample; in Panel B, we restrict to terms where no party has the absolute majority of seats; in Panel C, we restrict to terms where one party has the absolute majority of seats. The optimal bandwidth is calculated using the CCT criterion. Robust bias-corrected confidence interval calculated using Calonico, Cattaneo and Titiunik (2014)'s method are also reported. Standard errors clustered at the municipality level. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

TABLE 3
ELECTORAL RETURNS OF ALIGNMENT – REDUCED-FORM ESTIMATES

	(1)	(2)	(3)
Panel A. Full Sample			
	Top Party V.S. (t+1)	Runner-up V.S. (t+1)	Other V.S. (t+1)
Aligned Council	0.015***	-0.020***	0.002
	(0.005)	(0.005)	(0.006)
Robust 95% c.i.	[0.003; 0.025]	[-0.031; -0.008]	[-0.013; 0.016]
Bandwidth	0.075	0.075	0.078
Mean dep. var.	0.462	0.378	0.167
Observations	10386	10503	10216
Panel B. No Single-party majority			
	Top Party V.S. (t+1)	Runner-up V.S. (t+1)	Other V.S. (t+1)
Aligned Council	0.012	-0.026***	0.013
	(0.008)	(0.009)	(0.010)
Robust 95% c.i.	[-0.006; 0.030]	[-0.045; -0.006]	[-0.009; 0.039]
Bandwidth	0.057	0.051	0.053
Mean dep. var.	0.458	0.385	0.167
Observations	3530	3247	3127
Panel C. Single-party majority			
	Top Party V.S. (t+1)	Runner-up V.S. (t+1)	Other V.S. (t+1)
Aligned Council	0.021***	-0.017***	-0.005
	(0.007)	(0.006)	(0.007)
Robust 95% c.i.	[0.005; 0.033]	[-0.031; -0.002]	[-0.021; 0.009]
Bandwidth	0.075	0.091	0.086
Mean dep. var.	0.462	0.374	0.167
Observations	6063	7583	6806

Notes: Reduced-form estimates, from equation 1, of the effect of council alignment on the vote share of the top party (col. 1) and the runner-up (col. 2). In Panel A we use the full sample; in Panel B, we restrict to terms where no party has the majority of seats; in Panel C, we restrict to terms where one party has the majority of seats. Controls (surface and logged population) and region-election year FE are always included. The optimal bandwidth is calculated using the CCT criterion. Robust bias-corrected confidence interval calculated using Calonico, Cattaneo and Titiunik (2014)'s method are also reported. Standard errors clustered at the municipality level. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

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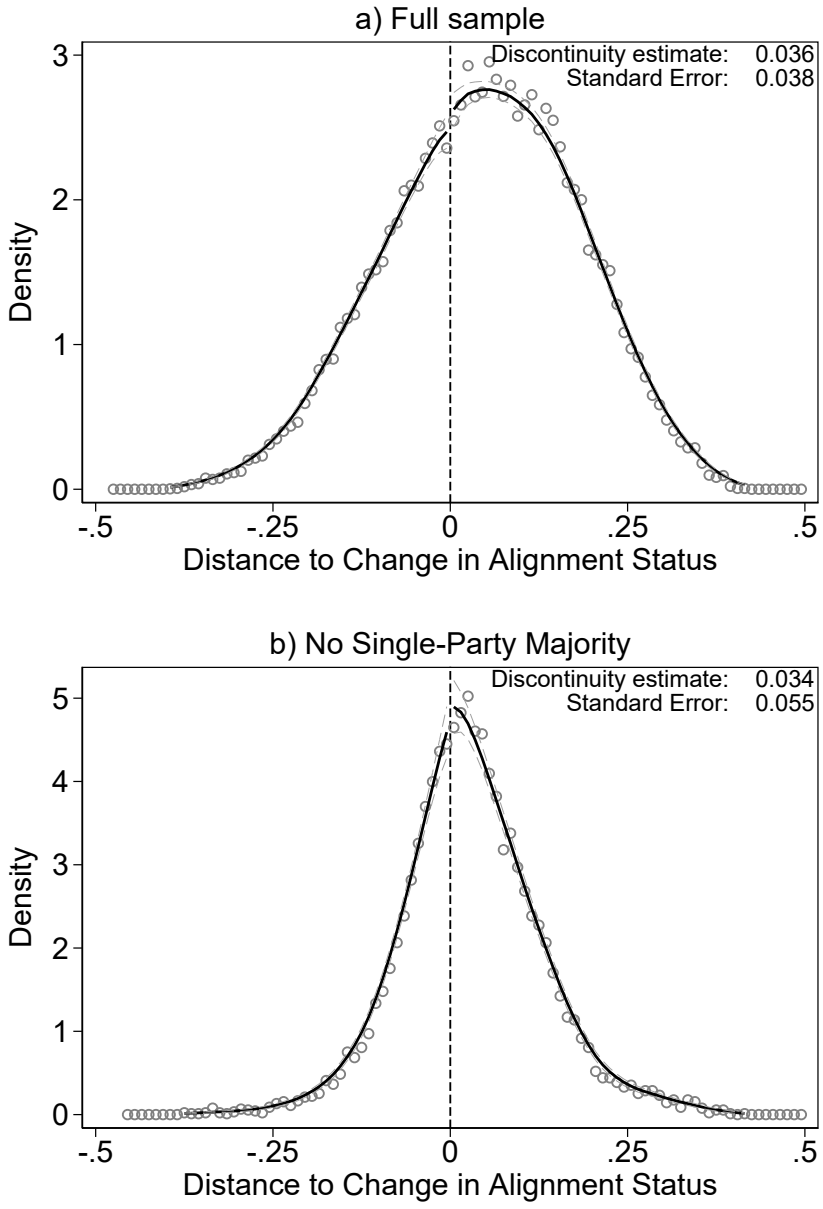
Appendices for Online Publication

A. Additional empirical results

FIGURE A.1

DENSITY OF THE RUNNING VARIABLE AROUND THE THRESHOLD



Notes: Estimated density of the running variable. Dots represent sample averages within 1 percentage point bins of the running variable. A McCrary (2008) test of the null hypothesis of no discontinuous jump in the density at the threshold fails to reject the null as reported in the figure. A Cattaneo, Jansson and Ma (2017) test, instead, yields a p-value of 0.856 (panel (a)) and 0.389 (panel (b)).

TABLE A.1
COVARIATE BALANCING CHECKS – FULL SAMPLE

	(1) Pop.	(2) Surface	(3) Council size	(4) S.P. Maj.
Aligned Council	-0.068	0.025	-0.254	0.018
	(0.067)	(0.041)	(0.218)	(0.021)
Robust 95% c.i.	[-0.237; 0.042]	[-0.063; 0.118]	[-0.807; 0.130]	[-0.023; 0.070]
Bandwidth	0.046	0.078	0.054	0.059
Mean dep. var.	7.651	5.022	10.828	0.555
Observations	8008	13235	9269	10111
	V.s. Reg. Maj.	V.s. Reg. Opp.	Top Party May. t-1	Mayor Uns. t-1
Aligned Council	-0.001	0.003	-0.015	-0.013*
	(0.004)	(0.003)	(0.013)	(0.007)
Robust 95% c.i.	[-0.008; 0.008]	[-0.004; 0.012]	[-0.044; 0.018]	[-0.029; 0.002]
Bandwidth	0.052	0.053	0.068	0.070
Mean dep. var.	0.432	0.427	0.837	0.034
Observations	9044	9193	11662	10977
	S.P. Maj. t-1	Aligned t-1	N. Parties	Valid Votes
Aligned Council	0.01	0.00	-0.09	-973.21
	(0.016)	(0.019)	(0.071)	(1055.015)
Robust 95% c.i.	[-0.026; 0.047]	[-0.045; 0.033]	[-0.265; 0.043]	[-3540.565; 1098.345]
Bandwidth	0.087	0.067	0.063	0.036
Mean dep. var.	0.677	0.517	3.558	4838.396
Observations	14535	10449	10808	6233
	Votes Blank	Turnout	V.s. PSOE	V.s. PP
Aligned Council	-20.35	-0.00	0.00	0.00
	(17.952)	(0.003)	(0.005)	(0.004)
Robust 95% c.i.	[-63.201; 15.958]	[-0.008; 0.007]	[-0.008; 0.013]	[-0.007; 0.012]
Bandwidth	0.057	0.067	0.041	0.052
Mean dep. var.	87.605	0.758	0.402	0.395
Observations	9827	11422	7117	7630

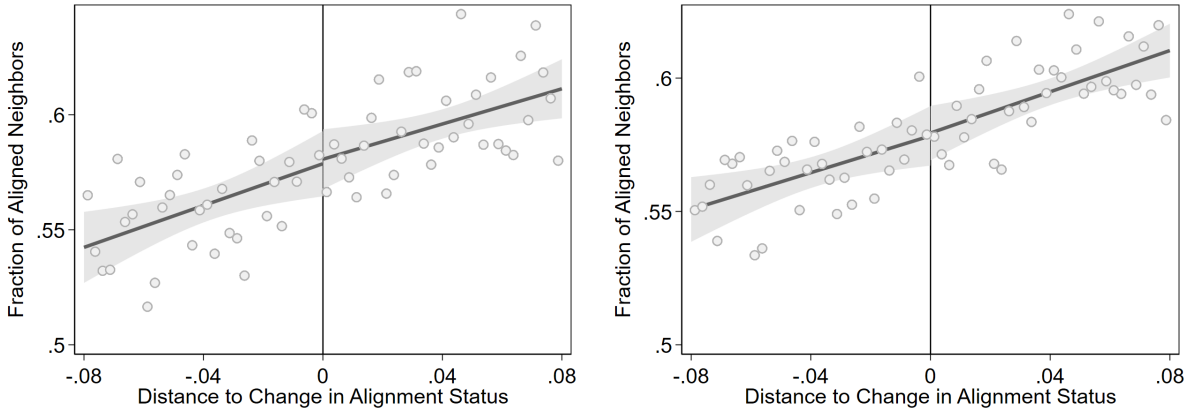
Notes: Reduced-form estimates for different covariates. Population and surface are in logarithms. Council size is the number of available seat in the municipality. Single-party majority is an indicator equal to one if one party has more than half the seats. Vote share regional majority (opposition) corresponds to the aggregated municipal election vote share of the coalition in power (in the opposition) at the regional level. Vote share of top party is the vote share of the most-voted party in the municipal election. Top party mayor $t-1$ is an indicator for the most-voted party appointing the mayor in the previous term. Mayor unseated $t-1$ is an indicator for the mayor being unseated in the previous term. Similarly, Aligned $t-1$ is an indicator equal to 1 if the municipality was aligned in the previous term. Number of parties counts the number of parties that ran and obtained votes in the municipal election. Valid votes is the number of votes cast (including blanks). Blank votes is the numbers of blank ballots. Municipal turnout is defined as total number of votes over eligible voters. Vote share of *PSOE* (*PP*) refers to the municipal election. Estimation by local linear regression using as bandwidth the CCT optimal bandwidth, estimated in each regression separately. No controls or election-year fixed effects are included. Standard errors are clustered at the municipality level. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

TABLE A.2
COVARIATE BALANCING CHECKS – NO SINGLE-PARTY MAJORITY

	(1) Pop.	(2) Surface	(3) Council size	
Aligned Council	-0.081	0.021	-0.234	
	(0.098)	(0.073)	(0.360)	
Robust 95% c.i.	[-0.300; 0.141]	[-0.117; 0.200]	[-1.052; 0.585]	
Bandwidth	0.043	0.046	0.045	
Mean dep. var.	7.650	5.023	10.841	
Observations	3486	3673	3597	
	V.s. Reg. Maj.	V.s. Reg. Opp.	Top Party May. t-1	Mayor Uns. t-1
Aligned Council	-0.007	-0.006	-0.016	-0.023*
	(0.005)	(0.005)	(0.026)	(0.013)
Robust 95% c.i.	[-0.020; 0.002]	[-0.019; 0.003]	[-0.075; 0.042]	[-0.049; 0.010]
Bandwidth	0.036	0.037	0.048	0.058
Mean dep. var.	0.431	0.429	0.836	0.035
Observations	2941	3008	3835	4008
	S.P. Maj. t-1	Aligned t-1	N. Parties	Valid Votes
Aligned Council	0.02	0.01	-0.16	-2036.87
	(0.032)	(0.031)	(0.111)	(1765.830)
Robust 95% c.i.	[-0.049; 0.094]	[-0.063; 0.078]	[-0.407; 0.097]	[-5936.546; 2019.179]
Bandwidth	0.047	0.048	0.046	0.036
Mean dep. var.	0.670	0.515	3.560	4828.691
Observations	3694	3517	3670	2912
	Votes Blank	Turnout	V.s. PSOE	V.s. PP
Aligned Council	-9.17	0.00	-0.00	-0.00
	(31.529)	(0.005)	(0.005)	(0.006)
Robust 95% c.i.	[-68.542; 64.301]	[-0.010; 0.013]	[-0.013; 0.011]	[-0.012; 0.014]
Bandwidth	0.044	0.053	0.039	0.033
Mean dep. var.	86.915	0.759	0.401	0.396
Observations	3565	4121	3147	2408

Notes: Reduced-form estimates for different covariates. Population and surface are in logarithms. Council size is the number of available seat in the municipality. Single-party majority is an indicator equal to one if one party has more than half the seats. Vote share regional majority (opposition) corresponds to the aggregated municipal election vote share of the coalition in power (in the opposition) at the regional level. Vote share of top party is the vote share of the most-voted party in the municipal election. Top party mayor $t-1$ is an indicator for the most-voted party appointing the mayor in the previous term. Mayor unseated $t-1$ is an indicator for the mayor being unseated in the previous term. Similarly, Aligned $t-1$ is an indicator equal to 1 if the municipality was aligned in the previous term. Number of parties counts the number of parties that ran and obtained votes in the municipal election. Valid votes is the number of votes cast (including blanks). Blank votes is the numbers of blank ballots. Municipal turnout is defined as total number of votes over eligible voters. Vote share of *PSOE* (*PP*) refers to the municipal election. Estimation by local linear regression using as bandwidth the CCT optimal bandwidth, estimated in each regression separately. No controls or election-year fixed effects are included. Standard errors are clustered at the municipality level. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Figure A.2
Alignment of Neighboring Municipalities



(a) 5 Nearest Neighbors (b) 10 Nearest Neighbors

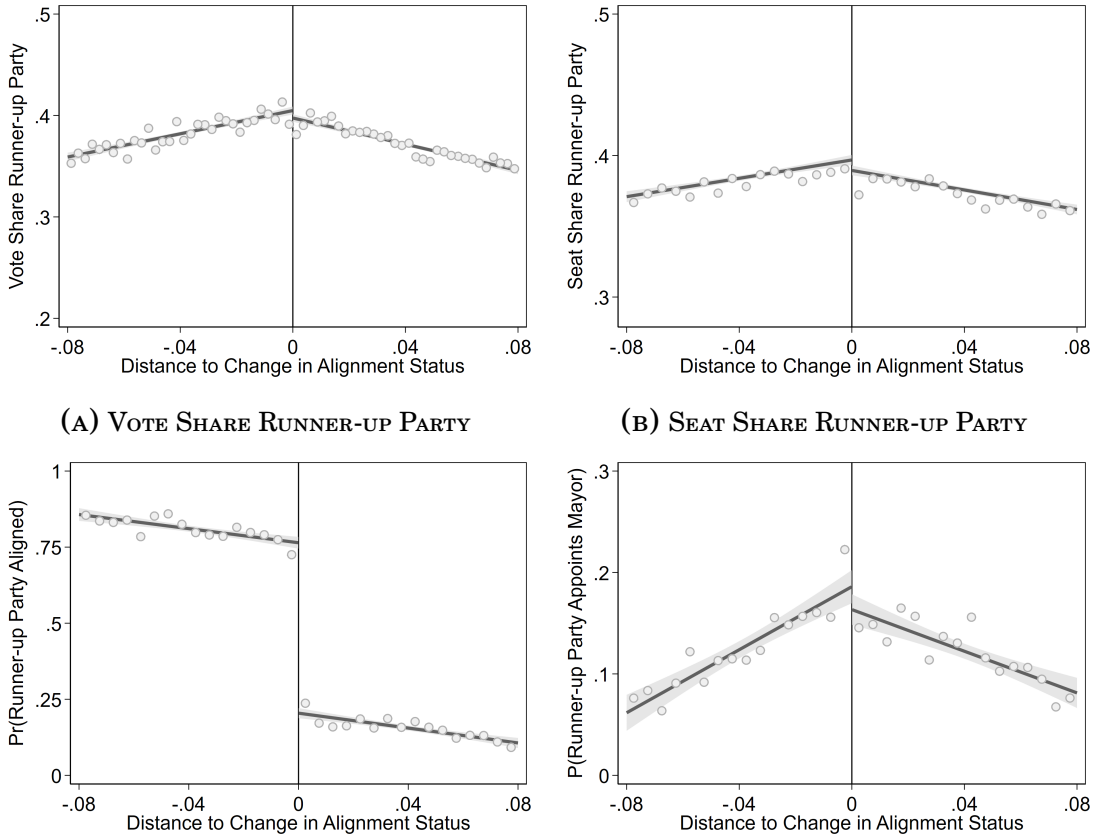
Notes: The horizontal axis is the running variable in all panels. Observations to the right of the zero threshold are municipalities where the regional bloc coalition has the majority of seats in the municipal council. Correspondingly municipalities where the regional opposition has the majority are to the left of the threshold. In Panel A, the vertical axis represents the average alignment status of the 5 closest neighbors to a municipality where alignemnt is defined as having the first appointed mayor in the term aligned with the regional government. In Panel B, the vertical axis represents the average alignment status of the 10 closest neighbors to a municipality. Dots are averages in 0.025 percentage point bins of the running variable, and lines are linear regressions estimated on both sides of the threshold separately using the *lfitci* command in Stata. Shaded areas are the corresponding 95% confidence intervals.

TABLE A.3
TOP PARTY PERFORMANCE – REDUCED-FORM ESTIMATES

	(1)	(2)	(3)
Panel A. Full sample			
	Vote Share Top Party	Seat Share Top Party	Aligned Top Party
Aligned Council	0.002	0.003	0.634***
	(0.003)	(0.004)	(0.014)
Robust 95% c.i.	[-0.004; 0.009]	[-0.004; 0.013]	[0.597; 0.661]
Bandwidth	0.057	0.049	0.059
Mean dep. var.	0.464	0.497	0.491
Observations	9783	8347	10067
Panel B. No Single-party majority			
	Vote Share Top Party	Seat Share Top Party	Aligned Top Party
Aligned Council	-0.002	-0.002	0.471***
	(0.004)	(0.003)	(0.024)
Robust 95% c.i.	[-0.010; 0.007]	[-0.009; 0.007]	[0.425; 0.532]
Bandwidth	0.044	0.043	0.049
Mean dep. var.	0.459	0.497	0.485
Observations	3529	3440	3871
Panel C. Single-party majority			
	Vote Share Top Party	Seat Share Top Party	Aligned Top Party
Aligned Council	-0.002	-0.001	0.879***
	(0.002)	(0.002)	(0.010)
Robust 95% c.i.	[-0.007; 0.003]	[-0.006; 0.003]	[0.850; 0.896]
Bandwidth	0.041	0.038	0.079
Mean dep. var.	0.459	0.497	0.502
Observations	3752	3505	7797

Notes: Reduced-form estimates, from equation 1, of the effect of council alignment on the vote share of the top party (column 1); its seats share (column 2); and the probability that the top party is aligned (column 3). In Panel A we use the full sample; in Panel B, we restrict to terms where no party has the absolute majority of seats; in Panel C, we restrict to terms where one party has the absolute majority of seats. The optimal bandwidth is calculated using the CCT criterion. Standard errors clustered at the municipality level. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Figure A.3
Alignment and Government Formation: Runner-up Party – Reduced-form plots



(a) Vote Share Runner-up Party

(b) Seat Share Runner-up Party

(c) Runner-up Party Aligned

(d) Runner-up Party Appoints Mayor

Notes: The horizontal axis is the running variable in all figures. Observations to the right of the zero threshold are municipalities where the regional bloc coalition has the majority of seats in the municipal council. Correspondingly municipalities where the regional opposition has the majority are to the left of the threshold. The outcome in the top panel is an indicator equal to one when the most-voted party appoints the mayor. The bottom panel shows the same variable but for the second most-voted party. Dots are averages in 0.05 percentage point bins of the running variable, and lines are linear regressions estimated on both sides of the threshold separately using the *lfitci* command in Stata. Shaded areas are the corresponding 95% confidence intervals.

TABLE A.4

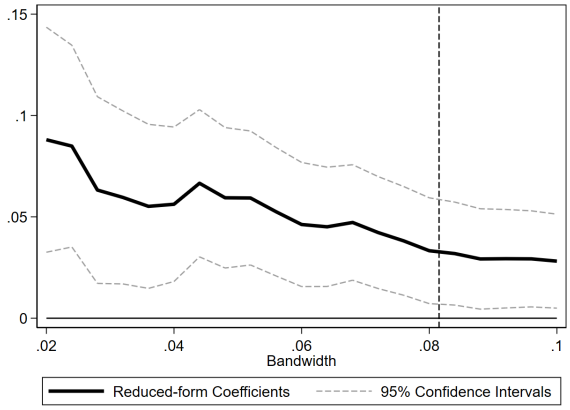
GOVERNMENT STABILITY AND TRANSFERS – 2SLS ESTIMATES

	(1)	(2)	(3)	(4)
Panel A. Full sample				
	Mayor Unseated		Log(Transfers)	
Aligned Council	-0.054***	-0.047***	0.268*	0.257**
	(0.016)	(0.017)	(0.139)	(0.112)
Robust 95% c.i.	[-0.102; -0.027]	[-0.094; -0.019]	[-0.040; 0.592]	[0.023; 0.521]
Bandwidth	0.068	0.063	0.065	0.062
Mean dep. var.	0.052	0.052	11.599	11.603
Observations	11667	10826	5091	
Controls	N	Y	N	Y
Panel B. No Single-party majority				
	Mayor Unseated		Log(Transfers)	
Aligned Council	-0.225***	-0.286***	-0.251	-0.066
	(0.085)	(0.091)	(0.563)	(0.494)
Robust 95% c.i.	[-0.458; -0.071]	[-0.534; -0.123]	[-1.405; 1.136]	[-1.096; 1.112]
Bandwidth	0.066	0.073	0.065	0.073
Mean dep. var.	0.052	0.050	11.601	11.602
Observations	4922	5236	2165	
Controls	N	Y	N	Y
Panel C. Single-party majority				
	Mayor Unseated		Log(Transfers)	
Aligned Council	-0.001	-0.001	0.473***	0.375***
	(0.004)	(0.004)	(0.099)	(0.086)
Robust 95% c.i.	[-0.011; 0.008]	[-0.011; 0.008]	[0.204; 0.655]	[0.183; 0.581]
Bandwidth	0.111	0.113	0.078	0.070
Mean dep. var.	0.044	0.043	11.601	11.602
Observations	11151	11413	3549	
Controls	N	Y	N	Y

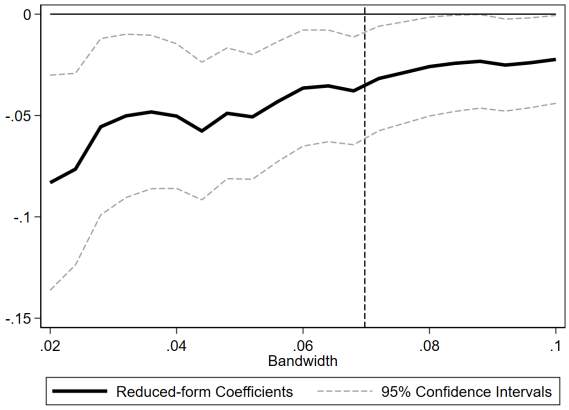
Notes: 2SLS estimates, from equation 1, of the effect of alignment on the probability that the mayor is unseated during the term with a no-confidence vote (cols. 1-2) and the log of regional capital transfers (cols. 3-4). In Panel A we use the full sample; in Panel B, we restrict to terms where no party has the majority of seats; in Panel C, we restrict to terms where one party has the majority of seats. Controls and FE are included as indicated in each column. Controls: surface and population (in logs). FE: electoral year-region fixed effects. The optimal bandwidth is calculated using the CCT criterion. Standard errors clustered at the municipality level. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Figure A.4

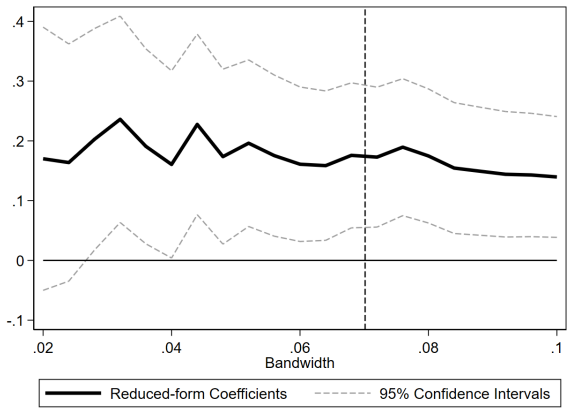
Bandwidth choice robustness – Full sample



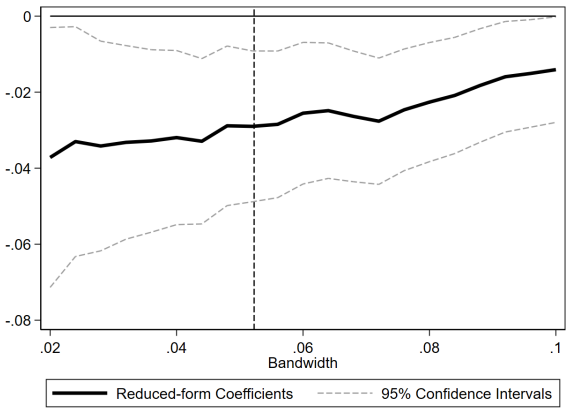
(a) Top Party Appoints Mayor



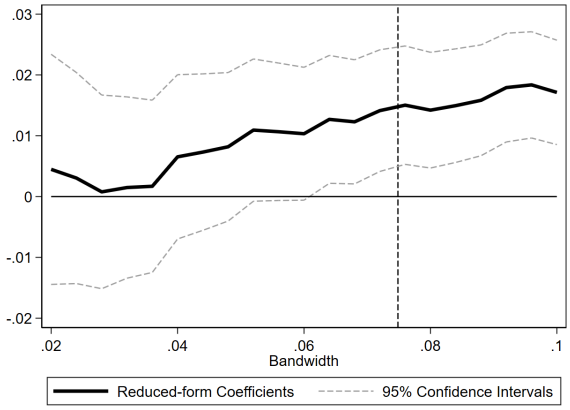
(b) Runner-up Party Appoints Mayor



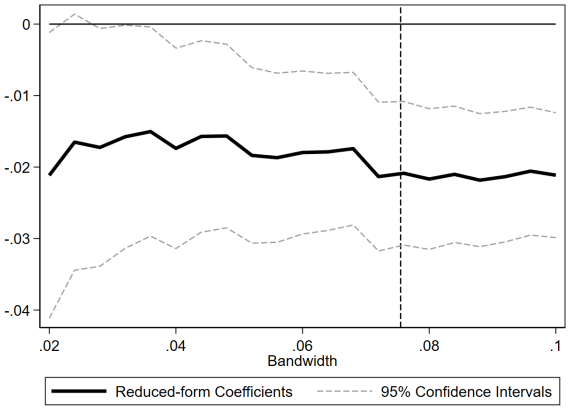
(c) Log(Transfers)



(d) Mayor Unseated



(e) Vote Share Top Party (t+1)

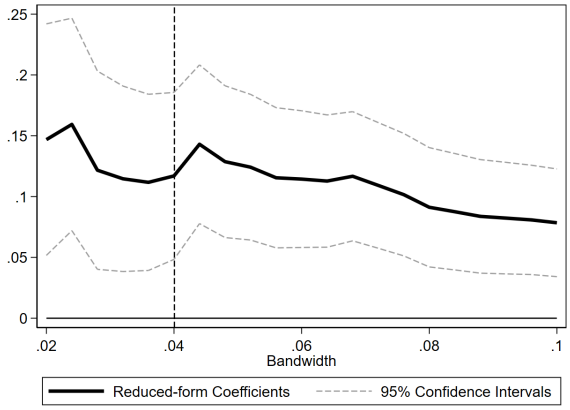


(f) Vote Share Runner-up Party (t+1)

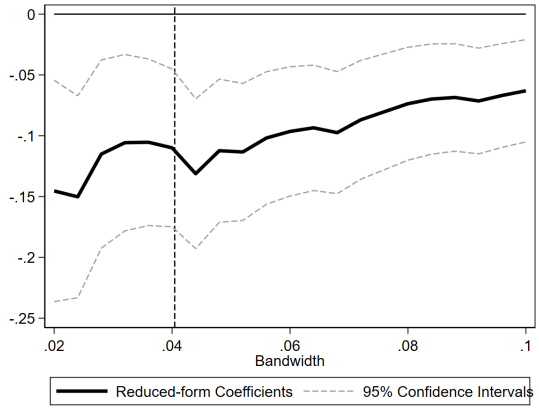
Notes: The horizontal axes correspond to the bandwidths used to generate each estimate. Vertical axes correspond to the value of each of the effects of interest. Solid lines correspond to reduced-form estimates for each bandwidth, whereas dashed lines show 95% confidence intervals in each case. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

Figure A.5

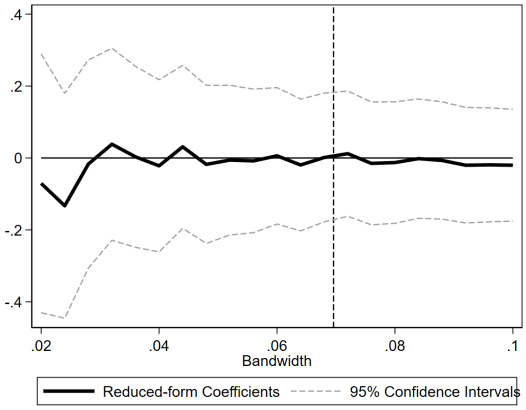
Bandwidth choice robustness – No Single-party majority



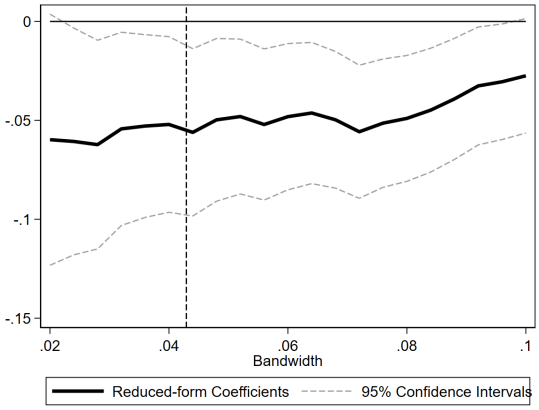
(a) Top Party Appoints Mayor



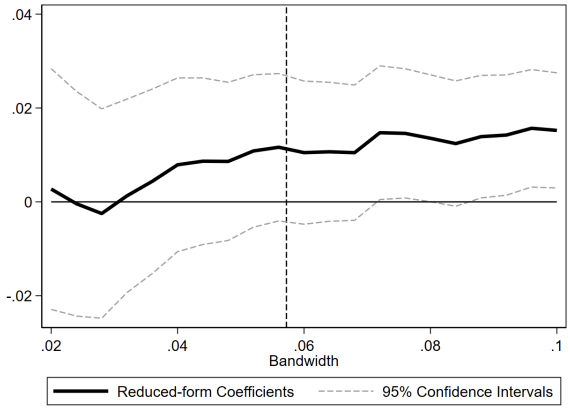
(b) Runner-up Party Appoints Mayor



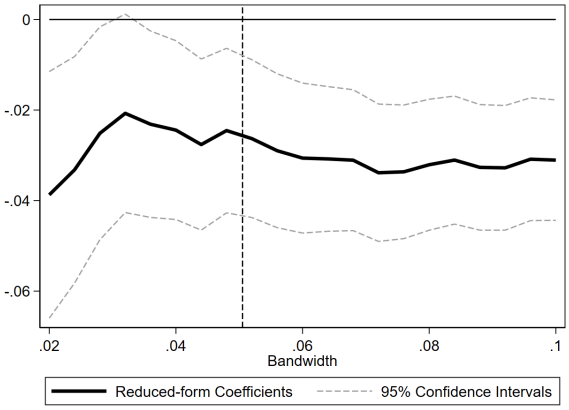
(c) Log(Transfers)



(d) Mayor Unseated



(e) Vote Share Top Party (t+1)



(f) Vote Share Runner-up Party (t+1)

Notes: No-single party majorities. The horizontal axes correspond to the bandwidths used to generate each estimate. Vertical axes correspond to the value of each of the effects of interest. Solid lines correspond to reduced-form estimates for each bandwidth, whereas dashed lines show 95% confidence intervals in each case. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

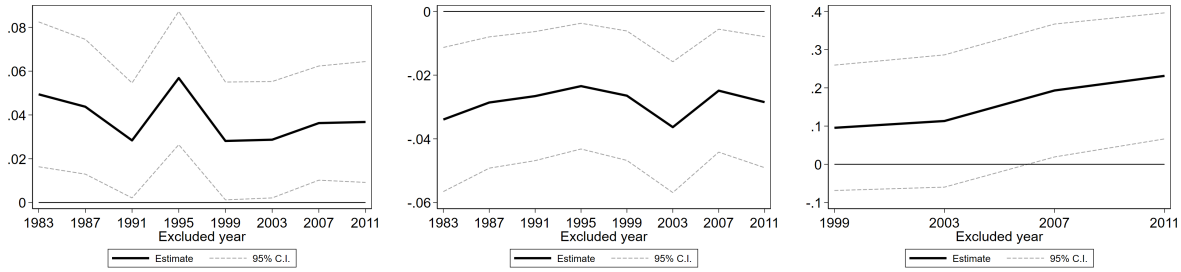
TABLE A.5
GOVERNMENT FORMATION, STABILITY, AND TRANSFERS – RESTRICTED SAMPLE

	(1)	(2)	(3)
Panel A. Full Sample			
	Top Party Mayor	Mayor Unseated	Log(Transfers)
Aligned Council	0.050**	-0.031**	0.173*
	(0.023)	(0.013)	(0.102)
Robust 95% c.i.	[0.012; 0.108]	[-0.065; -0.008]	[-0.062; 0.402]
Bandwidth	0.062	0.065	0.071
Mean dep. var.	0.825	0.053	11.502
Observations	5120	5306	2778
Panel B. No Single-party majority			
	Top Party Mayor	Mayor Unseated	Log(Transfers)
Aligned Council	0.123***	-0.074**	0.181
	(0.043)	(0.030)	(0.175)
Robust 95% c.i.	[0.051; 0.234]	[-0.150; -0.016]	[-0.143; 0.630]
Bandwidth	0.051	0.043	0.052
Mean dep. var.	0.821	0.057	11.522
Observations	1891	1640	891
Panel C. Single-party majority			
	Top Party Mayor	Mayor Unseated	Log(Transfers)
Aligned Council	0.005	0.002	0.338**
	(0.008)	(0.005)	(0.134)
Robust 95% c.i.	[-0.014; 0.027]	[-0.010; 0.012]	[0.042; 0.659]
Bandwidth	0.097	0.121	0.066
Mean dep. var.	0.850	0.042	11.495
Observations	4680	5935	1487

Notes: Reduced-form estimates, from equation 1, of the effect of council alignment on the probability that the top party appoints the mayor (column 1); that the mayor is unseated during the term with a no-confidence vote (column 2); and the log of regional capital transfers (column 3). All cases in which the regional government has not been appointed by the date in which the local government is decided are excluded. In Panel A we use the full sample; in Panel B, we restrict to terms where no party has the absolute majority of seats; in Panel C, we restrict to terms where one party has the absolute majority of seats. The optimal bandwidth is calculated using the CCT criterion. Robust bias-corrected confidence interval calculated using Calonico, Cattaneo and Titiunik (2014)'s method are also reported. Standard errors clustered at the municipality level. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Figure A.6

Results excluding one election at a time – Full sample

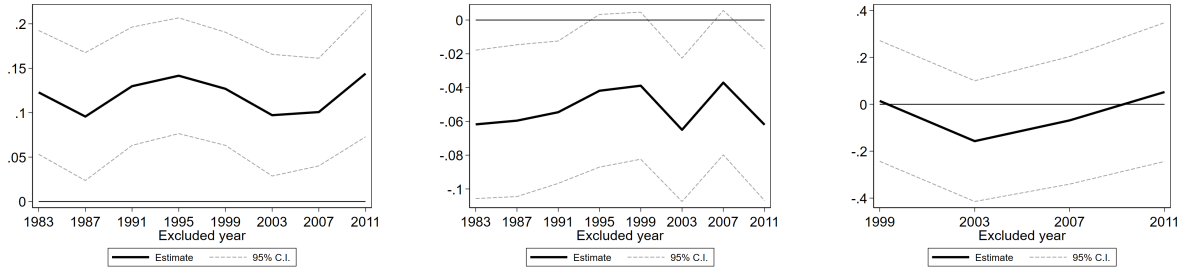


(a) Top Party App. Mayor (b) Mayor Unseated (c) Log(Transfers)

Notes: Full sample. The horizontal axes correspond to the election year excluded at each iteration. Vertical axes correspond to the value of each of the effects of interest. Solid lines correspond to reduced-form estimates for each subsample, whereas dashed lines show 95% confidence intervals in each case. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

Figure A.7

Results excluding one election at a time – No Single-party majority

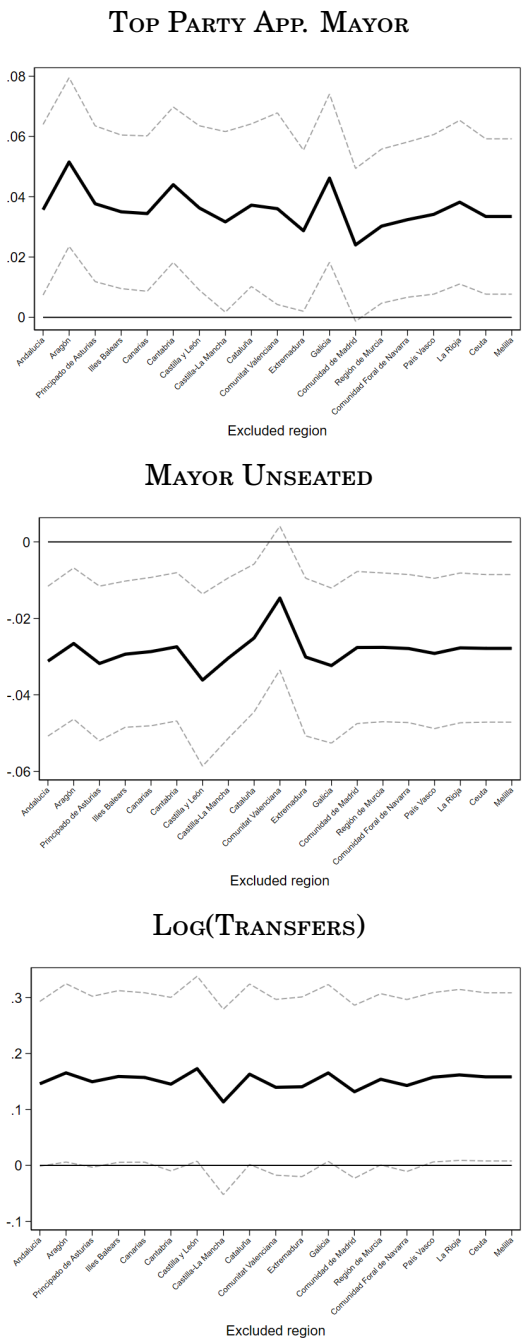


(a) Top Party App. Mayor (b) Mayor Unseated (c) Log(Transfers)

Notes: No Single party majorities. The horizontal axes correspond to the election year excluded at each iteration. Vertical axes correspond to the value of each of the effects of interest. Solid lines correspond to reduced-form estimates for each subsample, whereas dashed lines show 95% confidence intervals in each case. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

Figure A.8

Results excluding one region at a time – Reduced-form estimates

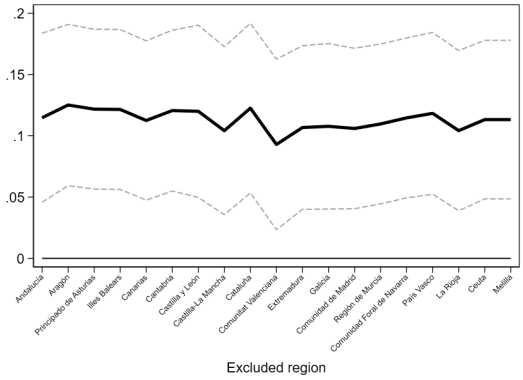


Notes: Full Sample. The horizontal axes correspond to the region excluded at each iteration. Vertical axes correspond to the value of each of the effects of interest. Solid lines correspond to reduced-form estimates for each subsample, whereas dashed lines show 95% confidence intervals in each case. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

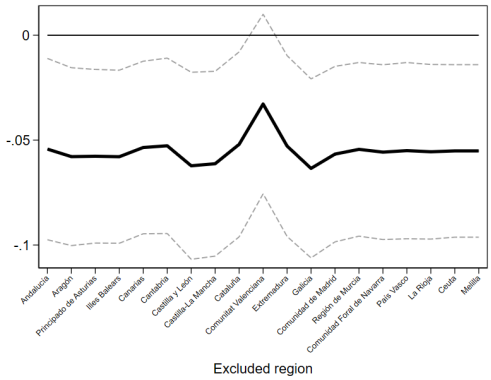
Figure A.9

Results excluding one region at a time – Reduced-form estimates

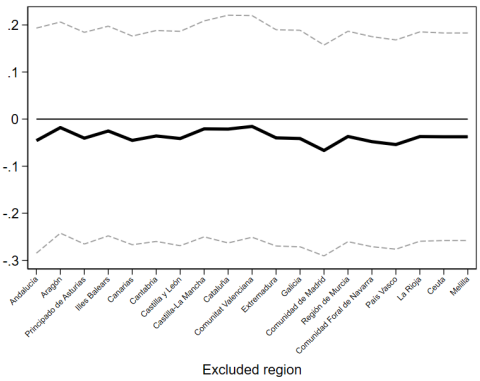
Top Party App. Mayor



Mayor Unseated



Log(Transfers)



Notes: No Single party majorities. The horizontal axes correspond to the region excluded at each iteration. Vertical axes correspond to the value of each of the effects of interest. Solid lines correspond to reduced-form estimates for each subsample, whereas dashed lines show 95% confidence intervals in each case. 95% confidence intervals are based on standard errors robust to clustering at the municipality level.

B. Details on the calculation of the running variables

This section clarifies how we calculate the running variable. We follow Folke (2014) and Fiva, Folke and Sørensen (2018)'s recommendation that, when applying the close-elections approach to proportional representation systems, the running variable should take into account the overall votes distribution across all parties.

First, for each municipality, we calculate the aggregate vote-share of the coalition in power at the regional level (the *regional coalition bloc*) in the year when the municipal election takes place. This aggregate share is simply the sum of all vote-shares of parties belonging to the bloc, defined as the set of parties that voted for the president during the investiture vote. We proceed similarly by aggregating over the *regional opposition bloc*, defined as the group of all other parties with representation in the regional council belonging to the opposition. We define an indicator D equal to 1 if the regional coalition bloc has either the majority of seats in the municipality, or ties in seats with the opposition but has more votes, and zero otherwise.

We then apply an iterative method in which we add votes to the regional coalition bloc (if it does not have the majority of seats in council) or subtract them (if it does) until a majority change is achieved. If the regional coalition bloc has the majority of seats in the local council, start by subtracting votes to the regional bloc in a small increment of half a percentage point of the total votes cast. These votes are allocated to the parties in council belonging to the opposition block proportionally to their seat-shares. Then, re-calculate the seats allocation. If, with this new allocation of votes, the majority in the council does not change, subtract an additional half of a percentage point until there is a majority change, defined as a change in which bloc has the most seats or, in case of a tie in seats, the most votes.

When we observe a majority change, in order to gain precision, we go back to the last increment before the change and subtract, instead of half a percentage point, .1% of votes, until the majority changes again. Then, we repeat the operation in finer increments of .01% and, finally, .001%. The final running variable, therefore, is approximated to jumps in vote-share of .001%.

We calculate the original seat distribution, as well as the simulated seat distributions using STATA 17 with the user-written command *v2seats*, to which we input the details of the Spanish municipalities electoral system in terms of admission threshold and the D'Hondt method.

C. Power functions

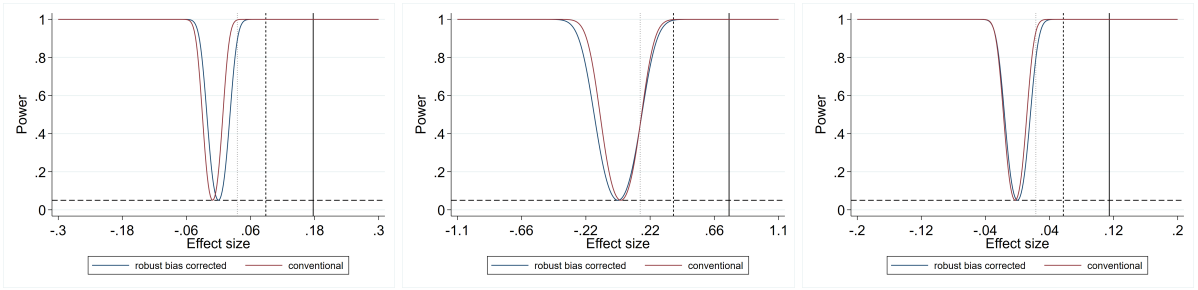
To ensure that our research design is well-powered to detect effects of small or moderate magnitude, we calculate power functions for our main RDD estimates and show them in Figures C.10-C.12, for the full sample and splitting by single-party majority status. As we expect from the fairly large sample sizes, we have considerable power in all cases.

For instance, when studying in the full sample the effect of alignment on the probability that the most-voted party appoints the mayor (panel A in Figure C.10), the power function grows quickly and reaches 1 even for relatively small effects (displayed on the x-axis). Following Stommes, Aronow and Sävje (2023), we show as vertical lines effects of different magnitude. The dotted line is for an effect of one-tenth of a standard deviation of the outcome for the untreated group, a small effect. Similarly, the dashed and solid line correspond to one-quarter and one-half of a standard deviation respectively. For all of the three outcomes, the power of our tests reaches one for effects of one-fourth of a standard deviation or less in all cases, suggesting that our design is able to detect effects of this magnitude or lower. For effects as small as one-tenth of a standard deviation, we have relatively lower power for the transfers and mayor unseated outcomes, whereas the test for the indicator for the top party appointing the mayor is well-powered (>0.8).

In the sub-sample of no single-party majorities (Figure C.11), we have little power to detect very small effects in all cases, although we reach the conventional threshold of 0.8 for effects of one-quarter of a standard deviation for all outcomes. We have more power in the single-party majorities sample, where for all outcomes except transfers we are able to detect even small effects with high probability (>0.8).

FIGURE C.10

RDD POWER FUNCTIONS – FULL SAMPLE

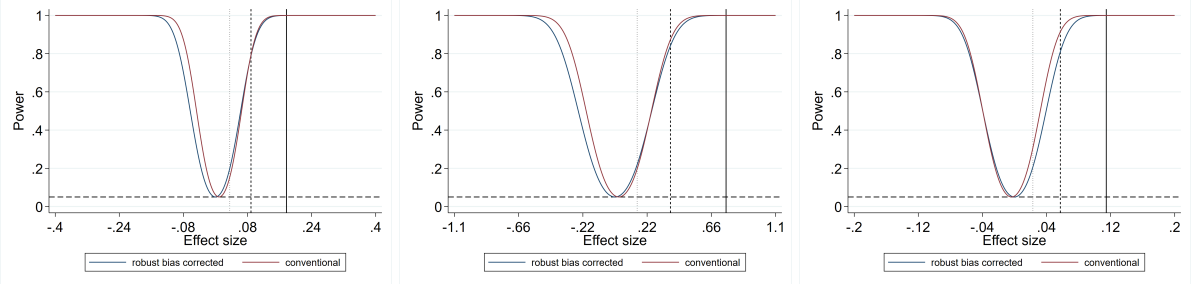


(A) TOP PARTY APPOINTS MAYOR (B) LOG(TRANSFERS) (C) MAYOR UNSEATED

Notes: RDD Power functions for a test with size $\alpha = 0.05$ of the null of zero effect with outcomes specified in each panel, using the command *rdpow* in stata with both conventional and robust s.e. (Cattaneo, Titiunik and Vazquez-Bare, 2019). The vertical lines specify the treatment effect under the alternative at which the power function is evaluated. The solid line correspond to one standard deviation of the outcome for the untreated group; the dashed line corresponds to one-half the standard deviation; and, finally, the dotted line to one-tenth. In all panels, τ is equal to one half of a standard deviation.

Figure C.11

RDD power functions – No Single-party Majority

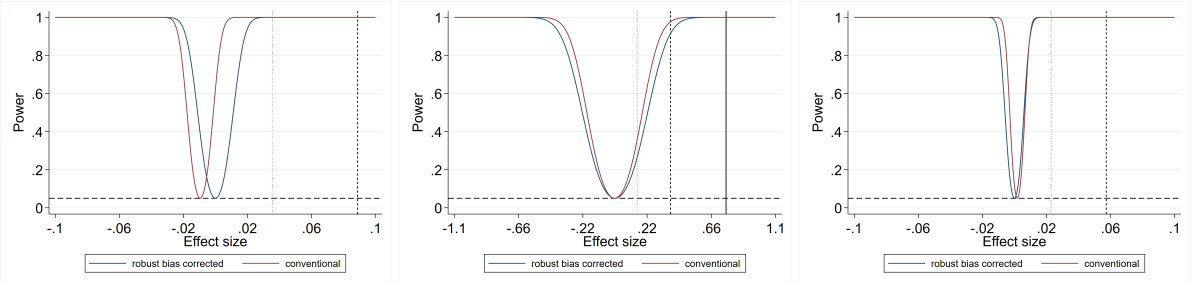


(a) Top Party Appoints Mayor (b) Log(Transfers) (c) Mayor Unseated

Notes: RDD Power functions for a test with size $\alpha = 0.05$ of the null of zero effect with outcomes specified in each panel, using the command *rdpow* in stata with both conventional and robust s.e. (Cattaneo, Titiunik and Vazquez-Bare, 2019). The vertical lines specify the treatment effect under the alternative at which the power function is evaluated. The solid line correspond to one-half of a standard deviation of the outcome for the untreated group; the dashed line corresponds to one-quarter the standard deviation; and, finally, the dotted line to one-tenth.

Figure C.12

RDD power functions – Single-party majority



(a) Top Party Appoints Mayor (b) Log(Transfers) (c) Mayor Unseated

Notes: RDD Power functions for a test with size $\alpha = 0.05$ of the null of zero effect with outcomes specified in each panel, using the command *rdpow* in stata with both conventional and robust s.e. (Cattaneo, Titiunik and Vazquez-Bare, 2019). The vertical lines specify the treatment effect under the alternative at which the power function is evaluated. The solid line correspond to one-half of a standard deviation of the outcome for the untreated group; the dashed line corresponds to one-quarter; and, finally, the dotted line to one-tenth.