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THE POLITICAL ECONOMY OF COASTAL DEVELOPMENT *

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ABSTRACT: Coastal development has advantages, such as job creation, and drawbacks, such as the loss of environmental amenities, for both residents and nonresidents. Local governments may prioritize their constituents' interests, resulting in suboptimal coastal development. We investigate how political alignment among neighboring mayors facilitates intergovernmental cooperation in the development of coastal areas. We leverage causal effects by applying a close-elections Regression Discontinuity Design to the universe of buildings in Spain. Municipalities with party-aligned mayors develop 46% less land than politically isolated ones, and politically homogeneous coastal areas develop less than fragmented ones. The effect is more salient for land closest to shore or previously occupied by forests, in municipalities with a large share of protected land, and for relevant environmental markers, such as air and bathing water pollution. These results underscore the importance of cooperative political endeavors in managing development spillovers, with environmental considerations assuming a central role.

JEL Codes: D72, H70, R52
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1. Introduction

Forty-four percent of the Spanish population, 20 million people, live within 5 km of the seashore. In 2023 alone, the country's attractiveness and sunny beaches drew an additional 85 million tourists. This high demand for coastal access has led to extensive development, resulting in 36.5 percent of the first 500 meters from the shore being urbanized[1]. A large share of this development is related to the construction of hotels and vacation homes and is particularly prominent in popular touristic hotspots such as the region of Valencia (74.3 percent) and the city of Marbella (90 percent).

Due to geographical and historical advantages, coastal areas are often highly productive. While allowing development in these areas offers large benefits such as job creation and business opportunities, it also incurs costs related to amenity losses. Excessive development along the shoreline causes congestion and is responsible for the degradation of forests, wetlands, dunes, and beaches, which negatively impacts the beauty of the landscape, reduces biodiversity, increases the risks of flooding and forest fires, and contributes to water depletion (Greenpeace, 2019). Notice that these benefits and drawbacks of coastal development extend beyond the municipality authorizing it and affect neighboring communities. For example, residents and tourists from one municipality may enjoy visiting nearby beaches and preserving natural spaces across the coastal area may be appreciated by all. And new development generates jobs for residents but also for commuters living nearby. If local governments prioritize their residents' welfare over that of non-residents, the amount of coastal development permitted may be suboptimal.

Centralized decision-making is a potential solution to internalize these spillovers, but it is often politically unfeasible. An alternative is for local governments to negotiate jointly their development levels (Lubell et al., 2002). However, voluntary cooperation among local governments is challenging due to their limited abilities to design common rules and to the difficulties in monitoring and sanctioning one another (Ostrom, 2000). This paper investigates how intergovernmental cooperation in coastal development can be facilitated by political co-partisanship among neighboring municipalities. Co-partisanship would foster cooperation because politically aligned mayors share the same

[1]Population figures are for 2020 and have been computed from the gridded world population (https://sedac.ciesin.columbia.edu/data/set/gpw-v4-population-countrev11). Tourism data is from Turespaña (http://estadisticas.tourspain.es). Data on land development is from the Corine Land Cover Project (https://land.copernicus.eu/ pan-european/ corine-land-cover).

electoral fate, interact more frequently, have to rely on mutual support to build alliances, and can be disciplined by higher party ranks (Wibbels, 2006; Gerber et al., 2013).

We develop a theoretical framework that allows us to pose two distinct but complementary hypotheses regarding the role of parties in fostering cooperation. First, cooperation should be more intense in coastal areas with less party fragmentation (where most mayors belong to the same political party), leading to less development when negative externalities (related to environmental amenities) dominate and to more development when positive externalities (related to job creation) prevail. Second, a municipality ruled by a mayor aligned to the party controlling most municipalities in the area has more incentives to cooperate than a municipality controlled by a mayor affiliated to the minority party. As a result, an aligned mayor allows for less development when negative externalities dominate and for more development when positive externalities are more relevant. Therefore, according to the model, the finding that fragmentation or alignment impacts development would provide evidence that political parties foster cooperation. Moreover, the sign of the effect would tell us about the type of spillovers that is dominant.

In order to test these hypotheses, we rely on high-quality administrative data on the amount of built land along the Spanish coast between 1979 and 2015. The main data source is the Cadaster, which provides geocoded information for the universe of buildings in Spain, including the starting date of construction. This information allows us to measure the built-up land at a short distance from shore during each municipal term of office. We supplement this database with information on all local elections held in Spanish municipalities since 1979. This allows us to identify the mayor's party and measure political fragmentation at the coastal area level with a Herfindahl index that uses either shares of municipalities controlled by the same party or shares of municipalities controlled by the same ideology (i.e., left-wing vs. right-wing parties).

We rely on a close-elections Regression Discontinuity Design (RDD) to estimate the causal effect of political alignment on land development at the municipality level. The RDD compares municipalities that elected an aligned mayor (i.e., a mayor that belongs to the ideology ruling in most municipalities in the coastal area) to those that elected an unaligned one. In close elections, both types should be identical except for their alignment status. We use the same RD method to examine the impact of fragmentation on overall coastal area development. We take advantage of the fact that when a municipality changes from unaligned to aligned, it has a direct mechanical effect on the Herfindahl index of the coastal area. This allows us to use alignment as instrument to identify the effect of fragmentation on overall coastal area development.

We document that coastal municipalities that are politically aligned with their neighbors develop less land than their unaligned counterparts. The RD results indicate that marginally aligned mayors allow for 46% less development than the marginally unaligned ones. Similarly, we find that coastal areas with high fragmentation develop substantially more than areas with low fragmentation. An increase of one standard deviation in the Herfindahl index (that points to less fragmentation) reduces development by approximately 13% in the entire coastal area. Both results are indicative that political homogeneity is good for cooperation and the direction of these effects suggest that amenity spillovers dominate over spillovers related to economic development.

We provide several pieces of evidence confirming that environmental concerns are a key factor in the impact of cooperation efforts on coastal land development. The negative effect of alignment is larger in areas near the shoreline or previously covered by forests. Political alignment also reduces the height of buildings close to the shoreline and has a stronger effect in municipalities with a significant share of protected land. All of this suggests an attempt to preserve land with high amenity value. Additionally, alignment affects environmental markers, reducing air pollution (CO and PM10 emissions) and bathing water contamination, both within the municipality and in the whole coastal area. We find less evidence that economic development concerns drive cooperation efforts. Although there is a detrimental effect on tourism activity within the municipality, there is limited evidence of spillover effects on tourism beyond municipal boundaries. Effects on other economic indicators are either statistically insignificant or very small.

We also provide evidence that the alignment effect is due to enhanced cooperation. As predicted by our model, the effect of alignment is stronger when the majoritarian party controls a larger number of municipalities in the coastal area. We also rule out that enhanced cooperation is simply a matter of party preferences. The alignment effect is negative and statistically significant for both left-wing and right-wing mayors, even though right-wing mayors are typically less interested in environmental issues. This supports our argument that political parties help internalize interjurisdictional spillovers.

This paper contributes to multiple strands of literature. Our study is related to the empirical literature on strategic policy interactions among local governments (Brueckner, 2003). This body of work aims to provide evidence on the relevance of spillovers in policies such as taxes (Agrawal et al., 2022), spending (Solé-Ollé, 2006), or land use regulations (Brueckner, 1998). Researchers typically estimate the slope of the policy reaction function using spatial econometrics. Our paper takes a distinct approach, utilizing an exogenous shock to local governments' incentives to internalize spillovers. By comparing unaligned and aligned municipalities in a close-elections setting, we can determine the impact of spillovers on policy levels, rather than just the strength of policy interactions.

Second, this paper also contributes to the literature on land use regulations. Previous studies have shown that cities designing land-use decisions in isolation do not account for the externalities they impose on one another (Fischel, 2008; Helsey and Strange, 1995; Brueckner, 1995, 1998). Recent work by Tricaud (2024) finds that cooperation among suburban municipalities in France can help internalize positive externalities and increase housing supply. Our study expands on this literature by considering both positive and negative externalities that arise from coastal land development. While coastal development can create jobs for non-residents, it may also destroy area-wide amenities. Determining which effect dominates in a particular setting is an empirical matter[2].

Third, our study contributes to the growing body of research that explores the impact of decentralization and government fragmentation on policy outcomes. Many of these studies focus on environmental spillovers and suggest that decentralization may have negative consequences. For example, Hatfield and Kosec (2019) find that environmental quality in US metropolitan areas is lower when there are more local governments, using the 'number of small streams' as an instrument (Hoxby, 2000). Similarly, Burges et al. (2012) and Lipscomb and Mobarak (2016) investigate the effect of decentralization on deforestation and river pollution, respectively. Both papers find evidence of negative externalities resulting from decentralization or redistricting reforms that alter the number of local governments. Unlike previous studies, our approach explicitly examines fragmentation in the partisanship of local governments instead of fragmentation arising from the number of local governments. The variable we use is more exogenous in our context, allowing us to isolate the effect of political alignment on policy outcomes.

Fourth, our paper relates to the literature on factors influencing cooperation between local governments. Political homophily, or similarity in political traits, is an important driver of participation in cooperation networks, reducing transaction costs and

[2] Some papers focus specifically on the spillover effects of tourism activity. See, for example, Faber and Gaubert (2019) and Hilber and Schoeni (2020) on Mexico and Switzerland, respectively.

enhancing trust. Some studies demonstrate the impact of co-partisanship on cooperation decisions. For example, Gerber et al. (2013) find that the likelihood of two California cities participating in the same cooperation network increases with similarity in Republican voter percentages. Similarly, Song and Park (2017) show that mayors' partisan alignment enhances informal cooperation among South Korean cities, and Durante and Gutierrez (2015) find it matters for crime prevention policy in Mexico. Bruns et al. (2015) find that co-partisanship influences mergers in Germany, while Magre et al. (2024) show its significance for participation in cooperation institutions in Spain. However, Di Porto et al. (2017) find it irrelevant for this decision in France. We contribute to this literature by showing that co-partisanship has a causal impact on important cooperation outcomes.

Finally, we contribute to a political economy literature that suggests that centralized parties help solve the collective action problem that affects federations (Riker, 1964; Filippov et al., 2004; Wibbels, 2006). Rodden (2003) and Enikolopov and Zhuravskaya (2007) provide evidence that party centralization enhances fiscal discipline and the provision of other national public goods. We contribute to this line of work by showing that parties contribute to making decentralization work in a previously unstudied setting.

The paper is organized as follows. In the next section, we develop a conceptual framework that formalizes that alignment matters for cooperation in local land development decisions. Section 3 provides information on land use policies and electoral institutions in Spain. Section 4 introduces the data used in our empirical application and describes our research strategy. Section 5 presents the results. The last section concludes.

2. Theoretical framework

In this section, we develop a stylized model of cooperation in land development between neighboring local governments controlled by different political parties. Our goal is to create a framework that can be used to analyze and interpret the effects of ideological heterogeneity in local areas on the level of coastal development.

Model layout. We focus on a coastal area with N beach municipalities located along the coastline. Each municipality's government has full control over land development within its jurisdiction. We assume that there is a fixed number of projects that developers want to execute in the coastal area, which depends on exogenous traits such as the number of sunny days or local topography. The number of projects is high, so the only limit to development is the unwillingness of the local government to authorize it.

We consider that each local government maximizes the utility of a representative voter living in the municipality. We express voters' utility, $V(a_i, y_i)$, as a function of the value of environmental amenities, a_i, and the level of economic development, y_i. This utility function has the usual properties: $V_a \geq 0, V_y \geq 0, V_{aa} \leq 0$ and $V_{yy} \leq 0$.

Amenities depend on the amount of land kept undeveloped in the municipality, u_i, and in the rest of the municipalities in the coastal area, u_{-i}:

(1) $$a_i = u_i + \theta(N-1)u_{-i}$$

where the parameter $\theta \in (0,1]$ measures the strength of the externality. Residents only care about amenities located in the municipality where they live when θ=0, and amenities in the municipality and in the rest of the coastal area are equally valued when θ=1. We assume that each municipality is endowed with a unit of land, which means that developed land can be written as:

(2) $$d_i = 1 - u_i \quad \& \quad d_{-i} = 1 - u_{-i}$$

Economic development is expressed as $y_i = d_i + \gamma(N-1)d_{-i}$, which means that income and economic opportunities in *i* grow with the amount of land developed in the municipality d_i, and in the rest of the municipalities in the coastal area, d_{-i}. The parameter $\gamma \in (0,1]$ measures the strength of this economic externality channel. Local residents value only local economic opportunities in their jurisdiction when $\gamma = 0$, and value equally economic opportunities in the rest of the coastal area when γ=1.

Main Results. We now assume, for the sake of simplicity, that there are only two political parties, which are labeled *j* and *-j*. We define N_j and $N_{-j} = N - N_j$ as the number of municipalities controlled by each party, where N_j is the number of municipalities controlled by the majoritarian party. In this framework, we make the simplifying assumption that municipalities controlled by the same party jointly choose their policies.[3] For fixed N, the larger N_j, the less politically fragmented is the coastal area. The total amount of development in the coastal area is $d = N_j d_j + N_{-j} d_{-j}$.

[3] Note that this is analogous to assuming the existence of two centralized decision makers within the same coastal area (i.e., the parties *j* and *-j*) and perfect compliance of municipalities under their control. While this assumption might not always strictly hold true, it allows us to derive clear predictions about the role of political fragmentation on coastal land development. This conceptualization also enables us to formulate clear, testable hypotheses based on measures of party fragmentation, akin to fragmentation metrics utilized in studies examining decentralization effects (e.g., Burgess et al., 2012).

Given that all municipalities are identical except for the fact that some are controlled by one party and some by the other,[4] and expressing the utility function as $V(a_j, y_j) = a_j^{\alpha} {y_j}^{1-\alpha}$ with $\alpha \in (0,1)$, we can write the objective function of a local government controlled by party *j* as

$$V(a_j, y_j) = \\ \left[1 - d_j + \theta(N_j - 1)(1 - d_j) + \theta N_{-j}(1 - d_{-j})\right]^{\alpha} \left[d_j + \gamma(N_j - 1)d_j + \gamma N_{-j} d_{-j}\right]^{1-\alpha}$$

The local government *j* maximizes this expression w.r.t. d_j, holding constant the amount of development in the other municipalities, d_{-j}. The first-order condition reads

$$\alpha\left[1 + \theta(N_j - 1)\right] y_j = (1 - \alpha)\left[1 + \gamma(N_j - 1)\right] a_j$$

From here we can find the expressions for the equilibrium levels of development ${d_j}^*$ and ${d_{-j}}^*$ and derive our main results.

First, the marginal impact of political fragmentation on aggregate development can be expressed as

(3) $$\frac{\partial d^*}{\partial N_j} = -\kappa(N_j - N_{-j})(\theta - \gamma) \gtrless 0 \quad if \quad \theta \gtrless \gamma$$

where κ is a non-negative collection of terms. This result says that the net effect of political fragmentation on development depends on the relative strength of the two types of spillovers and the relative number of aligned municipalities in the coastal area, $N_j - N_{-j}$.

At the local level, the difference in the quantity of land that undergoes development between two jurisdictions under the control of distinct political parties, which reflects the influence of political alignment between the municipality and the party controlling the majority of municipalities in the coastal area, can be expressed as

(4) $${d_j}^* - {d_{-j}}^* = -\lambda(\theta - \gamma) \lesseqgtr 0 \quad if \quad \theta \gtrless \gamma$$

where λ is again a non-negative collection of terms.

Intuitively, an aligned municipality internalizes the impact of its development decisions on the other municipalities in the area. Therefore, Equation (4) shows that, an

[4]Note that this may not always hold true in practice: local governments' objectives might be influenced by party agendas. For example, right-wing incumbents are likely to prioritize economic development over environmental protection, unlike their left-wing counterparts. However, we assume that all municipalities share the same objective to align our model with our empirical strategy. In the empirical section, we will demonstrate that party preferences do not significantly impact our results.

aligned municipality would develop less than its unaligned counterpart if amenity spillovers dominate. How much less depends on the relative strength of amenities and economic spillovers across neighbors. Determining whether political alignment has a positive or negative impact on local development is, again, an empirical question.

Finally, for any fixed quantity of spillovers, θ and γ, the difference in the quantity of local land that undergoes development between two jurisdictions under the control of distinct political parties increases with the level of political fragmentation in the entire coastal area

$$\frac{\partial({d_j}^* - {d_{-j}}^*)}{\partial N_j} = -\lambda\mu(\theta - \gamma) \lesseqgtr 0 \quad if \quad \theta \gtreqless \gamma \tag{5}$$

where μ is also a non-negative collection of terms.[5] That is, if amenity spillovers dominate, the reduction in development due to alignment will be stronger as there are more municipalities in the majority. If economic development spillovers dominate the alignment effect will growth with the number of municipalities in the majority.

Main predictions. The results displayed in equations (3)-(5) highlight that cooperation, as proxied by partisan homogeneity, should limit coastal development at both the aggregate and local levels only if amenity spillovers dominate economic spillovers. These results can be summarized in the following proposition:

PROPOSITION. *If amenity spillovers dominate over economic development spillovers ($\theta > \gamma$), the amount of developed land increases with the degree of partisan homogeneity amongst neighboring municipalities. If development spillovers dominate over amenity spillovers ($\theta < \gamma$), the opposite resuls hold.*

This proposition provides a reliable means of testing our theory, as the prediction that partisan heterogeneity impacts local development in a specific direction only holds when one type of spillover dominates. Which is the direction of the effect and, therefore, which is the type of spillover that dominates, is an empirical matter. Additionally, this theoretical proposition allows establishing a causal estimation approach to quantify the impact of alignment on coastal development. The empirical analysis will employ a close-elections regression discontinuity design to guarantee that treated and control municipalities are comparable.

[5] For practical reasons, we do not report the full expressions for κ , λ and μ. See Section I in the Appendix for the complete derivations.

Finally, this approach also allows to causally assess the aggregate impact of party fragmentation on aggregate development at the coastal area level. Indeed, a change in a municipality's alignment status has a mechanical effect on the coastal area's fragmentation index. This means that we can then use the discontinuity in alignment as an instrument to identify the impact of party fragmentation on development throughout the whole coastal area.

Additional predictions. Our theoretical framework puts forth further predictions that can enhance the credibility of our propositions. First, the size of the alignment effect depends positively on the size of the majority, N_j, as indicated in expression 5. Second, as the sign and magnitude of the alignment effect are contingent on the existence of spillovers, our estimates should differ across groups of municipalities depending on spillover intensity. We will conduct sub-group analyses in our empirical analysis by examining several spillover proxies. Third, local development is also influenced by citizens' preference for amenities over economic opportunities, which is captured by α in the utility function. In our sub-group analyses, we will consider various preference indicators. Finally, to further bolster our theory, we can seek direct evidence of spillovers by estimating the direct impact of alignment on environmental amenities and economic development.

3. The Spanish context

Spain offers an exceptional case study for exploring cooperation in coastal development. With a politically fragmented local government system, high party polarization, local authority over development decisions, and high tourism pressure along the coastline.

3.1. Coastal development

In the early 1960s, Spain's coast saw rapid development under the Franco regime's push for foreign investment and international tourism. This period prioritized development at the expense of preserving open spaces. Since the advent of democracy, development along the Spanish coast has persisted. Figure A.1 in the Appendix displays aerial photographs from 1956 and 2012, vividly showcasing extensive development near the shore. Development has persisted in recent years, as shown in Figure A.2 in the Appendix. From 1987-2005, Spain developed an average of 7.7 hectares of coastal land per day, equivalent to eight soccer fields.[6] Moreover, coastal development in Spain has had a notable environmental impact (Greenpeace, 2019). Consequently, conserving the remaining undeveloped coastal land has become a pressing issue on the political agenda.[7] Some called to tame the growth of mass tourism[8]. Meanwhile, in areas with high unemployment, the prospect of job creation often seduces both voters and local politicians, leading them to neglect the long-term costs of caused by overdevelopment.

3.2. Coastal land-use policies

In Spain, coastal land-use policies are fragmented due to the country's extensive number of municipalities, exceeding 8,000, with 465 located along the coast. Local governments are primarily responsible for land-use planning. They are responsible for crafting and updating the master plan and zoning regulations, which are rare and complex tasks requiring significant time. Additionally, they handle rezoning decisions, which are more immediate and discretionary, and have means to influence the speed of the bureaucratic permitting process. Consequently, local governments can impact land use development both in the short term and in the medium term (that is, beyond the current term of office). In our empirical analysis, we will primarily examine the impact within the current term of office, but we will also present some results extending further into the future.

Higher levels of government also have some role in coastal protection. Specifically, the central government is responsible for safeguarding the coast and maritime space. Since the enactment of the Coastal Protection Law in 1988, the 100-meter land strip closest to the coast is considered a national public good, and the central government regulates its use. Regional governments oversee local land-use plans and eventually could stop them if they fail to comply with regional infrastructure plans (roads, water systems, and energy supply) or regionally protected land.

3.3. Local politics

Local elections occur every four years across all municipalities, where voters choose from multiple closed party lists. The electoral system employs proportional represent-

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[6]See the newspaper report "Spain destroys an area of coastal land equivalent to eight soccer fields every day," *El Mundo*, 18/07/2010.

[7] This is evidenced by the rise in the number of conflicts between local environmental groups and local governments regarding development plans. See, for example: "A new platform emerges to protect the Costa Brava from new construction," *La Vanguardia*, 4/8/2018.

[8] See, for example, "Mass tourism: can we continue growing?", *Revista Hosteltur* 252, 2015. The article suggests that the number of visitors has surpassed the 'carrying capacity' in some areas.

tation, allocating seats in the municipal council to party lists using the d'Hondt method. In many municipalities, various left-wing and right-wing parties compete independently, with pre-election coalitions being rare.

While some local parties exist, the majority of participants in local elections operate under national or regional party banners. However, local parties only succeed in winning the mayoralty in a limited number of instances. As a result, the majority of mayors belong to the two main parties - the socialist PSOE and the conservative PP, representing 69.9% of all mayors in the sample and 83.7% of closely contested elections (see Table A.1 in the Appendix). Local parties hold approximately 6% of mayoral positions (2% in closely contested elections). A majority of the council elects the mayor, and in about two-thirds of cases, the mayor's party has a majority in the council. The remaining mayors are backed by legislative coalitions, typically formed along ideological lines. If a mayor controls a majority of seats, the chances of their proposals being amended are very low.

It is important to note that mayors have significant procedural powers, making them influential in the design and execution of land use planning. The closed-list local electoral system grants significant power to the party leader occupying the first position on the list. Upon assuming the position of Mayor, they wield substantial executive authority, including the appointment of cabinet members, chairing city hall meetings, and making budgetary decisions (Sweeting, 2009). This concentration of executive power is described by Magre-Ferran and Bertrana-Horta (2005) as 'municipal presidentialism'.

4. Data and Research Design

To test Section 2's predictions, we have compiled a comprehensive database spanning decades of land development in Spanish coastal areas. This section outlines our selection process and measurement methods and motivates our identification strategy using a Regression Discontinuity Design.

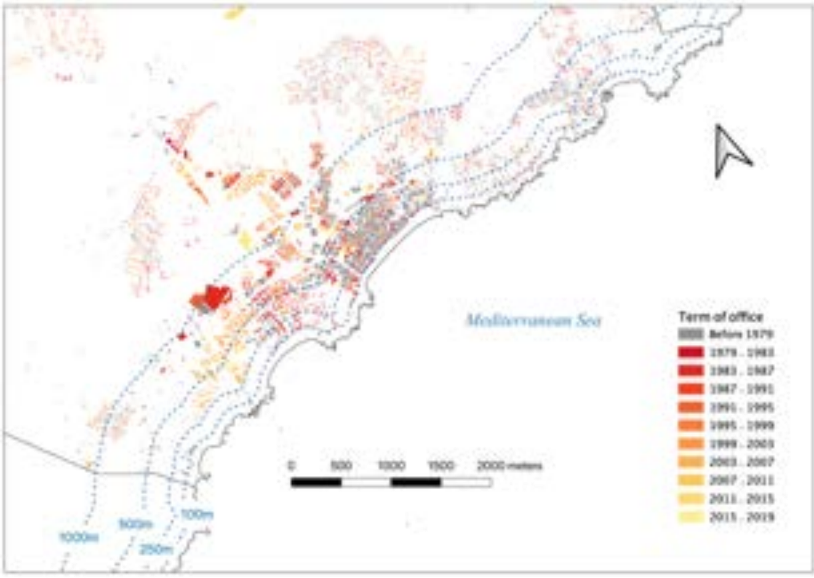
4.1. <u>Main sources and scope of analysis</u>

Our final sample size is comprised of 435 coastal municipalities.[9] The analysis covers nine municipal terms of office separated by ten local elections, held every four years between 1979 and 2015. We assign municipalities to homogenous coastal areas, "comar-

[9] Spain has 465 coastal municipalities in total, defined as jurisdictions encompassing some portion of the coastline (see Figure A.3 in the Appendix). We could not include the 30 coastal municipalities in the Basque Country as this region is not included in the Spanish Cadaster.

cas" (or counties). In Spain, these "comarcas" are not administrative units but groups of municipalities that share common geographical and historical traits and can be identified by a widely recognized place name.[10] Because of this, they may share common concerns regarding the protection of local environmental amenities and promoting a common tourist brand.[11] Accordingly, Spain is divided into 526 counties, with 109 along the coast. The median number of municipalities per county is 5.6, and the interquartile range falls between 4 to 7.[12]

Figure 1: *Built land. Data from the cadaster. Lloret de Mar* (*Costa Brava*).



Notes: (1) Newly built land during each term of office, depicted in different colors. The graph also indicates the location of some distance bands used in the analysis. (2) The example is for a municipality called Lloret de Mar, one of the main tourist hot spots on the Costa Brava (north of Barcelona, close to the French border). (2) Source: Spanish cadaster (Dir. Gal. del Catastro).

The primary dependent variable in our study is the amount of newly built land (or developed land) within a specific municipal term-of-office. We obtain this data from the Spanish Cadaster, which compiles the universe of buildings in Spain along with several

[10]In particular, these "comarcas" borders along the coast are determined by geographic features such as mountain ranges, river mouths, or coastal orientation. Municipalities within the same "comarca" share a similar landscape and are affected by the same microclimate. See Figure A.4 for a map with an example of the "comarcas" included in a coastal area.
[11] We use the work of geographers to identify these counties, as there is no standardized administrative definition. This builds on an old government classification, the so-called agricultural counties ('comarcas agrarias'), defined by the Ministry of Agriculture in 1976 (https://www. mapa.gob.es/es/cartografia-ysig/ide/descargas/agricultura/default.aspx). Its aim was to support the design of agricultural policies, but it was not used much in practice. The geographer's work departs from this classification but provides a detailed breakdown based on a larger variety of sources. The data can be downloaded from www.Geosoc.Udl .cat/export/sites/Geosoc/ca/.galleries/Documents/municipiosporcomarcas.xls.
[12] See Figure A.5 in the Appendix. These numbers refer only to coastal municipalities. We focus on them because these are the ones that can decide on construction close to shore.

characteristics such as their geo-location, surface, number of floors, and year of construction. This exhaustive administrative source allows us to compute the land developed in a given coastal fringe during a municipal term. In our primary analysis, we will focus on the land developed within 1 kilometer of the coastline, as this distance allows for convenient access to coastal amenities. In the mechanisms section, we will illustrate how the impact of municipal alignment on urban development varies with distance to the coastline. Figure 1 shows an example of the information provided by the Cadaster, where the amount of land developed in each term is represented in different colors. The dashed lines indicate some of the distance bands that we use in our analysis. In Section 5.3, we introduce secondary dependent variables, such as air and bathing water pollution, housing prices, or a tourism index, to illustrate spillover effects.

We obtain electoral data to calculate the Herfindahl index and the binary alignment variable from the local electoral database maintained by the Spanish Ministry of Interior. The parties are classified based on information gathered from their respective party statutes or newspaper reports.[13] This task is relatively simple for major national and relevant regional parties. For minor regional and local parties, we rely on their party brand, which can provide valuable information for left-wing parties.

To measure the alignment of a municipality, denoted by a_i, we use a binary variable that takes a value of one if the mayor belongs to the ideological bloc (i.e., left or right-wing) controlling most mayoralties in the coastal county. On average, 61% of the municipalities in our sample exhibit alignment according to this criterion. We then measure the level of political fragmentation of each coastal county k in term t with the following Herfindahl concentration index, H_{kt}:

$$H_{kt} = \sum_j \left(\frac{N_{jkt}}{N_{kt}}\right)^2$$

where N_{jkt} stands for the number of municipalities whose mayor belongs to the ideological bloc j in coastal county k and term t, and N_{kt} is the total number of municipalities in county k at term t. A value of one indicates the absence of political fragmentation while smaller values indicate higher political fragmentation in the county. We also calculate this index at the party level. The party-level Herfindahl index has an average value of 0.536,

[13] See Tables A.1 and A.2 in the Appendix for basic statistical information on the composition of the two ideological blocs and for a list of the most relevant party names.

with a standard deviation of 0.258. The ideological bloc-level Herfindahl index has an average of 0.691 and a standard deviation of 0.181.

Finally, we employ in our analysis a multitude of covariates both for the validity checks and the subgroup analyses. These include information on local political characteristics (e.g., local partisanship, voting results and seats won by each party in municipal elections); information on local geographic and environmental features (e.g., island status, ocean vs sea-front, coast length, beach-to-coast ratio, land area, number of rainy days, or average temperatures); and local socioeconomic conditions (e.g., education levels and employment shares by sector, unemployment level, number of commuters).[14]

4.2. Regression Discontinuity Design

As outlined in Section 2, Proposition 1 states that political heterogeneity may encourage or deter development in coastal areas, depending on the type of spillover that dominates. Using the panel structure of our database, we can show a negative and statistically significant relationship between the change in the fragmentation index and the change in the amount of developed land (see Figure A.8 in the Appendix). Nonetheless, this association could be influenced by various time-varying factors, such as changes in other political variables that affect land development.[15] Reverse causality is another threat to identification. For instance, unobserved building shocks in specific coastal areas and periods might influence local elections and political incentives simultaneously, affecting land development. Therefore, we use a Regression Discontinuity Design (RDD) to establish a causal link between political fragmentation and coastal land development. We describe how to use this methodology to estimate the impact of alignment on local development. We then explain how to apply the RDD to assess the effect of fragmentation at the coastal area level.

Regression Discontinuity: Municipal alignment. Our model predicts that municipalities controlled by the majority party in the coastal area will develop less or more than those controlled by the minority party, depending on which type of spillover dominates. However, this prediction is conditional on municipalities being identical in every aspect

[14] Appendix section A.III. provides an extensive description and discussion of our main data sources, as well as a presentation of each source.

[15] Examples of political variables include the share of municipalities controlled by the left, the share of coalition governments, the share of municipalities aligned with higher-layer governments, and the degree of electoral competition (Solé-Ollé and Viladecans-Marsal, 2012 and 2013)

except for their alignment status. To ensure this condition, we compare municipalities where the majority party won the local election by a narrow margin of votes to municipalities where the majority party lost by a narrow margin. In this RD setting, where winning or losing is determined by a small number of votes, municipalities on both sides of the threshold should be comparable. Therefore, this identification method has been recently used by researchers to examine the effects of party affiliation (e.g., Lee et al., 2004; Pettersson-Lidbom, 2008; Ferreira and Gyourko, 2009).

To apply the RD methodology to our case study, we must consider several specific aspects relevant to our analysis. First, we must ensure that the counterfactual of an aligned municipality is always an unaligned one (and vice versa). This may not be the case if a newly elected mayor's party changes the majority party's identity at the coastal area level.[16] To address this issue, we exclude from our sample all elections where switching the mayor's party would not lead to a change in alignment status with the party controlling a majority of municipalities in the coastal county.[17]

A further challenge is that local councils in Spain are elected using party-list proportional representation (PR). In PR systems, voters can vote for one of many party lists, and these votes are transformed into seats in the local council using a specific conversion method, such as the d'Hondt method in Spain. The first challenge posed by such a setting is that sometimes no single party holds a majority of seats in the council, which means that the mayor has to be supported by a coalition of parties. Additionally, identifying the vote threshold at which an additional vote switches a seat from one party to another, and thus from the coalition that supports the mayor to the one that supports the opposition's candidate, is challenging. Consequently, we apply the solution proposed for Spain by Curto et al. (2018), which followed other works that adapted the close-elections RDD to a PR system for other countries (Folke, 2014; Ade and Freier, 2013; Fiva and Halse, 2016; Fiva et al., 2018). Other works using this method in the Spanish setting are those of Carozzi et al. (2022 and 2024) and Magre et al. (2024).

[16] For instance, let's consider an area with seven municipalities, three on the left and four on the right (labeled 3L/4R). The right-wing party controls a majority of municipalities in the area, with aligned municipalities having a right-wing mayor and unaligned municipalities having a left-wing mayor. If one of the right-wing municipalities switches to the left (becoming 4L/3R), it would still be aligned with the majority. Consequently, this observation is not suitable for our analysis.

[17] In practice, this means that we start with 3,800 elections, but we only use 3,252 (of which 1,058 are close). See Table A.3 in the Appendix.

The RD method we use consists of two steps. First, we define our treatment group by acknowledging the strong influence of ideology on coalition formation in Spanish local politics. Specifically, we consider a local council as treated if it is controlled by the ideological bloc (left- or right-wing) that also holds a majority of mayoralties in the coastal county. However, the involvement of centrist or local parties in both coalitions means that the ideological criterion is not always a perfect predictor of a mayor's party affiliation. Therefore, we use a fuzzy RD approach, following Fiva and Halse (2016). Second, we compute the forcing variable, which measures the percentage of votes that the majoritarian ideological bloc needs to lose (or gain) the majority of seats in the local council. To calculate this variable, we first identify the last seat won by the majoritarian ideological bloc in the local council and then determine the number of votes needed for that seat to switch to a party in the other bloc, using the formulas proposed by Curto et al. (2018).

Our RDD can be summarized by the following two-equation model:

(5) $$\log(Built_{it}) = \alpha . a_{it} + g(v_{it}^0) + X_{it}'\gamma + f_k + f_t + \varepsilon_{it}$$

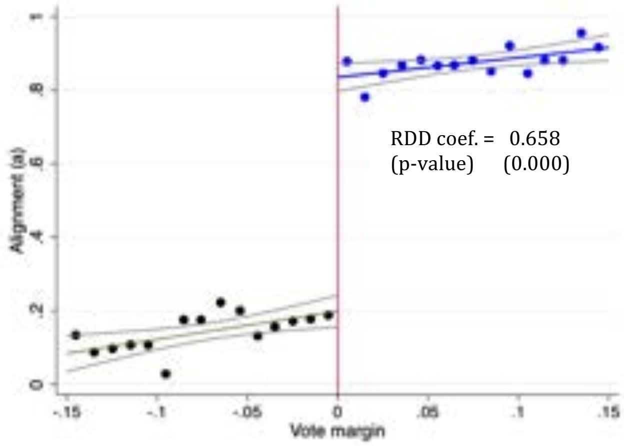
(6) $$a_{it} = \delta . \mathbb{1}(v_{it}^0 > 0) + q(v_{it}^0) + X_{it}'\eta + f_k + f_t + \epsilon_{it}$$

where the variable $\log(Built_{it})$ represents the logarithm of the land area that local government i has developed during its term of office t, located at a specified distance from the coast (e.g., 1 km). The variable a_{it} equals one when there is *Alignment*, and zero otherwise. The variable v_{it}^0, referred to as the *Vote Margin*, serves as the forcing variable. It represents the percentage of votes that the county's majoritarian ideological bloc must lose in local elections within municipality i to forfeit the majority of seats in the municipal council. Conversely, when the ideological bloc does not hold a majority of seats in the council of municipality i, the variable denotes the share of votes the parties within this bloc must win to obtain the majority of seats.

$\mathbb{1}(v_{it}^0 > 0)_{it}$ is a binary variable equal to one when the vote margin is positive and zero otherwise. The terms $g(v_{it}^0)$ and $q(v_{it}^0)$ represent local polynomials in v_{it}^0, estimated separately on each side of the threshold using observations within a neighborhood surrounding the threshold. The model includes region and term-of-office fixed effects (f_k and f_t), as well as a vector of covariates (X). While control variables are not strictly necessary for ensuring consistency in this setting, we include them in some specifications to enhance the precision of the estimates. In particular, the variable $\log(Land)$ plays a significant role in the model as it captures differences in the amount of municipal land available for development at a specific distance from the shore.

Equation (6) represents the first stage, which provides the discontinuity in *Alignment* for our identification strategy. The relationship is illustrated in Figure 2, which displays a clear difference to the right and left of the threshold. Specifically, to the right of the threshold, the percentage of aligned municipalities is roughly 65 points higher compared to the left. This pattern highlights the substantial impact of the majoritarian ideology in the coastal area on the likelihood of the mayor's alignment.

Figure 2: *Regression Discontinuity Design. Municipality. First-stage. Dependent variable: alignment (a)*



Notes: (1) The dots are 0.5% bin averages of the Alignment dummy. (2) The black and blue lines are local linear regressions fitted on the bandwidth used in the main analysis, which is 0.15 (computed as per Calonico *et al*., 2014). (3) The grey lines depict the 95% c.i. (4) We report the estimated RD coefficient and the p-value.

We use Equation (5) to estimate how *Alignment* affects coastal development. To do so, we employ the 2SLS method, using $\mathbb{1}(v_{it}^{0} > 0)_{it}$ as an instrument for a_{it}. The coefficient of interest, denoted by α, represents the 'treatment on the treated' (TOT) and captures the local treatment effect for units near the cutoff. Specifically, our design is 'fuzzy', allowing us to identify the effect for the 'compliers,' or municipalities that switch from unaligned to aligned when the ideological bloc holding a council majority changes. To obtain the reduced form equation, we substitute (6) into (5), yielding a coefficient $\rho=\alpha.\delta$. This coefficient, known as the 'intent to treat' (ITT), captures the overall effect of *Alignment* on coastal development, including the impact on non-compliers.

Regression Discontinuity: Estimation and validity. The paper's main results rely on a local linear regression model applied to a bandwidth centered around the close-elections threshold. This modeling approach is advantageous as it facilitates additional analyses (such as subgroup analyses). We employ this method consistently throughout the presentation of the results while discussing other alternatives in the robustness checks section. The bandwidth used in the analysis is selected based on Calonico et al. (2014), who suggest using the bandwidth that minimizes the mean squared error. Since the treatment is partly determined at the county level, standard errors are clustered accordingly.

To assess our design's validity, we conduct standard validity checks. First, we examine the continuity of the forcing variable around the threshold by analyzing its histogram and performing a formal test proposed by Cattaneo et al. (2018). Figure A.9 in the Appendix shows that neither the histogram nor the formal test provides evidence of manipulation. Next, we perform placebo tests to verify the continuity of several variables at the threshold. Specifically, we investigate lagged values of the dependent variables and the treatment. Table 1 presents the results of these tests, which reveal no discontinuities in the lagged value of built land, measured both at the municipal and at the county levels. Similarly, the table shows no effect on lagged alignment or the lagged Herfindahl index. In addition, we repeat this exercise for a larger group of variables in Table A.5 in the Appendix. None of these variables show discontinuities at the threshold. Overall, our robustness checks provide further evidence supporting the validity of the RDD.

Table 1: *Regression Discontinuity Design. Placebo tests.*

Variable:	Coef.	p-value	# Obs. (close)	# Obs. (total)
(A) Lagged dependent variable				
log $Built_{t-1}$, Municipality	-0.069	0.854	1,058	3,252
log $Built_{t-1}$, County	-0.048	0.815	1,058	3,252
(B) Lagged treatment				
$Alignment_{t-1}$	-0.018	0.746	1,058	3,252
Herfindahl index $_{t-1}$	0.008	0.778	1,058	3,252

Notes: (1) Coef. = RDD coefficient. Estimation method=Local Linear Regression, on the optimal bandwidth of the main analysis, which is 0.15 (computed as per Calonico *et al.*, 2014)). (2) Variables measured as z-scores, except those that are expressed in logs.

Regression Discontinuity: Coastal county. We employ the same RD methodology to examine the impact fragmentation on county development. Specifically, we observe that when a municipality changes its status from unaligned to aligned, the value of the Herfindahl index of the corresponding county increases. To illustrate, consider a county of seven municipalities, two on the left and five on the right. The Herfindahl index for this coastal county is initially 0.59, calculated as $(2/7)^2 + (5/7)^2 = 0.59$. If a left-wing municipality switches partisanship, the new Herfindahl index is 0.75, reflecting an increase of 0.16. If another left-wing municipality switches partisanship, the index rises to 1, an increase of 0.25. We can estimate the impact on county development by observing changes in the index for municipalities around the threshold.

We leverage this observation to justify using the $\mathbb{1}(v_{it}^{0} > 0)$ binary variable as an instrument for the Herfindahl index in an RD-2SLS setting. The Panel a of Figure A.15 (see the Appendix) clearly shows that the county-level Herfindahl index is on average larger for municipalities allocated to the right of the threshold. The jump in the Herfindahl index at the threshold is approximately 0.2, and the first-stage F-statistic is around 40, indicating that the instrument is strong. Thus, to estimate the aggregate effect, we replicate our main procedure with the outcome measured at the county level.[18]

5. Results

The findings of our empirical analysis are outlined as follows: Initially, we employ our RDD to ascertain the causal effect of electing an aligned mayor on local development. Subsequently, we utilize the same RD methodology to offer causal evidence regarding the impact on coastal development at the county level. Finally, we examine whether these results are linked to the mechanisms posited by our narrative, specifically examining whether political alignment fosters cooperation between local governments.

5.1. *Regression Discontinuity: Municipal alignment*

We start by examining the relationship at the municipality level. The municipality-level RDD enables us to isolate the causal impact of electing an aligned mayor (belonging to the county's majoritarian ideology) compared to an unaligned one. We present first the main results and then discuss several robustness checks.

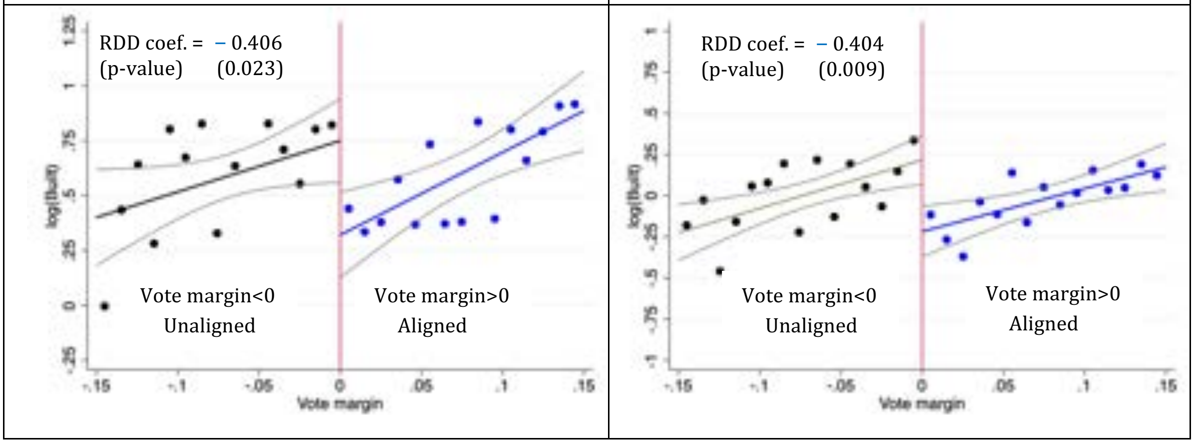
Main results. Figure 3 illustrates the average alignment effect using the same approach as in Figure 2. The estimated margin of victory of the majority bloc is plotted along the horizontal axis, and log(*Built*) is plotted on the vertical axis. The trend lines are local linear regressions within the bandwidth that minimizes the mean-squared error (Calonico et al., 2014). In Panel (a), we show the main RD graph using the raw log(*Built*) variable. The large vertical jump between the two lines at the threshold value of zero along the

[18] This method is similar to the one used in Bhalotra et al. (2021), which estimate the effect of the state Muslim legislators on abortion in India with information on close local legislative races.

horizontal axis indicates the local effect of a victory of the ideology controlling the majority of municipalities in the coastal area. This reduced form coefficient is an estimate of the 'intent to treat' effect (ITT) and can be interpreted as the impact on all units potentially treated. Therefore, is a conservative estimate of the effect of alignment. The value of the estimated ITT coefficient is around -0.40 (see also Panel (a) in Table 2 presented later on). To interpret this coefficient as a semi-elasticity, it should be transformed as $\exp(\hat{\alpha}) - 1$ (Bellemare and Wichman, 2020). The transformed coefficient takes the value of -0.33. Thus, according to these results, municipalities where the ruling ideological bloc has a majority in the council develop, on average, around 33% less land than municipalities where this bloc does not hold a majority of seats in the council. In Panel (b) of Figure 4, we report the graph using the residual of a regression between log(*Built*) and log(*Land*) and region and year fixed effects. The figure shows that these controls improve the precision of the estimates but do not affect the size of the discontinuity.

Figure 3: *Regression Discontinuity Design. Municipality Reduced form. Dependent variable:* log(*Built*)

(a) Dependent variable: log(*Built*)	(b) Dependent variable: log(*Built*), residual



Notes: (1) The dots are 1% bin averages of the outcome variable; in Panel (a), the outcome if log(*Built*), and in Panel (b) the residual of a regression between log(*Built*) and Region and Year f.e. and log(*Land*). (2) The black and blue lines are a local linear fit on the optimal bandwidth of the main analysis, which is 0.15 (Calonico *et al.*, 2014). (3) The grey lines depict the 95% c.i. (4) We report the estimated RDD coefficient and the p-value.

Panel (b) of Table 2 below presents the 2SLS estimates corresponding to the 'treatment on the treated' (TOT) effect. These results should be interpreted as the effect on units where the mayor is aligned with the ideological bloc ruling in the coastal area. Note that the coefficient obtained is equal to the one presented in Panel (a) divided by the size of the same table's first-stage coefficient, shown in Panel (c). The coefficient value is -0.62, and the semi-elasticity is -0.46. Thus, according to these results, a municipality with a mayor that belongs to the ideological bloc ruling in most municipalities in the coastal area will develop around 46% less than other municipalities during a term of office.

Table 2: *Municipal alignment RDD. Main results*

	(1)	(2)	(3)	(4)	(5)	(6)
	(a) *Reduced form*, *Dep. Variable:* log($Built$)					
$\mathbb{1}(v^0 > 0)$	-0.406** (-2.24)	-0.393** (-2.24)	-0.405** (-2.56)	-0.385*** (-3.14)	-0.393*** (-3.07)	-0.339*** (-2.77)
	(b) 2SLS, *Dep. Variable:* log($Built$)					
Alignment (a)	-0.620** (-2.31)	-0.595*** (-2.30)	-0.615*** (-2.61)	-0.614*** (-3.31)	-0.649*** (-3.26)	-0.564*** (-2.92)
	(c) *First stage: Dep. variable: Alignment* (a)					
$\mathbb{1}(v^0 > 0)$	0.676*** (14.90)	0.661*** (14.38)	0.658*** (14.38)	0.628*** (12.34)	0.602*** (11.65)	0.602*** (11.11)
First stage F-stat.	221.88 [0.000]	206.76 [0.000]	205.84 [0.000]	152.26 [0.000]	135.78 [0.000]	123.51 [0.000]
Bandwidth	0.158	0.150	0.146	0.133	0.133	0.133
Controls:						
Region f.e.	NO	YES	YES	YES	YES	NO
Year f.e.	NO	YES	YES	YES	YES	YES
log($Land$)	NO	NO	YES	YES	YES	YES
Pre-determined controls	NO	NO	NO	YES	YES	YES
Political controls	NO	NO	NO	NO	YES	YES
Municipality f.e.	NO	NO	NO	NO	NO	YES
# Effective observations	1,089	1,058	1,058	848	848	848
# Observations	3,252	3,252	3,252	3,252	3,252	3,252

Notes: (1) Panel (a) reports the Reduced form results, Panel (b) the 2SLS results, and Panel (c) the First stage. (2) The dependent variable in Panels (a) & (b) is the logarithm of land built during the term (log ($Built$)) and the sample is restricted to the observations with $Built > 0$. (3) The *Vote margin* is denoted by v^0, $\mathbb{1}(v^0 > 0)$ indicates whether the majority party (the one ruling in most municipalities in the coastal area) also has a majority of seats in the local council, and *Alignment* (a) is a dummy equal to one if the mayor belongs to the party bloc ruling in a majority of municipalities in the county; (4) Column 1 presents the results without controls; in column 2 we control for region and year fixed effects; in column 3 we also control for the amount of buildable land, log($Land$); in column 4 we control for a large set of pre-determined socioeconomic and geographic variables: log(*Coast length*), %*Beach/ Coast*, %*Environmentally valuable land*, %*Unemployed*, %*Low education*, %*College education*, %*Employed in construction*, %*Employed in services*, and log(*Population*); in column 5 we also include Political controls (dummies for *Vertical alignment*, *Left-wing mayor* and *Non-majority government*); finally, in column 6 we control for municipality fixed effects instead of region f.e. (5) Standard errors clustered at the *county* level: t-values in parenthesis; *=p-value<0.1, **=p-value<0.05, ***=p-value<0.01***. (6) We report the Firs-stage F-statistic with the p-value in brackets.

Table 2 presents various specifications, each controlling for different variables. The first column displays raw estimates, while the second column controls for region and year fixed effects. The third column adds the scale variable log(*Land*). While the point estimates are similar across all three specifications, column 3 produces more efficient estimates, making it our preferred specification. In column 4, we introduce a complete set of predetermined covariates with no effect on the results. In column 5, we include political controls such as *Vertical alignment*, *Left-wing governments*, and *Non-majority* *government* binary variables. The fact that we obtain the same results when fixing these traits suggests our results are not confounded by these political traits.[19] Finally, column 6 shows that our results remain unchanged after including municipality fixed effects.

Table 3: *Coastal area RDD.*

	(1)	(2)	(3)	(4)	(5)	(6)
	(a) *Reduced form: Dep. Variable:* log $(Built)$, *County*					
$\mathbb{I}(v^0 > 0)$	-0.173** (-2.24)	-0.189*** (-2.82)	-0.153** (-2.40)	-0.157* (-1.80)	-0.186** (-2.23)	-0.164* (-1.62)
	(b) 2SLS*: Dep. Variable:* log$(Built)$, *County*					
Herfindahl index	-0.624** (-2.23)	-0.669*** (-2.89)	-0.531** (-2.40)	-0.685* (-1.73)	-0.640* (-1.85)	-0.487* (-1.87)
	(c) *First stage: Dep. Variable:* Herfindahl index					
$\mathbb{I}(v^0 > 0)$	0.277*** (7.54)	0.282*** (7.54)	0.289*** (7.77)	0.341*** (7.80)	0.350*** (8.03)	0.330*** (6.16)
First stage F-stat.	56.85 (0.000)	56.80 (0.000)	60.43 (0.000)	60.81 (0.000)	64.43 (0.000)	38.00 (0.000)
Bandwidth	0.150	0.150	0.165	0.150	0.150	0.165
Year f.e.	YES	YES	YES	YES	YES	YES
Region f.e.	YES	YES	NO	YES	YES	NO
log$(Land)$	YES	YES	YES	YES	YES	YES
Pre-determined controls	NO	YES	YES	NO	YES	YES
County f.e.	NO	NO	YES	NO	NO	YES
Weights	NO	NO	NO	YES	YES	YES
#Effective observations	1,058	1,058	1,058	1,058	1,058	1,058
# Observations	3,252	3,252	3,252	3,252	3,252	3,252

Notes: (1) Panel (a) reports the Reduced form results, Panel (b) the 2SLS results, and Panel (c) the First stage. (2) Results obtained from the estimation of the RDD with *Built* measured at the county level. *Herfindahl index* measured with the main ideology categories. (3) Same RDD specification than before: uniform kernel with polynomial of order one and MSE bandwidth selector; year and region or county f.e. and pre-determined covariates included as controls. (4) Weights equal to 1/number of municipalities in the county used in columns four to six. (5) Standard errors clustered at the *county* level: t-values in parenthesis; *=p-value<0.1, **=p-value<0.05, ***=p-value<0.01***.

In the Appendix, we conduct several additional analyses. We report the results of a dynamic RDD (Figure A.11), which shows that the size of the effect decreases with time but extents to a second and even a third term of office. These results indicate that while many development decisions kick in fast (e.g., permitting or rezoning of small projects) others require more time (e.g., large projects or updates of the plan). We also assess the robustness of our methodology. This involves varying key aspects such as definition of the dependent variable (Table A.7), bandwidth values (Figure A.12), RD estimation method (Figure A.13), definition of the close-elections sample (Figure A.14), 'donut'

[19] In Table A.6 in the Appendix we show that these political variables are balanced at the cut-off.

analysis (Figure A.15), and distance to shore (Figure A.16). Our findings indicate that the results remain robust across all these variations in the implementation of our analysis.

5.2. *Regression Discontinuity: Coastal area*

Our RD analysis at the municipal level allows us to explore the impact of political fragmentation on development at the county level. Panel (a) of Figure A.17 in the Appendix indicates that municipalities just to the right of the cutoff tend to be located in counties with higher Herfindahl index values than those to the left. Meanwhile, Panel (b) reveals that municipalities on the right of the cutoff experience more development than those on the left. The estimation results are presented in Table 3, and include the reduced form, the 2SLS, and the first-stage coefficients. Our results remain robust even when using a weighting scheme based on the number of municipalities in each county. The reduced form coefficient is -0.17, while the 2SLS coefficient is -0.62 (column 1), significant at the 5% level. These findings suggest that a move from the minimum to the maximum Herfindahl index level reduces development by -0.54 log points or -40%. An increase of one standard deviation in the index results in a decrease in development of -0.14 log points or a -13%. Our results underline that alignment impacts local development, and political fragmentation affects aggregate development at the coastal area level[20].

5.3. *Mechanisms*

This section examines the mechanisms underlying the relationship between political alignment and coastal development. Firstly, we conduct several subgroup analyses to investigate whether the alignment effect varies depending on factors such as cooperation incentives, spillover type, and citizen preferences for development, as suggested by our theoretical framework in Section 2. Secondly, we present more direct evidence on how development influences environmental amenities and economic growth, both locally and in neighboring areas. Finally, we also discuss existing direct evidence in Spain on the relationship between partisan alignment and participation in inter-municipal cooperation arrangements (the so-called 'Mancomunidades').

Subgroup Analysis: Cooperation Incentives. According to the model outlined in Section 2, the alignment effect depends on the prevalence of municipalities sharing the same

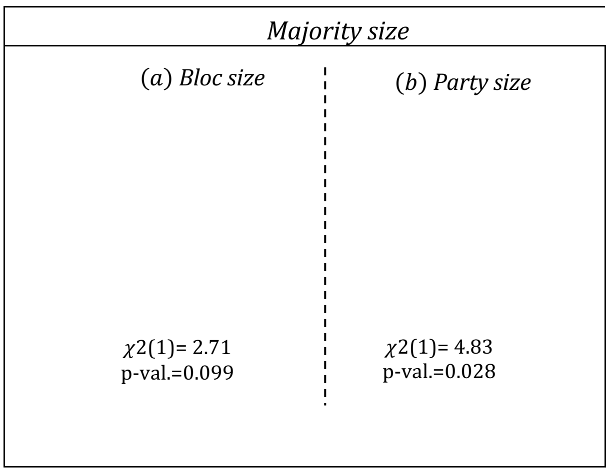
[20] In Table A.8 we also report results on the estimation of the reduced form for neighboring municipalities. It seems that alignment also reduces development in neighboring municipalities, although the results are imprecisely estimated.

ideological stance. To test this, we introduce the variable %*Bloc alignment*, representing the proportion of municipalities in the county aligned with the mayor's ideological bloc. We divide our sample based on whether this variable exceeds or falls below the median and estimate a single equation using parametric local linear regression allowing for different RD coefficients in each subgroup.

To mitigate potential correlation between the interaction variable and other characteristics, we employ a reweighting technique proposed by Carril et al. (2019) for RDs. A probit model is estimated using the High/Low binary variable as the dependent variable and a set of variables likely correlated with both the dependent variable and the intensity of the alignment effect (including all interacting variables used in the subgroup analyses to be described below). The Probit model results are used to calculate inverse propensity score (IPS) weights, ensuring that differences in the alignment effect strength are attributable to having more municipalities sharing the same ideology rather than to other observable confounding factors.

Furthermore, we explore whether cooperation incentives are heightened when the same political party governs more municipalities. Introducing the variable %*Party aligned*, representing the share of municipalities in the county governed by the same political party as the mayor, we split our sample accordingly. The IPS weights approach confirms that the observed effect is indeed due to having more party-affiliated mayors.

Figure 4: *Subgroup analysis: Cooperation incentives*



Notes: (1) Interaction variables: %*Bloc aligned* = share of neighbors belonging to the same ideological bloc as the mayor; %*Party aligned* = share of aligned neighbors belonging to the exact same party as the mayor; High (Low): binary variable equal to one (zero) if the variable is higher (lower) than the median. (2) Dependent variable: log(*Built*). 2SLS-RD using as treatment the *Alignment* binary variable; parametric estimation using a polynomial of order one and optimal bandwidth of the main analysis, which is 0.15 (computed as per Calonico *et al*., 2014). (3) We control for region and year fixed effects and log(*Land*); we account for the possible correlation between the different interaction variable used with inverse *propensity score weights* as proposed by Carril *et al*. (2019). (4) The point estimate and the 90 and 95 % c.i. are shown. Standard errors are clustered at the county level. (5) The table displays a test of equality of the coefficients in the two subgroups and the p-value.

Our analysis results, depicted in Figure 4, reveal insights from two subgroup analyses. In Panel (a), it's evident that the alignment effect is more pronounced in municipalities predominantly governed by the same ideology. While statistically significant for both groups (albeit at the 10% level for the low group), the alignment coefficient is notably larger for the high group (-1.1 vs -0.52). Notably, the difference between the coefficients is statistically significant at the 10% level. Panel (b) also indicates a larger alignment effect when the same political party governs more neighboring municipalities. Though the difference between the coefficients is slightly smaller compared to Panel (a) (-0.85 vs -0.5), it remains statistically significant at the 5% level. Similarly, the results suggest that a higher proportion of neighbors controlled by the same party, while holding constant the number of ideologically similar neighbors, also enhances cooperation. Thus, our findings underscore the significance of ideology in promoting cooperation, while also highlighting the impact of party affiliation beyond ideological alignment.

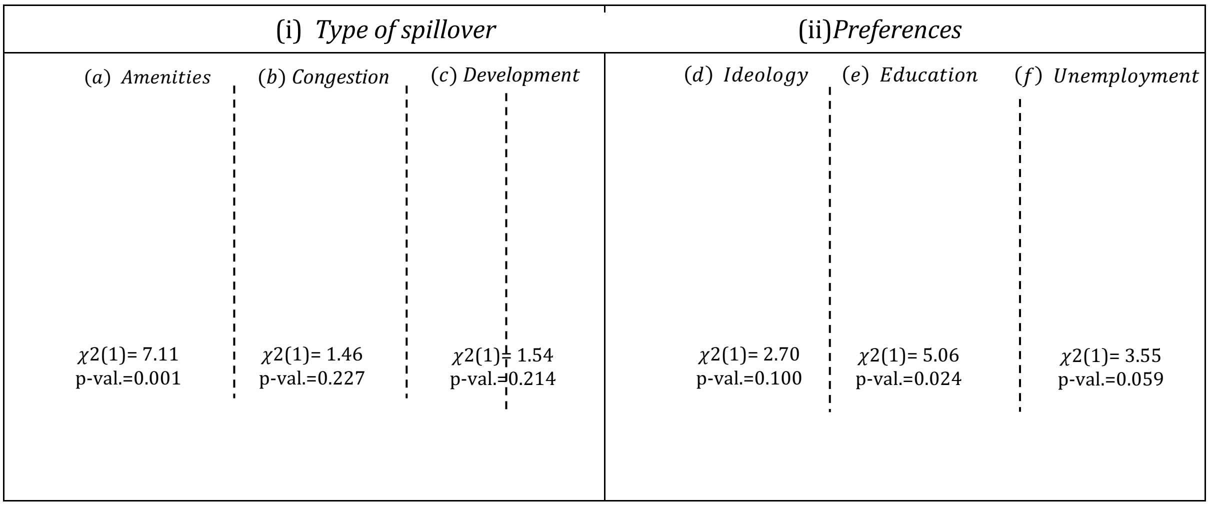
Finally, we explore the impact of aligning with higher –regional and central- levels of government. When a majoritarian party controls a coastal area and a higher level of government, it may possess more resources, such as grants, the ability to promote mayors to higher offices, or discipline other mayors. Figure A.18 in the Appendix presents evidence that the impact of horizontal alignment on development is not influenced by alignment with higher levels of government. This outcome could be due to parties already having alternative methods for enforcing cooperation, such as crafting party lists. Alternatively, cooperation may be based mostly on trust and repeated interactions.

Subgroup Analysis: Spillover Type. The theoretical model suggests that alignment negatively affects coastal development under dominant amenity spillovers, while it has a positive impact when economic development spillovers prevail. Our analysis indicates the dominance of amenity spillovers, though it doesn't dismiss the presence of economic spillovers entirely. By examining the alignment effect across subsamples with different spillover types, we aim to gather further evidence of their influence on coastal development decisions, thus reinforcing the role of cooperation in driving the alignment effect.

In Panel (i) of Figure 5, we provide this analysis. For amenity spillovers, we present estimates for two subgroups based on the percentage of municipal land designated as environmentally valuable (%*Protected land*). This variable reflects the notion that preserving such land has a greater impact on the welfare of non-residents compared to the decision to leave undeveloped other types of land, which may not hold as much value. To capture economic development spillovers, we use the variable %*Commuters*, representing the proportion of employees residing in other municipalities.

We also explore another potential negative spillover: congestion externalities resulting from tourism activities. The debate over managing mass tourism often centers on the concept of "carrying capacity" (O'Reilly, 1986), which denotes the maximum number of visitors a tourist destination can sustain. When visitor numbers exceed this capacity, the destination's quality may deteriorate, potentially harming the entire coastal area. To gauge this concept, we devise a *Tourist Congestion Index* as the residual of an OLS regression between log(*Tourism*) and various carrying capacity indicators. Municipalities are categorized as experiencing High or Low congestion based on whether they exhibit positive or negative residuals from this regression[21, 22].

Figure 5: *Sub-group analysis: Type of spillover and Preferences*



Notes: (1) Interaction variables: %*Protected land*=percent of land classified as protected under the UE Natura 2000 program; *Tourism congestion*=residual of a regression between log(*Tourism*) and log(*Coast length*), *Beach/Coast ratio*, %*Protected land* and log(*Population*); %*Commuters*=share of the labor force that lives outside the municipality; High (Low): binary variable equal to one (zero) if the variable is higher (lower) than the median; *Left mayo*r binary variable (1 if left, 0 if right); %*College education*=percent of population with a higher education degree; %*Unemployed*=percent of working age population unemployed. (2) Dependent variable: log(Built). 2SLS-RD using as treatment the *Alignment* dummy; parametric estimation using a polynomial of order one optimal bandwidth of the main analysis, which is 0.15 (Calonico *et al*., 2014). (3) We control for region and year fixed effects and log(*Land*); we account for the possible correlation between the different interaction variables used with inverse *propensity score weights* as proposed by Carril *et al*. (2019). (4) The point estimate and the 90 and 95 % c.i. are shown. Standard errors are clustered at the county level. (5) The table displays a test of equality of the coefficients in the two subgroups and the p-value.

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[21] The variables used are log(*Coast length*), *Beach/Coast ratio,* %*Protected land* and log(*Population*). All these variables have a positive and statistically significant effect in the regression. The estimated binary variable indicates whether the municipality has more tourists than expected given the values of the variables and their average impact, represented by the OLS coefficients.

[22] Notice that two of the variables used in the subgroup analysis are only available for a cross-section in the middle of the study period. Natura2000 classification is based on 1980s studies, while commuter data is from the 2001 Census. To prevent post-treatment bias, we also present results with a sample limited to the period after measuring these variables. The results are very similar (see Figure A.19 in the Appendix).

Panel (a) of Figure 5 illustrates that the impact of alignment on land development is notably stronger in municipalities with a higher percentage of environmentally valuable land. The coefficient for the High subgroup is -0.94 and significant at the 1% level, while for the Low subgroup, it's -0.42 and significant at the 10% level. Importantly, the difference between the two coefficients is significant at the 1% level. In Panel (b), the effect of alignment on development is more pronounced in municipalities with high tourism congestion. However, the difference between the coefficients is not statistically significant at a conventional level (p-value=0.227). Panel (c) demonstrates that the negative impact of alignment on land development is weaker in areas with fewer commuters. The coefficient for the Low subgroup remains negative at -0.30, while for the High subgroup, it is larger and statistically significant at the 5% level. However, the difference between the coefficients of the two groups is not significant (p-value=0.214). These findings suggest that while amenity spillovers primarily drive the effect, economic development spillovers may also play a role, particularly in coastal areas where the local labor market extends beyond municipal boundaries and commuting is prevalent.

Subgroup Analysis: Local preferences. Finally, we also look at the effect of preferences for development. In the theoretical model, places with higher preferences for coastal preservation and weaker preferences for economic opportunities develop less, ceteris paribus. Figure 5 also looks at the effect of splitting the sample along three variables: *Left-mayor*, *%College educated*, and *%Unemployed*. There is evidence for Spain suggesting that left-wing parties are more pro-environmental than the right-wing ones – which might be explained by the fact that there is not a relevant green party in Spain- and that they tend to restrict more land development (Solé-Ollé and Viladecans-Marsal, 2013)[23]. Also, there is evidence that education improves environmental attitudes and votes for green parties (Angrist et al., 2024). Finally, job creation often justifies coastal development in some parts of Spain with a high unemployment rate.

The results presented in Panels (d-e-f) of Figure 5 tell that the negative effect of alignment is stronger for *Left-wing* than for *Right-wing* mayors, is stronger in places with

[23] Actually, one could contemplate a theoretical framework in which party distinctions in preferences entirely dictate the alignment effect. For example, envision the scenario where left-wing mayors prioritize amenities while right-wing mayors prioritize development. Furthermore, suppose the effort to advance their policy objectives complement those made by neighboring municipalities. In such a model, alignment might result in increased development under right-wing mayors and decreased development under left-wing mayors. It's worth noting that this does not align with the findings of our subgroup analysis.

a high share of college-educated residents and is higher in places with a low unemployment rate. Perhaps more importantly, the impact of alignment in places with potentially lower preferences for coastal preservation is never positive. This point is important because, with competitive local elections, a myopic incumbent seeking reelection in an area with low preferences for coastal conservation may have the incentive to supply short-term economic opportunities at the expense of long-term coastal protection (Gancia and Bonfiglioli, 2013; Solé-Ollé and Viladecans-Marsal, 2019). Political alignment could further help this incumbent withstand pro-environmental pressure groups. If this were the case, we would observe pro-development, aligned mayors develop more than their unaligned counterparts. Yet, Figure 5 shows that, if anything, they tend to build less. These results suggest that political alignment pushes mayors to internalize the negative amenity spillovers from local development, rather than alter their incentives to develop due to a reduction in electoral competitiveness.

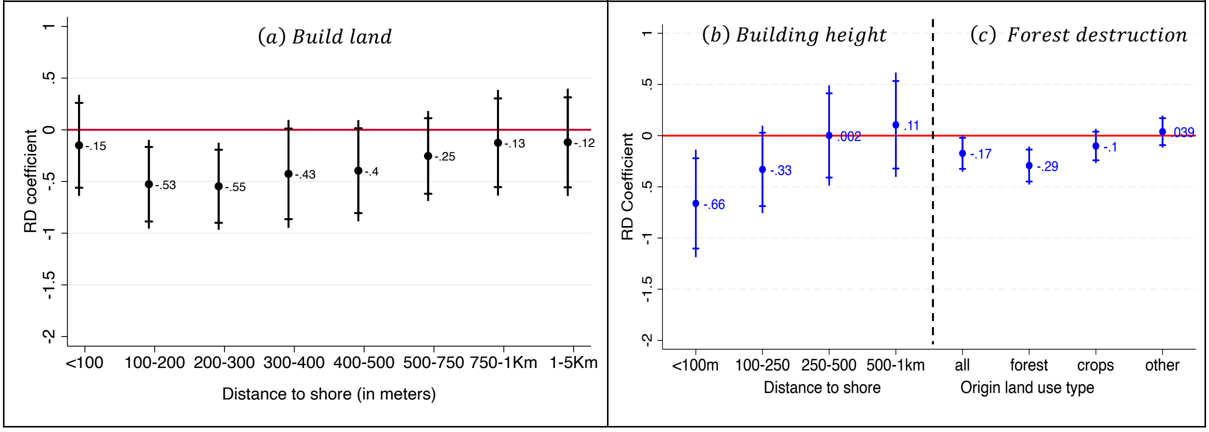
Direct Evidence of Spillovers. In this section, we present further evidence regarding the direct impact of development on amenities and economic growth, as well as the relative strength of these two types of externalities. We utilize various data sources, including the Cadaster, satellite data on land use change, air pollution data, digitized tourism and economic activity information, and housing price data. Additional details regarding the computation and sources of each variable are provided in the Appendix section A.III.

Regarding environmental spillovers, we investigate both land preservation externalities and air and water pollution spillovers. Land with environmental value provides benefits to both residents and non-residents, potentially leading municipalities to lack proper incentives for preservation. First, we examine land at various distances from the coast using Cadaster data, assuming closer land to the shore holds higher value. We use IV-Poisson estimation, parametrically controlling for the vote margin, to address the non-trivial proportion of zeros in narrow distance categories. Additionally, we analyze building height near the coast to assess its impact on landscape value. Satellite data is employed to study transitions to urban land from areas with differing environmental values, using a linear probability model with an RD specification at the cell level.

The results are depicted in Figure 6. Panel (a) illustrates development effects at different distances from the shore, showing a stronger alignment effect within 100m to 300m, extending possibly up to 500m, and disappearing beyond. Panel (b) demonstrates building height results, indicating shorter buildings in aligned municipalities, particularly in the closest fringes. Panel (c) reveals a smaller probability of urbanization in aligned municipalities, particularly for forested land cells, suggesting better preservation efforts in areas of higher environmental value[24].

Figure 6: *Direct evidence of spillovers. Environmental externalities: land preservation*

Development by distance to shore	*Building height / Forest destruction*



Notes: (1) Panel (a): Dependent variable: Developed land at the municipal level (*Built*). We show the results non-overlapping distance bands (first 100M, 100 to 200M, etc). IV-Poisson-RD using as treatment the *Alignment* dummy; parametric estimation using a polynomial of order one. (2) Panel (b): Dependent variable: Building height (#floors/ #new buildings, computed with Catastro data). Same RD specification as in the main analysis using optimal bandwidth of the main analysis, which is 0.15 (computed as per Calonico *et al.*, 2014). (3) Panel (c): Dependent variable: share of cells transitioning from a non-urban to an urban use at a distance of less than 1km from shore. All=only one coefficient is estimated (non-urban to urban) using a linear probability model and the basic RD specification. Forest/Crops/ Other=model with interactions between the treatment and the Origin land use type. The dependent variable is a zscore, and we use weights to account for the number of cells in each municipality. (4) We report the point estimates and the 90 and 95 c.i. are shown. Standard errors are clustered at the county level.

The results of pollution spillovers are presented in Panel (a) of Figure 7. We examine CO, PM10, and PM2.5 emissions using data from the EDGAR project (see data Appendix). We assess the alignment effect at the municipality, coastal county, neighboring coastal municipalities, and inland municipalities (located within 20km). For neighboring municipalities, we control for developed land over the term to eliminate mechanical effects arising from the reaction of neighbors' development to alignment, allowing the reported coefficient to represent a direct measure of the spillover effect.

The findings indicate that alignment reduces air pollution in both the municipality and the county, particularly concerning CO and PM10 emissions. Moreover, emissions decrease in neighboring coastal municipalities but not in inland ones, suggesting that these environmental spillovers may stem from reduced day visitor trips rather than airborne pollution transmission. Additionally, we also report results that indicate that

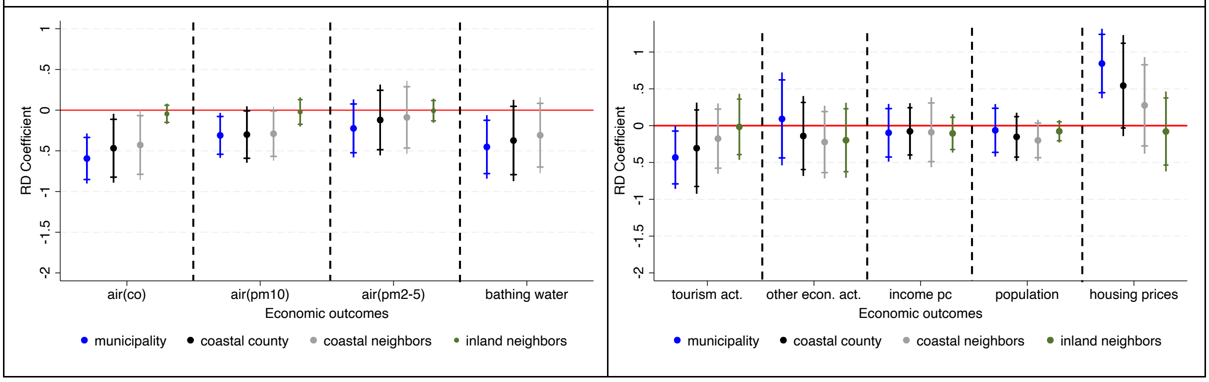
[24]The urban land measured with satellite data need not coincide with the one measured by the Catastro. The reason is that it includes not only buildings but other types of urbanized land (e.g., streets, infrastructures). Also, the spatial resolution is lower (the cells are 1kmx1km)

alignment reduces bathing water pollution in the municipality and also – albeit with less precision- for the whole county and for the neighboring municipalities.

Panel (b) of Figure 7 looks at economic development spillovers. First of all, we look at the aggregate levels of tourism activity using the data from 'La Caixa'. The results suggest that the reduction in development brought by alignment translates into a reduction in the level of tourism activity in the municipality. Notice, however, that the although the effect on the coastal neighbors is also negative, it is not statistically significative. Recall that, as in the case of environmental externalities, here we also control for land development in neighboring municipalities to get rid of mechanical effects. The estimated coefficient in the case of inland municipalities is zero, as was in the case of environmental externalities. When we look at other economic activities using the same data, the results suggest a null effect on the own municipality and some negative impact on the neighbors that is, again, not statistically significant. The effect on income per capita and population, which can be considered a proxy for resident's welfare, is very close to zero. The effect on coastal neighbors' population is a bit larger but still not statistically significant. Taken together, these results suggest that although alignment does have an effect on economic activity in the municipality, the economic spillovers are rather small (especially when compared to environmental externalities). These economic externalities might be relevant for some municipalities but are small on average.

Figure 7: *Direct evidence of spillovers. Environmental vs. Economic externalities*

(a)*Environmental externalities: Air and Bathing water pollution*	(b) *Economic externalities: Economic activity and housing prices*



Notes: (1) Panel (a): Dependent variable: for air pollution, emissions/km2 of the different pollutants, for bathing water pollution, an index with a value that is higher the lower water quality, and hence higher the higher water pollution. Panel (b): Tourism Other economic activity = aggregate level of activity measured in the tourism sector and in all other sectors (from 'La Caixa'), income pc = family income pc (also from 'La Caixa'), resident population, and housing price/m2. (2) Standard RD specification using the optimal bandwidth of the main analysis, which is 0.15 (computed as per Calonico *et al.*, 2014). The dependent variable is a zscore. In the county and neighbor's specification we use weights to account for the number of municipalities in each county. In the case of housing prices. (3) We report the point estimates and the 90 and 95 c.i. are shown. Standard errors are clustered at the county level.

Finally, Panel (b) in Figure 7 also reports some results using housing prices. The data used comes from appraisal firms and is available mostly after 1991 and for a reduced sample of municipalities (242 out of the 435 municipalities), with an underrepresentation of the smaller ones. This means that the results should be taken 'with a pinch of salt'. Nevertheless, the results suggest that the reduction in development brought by alignment results in an increase in housing prices in the municipality. The effect on the neighbors is also positive but not statistically significant. Notice again that the effect on the neighbors is not mechanical because we control for the amount of development therein. Our interpretation of the results is that the rise of housing prices in the municipality is a mix of the effect of reduction in supply (for the same number of visitors that are potentially attracted to the area) and an improvement in amenities[25].

Cooperation: direct evidence. Providing direct evidence of the effect of political alignment on actual cooperation decisions is challenging. First of all, many of these decisions are tacit and, so not observed. Second, municipalities do arrange bilateral contractual arrangements, but there is no administrative database recording them[26]. A more feasible alternative is to examine the decisions of municipalities to participate in more institutionalized and stable cooperative arrangements, the so-called 'Mancomunidades'. A recent working paper by Magre et al. (2024) has constructed a database on municipal participation in these entities using administrative data from the Spanish Ministry of the Interior. The paper examines the determinants of the decision to join a 'Mancomunidad,' focusing on partisan alignment between the party mayor and the other entity members. The authors find that alignment between the mayor and the party ruling the 'Mancomunidad' increases the probability of joining the entity by approximately 50%.

6. Conclusion

This paper shows that neighboring policymakers from the same political party or ideology are more likely to collaborate on coastal development policies, considering the welfa-

[25] One might ponder the implications of these findings for the objective function of local governments. We believe they are consistent with the notion of local government aiming to maximize property values (Brueckner, 1983). Consider an unaligned municipality focused on maximizing property values within its jurisdiction; upon alignment, the goal extends to maximizing property values across the entire area. However, since the previous decision was sub-optimal, cooperation should also increase property values within that municipality (through a combination of reduced supply and enhanced amenities). It's worth noting, though, that this is also in line with interests of owners of undeveloped land (Brueckner and Lai, 1994).

[26] There is anecdotal evidence of partisan rivalries disrupting agreements (see e.g., https://www.levante-emv.com/comarcas/2011/10/09/rivalidad-municipios-vecinos13031859.html).

re of non-residents. We provide empirical evidence supporting this hypothesis in the context of Spain.

First, using a close-elections regression discontinuity design, we provide causal evdence that politically aligned mayors allow for less development than their politically unaligned counterparts. Second, we use the same method to show this negative effect of alignment aggregates up to the whole coastal area level. Third, the impact of alignment is stronger in aeras nearest to the shoreline or previously covered by forests, within municipalities with a significant share of protected land, and also affects air and bathing water pollution. Finally, the analysis further shows that alignment's adverse effects are heightened in municipalities where environmental amenities are highly valued –those governed by left-wing mayors or with college-educated populations. All of this is indicative that amenity spillovers being a driver of the effect of alignment on development.

One pertinent inquiry prompted by our findings is the assessment of aggregate welfare effects associated with permitting or restraining coastal development. Our results indicate that cooperative efforts among neighboring municipalities within the same coastal area enhance the welfare of residents therein, without detriment to those residing in nearby inland municipalities. These findings align with recent research, such as Ouasbaa (2024), which underscores that tourism specialization in coastal areas in Spain can lead to a long-term reduction in local per capita income. It's worth noting, however, that both our findings and those of existing studies do not fully consider the broader benefits accruing at a more aggregate level, such as increased tax revenues for national governments or job creation in industry sectors in more distant locales (Faber and Gaubert, 2020). Additionally, it is important to note that our results may be influenced by regions with high levels of coastal development and tourism specialization.

Another question arising from our paper's results pertains to their broader implications beyond our specific case. Firstly, can these findings be extrapolated to other contexts? We believe they can, provided similar conditions to those observed in the Spanish case are present, including fragmentation in decision-making concerning land use policies, party polarization, and significant development pressure along the coast. Notably, the issue of fragmented decision-making in land use is prevalent in other European countries like France or Italy, as well as in the United States, and likely in many developing countries such as Mexico and Brazil. Moreover, some of these countries also exhibit high levels of polarization and have vulnerable coastal areas. Secondly, can the same analytical framework be applied to other policies? We contend that it can. For example, one could explore the impact of partisan alignment on housing construction in urban areas or on tax competition. However, in these instances, the primary spillovers and thus the direction of the effect may differ.

References

Ade, F. and Freier, R. (2013): "Divided government versus incumbency externality effect: quasi-experimental evidence on multiple voting decisions." *European Economic Review* 64, 1-20.

Agrawal, D., Hoyt, W. and Wilson, J.D. (2022): "Local policy choice: theory and empirics." *Journal of Economic Literature* 60(4), 1378-1455.

Angrist, N., Winseck, K., Patrino, H.A. and Zivin J.S.G (2024). "Human capital and climate change." *Review of Economics and Statistics*, forthcoming.

Bellemare, M.E. and Wichman, C.J. (2020): "Elasticities and the inverse hyperbolic sine transformation." *Oxford Bulletin of Economics and Statistics* 82, 50-61.

Bhalotra, S., Clots-Figueras, I. and Iyer, L. (2021): "Religion and abortion. The role of politician identity." *Journal of Development Economics* 153, 102746.

Brueckner, J. K. (1983): "Property value maximization and public sector efficiency." *Journal of Urban Economics* 14(1), 1-15.

Brueckner, J. (1995): "Strategic control of growth in a system of cities." *Journal of Public Economics* 57(3), 393-416.

Brueckner, J.K. (1998): "Testing for strategic interactions among local governments: The case of growth controls." *Journal of Urban Economics* 44(3), 438-467.

Brueckner, J.K. (2003): "Strategic interaction among governments: an overview of empirical studies." *International Regional Science Review* 26(2), 175-188.

Brueckner, J.K. & Lai, F-Ch,. (1996): "Urban growth with resident landowners," *Regional Science and Urban Economics* 26(2), 125-143.

Bruns, B., Freier, R. and Schuman, A. (2015): "Finding your right (or left) partner to merge." DIW Berlin Working Paper 1467.

Burgess, R., Hansen, M., Olken, B., Potapov, P. and Sieber, S. (2012): "The political economy of deforestation in the Tropics." *Quarterly Journal of Economics* 127 (4), 1707-1754.

Calonico, S., Cattaneo M., and Titiunik R., (2014). "Robust Nonparametric Bias Corrected Inference in the Regression Discontinuity Design." *Econometrica* 82(6), 2295-2326.

Carozzi, F., Cipullo, D. and Repetto, L. (2022): "Political fragmentation and government stability: evidence from local governments in Spain." *American Economic Journal: Applied Economics*, 14(2): 23–50.

Carozzi, F., Cipullo, D. and Repetto, L. (2024): "Powers that be? Political alignment, government formation, and government stability." *Journal of Public Economics* 105017.

Carril, A., Cazor, A., Gerardino, M.P., Litschig, S. and Pomeranz, D. (2019): "Subgroup analysis in Regression Discontinuity Designs." Processed, U. of Zurich.

Cattaneo, M. D., M. Jansson, and X. Ma. (2018): "Manipulation testing based on density discontinuity." *Stata Journal* 18: 234-261.

Curto-Grau M., Solé-Ollé, A. and Sorribas-Navarro, P. (2018): "Does electoral competition curb party favoritism?" *American Economic Journal: Applied Economics* 10(4), 378-407.

Di Porto, E., Parenti, A., Paty, S. and Abidi, Z. (2017): "Local government cooperation at work: a control function approach." *Journal of Economic Geography* 17, 435-463.

Durante R. and Gutierrez E. (2015): "Political alignment, inter-jurisdictional cooperation and crime in Mexico." Processed, U. Pompeu Fabra.

Enikolopov, R. and Zhuravaskaya, E. (2007): "Decentralization and Political Institutions." *Journal of Public Economics* 91, 2261-2290.

Faber, B. and Gaubert, C. (2019): "Tourism and economic development: Evidence from Mexico's coastline." *American Economic Review*, 109(6), 2245-93.

Ferreira, F. and Gyourko, J. (2009): "Do political parties matter? Evidence from US cities." *Quarterly Journal of Economics* 124(1), 399-422.

Filippov, M., Ordeshook P. and Shvetsova, O. (2004): *Designing Federalism: A Theory of Self- Sustainable Federal Institutions*. Cambridge, UK: Cambridge Univ. Press.

Fischel, W. (2008): "Political Structure and Exclusionary Zoning: Are Small Suburbs the Big Problem?" in Ingram, G. and Yu-Hung, H. (eds.): *Fiscal Decentralization and Land Policies*. Cambridge, Mass.: Lincoln Institute for Land Policy, pp. 111–136.

Fiva, J. H. and A. H. Halse. (2016): "Local favoritism in at-large proportional representation systems." *Journal of Public Economics*, 143, 15-26.

Fiva, J.H., O. Folke and R.J. Sorensen (2018): "The Power of Parties: Evidence from Close municipal elections in Norway." *Scandinavian Journal of Economics* 120, 3-30

Folke, O. (2014): "Shades of brown and green: party effects in proportional election systems." *Journal of the European Economic Association* 12(5), 1361-1385.

Gancia, G. and Bonfiglioli, A. (2013): "Uncertainty, electoral incentives and political myopia." *Economic Journal* 123, 373-400.

Faber, B. and Gaubert, C. (2019): "Tourism and economic development: Evidence from Mexico's coastline." *American Economic Review* 109-6, 2245-93.

Gerber, E., Henry, A.D. and Lubell, M. (2013): "Political Homophily and collaboration in regional planning networks." *American Journal of Political Science* 57(3), 598-610.

Greenpeace (2019): *A Toda Costa. Análisis de los ecosistemas costeros vulnerables a la urbanización masiva del litoral.* https://es.greenpeace.org/es/wp-content/up-loads/sites/3/2019/06/Costas-2019-completo-ver2.pdf.

Hatfield, J.W. and Kosec, K. (2019): "Local environmental quality and interjurisdictional spillovers." *Economica* 86(343), 569-606.

Helsley, R.W. and Strange, W.C. (1995): "Strategic growth controls." *Regional Science and Urban Economics* 25, 435–460.

Hilber, Ch. and Schoeni, O. (2020): "On the economic impacts of constraining second home investments." *Journal of Urban Economics* 118, 103266.

Hoxby, C.M. (2000): "Does competition among public schools benefit students and taxpayers?" *American Economic Review* 90(5), 1209-1238.

Lee, D., Moretti, E. and Butler, M. (2004): "Do voters affect or elect policies? Evidence from the US House." *Quarterly Journal of Economics* 119(3), 807-859.

Lipscomb, M. and Mobarak, A.M. (2016): "Decentralization and Pollution Spillovers: Evidence from the Re-drawing of County Borders in Brazil." *Review of Economic Studies* 84(1) 464–502.

Lubell, M., Schneider, M., Scholz, J.T. and Mete, M. (2002): “Watershed Partnerships and the Emergence of Collective Action Institutions.” *American Journal of Political Science* 46,148-163.

Magre-Ferran, J. and Bertrana-HortaE, X. (2005): “Municipal Presidentialism and Democratic Consolidation in Spain”, in R. Berg and N. Rao (eds), *Transforming Local Political Leadership.* New York: Palgrave Macmillan.

Magre, J., Rodón, T., and Solé-Ollé, A. (2024): ”‘Not Without my Friends’:Partisanship and Intermunicipal Cooperation.” Processed, U. of Barcelona.

O’Reilly, A.M. (1986): “Tourism carrying capacity: concept and issues.” *Tourism Management* 7/4, 254-258.

Ostrom, E. (2000): “Collective action and the evolution of social norms.” *Journal of Economic Perspectives* 14(3), 137-158.

Ouasbaa, G. (2024): “A country of waiters: the economic consequences of tourism specialization.” Processed, U. of Barcelona.

Pettersson-Lidbom, P. (2008): “Do parties matter for economic outcomes? A regression-discontinuity approach.” *Journal of the European Economic Association* 6, 1037–1056.

Riker, W. (1964): *Federalism: Origins, Operation, Significance.* Cambridge, UK: Cambridge Univ. Press.

Rodden, J. (2003): “Reviving Leviathan: fiscal federalism and the growth of government.” *International Organization* 57, 695–729.

Solé-Ollé, A. (2006): “Expenditure spillovers and fiscal interactions: Empirical evidence from local governments in Spain.” *Journal of Urban Economics* 59(1), 32-53.

Solé-Ollé, A. and Viladecans-Marsal, E. (2012): “Lobbying, political competition, and local land supply: recent evidence from Spain.” *Journal of Public Economics* 96, 10-19.

Solé-Ollé, A. and Viladecans-Marsal, E. (2013): “Do political parties matter for local land use policies?” *Journal of Urban Economics* 78, 42-56.

Solé-Ollé, A. and Viladecans-Marsal, E. (2019): “Housing booms and local spending.” *Journal of Urban Economics* 113, 103-185.

Song, M. and Park, H.J. (2017): “Do political similarities facilitate interlocal collaboration?” *Public Administration Review* 78(2), 261-269.

Sweeting, D. (2009). The institutions of ‘strong’local political leadership in Spain. *Environment and planning C: government and policy*, *27*(4), 698-712.

Tricaud, C. (2024): “Better alone? Evidence on the costs of intermunicipal cooperation”, *American Economic Journal: Applied Economics*, forthcoming.

Wibbels, E. (2006): “Madison in Baghdad? Decentralization and Federalism in Comparative Politics.” *Annual Review of Political Science* 9, 165-188.

The political economy of coastal development

Pierre Magontier, Albert Solé-Ollé and Elisabet Viladecans-Marsal

Appendix

Section A.I: Proofs

1.– Deriving the best development response

With both amenity spillovers θ and development spillovers γ, the objective function of municipality j reads:

$$V(a_j, y_j) \equiv A^{\alpha}Y^{1-\alpha} =$$

$$= \left[1 - d_j + \theta(N_j - 1)(1 - d_j) + \theta N_{-j}(1 - d_{-j})\right]^{\alpha}\left[d_j + \gamma(N_j - 1)d_j \; + \gamma N_{-j}d_{-j}\right]^{1-\alpha}$$

Setting the FOC to zero gives

$$-\alpha \frac{\partial A}{\partial d_j} Y = (1 - \alpha)\frac{\partial Y}{\partial d_j} A$$

The response function $d_j^{*}(d^{*}_{-j})$ then reads:

$$d_j^{*} = \frac{1}{s_1^j s_2^j}\left[(1 - \alpha)s_2^j\left(1 + \; \theta(N - 1)\right) - d^{*}_{-j}N_{-j}\left(\alpha s_1^j\gamma + (1 - \alpha)s_2^j\theta\right)\right]$$

with $s_1^j = 1 + \theta(N_j - 1)$ and $s_2^j = 1 + \gamma(N_j - 1)$

Solving the equation for d_j^{*} yields:

$$d_j^{*} = \frac{(1 - \alpha)\left(1 + \; \theta(N - 1)\right)}{\Lambda} s_2^{-j}\left[s_1^{-j}s_2^j - N_{-j}\left(\alpha s_1^j\gamma + (1 - \alpha)s_2^j\theta\right)\right]$$

where $\Lambda = s_1^{-j}s_2^{-j}s_1^j s_2^j - N_j N_{-j}\left(\alpha^2\gamma^2 s_1^{-j}s_1^j + (1 - \alpha)^2\theta^2 s_2^{-j}s_2^j + \alpha\gamma\theta(1 - \alpha)\left(s_1^j s_2^{-j} + s_1^{-j}s_2^j\right)\right)$ which is defined on $]0; 1[$ with $\lim_{\{\theta;\gamma\}\to 0} \Lambda = 1^{-}$ and $\lim_{\{\theta;\gamma\}\to 1} \Lambda = 0^{+}$.

2.– Local differences in alignment status

Local differences in development from alignment status read:

$$\begin{aligned} d_j^{*} - \; d_{-j}^{*} = \\ &\frac{1}{\Lambda}s_2^{-j}(1 - \alpha)\left(1 + \; \theta(N - 1)\right)\left[s_1^{-j}s_2^j - N_{-j}\left(\alpha s_1^j\gamma + (1 - \alpha)s_2^j\theta\right)\right] \\ &-\frac{1}{\Lambda}s_2^j(1 - \alpha)\left(1 + \; \theta(N - 1)\right)\left[s_1^j s_2^{-j} - N_j\left(\alpha s_1^{-j}\gamma + (1 - \alpha)s_2^{-j}\theta\right)\right] \end{aligned}$$

Developing this expression, we get:

$$d_j^{*} - \; d_{-j}^{*} = -\lambda(\theta - \gamma)$$

With $\lambda = \left[\alpha(1 - \alpha)\left(1 + \; \theta(N - 1)\right)\left(1 + \gamma(N - 1)\right)\right]\left(N_j - N_{-j}\right)/\Lambda \geq 0$ for all possible parameter values.

3.– Local impact of political fragmentation on local developement

We can rewrite local development differences as

$$d_j{}^* - d_{-j}{}^* = \alpha(1-\alpha)\big(1+\theta(N-1)\big)\big((N-1)\gamma+1\big)\frac{\big(N_j - N_{-j}\big)(\gamma-\theta)}{c_5 c_2 + c_6 N_j N_{-j}}$$

with the following parameters

$$c_0 = 2\alpha\theta c_2 + \gamma^2 c_3 - \alpha\gamma c_4$$
$$c_1 = (1-\alpha)\big(1+\theta(N-1)\big) \geq 0$$
$$c_2 = 1+\gamma[(N-1)(1-\gamma)-1] \geq 0$$
$$c_3 = N(1-\theta) \geq 0$$
$$c_4 = 2(1-\theta)(1-\gamma) + N(\gamma+\theta-2\gamma\theta) \geq 0$$
$$c_5 = 1+\theta[(N-1)(1-\theta)-1] \geq 0$$
$$c_6 = c_5\gamma^2(1-\alpha^2) + c_2\theta^2(1-(1-\alpha)^2) - c_4\alpha\gamma\theta(1-\alpha)$$

Then,

$$\frac{\partial(d_j{}^* - d_{-j}{}^*)}{\partial N_j} = \alpha(1-\alpha)\big(1+\theta(N-1)\big)\big((N-1)\gamma+1\big) + \frac{2(\gamma-\theta)\big(c_5c_2 + c_6 N_j(N-N_j)\big) - c_6(N-2N_j)\big(2N_j - N\big)(\gamma-\theta)}{\Lambda^2}$$

After developing we obtain

$$\frac{\partial(d_j{}^* - d_{-j}{}^*)}{\partial N_j} = -\lambda\mu(\theta-\gamma)$$

where $\mu = 2c_5c_2 + c_6\big(N_j + N\big)^2 \geq 0$ for all possible parameter values.

4.– Aggregate Development

Aggregate development reads:

$$d^* = N_j d_j{}^* + N_{-j} d_{-j}{}^*$$

Developing this expression, we obtain:

$$d^* = \frac{(1-\alpha)\big(1+\theta(N-1)\big)}{\Lambda}\{s_2^{-j}s_2^{j}N(1-\theta) + s_2^{-j}s_2^{j}2\alpha\theta N_{-j}N_j - N_jN_{-j}\alpha\gamma\big[s_2^{-j}s_1^{j} + s_2^{j}s_1^{-j}\big]\}$$

5.– Aggregate impact of political fragmentation

We can rewrite aggregate development as

$$d^* = \frac{c_1\big(c_2c_3 + c_0N_jN_{-j})\big)}{c_5c_2 + c_6N_jN_{-j}}$$

with the following parameters

$$c_0 = 2\alpha\theta c_2 + \gamma^2 c_3 - \alpha\gamma c_4$$
$$c_1 = (1-\alpha)\big(1+\theta(N-1)\big) \geq 0$$
$$c_2 = 1+\gamma[(N-1)(1-\gamma)-1] \geq 0$$
$$c_3 = N(1-\theta) \geq 0$$
$$c_4 = 2(1-\theta)(1-\gamma) + N(\gamma+\theta-2\gamma\theta) \geq 0$$
$$c_5 = 1+\theta[(N-1)(1-\theta)-1] \geq 0$$

$$c_6 = c_5\gamma^2(1-\alpha^2) + c_2\theta^2(1-(1-\alpha)^2) - c_4\alpha\gamma\theta(1-\alpha)$$

Then,

$$\frac{\partial d^*}{\partial N_j} = c_1 c_2 (N - 2N_j)\frac{c_0 c_5 \; - c_6 c_3}{\Lambda^2}$$

After developing we obtain

$$\frac{\partial d^*}{\partial N_j} = \kappa(N - 2N_j)(\theta - \gamma)$$

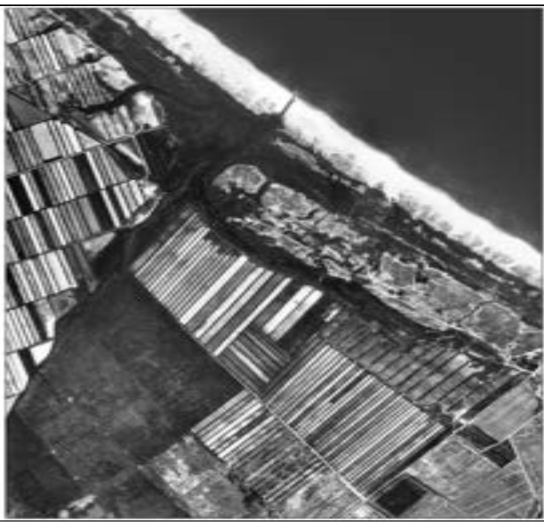
Where $\kappa = \frac{\alpha(1-\alpha)\left(1+\,\theta(N-1)\right)}{\Lambda^2}(1-\theta)\{1+\;\gamma[(N-1)(1-\gamma)-1]\}\{\mathrm{N}\gamma(1-\theta)(1-\alpha)+(1-\gamma)[\theta(N\alpha-2)+2]\}$ is a positive collection of terms.

Section A.II: Additional figures

Figure A.1: *Intensity of Coastal development*, 1956 v. 2012 (Examples)

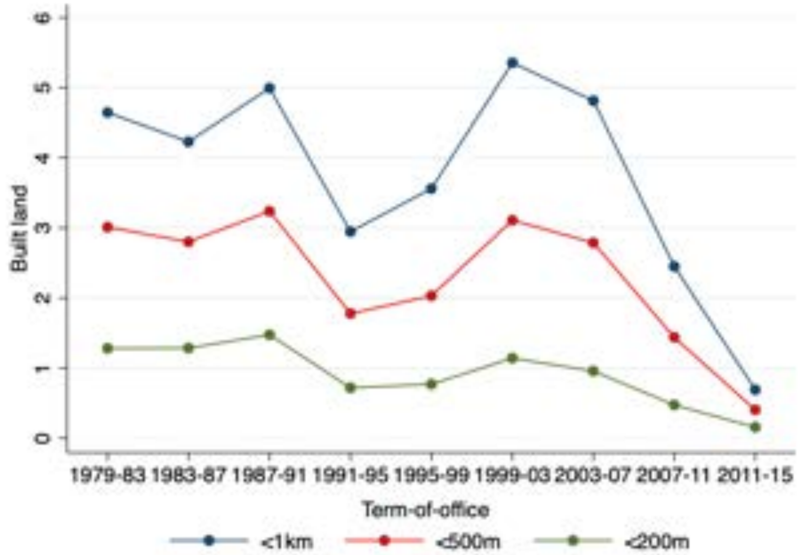
A. La Manga del Mar Menor (Murcia)

B. Empuriabrava (Girona)



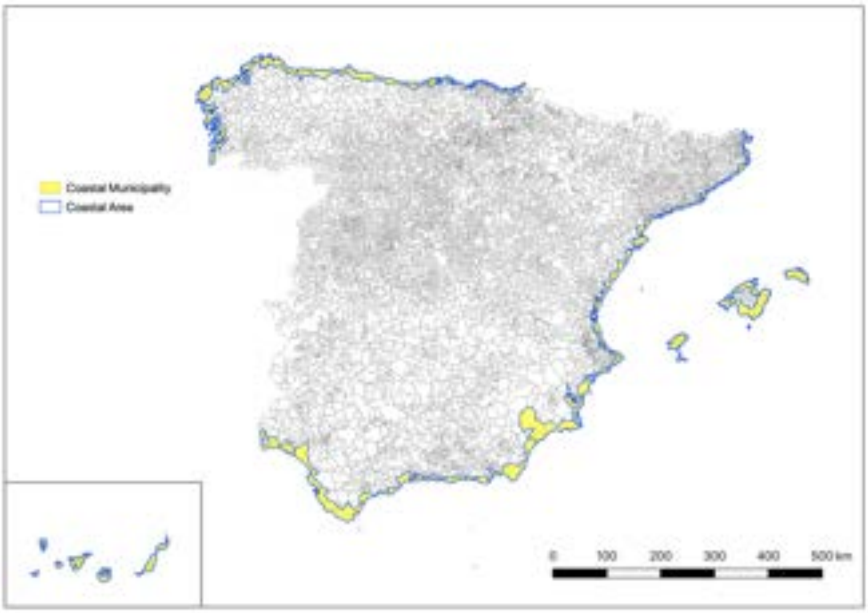
Sources: PNOA Americano Serie B for 1956. Google Earth for 2012.

Figure A.2:
Evolution of the amount Built land by term-of-office



Notes: (1) Average amount of newly *Built land* (Ha) per term in all Spanish coastal municipalities. (2) We report data for three overlapping fringes: less than 1km from shore, less than 500m and less than 200m. (3) Data from the Spanish cadaster (Dir. Gral. del Catastro).

Figure A.3: *Map of Spain's Coastal municipalities*

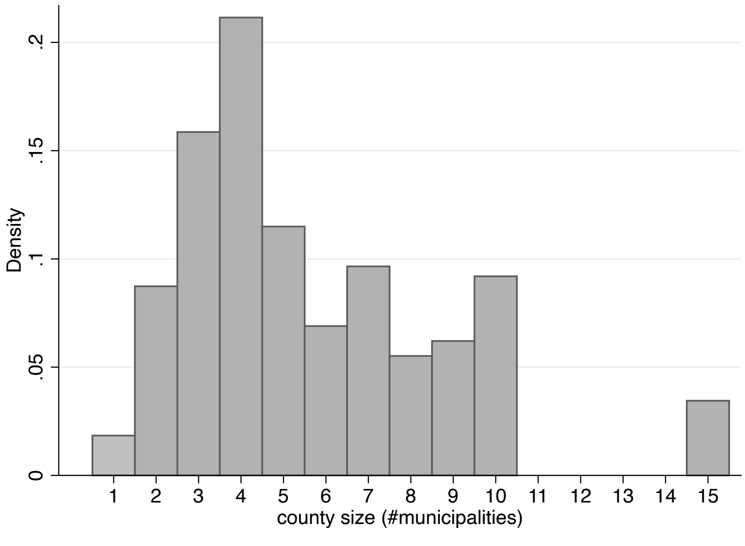


Note: (1) The map depicts in Yellow the municipalities located along the Spanish coastline. (2) Source: own elaboration.

Figure A.4: *Example of Counties in a Coastal area ('Costa Brava')*

Note: (1) The map the Coastal area called 'Costa Brava' (in light blue) and is three Counties ('Comarcas'), named 'Alt Empordà', 'Baix Empordà' & 'La Selva Costanera'; in Yellow there is a county ('Maresme') located in a different 'Coastal denomination' ('Costa del Maresme'). (2) Source: own elaboration.

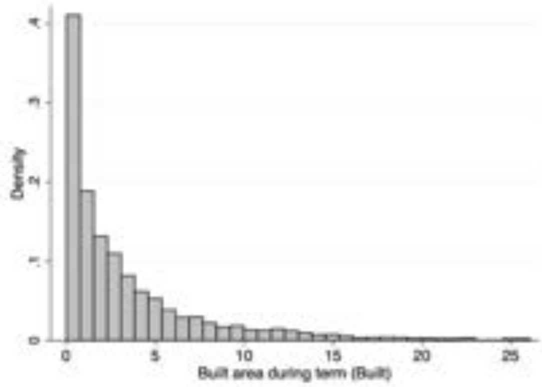
Figure A.5: *Histogram of County size*

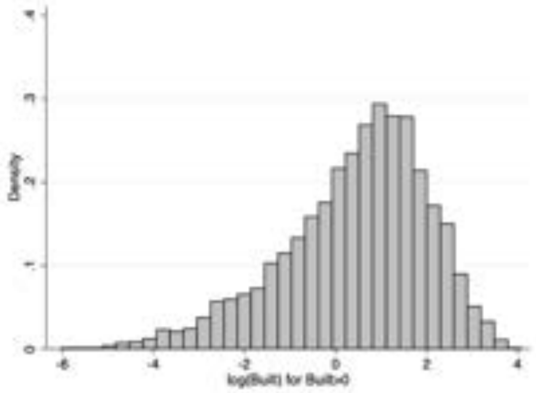


Notes: (1) The figure shows the density of the number of coastal municipalities by county size, that runs from one municipality to fifteen. The county definition used corresponds to geographical counties or 'Comarcas'. (2) Source: www.Geosoc.udl.cat.

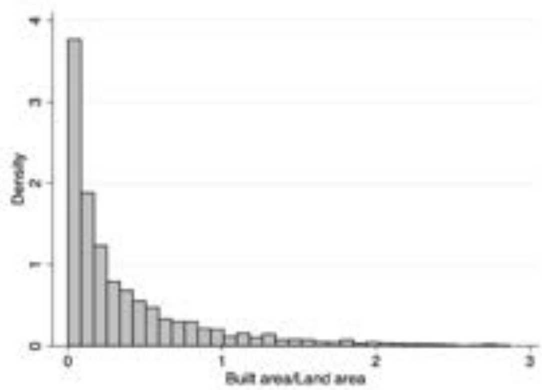
Figure A.6: *Histogram of alternative dependent variables*

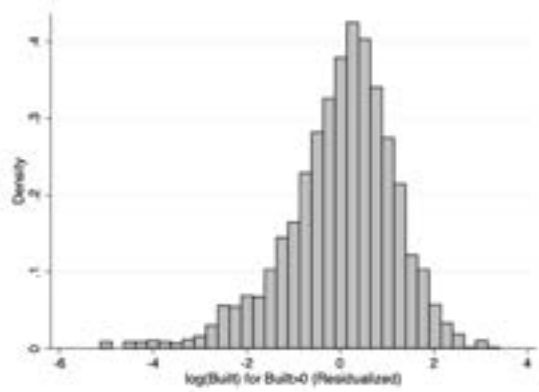
(a) Built	(b) log(Built) for Built>0





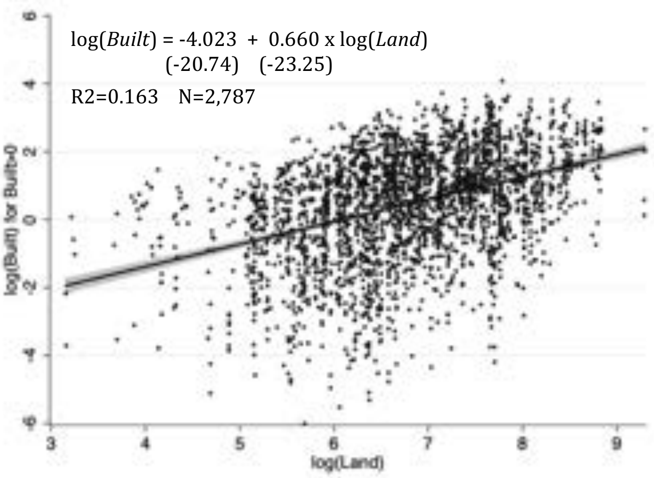
(c) Built/Land	(d) log(Built) for Built>0, Residualized





Note: (1) Panel (a) shows the histogram of Built area at less than 1km of the coast during a term of office, including the cases where this variable is zero; Panel (b) shows the histogram for the ratio between *Built area* and *Land* area at less than 1km from the coast; Panel (c) shows the histogram for logarithm of *Built area*, therefore excluding the cases where *Built*=0; Panel (d) shows the histogram for a residual of the regression between log(*Built*) and Region and Year f.e. and log(*Land*). (2) Source: See Table A.1.

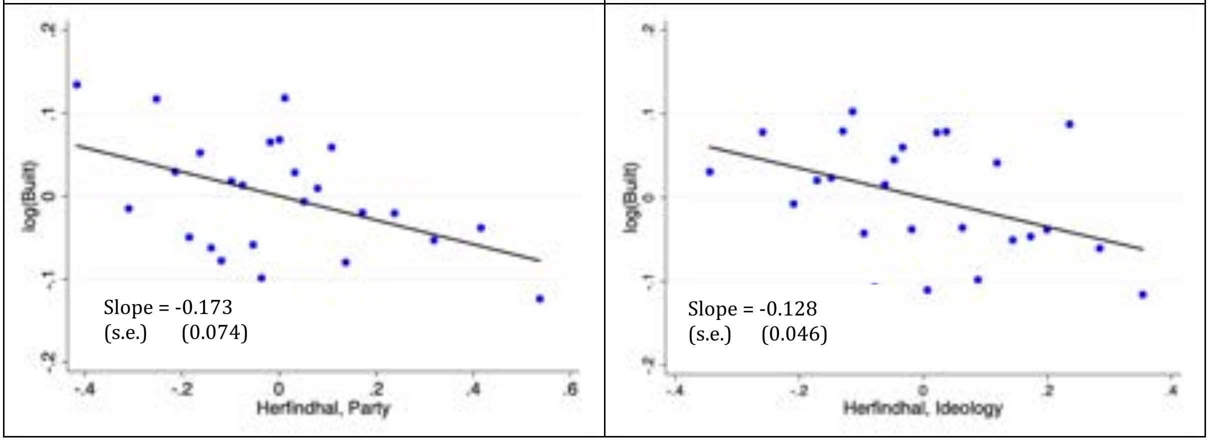
Figure A.7: *Relationship between* log(*Built*) *and* log*(Land*)



Note: (1) Figure shows a scatterplot between log(*Built*) and log(*Land*). The line is a linear fit with 95% c.i. (see equation in the box, t-statistics inside parenthesis). (2) Source: See Table A.3.

Figure A.8: *Fragmentation and Coastal area development.*

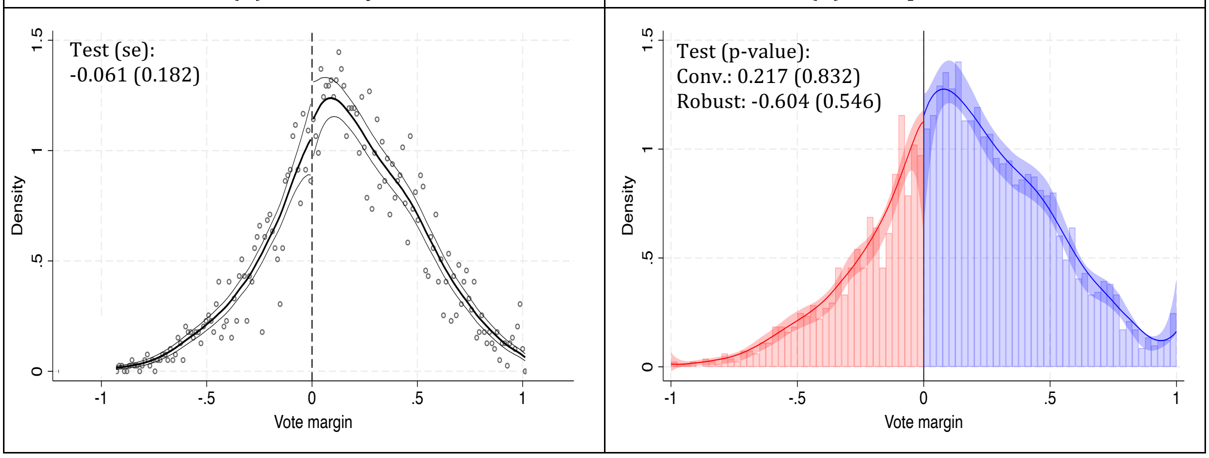
A. Political parties	B. Ideological blocs



Note: (1) Two-way relationship between logged *Built area* (at less than 1Km from shore) and the *Herfindahl index*, for the period 1979-2015, computed at the county level; larger values of the index mean less fragmentation. (2) The *Herfindahl index* is computed with data on the *Political party* of the mayor in Panel A and the *Ideological bloc* of the mayor (left-wing, right-wing, and local party) in Panel (b). (3) We have residualized this variable on county and term fixed effects. (4) The dots are the means of equally spaced 5% bins. (6) The estimated slope (and standard error) are reported in the figure.

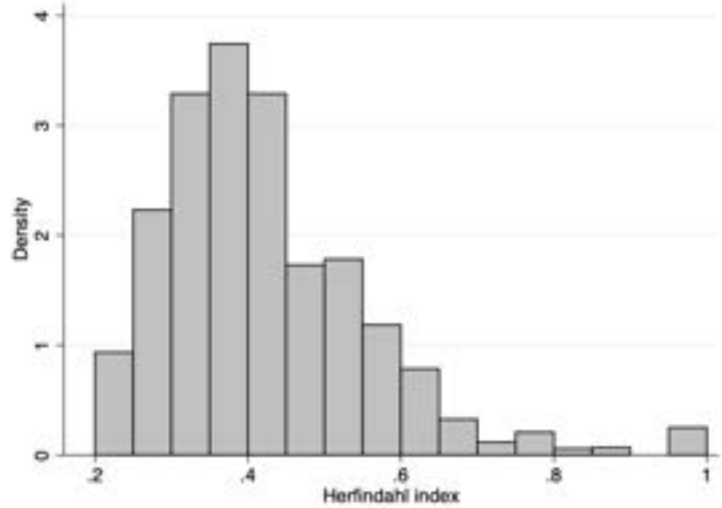
Figure A.9: *Continuity of the forcing variable.*

(A) McCrary test	(B) Manipulation test



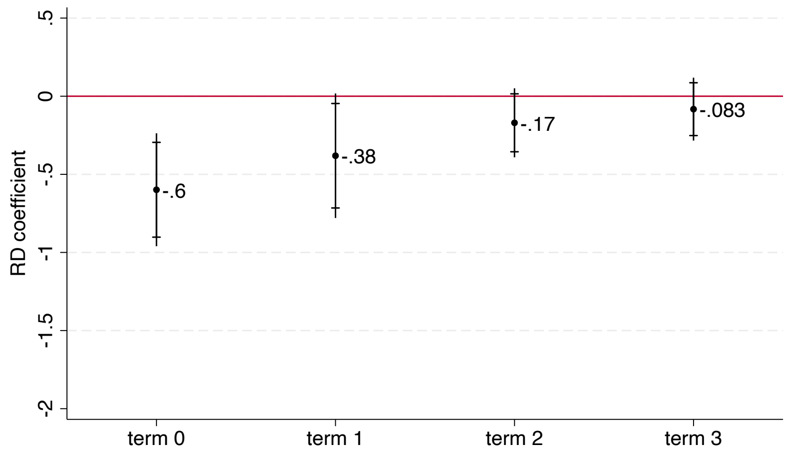
Notes: The left-hand panel shows the McCrary plot and the test with the s.e. in parenthesis. The right-hand panel shows the Cattaneo *et al.* (2018) manipulation test overlaying a histogram of the forcing variable with 2.5% bins; we report both the conventional and robust versions of the test; for each, we report the test and the p-value (in parentheses).

Figure A.10: *Histogram of the Herfindahl index.*



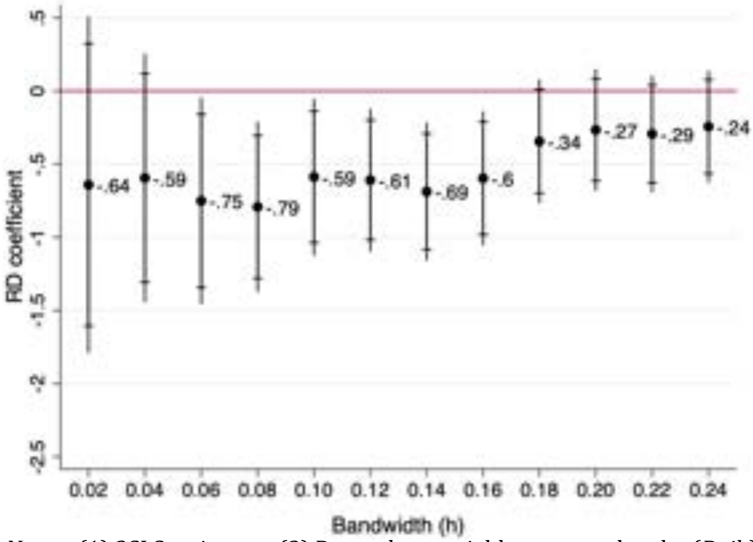
Notes: (1) The figure shows the density of municipalities by value of the Herfindahl index of the county, that runs from a minimum of 0.2 to 1. The county definition used corresponds to geographical Counties or 'Comarcas'. (2) Source: www.Geosoc.udl.cat.

Figure A.11: *Dynamic Regression Discontinuity effects*



Notes: (1) 2SLS estimates. Effect for the current term (term 0) and for three terms in the future. (2) Dependent variable measured as log(*Built*), for *Built*>0. Estimation by Local linear regression on the optimal bandwidth used in the main analysis, which is 0.15, controlling for region and year f.e. and for log(*Land*). (4) We show the point estimate and the 90 and 95% c.i. Standard errors are clustered at the county level.

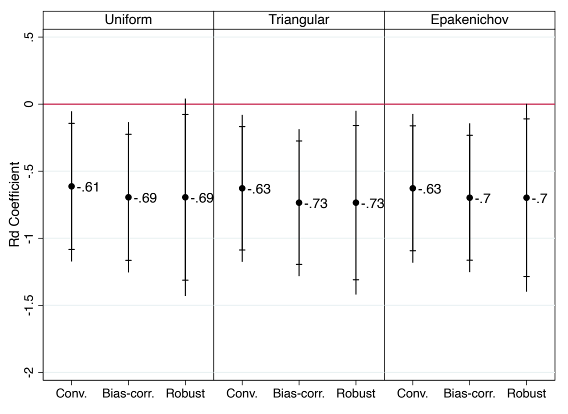
Figure A.12: *Robustness: Results by bandwidth.*



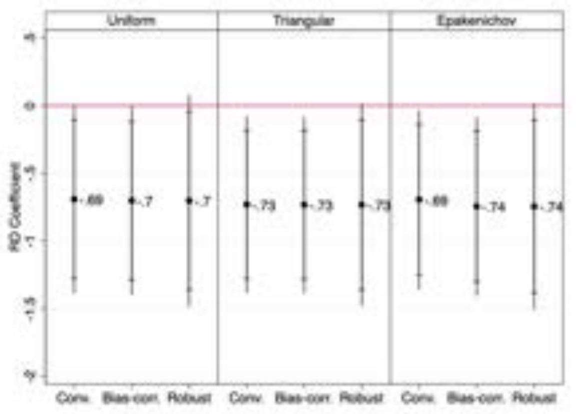
Notes: (1) 2SLS estimates. (2) Dependent variable measured as log(*Built*), for *Built*>0. Estimation by Local linear regression, controlling region and year f.e. and for log(*Land*). (4) We show the point estimate and the 90 and 95% c.i. Standard errors are clustered at the county level.

Figure A.13: *Robustness: RD estimation method..*

(a) p(1)

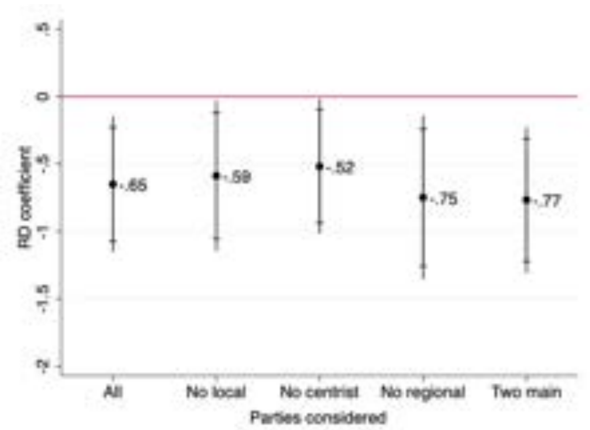
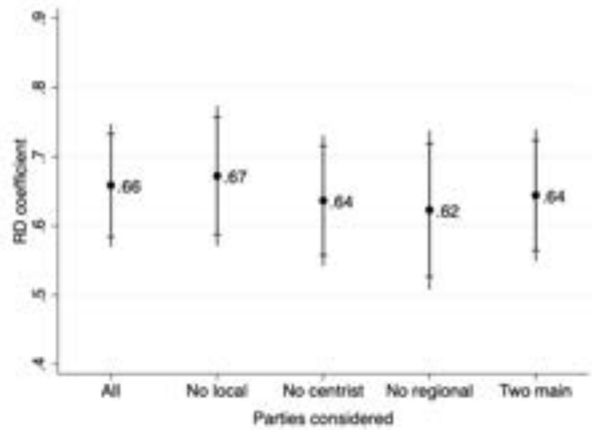


(b) p(2)



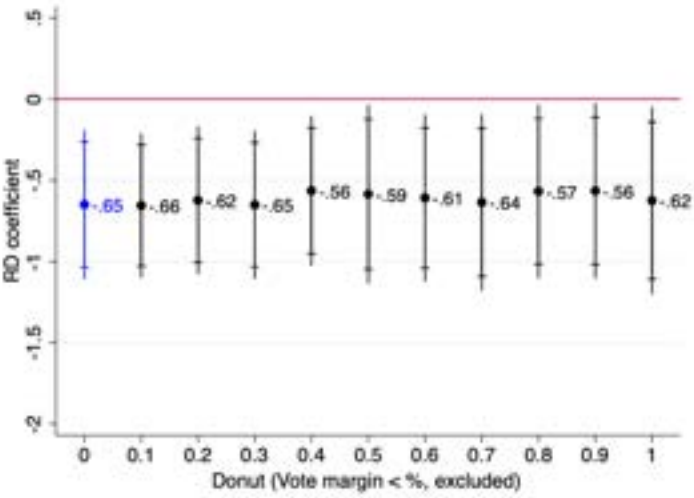
Notes: (1) We show the RD estimates using different kernels: Uniform, Triangular and Epanechnikov. For each kernel we report the Conventional, Bias-corrected and Robust estimates. For each of these cases we show the results using polynomials of order 1 (Panel (a)) and 2 (Panel(b)). (2) We show the point estimate and the 90 and 95% c.i.. Standard errors are clustered at the county level. (3) We show the 2SLS estimates. Dependent variable measured as log(*Built*) for *Built*>0. Estimation by Local linear regression with the bandwidth selected as per Calonico *et al.* (2014), controlling for and region and year f.e. and log(*Land*)

Figure A.14: *Robustness: Close elections sample.*

(a) 2SLS results	(b) First stage results
	

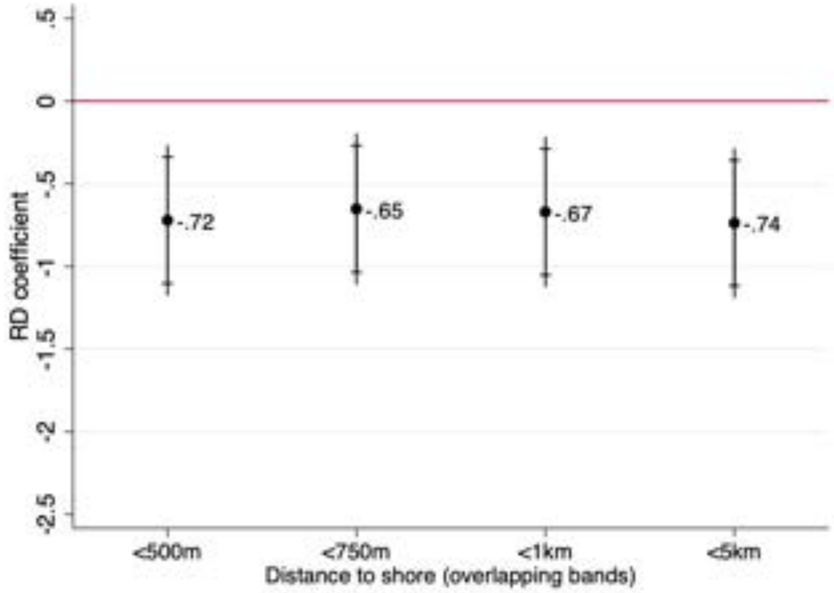
Notes: (1) We show the RD estimates using different dropping different sets of municipalities from the computation of the forcing variable and from the estimation of the RD equations. (2) First, we show the results for the whole sample, and then we exclude: the municipalities with Local party mayors, with Centrist parties (either from the Left or the Right bloc), with mayors belong to regionally-based parties (as e.g., CiU in Catalunya) or with mayors that do not belong to the main two parties (PSOE and PP). (3) In Panel (a) we report the 2SLS coefficient and in Panel (b) the First stage one. (4) We show the point estimate and the 90 and 95% c.i. Standard errors are clustered at the county level. Estimation by Local linear regression with the bandwidth selected as per Calonico *et al.* (2014), controlling for region and year f.e.. and log(*Land*).

Figure A.15: *Robustness: Donut analysis*



Notes: (1) We show the RD estimates dropping a percentage of the observations closer to the threshold, from 0 to 1%. (3) We report the RD-2SLS coefficient. (3) We show the point estimate and the 90 and 95% c.i. Standard errors are clustered at the county level. Estimation by Local linear regression with the bandwidth selected as per Calonico *et al.* (2014), controlling for region and year f.e. and log(*Land*).

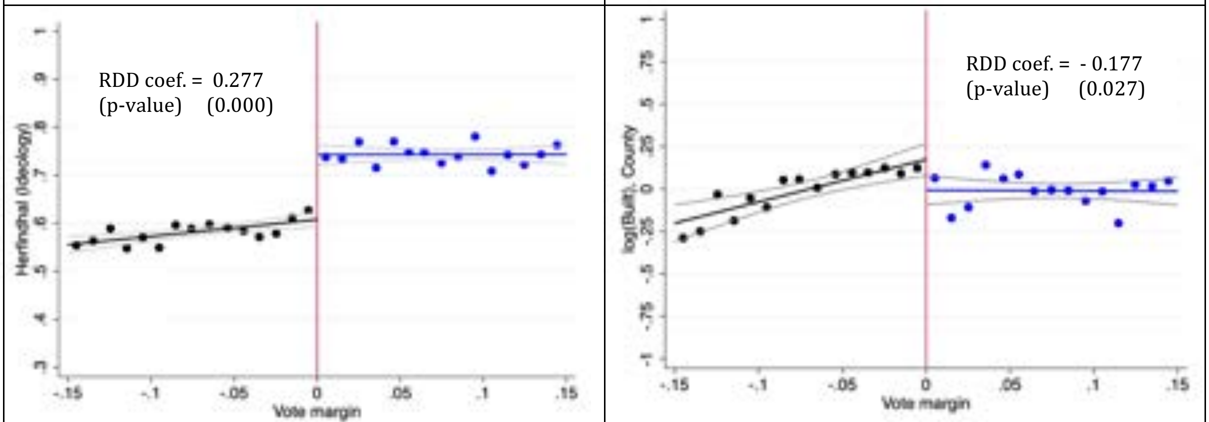
Figure A.16: *Robustness: Effect of distance to shore*



Notes: (1) Dependent variable: Developed land at the municipal level (*Built*). (2) IV-Poisson-RD using as treatment the *Alignment* dummy; parametric estimation using a polynomial of order one and the optimal bandwidth. (3) We control for region and year fixed effects and log(*Land*) and control variables (See Table 1). (4) We show the results overlapping distance bands (first 500M, first 750M, etc). (5) We report the point estimates and the 90 and 95 c.i. are shown. Standard errors are clustered at the county level.

Figure A.17: *Regression Discontinuity Design. Coastal area.*

(a) First stage Dependent variable: *Alignment* (a)	(b) Reduced form. Dependent variable: log(*Built*), County



Notes: (1) In Panel (a), the dots are 1% bin averages of the Alignment dummy. In Panel (b), the dots are 1% bin averages of the residual of a regression between log(*Built*), measured at the county level, and Region and Year f.e. and log (*Land*). (2) The black and blue lines are local linear regressions fitted on the optimal bandwidth used in the main analysis. (3) The grey lines depict the 95% c.i. (4) We report the estimated RD coefficient and the p-value.

Figure A.18: *Mechanisms: Vertical interactions*

(*a*) *Local-Regional alignment.*

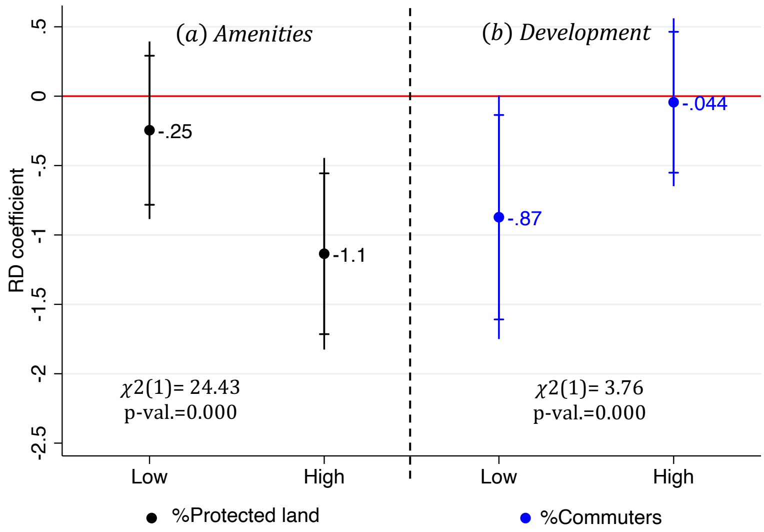
(*b*) *Local-Central alignment.*

χ2(1)= 0.16
p-val.=0.685

χ2(1)= 0.21
p-val.=0.643

Notes: (1) Interaction variables: Local-Regional alignment = dummy equal to one (Yes) if the mayor and the regional president belong to the same ideological bloc and zero (No) if not; Local-Central alignment = dummy equal to one (Yes) if the mayor and the regional president belong to the same ideological bloc and zero (No) if not. (2) Dependent variable: log(*Built*). 2SLS-RD using as treatment the Alignment dummy in the municipal level analysis; parametric estimation using a polynomial of order one and fitted on the optimal bandwidth used in the main analysis (computed as per Calonico *et al.*, 2014). (3) We control for region and year fixed effects and log (*Land*); we account for the possible correlation between the different interaction variable used with inverse *propensity score weights* as proposed by Carril *et al.* (2019). (4) The point estimate and the 90 and 95 % c.i. are shown. Standard errors are clustered at the county level. (5) The table displays a test of equality of the coefficients in the two subgroups and the p-value.

Figure A.19: *Mechanism: Type of spillover.*
Sample with Pre-treatment interactions



Notes: (1) Interaction variables: %*Protected land*=percent of land classified as protected under the UE Natura 2000 program; %*Commuters*=share of the labor force that lives outside the municipality; High (Low): binary variable equal to one (zero) if the variable is higher (lower) than the median. (2) Sample includes only the term-of-office after 1999.(2) Dependent variable: log(*Built*). 2SLS-RD using as treatment the *Alignment* dummy; parametric estimation using a polynomial of order one and fitted on the optimal bandwidth used in the main analysis (computed as per Calonico *et al.*, 2014). (3) We control for region and year fixed effects and log(*Land*); we account for the possible correlation between the different interaction variable used with inverse *propensity score weights* as proposed by Carril *et al.* (2019). (4) The point estimate and the 90 and 95 % c.i. are shown. Standard errors are clustered at the county level. (5) The table displays a test of equality of the coefficients in the two subgroups and the p-value.

Section A.III: Data sources, calculation of variables, additional tables

This section provides a description of the databases used in this project. Table A.4. presents a summary of the variables and their related data sources.

Data sources

Land Development – Our main outcome variable stems from the Cadaster database. The Cadaster is a registry of all buildings in Spain (except the Basque Country and Navarra, which have their own registries), including their geo-location, area, surface, number of floors, and year of construction. To determine the term of office for each building, we typically use the starting date of construction as it is considered close to the building permit issuance. Importantly, the Cadaster is an administrative register overseen by the Ministry of Finance and used to support tax administration. Registering a building in the Cadaster is compulsory, and failure to do so can result in a fine. Therefore, we can be confident in the accuracy and reliability of our data.

We use this data to calculate the newly developed land in each coastal municipality and county at a specific distance from the shoreline. Our main analysis focuses on buildings at less than 1 km from the coast. This distance is ideal as it allows for convenient access to coastal amenities. Greenpeace's reports on the destruction of the Spanish coastline also use this distance (Greenpeace, 2010). To ensure the robustness of our findings, we present results for different overlapping bands, such as less than 500m or less than 5km. In the mechanisms section, we also examine a variety of non-overlapping bands, such as less than 100m, 100 to 200m, and so on.

Two challenges must be considered when measuring development at such a micro-level (i.e., for a specific distance band and geographical unit). First, the variable is highly skewed, which calls for a log transformation to prevent potentially large outliers from affecting the stability of the regression discontinuity estimates. Figure A.6 in the Appendix demonstrates this issue, where Panel (a) exhibits the highly skewed untransformed variable, and Panel (b) depicts the log transformation's ability to mitigate this problem[27]. Second, the variable contains zeros when measured at the municipality level and for very narrow fringes of distance to the shore. However, since this issue is not significant for the 1km fringe –the distance used for the main analysis- we use the logarithmic transformation, log(*Built*). However, this solution is inappropriate for smaller fringes to shore, which have more zeroes. In such cases, we use a Poisson specification, which is robust to the presence of zeroes.

Partisanship – To compute both the Herfindahl index and the alignment dummy, we need information on the mayor's party by term of office. This data comes from the local electoral database of the Spanish Ministry of Interior. To compute the alignment dummy and the version of the Herfindahl index that uses the two categories, we need to classify all parties standing in local elections into two main groups: left and right.[28] The classification of parties is based on information from party statutes or newspaper reports. This is a straightforward task for national parties and the most relevant regional parties. For

[27] In Panel (c) we show that the issue is not solved when we use *Built/Land*, *Land* being the amount of land available for development at the start of the term. However, controlling for log(*Land*) in the log specification does help to further attenuate this issue, (see Panel (d)). Figure A.7 in the Appendix illustrated the strength of the correlation between log(*Built*) and log(*Land*).

[28] See Tables A.2 and A.3 in the Appendix for basic statistical information on the composition of the two blocs and for a list of the most relevant party names.

minor regional parties and local parties, we also rely on the party brand, which is quite informative for left-wing parties (e.g., typical leftist names include words such as 'socialist,' 'communist,' 'green', or 'progressive').[29]

Land Use Change – To understand the impact of political alignment on land preservation efforts, we use the data from the recent Hilda+ (HIstoric Land Dynamics Assessment +) project (Winkler, K., Fuchs, R., Rounsevell, M., & Herold, M. (2021). "Global land use changes are four times greater than previously estimated." *Nature communications*, 12(1), 2501). The main database documents the annual evolution of land use from 1960 to 2019, focusing on a spatial resolution of 1 km. Employing a data-driven reconstruction technique, it amalgamates diverse open data streams such as high-resolution remote sensing data, long-term land use reconstructions, and statistical datasets to provide a comprehensive analysis. One must be careful when comparing the Cadaster land development data mentioned earlier and the Hilda+ data. Because the spatial resolutions are drastically different, cells categorized as non-urban in the Hilda+ database may still contain urban infrastructures. While the resolution of the Hilda+ project does not match that of the Cadaster database, it still provides sufficient variation to analyze the impact of urban development on cells' land use evolution. The HILDA+ Global Land Use Change data is presented through an interactive map viewer, accessible at https://landchangestories.org/hildaplus-mapviewer/. Additional context and narratives related to the HILDA+ project can be explored on the blog at www.landchangestories.org.

Pollution – We collected data on air and (bathing) water pollution. The former comes from the EDGAR (Emissions Database for Global Atmospheric Research) database (https://edgar.jrc.ec.europa.eu/). The EDGAR database provides independent information on anthropogenic air pollution at a yearly frequency since 1970 and 0.1-degree resolution, which corresponds to approximately 11.1 km at the equator. Because of this higher resolution, emissions of Carbon Monoxide (CO) and Fine Particulate Matter (PM10 and PM2.5), measured in kg per squared kilometers per year are aggregated at the municipal level.

The bathing water pollution data is extracted from the EU Member states reports following the EU Bathing Waters Directive (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02006L0007-20140101) which requires Member States to identify popular bathing places in fresh and coastal waters and monitor them for indicators of microbiological pollution (and other substances) throughout the bathing season which runs from May to September (https://sdi.eea.europa.eu/catalogue/srv/api/records/ 5d9a4d94-511a-486d-afbb-4f01e5c73e23?language=all). The two main microbiological pollutions tested are Escherichia coli (cfu/100 ml) and Intestinal enterococci (cfu/100 ml) which are present in the fecal matters treated by municipal sewerage systems. Depending on the percentile evaluation of these microbiological pollutions following a pre-defined scale (see Annex II of the directive), bathing waters will receive a 'Poor,' 'Sufficient,' 'Good,' or 'Excellent' qualification.

Housing Prices. These are prices/m2 and the source is appraisal data compiled by the Ministerio de Fomento (https://apps.fomento.gob.es/ BoletinOnline2/ ?nivel =2&orden

[29]The few remaining local parties whose names offer no clues as to their connection to a left-wing ideology (e.g., 'civic list', 'neighborhood association', 'independent,') are either classified as right wing or included in a residual category. The results using an index computed using the other approach are similar. The alignment results are also robust to this issue.

=35000000) for municipalities above 10.000 residents since 2004 and by old reports by TINSA, and appraisal firm, for smaller municipalities and/or previous years.

Tourist index. This variable is measuring the level of touristic activity in a municipality using information of the tax base of the local business tax for activities related to tourism (hotels and other accomodations and also for related activities (as restaurants). This is available sine the 1960 and was provided first by the 'Anuario Banesto del Mercado Español' and later by the 'Anuario Económico 'La Caixa'. For the most recent years the data is available in electronic format (CD or online) but for the older one it had to be digitized. The same source provides information about the so-called 'cuota de mercado', which we use to measure the general level of economic activity in the municipality.

Table A.1 *Distribution of mayors by ideological party bloc*

	Sample	
	Full	*Close elections*
Left wing:	46.33 %	51.17%
Far left	4.64 %	3.51 %
PSOE	36.45 %	45.23 %
Center left	5.24 %	2.43 %
Right-wing:	53.62 %	48.73 %
Local party	5.98 %	2.16%
Center right	14.18 %	8.10 %
PP	33.46 %	38.47 %
Far- right	0.05 %	0.09 %
Total	100.00 %	100.00 %
PP+PSOE	69.91 %	83.70 %

Notes: (1) Percentage of mayors belonging to the different ideological categories, for the coastal municipalities during all the terms that follow the local elections from 1979 to 2011. The Basque Country is excluded. (2) Full sample = all municipalities; Close elections = elections within the optimal bandwidth used in the main specification. (3) Party codes: own classification based on party names, party statutes, and press reports regarding the ideological stance of the party. (3) PSOE=Partido Socialista Obrero Español; this is the main left-wing party, with a left-wing moderate ideology (we include also the mayors of all the regional parties that are federated with the PSOE and all the left-wing pre-electoral coalitions where these parties participate). Far left and Center left = left-wing parties at the left (right) of PSOE. PP=Partido Popular; this is the main right-wing party in Spain (we include also the mayors to the parties that preceded the PP in the 1980s, as Alianza Popular and Union de Centro Democrático). Far right and Center right = right-wing parties at the right (left) of PP. Local parties = parties running only in just one or a few municipalities that we have not been able to classify as left-wing parties.

Table A.2 *List of political parties*

Party name	Acronym	Ideology	Scope	#Mayors		%Mayors	
				Full sample	Close elections	Full sample	Close elections
Partido Socialista Obrero Español	PSOE	Left	Spain	1,329	502	36.45	45.23
Partido Popular	PP	Right	Spain	821	326	22.52	29.37
Convergència i Unió	CiU	Center-right, Regionalist	Catalunya	274	59	7.52	5.32
Coalición Canaria	CC	Center-right, Regionalist	Canarias	180	20	4.94	1.80
Unión de Centro Democrático	UCD	Right	Spain	175	45	4.80	4.05
Alianza Popular	AP	Right	Spain	159	39	4.36	3.51
Izquierda Unida	IU	Far-left	Spain	72	15	1.97	1.35
Bloque Nacionalista Galego	BNG	Far-left, Regionalist	Galicia	60	19	1.65	1.71
Centro Democrático y Social	CDS	Right	Spain	37	12	1.01	1.08
Partido Regionalista de Cantabria	PRC	Center-left, Regionalist	Cantabria	35	12	0.96	1.08
Partido Andalucista	PA	Center-left, Regionalist	Andalucía	28	0	0.77	0.00
Unió Mallorquina	UM	Center-right, Regionalist	Balears	25	1	0.69	0.09
Bloc Nacionalista Valencià		Far-left, Regionalist	València	21	5	0.58	0.45
Esquerra Republicana de Catalunya	ERC	Center-left, Regionalist	Catalunya	19	5	0.52	0.45
Partido Demócrata Popular	PDP	Right	Spain	13	2	0.36	0.18
Total				3,248	1,062	89.08	95.68

Notes: (1) List of the most prominent political parties in Spain during the period 1979-2011; we include only the political parties with at least 10 mayors during this period (notice that they account for 89,08% of all mayors and for 95,68% of all mayor in the close-elections sample (i.e., within the bandwidth used in most of the paper); the parties are ranked according to the number of mayors. (2) Ideology categories=Far-left and Center-left (left-wing parties to the left and to the right of the PSOE, which is the main party on the left, which is labelled just as Left), Far-right and Center-right (right-wing parties to the right and to the left of the PP, which is the main party on the right, which is labelled just as Right), Regionalist = parties for which the Regional-National dimension is important (in addition to the Left-Right one) and that are willing to enter alliances both with left and right-wing parties (depending on the context). (3) Scope = whether the party runs in all country or only in some regions.

Table A.3: Sample size

Samples	All	Mixed	Close (15%)
Total (main variables)	3,800	3,252	1,058
Tourism & income	3,625	3,137	1,031
Total, by term:			
1979-83	375	320	108
1983-87	391	340	79
1987-91	435	371	116
1991-95	435	374	107
1995-99	435	371	138
1999-03	435	373	115
2003-07	435	375	119
2007-11	435	370	148
2011-15	435	356	128

Notes: (1) The starting sample size is 3,915 (=435 x 9); Total (main variables)= sample for which the main variables (i.e., political, Cadaster, census) are available; Tourism & income=sample for which these variables are also available; All=all elections; Mixed=elections in which a switch of ideological control leads to a change in alignment; Close=elections within a bandwidth of -15% to +15% of the margin of victory.

Table A.4: *Variable definitions, data sources, and descriptive statistics*

Variable	*Mean (s.d.)*	*Definition*	*Source*
Built (<1Km)	3.71 (5.11)	Amount of land build up during a term, at less than 1km from shore, Ha.	Dir. Gal. del Catastro, Ministry of Economics and Finance
Land area	7,625 (11,019)	Total land area of the municipality	GHSL Project
%Environmentally valuable land	0.21 (0.24)	Land area protected by the Natura 2000 Network/ Total land area of the municipality, Ha.	Natura 2000 Network & GHSL Project
Coast Length	20.05 (20.87)	Coast length of the municipality, Km.	GHSL Project, Ministry for Ecological Transition and Demographic Challenge
%Beach	0.36 (0.73)	Beach length/Coast length	
#Rainy days	8.73 (3.91)	Number of rainy days per year	Instituto Metereológico Nacional (IMN)
Av. Temperature	16.82 (2.22)	Av. daily temperature	
Population	28,423 (101,137)	Resident population	Municipal Population Register. National Institute of Statistics (INE).
% Unemployed	0.059 (0.031)	Number of unemployed/Population	
%Low education	0.529 (0.175)	Residents with less than high school education/Population	Census of Population, National Institute of Statistics (INE), several years
%High education	0.091 (0.039)	Residents with graduate education/Population	
%Emp. agriculture	0.119 (0.100)	Residents employed in agriculture/Pop.	
%Emp. industry	0.169 (0.085)	Residents employed in industry/ Pop.	
%Emp. services	0.589 (0.121)	Residents employed in services/ Pop.	
%Emp. construction	0.109 (0.029)	Residents employed in construction/Pop.	
Tourism pc	1.000 (0.634)	'Índice turístico' / Pop. share	Anuario Económico de España, 'La Caixa', & Anuario Banesto del Mercado español, several years
Income pc	1.000 (0.235)	'Cuota de mercado' / Pop. share	
Herfindahl index	0.536 (0.258)	Herfindahl index computed with party shares of mayors in the County (or a alternatively with ideological shares or in the Coastal denomination)	Own classification of parties by ideology, based on party statutes and media reports. County definitions from www.Geosoc.udl.cat. Coastal denominations from TurEspaña. Vote margin computed with the algorithm developed by Curto *et al.* (2018), using local election statistics (votes and seats for all the parties) and partisan identity of the mayor. Source: Ministry of Interior.
Alignment (a)	0.676 (0.467)	Dummy equal to one if the ideological bloc of the mayor is the bloc that has more mayors in the coastal area	
Vote margin (v^0)	0.157 (0.363)	% of votes at the local elections that have to be added to (subtracted from) the ideological bloc that has more mayors in the coastal area in order to win (lose) a majority of seats in the local council	
Left-wing mayor	0.447 (0.497)	Mayor belongs to the left-wing ideological bloc	
Left-wing regional gov.	0.608 (0.488)	Regional president belongs to the left-wing ideological bloc	
Majority council	0.649 (0.477)	Dummy equal to one if single party has the majority of seats in the local council and zero otherwise	

Table A.5: *Covariate continuity tests. Pre-treatment variables*

	Panel (a): Municipality		
Variable:	Coef.	p-value	#Obs.
log(*Land*)$_{t-1}$ (<1Km)	0.034	0.860	1,058
Coast length	0.104	0.654	1,058
%Beach	0.029	0.883	1,058
#Rainy days	0.068	0.740	1,058
Av. Temperature	-0.031	0.871	1,058
Mediterranean	-0.021	0.836	1,058
Island	0.022	0.790	1,058
%Unemployed $_{t-1}$	0.115	0.418	1,058
%Low education $_{t-1}$	-0.056	0.661	1,058
%High education $_{t-1}$	0.034	0.817	1,058
%Employed agriculture $_{t-1}$	-0.099	0.449	1,058
%Employed industry $_{t-1}$	0.008	0.962	1,058
%Employed services$_{t-1}$	-0.095	0.500	1,058
%Employed construction$_{t-1}$	-0.123	0.438	1,058
%Population growth $_{t-1}$	0.032	0.844	1,058
Population $_{t-1}$	0.014	0.948	1,058
Tourism pc $_{t-1}$	-0.007	0.975	1,031
Income pc $_{t-1}$	-0.096	0.583	1,031
	Panel (b): County		
Variable:	Coef.	p-value	1,058
log(*Land*)$_{t-1}$ (<1Km)	0.049	0.715	1,058
Coast length	0.033	0.903	1,058
%Beach	-0.009	0.963	1,058
#Rainy days	0.066	0.747	1,058
Av. Temperature	-0.015	0.939	1,058
Mediterranean	-0.014	0.889	1,058
Island	0.027	0.750	1,058
%Unemployed $_{t-1}$	0.210	0.784	1,058
%Low education $_{t-1}$	-0.037	0.661	1,058
%High education $_{t-1}$	0.034	0.817	1,058
%Employed agriculture $_{t-1}$	-0.110	0.428	1,058
%Employed industry $_{t-1}$	0.025	0.881	1,058
%Employed services$_{t-1}$	0.091	0.531	1,058
%Employed construction$_{t-1}$	-0.135	0.417	1,058
%Population growth $_{t-1}$	0.026	0.897	1,058
Population $_{t-1}$	0.127	0.556	1,058
Tourism pc $_{t-1}$	-0.065	0.784	1,031
Income pc $_{t-1}$	-0.179	0.354	1,031

Notes: (1) Variables measured as z-scores, except those that are binary or expressed in logs. (2) Coef. = RDD coefficient. #obs.=number of observations within bandwidth, at the left and right of the cutoff. (3) Estimation method=Local Linear Regression, using a bandwidth=0.15, which is the optimal one for the main specification used in the paper (computed as per Calonico *et al*., 2014).

Table A.6: *Covariate continuity tests. Political variables.*

Variable:	Panel (a): Municipality Coef.	p-value	#Obs.
Left-wing mayor $_t$	-0.083	0.209	1,856
Left-wing regional gov. $_t$	-0.004	0.951	1,354
Left-wing national gov. $_t$	0.027	0.581	1,172
Local-regional alignment $_t$	0.105	0.218	1,402
Local-national alignment $_t$	0.054	0.329	1,460
Non-majority government $_{t-1}$	-0.005	0.936	1,367
	Panel (b): County		
	Coef.	p-value	#Obs.
Left-wing mayor $_t$	0.018	0.679	1,572
Left-wing regional gov. $_t$	-0.003	0.963	1,355
Left-wing national gov. $_t$	0.015	0.763	1,638
Local-regional alignment $_t$	0.038	0.297	1,172
Local-national alignment $_t$	0.043	0.354	1,283
Non-majority government $_{t-1}$	0.023	0.637	1,371

Notes: See Table A.5.

Table A.7: *Robustness: Definition of the dependent variable.*

	(1)	(4)	(5)	(6)
	2SLS, *Dep. Variable:*			
	log(Built) for *Built*>0	*Built*		
		Full sample	Trimmed	Poisson
Alignment (a)	-0.657*** (-2.84)	-0.402* (-1.77)	-0.434** (-2.42)	-0.436*** (-2.34)
Bandwidth	0.150	0.150	0.150	0.150
Controls:				
Region f.e.	YES	YES	YES	YES
Year f.e.	YES	YES	YES	YES
log(*Land*)	YES	YES	YES	YES
# Obs.	1,058	1,089	1,056	1,089

Notes: (1) Column 1 reports the results of the main specification, using log(*Built*) for *Built*>0; Columns 4 & 5 report the results *Built* and a regular IV model with all the observations (col.4) and after trimming the top centile (col.5); column 6 estimates an IV-Poisson model by GMM. (2) In all cases we estimate a parametric RDD model with a polynomial of order one estimated on a bandwidth=0.15, which is the optimal one for the main specification used in the paper (computed as per Calonico *et al*., 2014); we control for region and year f.e. and log(*Land*). (5) Standard errors clustered at the *county* level: t-values in parenthesis; *=p-value<0.1, **=p-value<0.05, ***=p-value<0.01***. (6) We report the Firs-stage F-statistic with the p-value in brackets.

Table A.8: *Additional results: Effects on neighboring municipalities*

	(1)	(4)	(5)	(6)
	Reduced form, *Dep. Variable:* log $(Built)$,			
	Municipality	*Neighbors*	*Majority*	*Minority*
$\mathbb{1}(v^0 > 0)$	-0.401*** (-2.78)	-0.166 (-1.63)	-0.189 (-1.42)	0.034 (0.65)
Bandwidth	0.150	0.150	0.150	0.150
Controls:				
Region f.e.	YES	YES	YES	YES
Year f.e.	YES	YES	YES	YES
log$(Land)$	YES	YES	YES	YES
#Effective observations	1,085	1,085	1,085	1,085
# Observations	3,252	3,252	3,252	3,252

Notes: (1) Results obtained from the estimation of the RDD with *Built* measured for the municipality and for different types of neighbors. (2) Standard RDD specification fitted on the bandwidth used in the main analysis (computed as per Calonico *et al.*, 2014). (3) Standard errors clustered at the *county* level: t-values in parenthesis; *=p-value<0.1, **=p-value<0.05, ***=p-value<0.01***.

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