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Essays in Political Economy and Institutions

Ensayos sobre Economía Política e Instituciones

MEMORIA PARA OPTAR AL GRADO DE DOCTOR

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**Essays in Political Economy and Institutions**  
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**DOCTORADO EN ECONOMÍA**

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# Abstract

This doctoral dissertation is divided into three chapters. All of them study topics related to Political Economy (i.e., the methodology of Economics applied to the analysis of political behavior and institutions) and analyze the relations that exist between institutions and economic and political outcomes. Anyway, each chapter has a distinct focus, uses different data and is grounded on a specific theoretical question.

## **New parties and the effects of the electoral system: evidence from two repeat elections.**

The political landscape has changed fast in recent years. In many European countries, big classic parties have seen their support to decrease, and a wave of new parties have emerged across the political spectrum, in the 2010s and the first years of the 2020s. In this context, a successful performance in elections is an important element in the survival of parties, especially in electoral systems with more than one district, in which each constituency, even if it consists of more than one seat, can be considered a different contest. In particular, new small- or medium-sized parties can be affected by strategic voting. This chapter analyses the effects of the electoral system on strategic voting and, as a result, on the electoral viability of new parties in Spain, taking advantage of two repeated elections in a four-year period to conduct a quasi-experimental analysis. Using a detailed database on electoral data, complemented with a rich socioeconomic and sociodemographic database with an extraordinary degree of granularity, I study the effect of strategic voting in the center/center-right and in the right-wing. Obtaining representation in a constituency in the previous election is associated with 0,6-1,2 more percentage points of votes in the next election. This result is significant and consistent among specifications, considering a set of covariates at a very granular level and a measure of district magnitude, as well as robust to considering a subset of the constituencies that consider the different potential effects of strategic voting.

## **What drives fiscal partisanship? Evidence from Spanish local elections.**

The study of partisan politics has been a long-lasting topic in the economic literature, from the earlier cross-country studies to more recent empirical analyses at the microeconomic level. However, the literature has found conflicting results regarding the effect of political parties on fiscal policy in the lower levels of government (i.e., local governments), with party effects appearing to be most prevalent in proportional representation systems. In this chapter, using data from Spanish municipalities and a fuzzy regression-discontinuity approach, I analyze whether the ideology of the mayor in a city council affects the magnitude and the composition

of fiscal policy in a context in which the electoral system presents different degrees of proportionality, ranging from almost majoritarian to purely proportional. Besides, I study the effect of several institutional and economic mechanisms that can affect these partisan differences in fiscal policy. Results show that there exist partisan differences with respect to fiscal policy: having a left-wing mayor increases expenditures and revenues per capita by 2,3 to 5% with respect to a right-wing one, a result that is consistent across different specifications of a parametric model and robust to changes in the party composition of the blocs. Furthermore, these partisan differences are driven by more spending on goods and services (2,7-3,2%) and real investments (9,1-13,4%) and by more revenues in direct taxation (3,1-4,4%) and fees and other revenues (5,9-7,2%). Finally, I find heterogeneous effects with respect to the level and type of municipal competences (when local governments must provide more than basic public services, left-wing mayors spend 3% more than right-wing ones) and a partisan effect during the years of the Great Recession, with left-wing mayors spending around 4% more.

#### **Where there's a way there's a will: institutional rules and policy outcomes.**

In recent years, a growing literature studying partisan differences in economic policies (such as fiscal policy) using microeconomic approaches has emerged. On the contrary, studies focused on policy goals are less frequent and their results are far from conclusive. Among policy objectives, economic growth and inequality stand out, either separately or because of the potential relation among them: in particular, the conventional wisdom is the existence of a tradeoff between these two objectives. However, this tradeoff has been studied empirically, with inconclusive results, and the results have been further being analyzed from the perspective of the political ideology. In this chapter, using data from Spanish municipalities and a fuzzy regression-discontinuity approach, I analyze the existence of a left-right divide between economic growth and equality, whether there is an actual tradeoff between those two policy outcomes, and if there are any institutional mechanisms that can limit or condition these partisan differences. I find no difference between ideological blocs when the full sample of municipalities is analyzed, which is consistent with the fact that councils are only one of the many levels of government in the State and have relatively limited competences. However, when the level of competences is taken into account, considering those municipalities that must provide a wider range of services, these differences are significant, with left-wing councils being more pro-equality than right-wing ones. Besides, the results point out to a tradeoff between economic policy goals, with equality and economic growth going in different directions.

# Resumen

Esta tesis doctoral se divide en cuatro capítulos. Todos abordan temas relacionados con la Economía Política (es decir, la metodología de la Economía aplicada al análisis del comportamiento y las instituciones políticas) y analizan las relaciones entre las instituciones y los resultados económicos y políticos. En todo caso, cada capítulo tiene un enfoque distinto, utiliza datos diferentes y se fundamenta en una pregunta teórica específica.

## **New parties and the effects of the electoral system: evidence from two repeat elections.**

El panorama político ha cambiado rápidamente en los últimos años. En muchos países europeos, los grandes partidos clásicos han visto disminuir su apoyo, y una oleada de nuevos partidos ha surgido en todo el espectro político durante la década de 2010 y principios de la de 2020. En este contexto, un buen desempeño electoral es un elemento clave para la supervivencia de los partidos, especialmente en sistemas electorales con más de una circunscripción, donde cada una, incluso si consta de más de un escaño, puede considerarse una carrera independiente. En particular, los nuevos partidos, pequeños o medianos, pueden verse afectados por el voto estratégico. Este capítulo analiza los efectos del sistema electoral en el voto estratégico y, en consecuencia, en la viabilidad electoral de los nuevos partidos en España, aprovechando dos elecciones repetidas en un período de cuatro años para realizar un análisis cuasiexperimental. Utilizando una base de datos electorales detallada, complementada con una rica base de datos socioeconómicos y sociodemográficos con un extraordinario grado de granularidad, estudio el efecto del voto estratégico en el centro/centroderecha y en la derecha. Obtener representación en una circunscripción en las elecciones anteriores se asocia con entre 0,6 y 1,2 puntos porcentuales adicionales de votos en las próximas elecciones. Este resultado es significativo y consistente entre las especificaciones, considerando un conjunto de covariables a un nivel muy granular y una medida de magnitud distrital, así como robusto al considerar un subconjunto de las circunscripciones que consideran los diferentes efectos potenciales del voto estratégico.

## **What drives fiscal partisanship? Evidence from Spanish local elections.**

El estudio de la política partidista ha sido un tema recurrente en la literatura económica, desde los primeros estudios con datos a nivel de país hasta los análisis empíricos más recientes a nivel microeconómico. Sin embargo, la literatura ha encontrado resultados contradictorios respecto al efecto de los partidos políticos en la política fiscal en los niveles inferiores de gobierno (es decir, en los gobiernos locales), siendo estos efectos más prevalentes en los sistemas de representación proporcional. En este capítulo, utilizando datos de municipios españoles y un

enfoque de regresión discontinua difusa, analizo si la ideología del alcalde de un ayuntamiento afecta la magnitud y la composición de la política fiscal en un contexto en el que el sistema electoral presenta diferentes grados de proporcionalidad, desde casi mayoritarios hasta puramente proporcionales. Además, estudio el efecto de varios mecanismos institucionales y económicos que pueden afectar estas diferencias partidistas en la política fiscal. Los resultados muestran que existen diferencias partidistas con respecto a la política fiscal: tener un alcalde de izquierdas aumenta los gastos e ingresos per cápita entre un 2,3% y un 5% con respecto a uno de derechas, un resultado que es consistente en diferentes especificaciones de un modelo paramétrico y robusto a los cambios en la composición partidista de los bloques. Además, estas diferencias partidistas son impulsadas por un mayor gasto en bienes y servicios (2,7-3,2%) e inversiones reales (9,1-13,4%) y por mayores ingresos en impuestos directos (3,1-4,4%) y tasas y otros ingresos (5,9-7,2%). Finalmente, encuentro efectos heterogéneos con respecto al nivel y tipo de competencias municipales (cuando los gobiernos locales deben proporcionar más que servicios públicos básicos, los alcaldes de izquierdas gastan un 3% más que los de derechas) y un efecto partidista durante los años de la Gran Recesión, con los alcaldes de izquierdas gastando alrededor de un 4% más.

### **Where there's a way there's a will: institutional rules and policy outcomes.**

En los últimos años, ha surgido una literatura que estudia las diferencias partidistas en las políticas económicas (como la política fiscal) mediante enfoques microeconómicos. Por el contrario, los estudios centrados en los objetivos de política pública son menos frecuentes y sus resultados distan mucho de ser concluyentes. Entre estos objetivos, destacan el crecimiento económico y la desigualdad, ya sea por separado o por la posible relación entre ellos: en particular, la opinión generalizada es que existe una disyuntiva entre estos dos objetivos. Sin embargo, esta disyuntiva se ha estudiado empíricamente, con resultados no concluyentes; los resultados se han analizado también desde la perspectiva de la ideología política. En este capítulo, utilizando datos de municipios españoles y un enfoque de regresión discontinua difusa, analizo la existencia de una división izquierda-derecha entre el crecimiento económico y la igualdad, si existe una disyuntiva real entre esos dos resultados y si existen mecanismos institucionales que puedan limitar o condicionar estas diferencias partidistas. No encuentro diferencias entre bloques ideológicos al analizar la muestra completa de municipios, lo cual concuerda con el hecho de que los ayuntamientos son solo uno de los muchos niveles de gobierno del Estado y tienen competencias relativamente limitadas. Sin embargo, al considerar el nivel de competencias, considerando aquellos municipios que deben prestar una gama más

amplia de servicios, estas diferencias son significativas, siendo los ayuntamientos de izquierda más pro-igualitarios que los de derecha. Además, los resultados indican una disyuntiva entre los objetivos de política económica, ya que la igualdad y el crecimiento económico avanzan en direcciones diferentes.

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# Introduction

## Political Economy and institutions

Political Economy can be defined as “the methodology of economics applied to the analysis of political behavior and institutions” (Weingast and Wittman, 2008). It considers elements from both Economics and Political Science and covers a wide range of topics, from voting to the analysis of legislative bodies, specific approaches and fields such as Social Choice, and overlaps and intertwines with other branches and subfields such as Public Finance and Public Economics.

During the last years, the field has evolved and changed fast and intensely. In particular, this dissertation focuses on one concept that has been at the heart of the economic analysis of political behavior and economic outcomes in the last decades: the concept of “institutions”. Several different topics are analyzed in the following chapters, and institutions will be the unifying thread that is common in this analysis. These topics cover the apparent decline in partisan politics, supported by evidence and important (despite the growth in polarization) under the perception of voters;<sup>1</sup> the rise in and persistence of inequality; and the causal revolution in microeconomic analysis, which has been possible because of the developments and advancements in the methodologies and the existence of massive amounts of (mainly administrative, but not only) datasets.<sup>2</sup>

Out of the different definitions of “institutions”, I will consider the following two, from Nobel laureate Douglas C. North:

*“Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence they structure incentives in human exchange, whether political, social, or economic”* (North, 1990).

*“Institutions are the humanly devised constraints that structure political, economic, and social interaction. They consist of both informal constraints (sanctions, taboos, customs,*

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<sup>1</sup> Regarding partisan politics, and despite being a topic that has been studied for a long time, the existence of partisan differences is far from being conclusive, especially in recent years (Pofrafke, 2017): it appears that the differences between the left and the right, since the 1990s, have been mitigated by different factors.

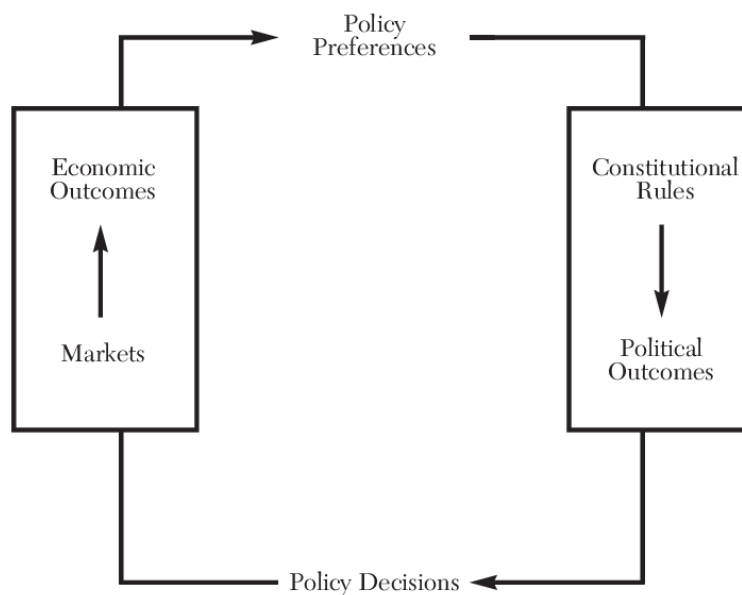
<sup>2</sup> Traditionally, Political Economy has relied mainly on cross-country data. In more recent years, the tendency has been to study partisan differences in economic policies (such as fiscal policy) using microeconomic approaches. Since the 2000s, this strand of the literature has mainly used data at sub-national levels (for instance, States or municipalities) and quasi-experimental methodologies, mainly regression discontinuity models, to study causality, to overcome potential endogeneity problems.

*traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)”*  
(North, 1991).

The idea of institutions as the “rules of the game” stresses the fact that they are, in many cases, of a formal nature (e.g., constitutions or ordinary laws), although they can be informal.

More importantly, as Persson and Tabellini (2003) point out, they operate both in the political and the economic spheres. The following figure shows their stylized view of the democratic policymaking process, which constitutes the core theoretical basis of this dissertation.

**Figure** The democratic policymaking process



Persson and Tabellini (2003)

Considering this stylized view of the democratic policymaking process, we see how, given certain policy preferences (that are nothing more than a subset of the broader ideological preferences), constitutional rules<sup>3</sup> affect political outcomes. This idea has been largely studied by the field of Comparative Politics: for example, how the degree of proportionality of the electoral system affects outcomes such as the viability of third parties, the number of parties (and their number of seats) in the legislature, or the probability of having an absolute majority.

This aspect is studied in the first chapter of this dissertation. In particular, it analyzes how the electoral system determines political outcomes and, therefore, it has an impact on the future performance of parties, especially new and small- or medium-sized ones. In short: how, for a

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<sup>3</sup> Persson and Tabellini, in their book, refer to “constitutions”. I consider, from a practical point of view, that this term is generally interchangeable with the broader one of “institutions”.

given set of policy preferences, how constitutional (i.e., institutional) rules affect, eventually, future policy preferences.

The model also shows how, for certain policy preferences (in this case, from politicians), and once that political outcomes are determined, certain policy decisions are made. Among these policy decisions, budgets are the main economic policy instrument of a government. Therefore, partisan differences in fiscal policy implies the existence of partisan differences in economic policy in a broader sense.

This aspect is studied in the second chapter of this dissertation. It analyzes whether the ideology of the mayor in a city council affects fiscal policy, and the existence of differences in the composition of expenditures and revenues. Finally, it studies whether several institutional and economic mechanisms may affect these partisan differences. In this case, for a given set of policy preferences, how institutional rules affect policy decisions.

Finally, an important conclusion of the analysis by Persson and Tabellini (2003) is that the two spheres (political and economic) are not independent from one another. Therefore, rules may end up affecting economic outcomes. The last chapter analyzes partisan differences in economic outcomes (equality and economic growth), the potential existence of a tradeoff among them, and how institutional constraints may affect them.

## Purpose and objectives of this thesis

This dissertation, considering the framework presented previously, and using the Spanish data and context, analyzes the relations that exist between institutions and economic and political outcomes. In particular, how the electoral system affects political outcomes and how certain institutional features mitigate or exacerbate partisan differences in different aspects. Anyway, each chapter has a distinct focus, uses different data and is grounded on a specific theoretical question.

Its first objective is to analyze how the electoral system affects political outcomes. I analyze a classical question in Political Economy: voting, in particular the existence of strategic voting in a context in which the party system has changed in terms of the supply of new parties. Following the terminology, in this case I study how constitutional rules affect political outcomes. In any case, the analysis goes further and considers how political outcomes also shape policy preferences: the objective is to analyze how strategic voting does not only affect present viability of parties, but also their future viability.

Moving from the “demand” side of the political market to the “supply” side, the second objective of this dissertation is to analyze the relationship between political ideology and policy decisions. Therefore, I study whether there exist differences in fiscal policy due to differences in ideology. Furthermore, I consider how certain institutional features mitigate or exacerbate these differences. As a result, following the concepts of the framework by Persson and Tabellini (2003), I analyze how political outcomes affect policy decisions, mediated by constitutional (institutional) rules.

Finally, the third objective is to analyze the relationship between political ideology and policy outcomes. In order to do so, I study whether differences in ideology lead to differences in two relevant economic policy outcomes: inequality and economic growth. Using the terminology of the stylized view of the democratic policymaking process, I analyze the effect of political outcomes on economic outcomes. In this case, I also consider how institutional features mediate these results, although the channel is the existence of constraints (more specifically, obligations) in policy decisions.

The Spanish case offers an institutional framework and data availability that allow not only to answer the research questions posed, but also to do so in a causal manner, addressing or mitigating certain methodological concerns.

First, the occurrence of two repeat elections at a time of change in the party system (with the emergence of three new parties) makes it possible, as already noted, to analyze the question of the impact of representation on electoral viability.

Secondly, the institutional framework (for example, electoral legislation or budgetary rules) is common to all the units analyzed (constituencies or municipalities, as the case may be). However, there are a number of specific characteristics (such as constituency size, level of competences, etc.) that depend primarily on population criteria and introduce heterogeneity, allowing the proposed hypotheses to be tested and differences within the institutional framework to be explored as mechanisms that mitigate or modulate partisanship, where applicable.

Finally, the availability of extremely detailed and granular microdata (at the municipality or census tract level) provides not only a large sample size but also outcome variables relevant to analyzing the research questions posed, as well as adequate control variables (such as sociodemographic and socioeconomic covariates), allowing the implementation of causal impact analysis techniques such as regression discontinuity models.

As aforementioned, the literature in strategic voting and in partisanship is abundant and these topics have been long-lasting in Economics and Political Science. However, the results are far from conclusive. This dissertation aims to shed light on them and the mechanisms at play. Given its characteristics, the Spanish case (for which some of these topics have been tangentially studied) provides a rich and solid context to do so. Although the topic of strategic voting has been extensively studied for the Spanish case<sup>4</sup> (García-Viñuela and Artés, 2012; Lago, 2012; Selb, 2012; García-Viñuela et al., 2015; Lago, 2018; and Lago, 2021), the analysis of partisan politics at the local level has been focused on different outcomes, such as fiscal deficits (Artés and Jurado, 2018), public debt (García-Sánchez et al., 2011), gender-related policies (Carozzi and Gago, 2023) or local land use policies (Solé-Ollé and Viladecans-Marsal, 2013). A recent article (Magre-Pont et al., 2024) analyzes partisan preferences and differences in enacted policies at the national and regional levels, and other pieces of research have analyzed fiscal consolidations at the regional level (Vaquero-García, 2022)

## First chapter

This chapter focuses on studying a specific factor that conditions the electoral viability of new political parties. The question of whether a successful performance in an election affects the survival of parties is especially relevant in contexts of political change and emergence of new parties. In these contexts, changes in the party system may alter the perceptions and information of voters, acting as a sort of “restarting” mechanism and turning simple signals (such as obtaining a seat or not) into an important source of information regarding electoral viability, even in consolidated democracies.

Specifically, this chapter takes advantage of a distinct phenomenon that has happened in Spain in the recent years (two repeated elections in a four-year period) and uses a detailed database on electoral data, beyond the constituency, complemented with a rich socioeconomic and sociodemographic database generated by the Spanish Statistical Institute (Instituto Nacional de Estadística) with an extraordinary degree of granularity to analyze the effect of obtaining electoral representation in future performance mitigating methodological concerns related to the use of lagged variables and full electoral cycles. Besides, it studies the effect of electoral success both in the center(-right) as well as in the right-wing, a side of the competition field that, at least since the 1990s has been occupied by just one party in Spain, extending previous analyses focused on the left-wing.

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<sup>4</sup> Mainly for left-wing parties, as opposed to the focus of this dissertation.

## Second chapter

This chapter aims to analyze the existence of ideological differences in public policy, specifically on fiscal policy. Besides, it tests whether some institutional features (such as the degree of proportionality of the electoral system, the degree and scope of competences, or the existence of fiscal stability norms) mitigate or exacerbate these differences, as well as the influence of the economic context. Considering the conflicting results that have been found in the literature regarding the effect of political parties on fiscal policy on the lower levels of government (i.e., local governments), I find that these party effects appear to be more prevalent in proportional representation systems than in majoritarian ones. Therefore, I test the hypothesis that the degree of proportionality of the electoral system affects fiscal partisanship in a context (Spanish municipalities) in which the electoral system ranges from almost majoritarian to purely proportional, thus allowing to directly analyzing it.

In order to do so, I use electoral and budgetary data from Spanish municipalities, in a period (1995-2015) in which elections in Spain were essentially bipartisan, and a fuzzy regression-discontinuity approach. In particular, I analyze whether the ideology of the mayor in a city council affects the magnitude and the composition of fiscal policy. Besides, I study the effect of several institutional and economic mechanisms that can affect these partisan differences in fiscal policy.

## Third chapter

In the last chapter, I move from policy decisions to economic outcomes and analyze partisan differences in policy goals, a strand of the literature that is much less frequent than the study of policy decisions, and that points at results that are far from conclusive. In particular, among the different policy objectives, I analyze two that stand out, either separately or because of the potential relation among them: economic growth and inequality. I specifically test the existence of a tradeoff between these two objectives, considering that it has been studied empirically, with inconclusive results, and that the results have been further being analyzed from the perspective of political ideology. In order to do so, I use data from Spanish municipalities and a fuzzy regression-discontinuity approach, to analyze the existence of a left-right divide between economic growth and equality, whether there is an actual tradeoff between those two policy outcomes, and if there are any institutional mechanisms that can limit or condition these partisan differences.

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**Chapter 1. New parties and the  
effects of the electoral system:  
evidence from two repeat elections**

## 1.1 Introduction

The political landscape has changed fast in recent years. In many European countries, big classic parties (mainly social democratic and Christian democratic/liberal-conservative parties) have seen their support to decrease, and a wave of new parties have emerged across the political spectrum, in the 2010s and the first years of the 2020s.

Both in the left- and the right-wing, as well as in the center (either in the liberal or liberal-democrat tradition or in an anti-corruption, technocratic or catch-all form), new political parties such as Alternative für Deutschland or Bündnis Sahra Wagenknecht in Germany; En Marche! (later La République en Marche! and now Renaissance) in France; Syriza and several small parties in the left- and the right-wing (such as To Potami, MeRA25, ANEL, Golden Dawn, Greek Solution, Spartans or Niki) in Greece; ANO 2011 in the Czech Republic; Nowoczesna, Polska 2050 and Trzecia Droga in Poland; Fratelli d'Italia, Azione and Italia Viva in Italy; CHEGA! and Iniciativa Liberal in Portugal; or Podemos, Ciudadanos and Vox in Spain, have entered (and, in some cases, already exited) the national parliaments, not to mention the myriad of attempts which have not got an electoral success.

In this context, it is important to note that, although past performance is no guarantee of future results, a successful performance in elections is an important element in the survival of parties. As Dinas et al. (2015) point out, entering parliament is key for small parties, since it not only signals organizational capacity and the appeal of candidates, but also reduces uncertainty about their ideological profile. This can be especially relevant in electoral systems with more than one district, in which each constituency, even if it consists of more than one seat, can be considered a different contest, such as in Greece, Portugal, Poland or Spain.

Among the channels that can affect the future performance of parties, especially new and small- or medium-sized ones, and from a dynamic perspective, strategic voting stands out. Strategic voting (as opposed to sincere voting) can be defined as the situation “when a voter submits a ballot in an election with the intention of maximizing the likelihood of a good election outcome given his expectation of how others are voting” (Feddersen, 2008). In practical terms, if in its first election one of these parties obtain seats in some constituencies but not in others, and therefore voters expect that they will not win a seat in the latter in the next election, they face the dilemma of voting a less preferred party with more options to obtain a seat, even though the new party fits their ideology or political views more closely, potentially affecting its future

performance. Therefore, it is important to consider if voters adapt their voting behavior to the results of previous elections.

The literature in strategic voting is extensive and suggests some degree of adaptive voting behavior and the effect of strategic voting. In the seminal book, Duverger (1954) points out two effects: the mechanical effect, related to the tendency of certain electoral rules to give a bonus to larger parties, and the psychological effect that drives strategic voting. The mechanical effect happens in every electoral system, even under proportional representation. Strategic voting under proportional representation has specifically been studied, both theoretically and empirically, for instance in Cox and Shugart (1996) or Shikano et al. (2009).

Some contributions of the literature on strategic voting are especially relevant in the context of political changes and the emergence of new parties, even in consolidated democracies. For instance, Tatvis and Annus (2006) find that strategic voting in young democracies increases as voters become more experienced with the functioning of democracy. Therefore, changes in the party system may alter perceptions and information, acting as a sort of “restarting” mechanism.

Besides, Lago (2008) suggests that strategic voting depends on heuristics (i.e. extrapolations from the previous election) rather than on rational expectation, so a simple signal, such as obtaining a seat or not, may be important to voters. Blais et al. (2001) show that the vote is influenced by expectations about the local race in the constituency. Following the two Duvergian effects, Vander Weyden and Meuleman (2008) find that strategic learning as a result of mechanical effects of the electoral system at the district level seems to be absent.

Regarding the importance of the institutional context, Roussias (2022) analyzes the evolution of party systems, finding that there is a learning mechanism in which “elections reveal information to voters, who update their beliefs about party viability and the distribution of voters’ preferences and adjust their behaviour”, and places capital importance on how the institutional setting conditions the pace of learning: it is faster in single-member districts than under proportional representation. Finally, Dinas et al. (2015) analyze the representation and the electoral success of small parties and finds that entering into the parliament is a key resource for them.

For the specific case of Spain, Selb (2012) has analyzed the adaptation of voters (elites) to new electoral institutions in order to not waste their votes (effort). García Viñuela and Artés (2012) study the extent of strategic voting in the Spanish general elections of 2000, 2004 and 2008 and find that the United Left (a left-wing party, much smaller than the social-democrat PSOE) was

the major victim of strategic defection, and García Viñuela et al. (2015) also consider abstention. Furthermore, Lago (2012) analyzes the strategic voting in the left-wing side (PCE/IU) in a regional (Andalusian) context, showing that voters not only have fully adapted to the different incentives provided by the electoral system since the first election, but also that they behave strategically only when they can do so.

However, the literature in strategic voting has some problems and challenges. For instance, they rely on data from elections that naturally take some years to happen. That situation is exacerbated by the use of lagged variables, that does not reflect existing conditions in the constituencies and may produce biased parameter estimates if they are correlated with current error term. Besides, and especially in proportional representation systems, how to find adequate measures of the incentives to behave strategically at the constituency level. In this regard, Lago (2018) analyzes strategic voting on the 2016 Spanish election (which took place just six months after the previous election in December 2015) and Lago (2021) specifically studies it on the right-wing side of the political spectrum using a quasi-experimental design generated by the 2019 repeated election. The existence of two pairs of repeated elections, happening shortly after a previous one, helps to overcome some of the methodological problems that affect this type of analyses, as many variables related with the likelihood of voting for an specific party are similar in the two elections and structural changes in the party system are more difficult to happen.

This chapter contributes to existing literature in several ways. First, it takes advantage of a distinct phenomenon that has happened in Spain in the recent years (two repeated elections in a four-year period) to reduce the potential biases introduced by the use of lagged variables. Besides, it uses a detailed database on electoral data, beyond the constituency, complemented with a rich socioeconomic and sociodemographic database generated by the Spanish Statistical Institute (*Instituto Nacional de Estadística*) with an extraordinary degree of granularity. Finally, it allows us to study the effect of electoral success both in the center(-right)<sup>5</sup> as well as in the right-wing, a side of the competition field that, at least since the 1990s has been occupied by just one party in Spain, extending previous analyses focused on the left-wing.

The remainder of this chapter is as follows. Section 1.2 describes the characteristics of the Spanish parliamentary elections and the political and institutional context in which these two repeated elections took place. Section 1.3 describes the different databases that have been used.

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<sup>5</sup> According to the Chapel Hill Expert Survey (CHES), in a left-right ideology scale, Ciudadanos moved from 5,55 points (out of 10) in 2014 to 7,2 in 2019.

Section 1.4 presents the model and the variables of analysis. Section 1.5 presents and discusses the results. In Section 1.6, I perform some robustness checks. Finally, section 1.7 concludes.

## 1.2 Institutional context

### 1.2.1 The Spanish voting system for the General Elections

The general features of the Spanish voting system for the General Elections are established in the Spanish Constitution, and they are further developed in the Organic Law of the General Electoral Regime of 19 June 1985 (*Ley Orgánica 5/1985, de 19 de junio, del Régimen Electoral General*). The *Cortes Generales* (Congress and Senate) exercise legislative power, among other competences. For the purposes of this paper, we will focus on the Congress, the lower chamber.

The Congress consists of 350 Members elected by universal, free, equal, direct and secret suffrage. Its electoral constituency is the province: in particular, the cities of Ceuta and Melilla are represented by one Member each and each province is allotted a minimum initial representation of two Members; the remaining Members are distributed among the provinces based on their population. Therefore, the exact number of Members in a province must be calculated in each election.

Voters cast a single vote for a party, in the form of a closed list of candidates. The attribution of seats is done following the d'Hondt method, with an electoral threshold of 3% of the valid votes in the constituency. In any case, the effective threshold is much higher than 3% in the majority of constituencies, given the number of seats that they award.

In principle, the Congress is elected for four years. However, Section 99 of the Spanish Constitution contains provisions for repeated elections: after each General Election, a candidate for the Presidency of the Government (Prime Minister) is nominated by the King, after consultation with the representatives appointed by the political groups with parliamentary representation, and through the Speaker of the Congress, and shall seek the confidence of the Congress. If the Congress grants the candidate its confidence, the King shall appoint him or her *Presidente/a del Gobierno*. On the contrary, if confidence is not obtained, successive proposals shall be voted upon in the same manner. According to Section 99.5, "If within two months of the first vote for investiture no candidate has obtained the confidence of the Congress, the King shall dissolve both Houses and call for new elections".

As it has already been noted in Section 1.1, during the period 2015-2019 two repeated elections happened in Spain, because of the impossibility of the Congress to choose a Prime Minister.

### 1.2.2 First repeated election (December 2015-June 2016)

On the 20<sup>th</sup> of December 2015, Spain had a General Election, in which a new party system emerged: two new parties, Podemos (labeled “radical left” in the CHES database, and member of GUE/NGL, now The Left, in the European Parliament)<sup>6</sup> and Ciudadanos (liberal, member of the Alliance of Liberals and Democrats for Europe, then Renew Europe), obtained 69 and 40 seats, and 5.242.711 and 3.514.528 votes, respectively. The main parties, the Partido Popular (conservative, member of the European People's Party) and the Partido Socialista Obrero Español (PSOE, socialist, member of the Progressive Alliance of Socialists and Democrats) lost 63 and 20 seats, and 3.629.601 and 1.458.196 votes, respectively.

Under these results, an investiture was complicated to articulate along ideological lines. On the right side of the spectrum, the sum of PP and Ciudadanos (163 seats) was below 176 seats, even considering the support of center-right regionalist parties such as the Canarian Nationalist Party (Coalición Canaria, with one seat) or the Basque Nationalist Party (Partido Nacionalista Vasco, PNV, with six seats). Although the sum of all the center-right parties was 178, including Democràcia i Llibertat (the successor of a center-right Catalan nationalist party that had previously supported the investiture of PP in 1996 and 2000, Convergència i Unió) on a plausible investiture bloc was unlikely, due to its pro-independence turn. On the left side of the spectrum and even considering the possibility of some center-right regional parties (such as PNV or Democràcia i Llibertat) abstaining or supporting PSOE, political and strategical tensions inside this party relative to its relationship with Podemos and the left-wing nationalist and/or pro-independence parties made this alternative very implausible.

On the 24<sup>th</sup> of February 2016, PSOE and Ciudadanos signed an agreement for the investiture of the candidate of PSOE as the Prime Minister. However, both parties only had 130 seats. Therefore, on the 2<sup>nd</sup> and 4<sup>th</sup> of March 2016, the candidate lost each investiture vote. Since no alternative investiture coalition was formed in the following two months, the automatic constitutional mechanism to call for new elections lead to a snap election on 26<sup>th</sup> of June 2016, 189 days after the previous one.

After the election, PP gained 14 seats, PSOE lost five, the coalition Unidos Podemos (that included Podemos and its brands in Catalunya, Comunitat Valenciana and Galicia, plus Izquierda Unida and several small left-wing parties) got the same seats than Podemos and the coalition led by Izquierda Unida in 2015, and Ciudadanos lost eight seats. In this situation, the

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<sup>6</sup> I label the parties based on the CHES party families and their parties in the European Parliament.

sum of PP and Ciudadanos was 169 seats, and both parties signed an agreement for the investiture of the candidate of PP as the Prime Minister.

On the 31<sup>st</sup> of August and the 2<sup>nd</sup> of September, the candidate lost each investiture vote, obtaining only the affirmative vote of PP (including two small regional allies) and Ciudadanos, and the Member of Coalición Canaria. During September, tensions inside the PSOE led to the resignation of its leader and the nomination of a caretaker committee (*Comisión Gestora*) that agreed to abstain in an eventual investiture vote. Thus, on the 29<sup>th</sup> of October 2016, the Congress granted the candidate of PP its confidence (with 170 affirmative votes and the abstention of all but 16 Members of PSOE who voted against) and he was appointed Prime Minister.

### 1.2.3 Second repeated election (April 2019-November 2019)

On the 1<sup>st</sup> of June 2018, a motion of no confidence against the Government of PP passed with 180 affirmative votes and the candidate of PSOE was appointed Prime Minister. He was able to govern until February 2019 when, after losing the vote of the 2019 Budget, called for a snap election. On the 28<sup>th</sup> of April, a General Election was held, with the following results: PSOE obtained 123 seats, PP obtained 66 (losing 71 seats), Ciudadanos obtained 57 and Unidas Podemos and its allies obtained 42. Besides, another party entered the Spanish Congress with 2.688.092 votes and 24 seats: the right-wing party Vox (labeled “radical right” in the CHES database, former member of the European Conservatives and Reformists Group, and now in Patriots for Europe, in the European Parliament).

On the 23<sup>rd</sup> and 25<sup>th</sup> of July, the candidate of PSOE lost each investiture vote. Since no alternative investiture coalition was formed in the following two months, the automatic constitutional mechanism to call for new elections lead to a new repeated election on the 26<sup>th</sup> of June 2016, 196 days after the previous one. After the election, PSOE lost three seats, PP gained 23, Ciudadanos lost 47, Unidas Podemos lost seven and Vox gained 28. On the 7<sup>th</sup> of January 2020, the Congress granted the candidate of PSOE its confidence (with 166 affirmative votes and a simple majority) and he was appointed Prime Minister, forming a coalition Government with Unidas Podemos.

## 1.3 Data

The dataset includes electoral data for each election and socioeconomic and sociodemographic data obtained from different official sources. This section describes the databases and their variables, as well as the process of construction of the final dataset.

### 1.3.1 Electoral data

Electoral data for the four elections (December 2015, June 2016, April 2019 and November 2019) with a high degree of granularity is obtained from the Home Office (*Ministerio del Interior*) electoral databases.<sup>7</sup>

For each of the elections, a set of electoral data files are available, of which two are used: the “Candidatures” and the “Polling place candidatures data”. The first one lists all the parties, including (depending on the election) regional or typographic variations of the names and coalitions at the provincial level. This file is used to identify the parties through their corresponding codes in the second file. The second file includes the number of votes obtained by each party (list of candidates) at the polling station level. Therefore, the number of votes for each party can be aggregated at different administrative levels: for example, municipality, municipal district or census tract. In particular, due to its level of granularity and the correspondence with sociodemographic data, the data is aggregated at the census tract level. Then, the percentage of votes to a specific party with respect to the total number of votes to parties is calculated for the different major parties in each election at the census tract level.

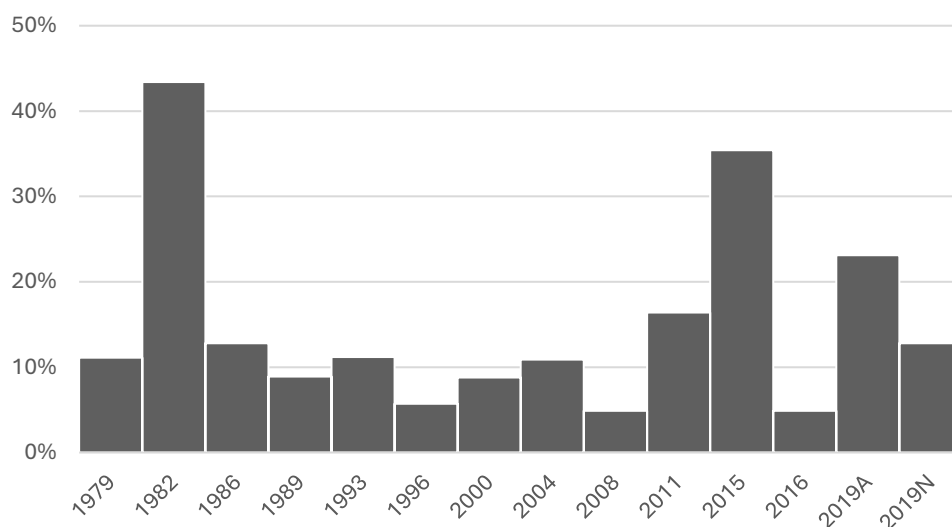
Electoral data at the national and provincial (constituency) level is obtained from the same source. With respect to national data, it is important to note that, in terms of electoral volatility (calculated following Pedersen, 1979), the 2015 election had the highest value (35%) since the 1982 election, when the governing party, the Unión de Centro Democrático (UCD), almost lost all its seats and the party system reconfigured around the PSOE and Alianza Popular, the predecessor of PP.

This is consistent with the fact that after the 2015 election a new, multiparty, system emerged, as described in the previous section. On the other hand, volatility in the 2016 election was minimal (5%), and many of the changes of seats occurred due to marginal changes in the vote shares, thus constituting a situation in which strategic voting may have been particularly relevant. In the 2019 elections, volatility was again high in April (over 20%) and moderate in November (around 13%).

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<sup>7</sup> <https://infoelectoral.interior.gob.es/>

**Figure 1.1** Volatility index



Source: own calculations and Rama Caamaño (2017).

Regarding provincial data, the most important variable is the number of seats in each constituency, as well as the total number of seats that they award in each of the four elections. Figures A.1.1 and A.1.2 in the Appendix show the provinces in which Ciudadanos obtained a seat in the 2015 election and those in which Vox obtained a seat in the April 2019 election.<sup>8</sup>

The different size of constituencies is an aspect to consider in the context of strategic voting: for instance, Cox and Shugart (1996) show that this is an important force with district magnitudes of about five or below. For their part, Penadés and Santiuste (2013) divide the Spanish constituencies for the Congress in three categories in terms of proportionality: small (one to five seats), medium (six to nine) and big (10 or more). In the first ones, the system is practically majoritarian, whereas in the last ones it is proportional. Therefore, incentives for strategic voting vary with the size of the constituency: in particular, they are expected to be negatively related with the size of the constituency.

In the Spanish 2015, 2016 and both 2019 General Elections, there were 26 constituencies (apart from Ceuta y Melilla) that awarded five or less seats and 17 that awarded between six and nine. Regarding the first group, in 2015 Ciudadanos obtained representation in seven of them; it was its only seat in those provinces. In April 2019, Ciudadanos obtained representation in 19 of them, and Vox in two of them. Regarding the medium-sized constituencies, in 2015 Ciudadanos

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<sup>8</sup> Vox did not obtain any seats in the 2015 and 2016 elections (it obtained 0,20% of the votes in those elections) and Ciudadanos obtained seats in most provinces in April 2019, not obtaining any seats in the smaller ones (Ceuta, Melilla, Soria or Cuenca) or in those in which the party had no relevance (mainly in País Vasco). Therefore, the analysis is focused on these parties and those elections.

obtained seats in 12 of these provinces; in April 2019, Vox obtained at least one seat in 13 of them.

### 1.3.2 Socioeconomic and sociodemographic data

Socioeconomic and sociodemographic data at the census tract level for years 2015, 2016 and 2019 is obtained from the Household Income Distribution Atlas (*Atlas de distribución de renta de los hogares*) from the National Statistics Institute. In particular, I consider the following variables: per capita income (there are missing observations in País Vasco and Navarra, because of their specific fiscal system), population, the percentage of people over 65 years, and the Gini index.

### 1.3.3 Final datasets

Finally, electoral data from the 2015 and 2016 elections is merged with 2015 and 2016 socioeconomic and sociodemographic data, whereas electoral data from the two elections in 2019 (April and November) is merged with the data from 2019. Thus, I obtain two separate datasets, one for each pair of elections, comprising 36.597 and 36.680 observations (census tracts), respectively. The structure of the datasets is determined by the empirical strategy (next section), since the analysis is focused on the repeated elections but not, for instance, on comparing the elections of 2016 and April 2019.

## 1.4 Empirical strategy

Considering the focus of the analysis on the repeated elections and the relevance of the provincial constituency, I estimate the following models for each one of the two election pairs:

$$votes_i^1 = \alpha + \beta \cdot Seat_i + \gamma \cdot votes_i^0 + \delta \cdot X_i + \varphi \cdot Magnitude_i + \varepsilon_i$$

Where  $votes_i^1$  is the percentage of votes to Ciudadanos or Vox with respect to the total number of votes to parties in the second election (i.e., 2016 or November 2019, respectively) in census tract  $i$ ,  $votes_i^0$  is the vote share to the party in the first election (2015 or April 2019) in census tract  $i$ , and  $Seat_i$  is a dummy variable taking value 1 if the party obtained at least one seat in the first election in the province where census tract  $i$  is located and 0 otherwise. The coefficient  $\beta$ , which is the parameter of interest, is expected to be positive ( $\beta > 0$ ): in census tracts of provinces in which the party obtained representation in the first election, its vote share is expected to be higher than in census tracts of provinces in which the party did not obtain representation, after controlling for the vote share in the first election.

Besides,  $X_i$  is a vector of socioeconomic covariates in census tract  $i$ : it includes the logarithm of per capita income, the logarithm of population, the mean age, the percentage of population over 65 years, and the Gini index. For the first repeated election, all variables correspond to 2016; for the second repeated election, all variables correspond to 2019. Finally,  $Magnitude_i$  is the logarithm of the number of seats that awards constituency  $i$  and is meant to take into account the different sizes of the constituencies.

Besides, because the constituency is the province, and the seats are determined at that level (and thus the treatment), considering provincial fixed effects can lead to multicollinearity issues. The alternative, in order to capture territorial characteristics, is using a set of indicator variables for the autonomous communities; however, this variable also presents multicollinearity concerns. Therefore, no territorial variables are included in the model.

In this model, the measure of strategic incentives to vote is heuristic, as Lago (2008) points out: the viability of the party in the previous election, i.e., if it gained at least one seat in the district in the previous election. Even in a new and changing political environment, this is an easy and straightforward way to learn about the viability of parties. Thus, in the next election, in these cases occurred just some months after the first one, voters can adjust their votes in accordance. One possibility is that events happening between the two elections affect the performance of the parties, for instance the fact that after the 2015 election Ciudadanos decided to vote for the socialist candidate. However, the effect of this type of event is likely to affect the overall performance of the party. Moreover, in a closed-list system the party brand is much more important than any individual candidate. Besides, as mentioned before, the proximity of the elections, contrary to other cases in which elections were further, helps overcoming endogeneity concerns.

An important feature of this setup is that there exists intra- and inter-constituency variation of riskiness: i.e., whereas among provinces, the riskiness of a seat is different, inside a province, the level of riskiness is constant, and the differences arise within census tracts in terms of the socioeconomic and sociodemographic characteristics. This allows to overcome one of the limitations pointed out by Blais and Carty (1991), the fact that the strategic voters take into account the competitive position of the party both at the national and the constituency level: the viability of obtaining a seat is different in different constituencies but is the same inside one.

## 1.5 Results

### 1.5.1 First repeated election

Table 1.1 presents the results of an ex-ante exercise, trying to account for the degree in which voters anticipated the viability of Ciudadanos before the first election, given that the party did not contest the previous (2011) General Election.

In order to analyze this issue, I regress the vote share to the logarithm of the district magnitude. As is shown in the table, Ciudadanos obtained more votes in bigger constituencies: it is not clear if the reason is the existence of “psychological” effect in Duvergian terms, or a consequence of the differential electoral support of Ciudadanos (bigger in cities and smaller in the rural areas). In any case, this coefficient loses significance when the socioeconomic and sociodemographic covariates are included in the regression.

**Table 1.1** Percentage vote to Ciudadanos in December 2015

	(1)	(2)
Magnitude	2.083***	0.008
	(0.663)	(0.650)
Observations	36,215	33,341
R <sup>2</sup>	0.076	0.377
Covariates	N	Y

Clustered standard errors at the province level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Table 1.2 shows the results of the model, including different specifications. Column 1 only includes the viability indicator and the percentage vote to Ciudadanos in December 2015, whereas columns 2 and 3 also include the covariates. Besides, column 3 considers the magnitude of the constituency.

Across specifications, the coefficient is positive and significant at the 1% level: in provinces where Ciudadanos obtained a seat in the 2015 election, it obtained 0.78-0.96 more percentage points of support in the repetition of 2016. Besides, the size of the coefficient is stable when controlling for the socioeconomic and sociodemographic covariates and if the magnitude of the constituency is considered. In fact, this last variable is not significant, showing that the results are driven by the viability of the party, not by district magnitude.

**Table 1.2** Percentage vote to Ciudadanos in June 2016

	(1)	(2)	(3)
Viability	0.955***	0.780***	0.877***
	(0.296)	(0.286)	(0.258)

Magnitude			-0.101 (0.369)
Observations	36,172	33,748	33,748
R <sup>2</sup>	0.849	0.878	0.878
Covariates	N	Y	Y

Clustered standard errors at the province level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

## 1.5.2 Second repeated election

Considering now the second repeated election, Table 1.3 shows the results of the same ex-ante viability analysis for Vox in April 2019.<sup>9</sup> Coefficients are negative but not significant: contrary to Ciudadanos in 2015, Vox was relatively strong in medium-sized constituencies (especially the rural ones), and very weak in certain autonomous communities, such as País Vasco or Galicia.

**Table 1.3** Percentage vote to Vox in April 2019

	(1)	(2)
Magnitude	-0.434 (1.521)	-1.096 (1.470)
Observations	36,315	34,095
R <sup>2</sup>	0.003	0.090
Covariates	N	Y

Clustered standard errors at the province level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Table 1.4 shows the results of the model, including the different specifications already defined. In the specification in column 1, the coefficient is positive and significant at the 1% level: in provinces where Vox obtained a seat in the April election, it obtained 1.24 more percentage points of support in the repetition of November. The coefficient is smaller (0.63), but still significant (at the 5% level) once that covariates are included. When the district magnitude is considered, the coefficient of the viability indicator is 0.97 (significant at the 5% level), whereas the size of the constituency is non-significant.

**Table 1.4** Percentage vote to Vox in November 2019

	(1)	(2)	(3)
Viability	1.240***	0.632**	0.974**

<sup>9</sup> Although Vox contested the 2015 and 2016 general elections, the party obtained only around 0.2% of the total vote share.

	(0.535)	(0.279)	(0.386)
Magnitude			-0.304
			(0.191)
Observations	36,282	34,092	34,092
R <sup>2</sup>	0.835	0.904	0.904
Covariates	N	Y	Y

Clustered standard errors at the province level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

### 1.5.3 Discussion

The preceding tables show that the vote share of the parties improves more (or decreases less) in the repeated elections in those districts where they won seats in the first elections than in the districts where they did not. The coefficient is stable across specifications and around 0.9 percentage points in both elections. The magnitude is smaller than in Lago (2021), even considering the model that only includes the viability, the one that is closest to its analysis.

Therefore, the results point to the existence of strategic considerations, with the viability of the party playing a significant role in the voting decision, whereas the district magnitude is non-significant. In any case, in the next section I present several robustness checks in order to verify the consistency of these results.

## 1.6 Robustness checks

### 1.6.1 Small and medium constituencies

In order to increase the comparability between the sizes of the constituencies and to avoid the effect of those provinces in which the electoral system is purely proportional, Table 1.5 replicates the results in Table 1.2 but restricts the sample to small and medium sized constituencies (i.e., those with less than 10 seats).

Across specifications, the coefficient is positive and significant at the 1% level, with a magnitude that is similar to the one obtained with the baseline sample. In this case, the results are also not explained by the district magnitude.

**Table 1.5** Percentage vote to Ciudadanos in June 2016 (small and medium constituencies)

	(1)	(2)	(3)
Viability	1.089***	0.886***	0.945***
	(0.241)	(0.206)	(0.236)

Magnitude			-0.161 (0.270)
Observations	21,595	19,497	19,497
R <sup>2</sup>	0.817	0.868	0.868
Covariates	N	Y	Y

Clustered standard errors at the province level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Similarly, Table 1.6 replicates the results in Table 1.4 in a similar manner. In the first two specifications, the coefficient is bigger than in the baseline sample. When the district magnitude is included, the viability indicator loses its significance, but its size is still 0.61.

**Table 1.6** Percentage vote to Vox in November 2019 (small and medium constituencies)

	(1)	(2)	(3)
Viability	1.827*** (0.534)	0.755** (0.321)	0.606 (0.418)
Magnitude			0.372 (0.662)
Observations	21,588	19,445	19,445
R <sup>2</sup>	0.815	0.888	0.889
Covariates	N	Y	Y

Clustered standard errors at the province level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

## 1.6.2 Propensity score matching

Finally, in order to reduce endogeneity, I estimate propensity score matching models (Rosenbaum and Rubin, 1983). Propensity score matching estimators impute the missing potential outcome for each treated observation (i.e., a census tract in a province in which the party obtained seats) by using an average of the outcomes of similar<sup>10</sup> observations that receive the other treatment level (i.e., census tracts in a province in which the party did not obtain a seat), based on observable characteristics.<sup>11</sup>

For the purposes of this analysis, matching estimation has several advantages over ordinary least squares estimation. On the one hand, it imposes a “common support” condition; that is, it only uses observations from census tracts that are similar in terms of the propensity score, excluding or mitigating the effect of observations that are not similar in observable

<sup>10</sup> Similarity between observations is based on estimated treatment probabilities, known as “propensity scores”.

<sup>11</sup> The treatment effect is computed by taking the average of the difference between the observed and potential outcomes for each observation.

characteristics. On the other hand, this methodology aligns the distribution of the observable variables in both groups.

The average treatment effect for Ciudadanos is 0.818 ( $p < 0.01$ ), whereas for Vox is 0.815 ( $p < 0.01$ ). Therefore, both results are in line with the baseline estimations, showing a positive and significant effect of the viability of the party on its electoral performance.

## 1.7 Conclusion

During the last two decades, party systems in many European countries have changed and new actors have emerged. These changes have been of a magnitude that, even in consolidated democracies, where voters have got used to the functioning of the electoral system, their perceptions and information may have changed in important ways, thus affecting their voting incentives.

This article analyses the effects of a simple and heuristic measure of electoral viability in the electoral performance of new parties in Spain. Using a rich set of electoral, sociodemographic and socioeconomic data from the two repeated elections that took place in the years 2016 and 2019, regression analyses are conducted to estimate the effect, in terms of electoral support, of having obtained representation in the previous election.

The results are significant and consistent among specifications, considering a set of covariates at a very granular level and a measure of district magnitude: obtaining representation in a constituency in the previous election is associated with 0.6-1.2 more percentage points of votes in the next election, depending on the specification and the election considered. In any case, results are robust to considering a subset of the constituencies that consider the different size (and, therefore, the different potential effects of strategic voting) of the Spanish constituencies, as well as to a propensity score matching estimation.

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Appendix

Figure A.1.1 Seats obtained by Ciudadanos (December 2015)

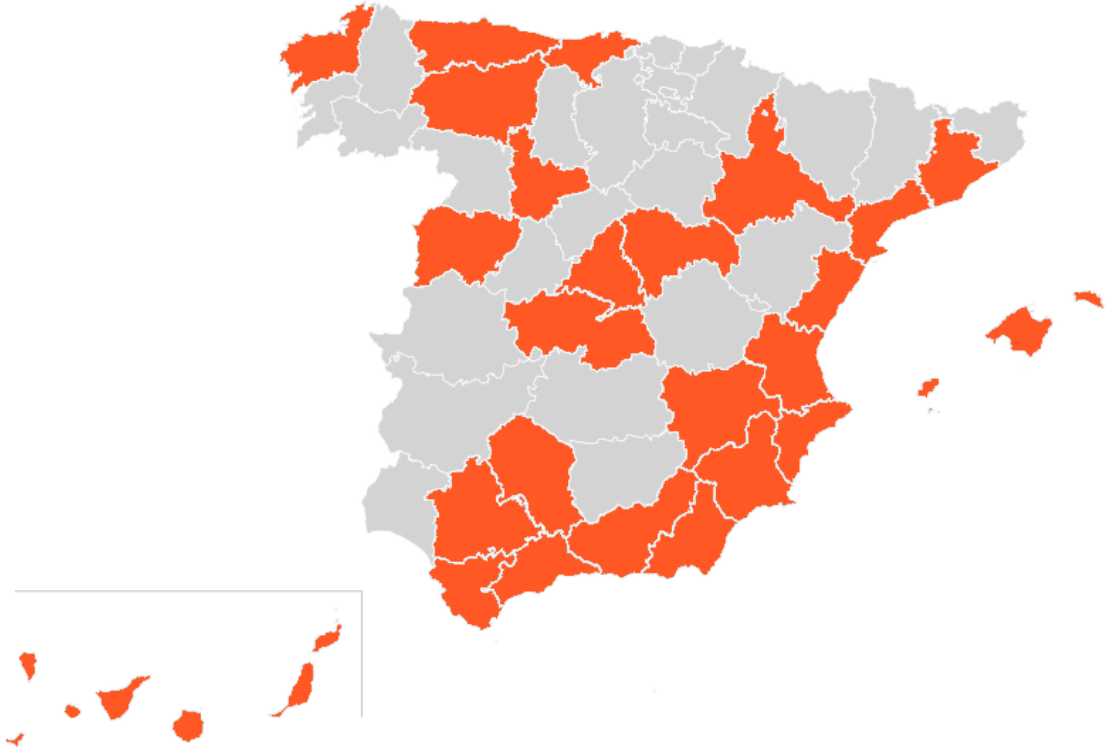
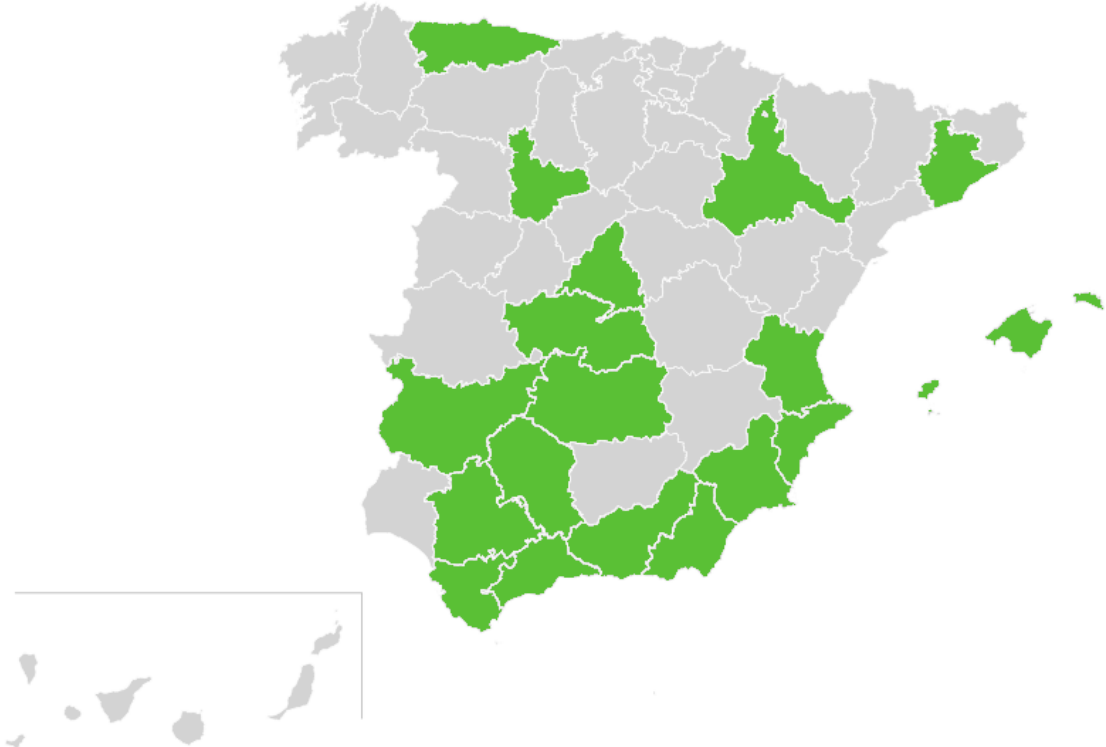


Figure A.1.2 Seats obtained by Vox (April 2019)



# **Chapter 2: What drives fiscal partisanship? Evidence from Spanish local elections**

## 2.1 Introduction

The study of partisan politics has been a long-lasting topic in the economic literature, from the earlier cross-country studies to more recent empirical analyses at the microeconomic level (Potrafke, 2016).

However, a naïve approach to the study of the effect of party control on economic outcomes can be highly misleading. Party representation is likely to be correlated with the error term in various ways: for instance, voter preferences may affect policy directly, there may be a direct effect of voting on policy outcomes, and policy outcomes themselves can influence voting behavior (Folke, 2014).

In order to solve these endogeneity problems, regression-discontinuity designs have been extensively used in recent years (see Imbens and Lemieux, 2008; Lee and Card, 2008; or Lee and Lemieux, 2010, for useful theoretical and practical references in this methodology). Therefore, the use of these designs has produced a growing corpus of literature in political economy and political science that uses the results of close elections (i.e., those electoral races in which the party that won did so by a narrow margin) to estimate party effects (i.e., the average difference in economic outcomes between left- and right-wing governments). The basic identifying assumption is that, sufficiently close to the threshold, the seat allocation can be considered as if it was random. Therefore, comparing observations above and below the threshold, one can estimate the effect of party representation as if this quasi-experiment was a truly randomized one.

Even though the existence of these partisan effects has been studied in a wide range of policies, such as monetary policy, or measures like privatizations, deregulation and other structural reforms, one field that stands out in this literature is fiscal policy. Budgets are the main economic policy instruments of governments, and there is a clear and significant ideological divide between the left and the right in terms of their stance on issues such as taxation, spending and the welfare state: there is evidence that the left spends more than the right (Magkonis et al. 2021).

However, the literature has found conflicting results regarding the effect of political parties on fiscal policy in the lower levels of government (i.e., local governments). For instance, whereas Ferreira and Gyourko (2009) do not find any effect of the mayor being a Democrat or a Republican on the size of the government or the allocation of public spending in U.S. cities, de Benedictis-Kessner and Warshaw (2016) show that Democratic mayors spend substantially

more than Republicans. Gouvêa and Girardi (2021) find no effect of left-wing mayors on the size of the city government in Brazilian cities; however, they find a modest positive effect on social expenditures. In fact, the literature has pointed out that the presence of constraints at the local level can limit the impact of partisanship (Gerber and Hopkins, 2011).

The previous studies consider a majoritarian election system, therefore using the fact that the party control changes discontinuously at 50% of the vote share. One early example of the estimation of the party effects in proportional representation systems is Pettersson-Lidbom (2008), that finds a higher level of public spending, taxation and public employment for left-wing governments in Sweden municipalities (although it assumes a majoritarian framework). Folke (2014) does not find differences in what he calls “primary policies” (i.e., more general ones, such as tax policy) but find them in “secondary policies” (more specific ones, often linked to a minor or single-issue party, such as immigration and environmental policies), and Fiva, Folke, and Sørensen (2018), find a higher property taxation, higher childcare spending and less elderly care spending in cases with a larger left-wing party in Norway. Therefore, party effects appear to be most prevalent in proportional representation systems.

Furthermore, from an empirical perspective, it matters not only whether there is an ideological partisan effect, but also if there are institutional features that may mitigate or exacerbate it. Therefore, the purpose of this chapter is threefold. First, it contributes to the study of whether the ideology of the mayor in a city council affects fiscal policy (i.e., the existence of party effects in expenditure and taxation), in a context in which the electoral system presents different degrees of proportionality, ranging from almost majoritarian to purely proportional. Secondly, it analyzes the existence of differences in the composition of expenditures and revenues, distinguishing between several categories of them. Finally, it studies the effect of several institutional and economic mechanisms that can affect these partisan differences in fiscal policy.

The remainder of the chapter is divided into eight sections. Section 2.2 outlines the main institutional details of Spanish city councils: their nature and organization, their electoral system, and the competencies they have, depending on their population. Section 2.3 describes the different datasets that have been used, how the final dataset is constructed, and presents some descriptive statistics. Section 2.4 describes the model and its assumptions and verifies the validity of the research design. Section 2.5 presents the main results, for the total expenses and revenues and for their different categories. Section 2.6 analyzes whether the results are robust to an alternative definition of the ideological blocs. Section 2.7 explores several mechanisms that can affect partisanship at the local level. Finally, Section 2.8 concludes.

## 2.2 Institutional context

Spain has more than 8.000 municipalities, which constitute the lowest level of the territorial organization of the State. Municipalities can be created, suppressed or merged according to the law, so the exact number can vary from year to year.

The local government consists of the mayor and the councilors. The mayor is elected by the councilors, who are elected by direct universal suffrage, and runs the government and the local administration. Each municipality constitutes a single district in which a number of councilors are elected based on population.<sup>12</sup> Nowadays, the number of councilors ranges from 3 in those municipalities with less than 100 inhabitants to 57 in the city of Madrid.

Local elections are held every four years. Seat allocation is made according to the d'Hondt method: after excluding those parties with less than 5% of the total valid votes, the remaining ones are ordered from highest to lowest number of votes. Then, the number of votes of each party is divided by the natural numbers (1, 2, 3, ...), and seats are distributed one by one to the parties with the highest quotients. Those municipalities with less than 250 inhabitants use a majoritarian system with open lists. Therefore, they will be excluded from the analysis.

Municipalities have several competencies<sup>13</sup> that exercise with autonomy, and must provide services over several areas, depending on population.<sup>14</sup> All municipalities must provide public streetlight, cemetery, garbage collection, street cleaning, water supply, sewage system, access to population centers, and paving services. Municipalities with more than 5.000 inhabitants also must provide parks and recreations, public library, and waste management. Only those municipalities over 20.000 inhabitants must provide civilian protection, some degree of social policy (“evaluation and information of social need situations and immediate assistance to people in situations or risk of social exclusion”), fire prevention and extinguishing, and public sport facilities. Finally, the biggest municipalities (over 50.000 inhabitants) must provide urban public transport and urban environment services.

Local governments approve an annual budget, which coincides with the calendar year, and represents the “systematic expression of the obligations they can recognize, as well as the rights due or expected to be realized during the corresponding financial year”,<sup>15</sup> i.e., their expenditures

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<sup>12</sup> Article 179 of the Electoral Law (*Ley Orgánica 5/1985, de 19 de junio, del Régimen Electoral General*).

<sup>13</sup> Article 25 of the Local Government Regulatory Law (*Ley 7/1985, de 2 de abril, reguladora de las Bases del Régimen Local*).

<sup>14</sup> Article 26.1 of the Local Government Regulatory Law.

<sup>15</sup> Article 112.1 of the Local Government Regulatory Law.

and revenues. The budget includes, as revenues, not only the council's own resources but also transfers from other levels of government.

All these factors (autonomous government, autonomous exercise of competencies, financial autonomy...) constitute an adequate institutional framework for analyzing ideological partisanship, since differences in political ideology may affect policy decisions (such as fiscal policy) in an effective manner.

## 2.3 Data

### 2.3.1 Electoral data

Electoral data for the municipal elections is available at the webpage of the Home Office (*Ministerio del Interior*).<sup>16</sup> In particular, I construct a dataset that contains the results of the five elections held in 1995,<sup>17</sup> 1999, 2003, 2007 and 2011, which correspond to the period in which elections in Spain were essentially bipartisan: the average vote share of the two main parties during this years was 69%, whereas in 2015 it dropped to 53% and two medium-sized parties (Ciudadanos and Podemos) emerged.

The dataset includes the identification codes of provinces and municipalities, therefore allowing to construct a unique identification code for each municipality. It also includes the population in the municipality and many electoral variables: in particular, the total number of votes to candidatures (parties) and the votes for each party.

The original data includes information about votes for parties in all municipalities, but not the number of seats. Therefore, after excluding those municipalities with less than 250 inhabitants (as discussed in Section 2.2), I calculate the number of seats in each municipality using the d'Hondt rule.<sup>18</sup> Finally, I calculate several variables based on the number of seats: an indicator that takes value 1 if a party has an absolute majority of seats (i.e., an absolute majority in the municipal council) and 0 otherwise; the number of parties that have at least one seat; and a concentration (Herfindal-Hirschman) index.<sup>19</sup>

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<sup>16</sup> <https://infoelectoral.interior.gob.es/>

<sup>17</sup> Although the elections in 1991 were relatively bipartisan, with a vote share for the two main parties of 64%, population data is only available from 1995 onwards, as explained later.

<sup>18</sup> The algorithm is imprecise in two situations: 1) in those cases in which there is a tie, allocating a seat to each party; and 2) in those cases in which none of the contesting parties gets enough votes to surpass the 5% electoral barrier (situation that happens sometimes in the data). The occurrence of the second type of cases is checked manually, whereas ties are discarded.

<sup>19</sup> The inverse of this index has the interpretation of the "effective number of parties" (Laakso and Taagepera, 1979).

Data from the elections is complemented with data on the mayors. Local elections determine the composition of the municipal council (i.e., the councilors), but they do not directly determine the mayor. In fact, given the electoral rules, the mayor does not necessarily belong to the most voted party in terms of popular vote. On the contrary, in cases in which there is no absolute majority, a majority coalition must be formed. If no such coalition is formed, the law establishes that the most voted party appoints the mayor.<sup>20</sup>

Considering the interest in analyzing partisan politics, it is important to know exactly the ideology of the mayor. The Ministry of Territorial Policy (*Ministerio de Política Territorial*) offers, for each term, a dataset that includes information on the mayor of each municipality, including to which party he or she belongs.<sup>21</sup>

It must be noted that the mayor can change during a given term, for instance, because of resignation or through a motion of no confidence. Therefore, a given municipality can appear multiple times in the dataset, with different mayors or the same person belonging to different parties. Whereas a resignation and the subsequent appointment of a person of the same party should not be relevant in terms of ideology, a motion of no confidence (for instance, from a left- to a right-wing party) is. Therefore, I identify the cases in which there has been a motion of no confidence (i.e., those cases in which there is a change of the mayor and a change of party), and exclude them from the dataset, while keeping the cases in which there is a change to another person of the same party.

The next step is to identify the ideology of the mayors, assigning them to the left, to the right or to an undefined category (as in Pettersson-Lidbom, 2008). In order to minimize discretionarily and to mitigate research bias, I rely on an external source: the Chapel Hill Expert Survey (CHES). This survey provides information on the political ideology of the most relevant political parties in each European country from 1999 onwards. For each wave, it positions parties on a 0 to 10 points scale on several dimensions, including its overall ideological stance and its ideological stance on economic issues.

Figures A.2.1 to A.2.4 in Appendix 2.2 show the CHES graphs including the most relevant parties in Spain for years 1999, 2002, 2006 and 2010. Several aspects are worth noticing. First, the ideological and economic dimensions are clearly overlapping: parties on the left want government to play an active role in the economy, whereas parties on the right want a reduced

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<sup>20</sup> Article 196 of the Electoral Law.

<sup>21</sup> [https://mpt.gob.es/portal/politica-territorial/local/sistema\\_de\\_informacion\\_local\\_-SIL-/alcaldes\\_y\\_concejales.html](https://mpt.gob.es/portal/politica-territorial/local/sistema_de_informacion_local_-SIL-/alcaldes_y_concejales.html)

role for government. Besides, there is a clear ideological divide, with the main center-left party (Partido Socialista Obrero Español, PSOE), the smaller left-wing party Izquierda Unida (IU) and several left-wing regionalist or nationalist parties<sup>22</sup> (and the green party Los Verdes in 1995 and 1999) on one side and the main center-right party (Partido Popular, PP) and several center-right regionalist parties<sup>23</sup> on the other.

Therefore, the CHES allows not only to classify the parties into blocs based on their ideology, but also to determine which parties are included in those blocs. The remaining parties, many of which are strictly local, independent, centrist or (allegedly) non-partisan, are considered as “undefined”. Table A.2.1. in Appendix 2.1 shows the party classification.

Once the ideology of the parties is determined, mayors are identified as left- or right-wing based on their party. Similarly, the voting share of the bloc is calculated aggregating the voting shares of the parties belonging to the bloc.

### 2.3.2 Budgetary data

Detailed annual data on local budgets from the year 2005 is available from the Ministry of Finance (*Ministerio de Hacienda*).<sup>24</sup> For previous years, more aggregate data is available from the Secretary of State for Public Administrations (*Secretaría de Estado de Administraciones Públicas*).

This data includes total revenues and expenses, and distinguishes among nine groups of revenues (direct and indirect taxation, fees, current transfers, patrimonial revenues, real investments sales, capital transfers, and financial assets and liabilities) and eight groups of expenses (personnel, goods and services, financial expenses, current transfers, real investments, capital transfers, and financial assets and liabilities).<sup>25</sup> A comprehensive summary of these categories can be found in Appendix 2.3.

### 2.3.3 Final dataset

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<sup>22</sup> Bloque Nacionalista Galego (BNG), Esquerra Republicana de Catalunya (ERC), Chunta Aragonesista (CHA), Eusko Alkartasuna (EA) and the diverse brands of the *abertzale* (i.e., Basque nationalist) left.

<sup>23</sup> Convergència i Unió (CIU), Partido Nacionalista Vasco (PNV), Coalición Canaria (CC), Unión Valenciana (UV) and Partido Aragonés (PAR).

<sup>24</sup> <https://serviciostelematicosext.hacienda.gob.es/SGFAL/CONPREL>

<sup>25</sup> According to the Annexes III and IV of the *Orden EHA/3565/2008 de 3 de diciembre, por la que se aprueba la estructura de los presupuestos de las entidades locales*.

After merging the electoral and budgetary data and excluding those municipalities without votes to either the left- or the right-wing blocs,<sup>26</sup> the final dataset consists of 25.284 observations. As can be observed in Table A.2.2 in Appendix 2.1, most of the mayors during the period of analysis belong to one of the two ideological blocs: the proportion of undefined mayors is around 10% of the sample.

Table A.2.3 shows descriptive statistics (mean and standard deviation) for total expenditures per capita and their different categories. Similarly, Table A.2.4 shows the same information about total revenues per capita and their different sources. Total expenditures and revenues are about the same amount: 1,004.33 and 1,014.53 euros per inhabitant, respectively. This is a consequence of data being obtained from budgetary information, as expenditure must be equal to revenues.

The main categories of expenditure, in quantitative and qualitative terms, are real investments (364 euros per capita), goods and services (278 euros per capita) and personnel (251 euros per capita). Other relatively important expenditures are current transfers (54 euros per capita) and financial liabilities (29 euros per capita).

Regarding revenues, their main sources are current and capital transfers (from other levels of government), accounting for 259 and 220 euros per capita, respectively. Among own resources, direct taxation and fees and other revenues stand out (208 and 167 euros, respectively), whereas indirect taxation is much less important (38 euros per capita).

Finally, Table A.2.5 presents balancing tests for the different outcomes and for several other variables in the dataset. We see that total expenditures and revenues per capita are significantly higher in right-wing than in left-wing municipalities. This may seem contradictory with the hypotheses discussed in Section 2.1. However, as already mentioned, the relationship between party control and fiscal policy is likely to be endogenous, and right-wing parties may be stronger, for instance, in richer municipalities.

Other variables also show differences between ideological blocs. For instance, expenditure in goods and services, real investments and capital transfers is higher in right-wing municipalities, whereas expenditure in personnel is higher in left-wing governments. Conversely, revenues from direct taxation, indirect taxation, fees and other revenues, patrimonial revenues, real investment sales and financial assets (albeit this category is marginal) are higher in right-wing

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<sup>26</sup> A total of 340 municipalities (1,33% of the sample) are excluded because of this reason, most of them (77%) in Navarra, because of idiosyncratic reasons.

councils, whereas revenues from current transfers are higher in left-wing councils. These results are also consistent with left-wing municipalities having lower income than right-wing ones.

Selection bias is likely to be a concern. Therefore, a causal analysis will be conducted to analyze the relationship between the ideology variable and the different fiscal policy outcomes.

## 2.4 Empirical strategy

Considering that the Spanish political system can be characterized as a two-bloc one, with some parties consistently labeled as “left-wing” and some others labeled as “right-wing” (as, for instance, Solé-Ollé and Viladecans-Marsal, 2013, does), we can estimate regression discontinuity models.

However, given the proportional representation system and the rule to allocate seats, the discontinuity is not sharp, as it is in a majoritarian system, where party control happens at 50% of the vote share (or when a candidate has a higher vote share than the other). In particular, having a higher vote share does not necessarily mean that a bloc will be appointing the mayor. Anyway, as Solé-Ollé and Viladecans-Marsal (2013) point out, the fact of one ideological bloc of parties holding a majority is a very strong predictor of the mayor belonging to that ideological bloc.

Therefore, in contrast with the seminal literature that analyzes closed elections using a sharp RD (either because the application is straightforward in a truly bipartisan context, such as in Ferreira and Gyourko, 2009; it is assumed as directly applicable to a multi-party system, in terms of the vote share of all the parties in the ideological bloc, such as in Pettersson-Lidbom, 2008; or because a measure of the distance to a majority of seats in terms of the running variable is calculated, such as in Folke, 2014), the model proposed is a fuzzy regression discontinuity that includes a dependent variable, a treatment indicator (having a left-wing government) and a control function (i.e., some low-order polynomial in the assignment variable, the difference between ideological blocs). The treatment is instrumented by an indicator of the difference in vote share among the left- and the right-wing blocs being positive, which is highly correlated with the mayor belonging to the left. This approach has been applied to the Spanish case, for instance, in Carozzi and Gago (2023).

The first stage in my estimation is, therefore:

$$Left_{it} = \pi_0 + \pi_1 1(Difference_{it} > 0) + f(Difference_{it}) + \gamma' X_{it} + \varphi_i + Term_t + u_{it}$$

Where  $Left_{it}$  is a binary variable taking value 1 if municipality  $i$  is ruled by a left-wing mayor in term  $t$ ,  $1(Difference_{it} > 0)$  is a binary variable taking value 1 if the left-wing bloc obtained a higher vote share than the right-wing bloc, and  $f(Difference_{it})$  is a control function.  $X_{it}$  is a vector of covariates including the logarithm of the population, an indicator of absolute majority (a dummy taking value 1 if a party has an absolute majority of seats in the city council and 0 otherwise), and an indicator of undefined mayors (a dummy taking value 1 if the mayor is from a party which is not labelled left- or right-wing and 0 otherwise).  $\varphi_i$  are municipality fixed effects and  $Term_t$  are election fixed effects.

The second stage is given by:

$$Outcome_{it} = \alpha + \beta Left_{it} + f(Difference_{it}) + \delta' X_{it} + \mu_i + Term_t + \varepsilon_{it}$$

Where  $Outcome_{it}$  is the logarithm of total expenditures or revenues per capita (or one of the specific categories of expenditures or revenues) in municipality  $i$  in term  $t$ ,<sup>27</sup>  $\mu_i$  are municipality fixed effects and the remaining variables are the same as in the first stage.

The parameter of interest in each specification is  $\beta$ , which measures the partisan effect, i.e., the average difference in outcomes between left- and right-wing governments, which is expected to be positive ( $\beta > 0$ ), meaning that left-wing governments spend and tax more than right-wing ones. Standard errors are clustered at the municipality level.

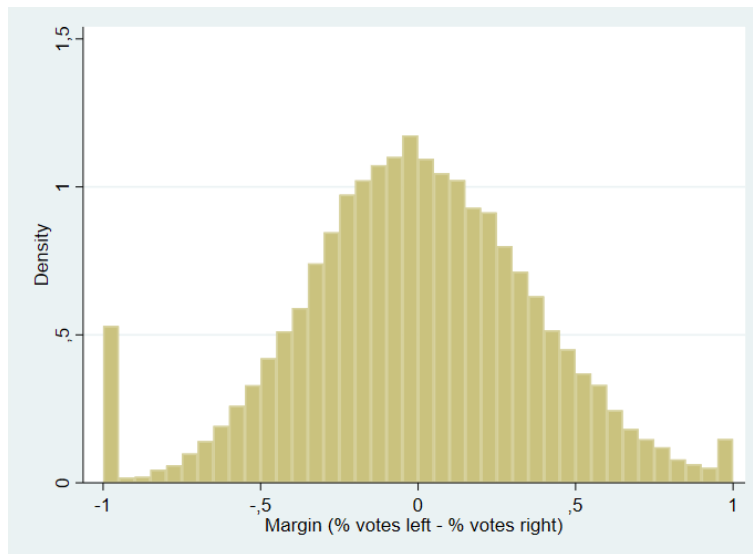
In order to verify the validity of the research design, a number of tests are conducted. First, Figure 2.1<sup>28</sup> shows the histogram of the running variable, to verify its distribution at the cutoff (i.e., where the margin between blocs equals zero). This figure suggests no manipulation at the threshold.

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<sup>27</sup> 127 observations are deleted because of expenditures or revenues taking value zero.

<sup>28</sup> Figure A.2.6 shows a similar histogram for the full sample, before excluding those municipalities without votes to either the left- or the right-wing blocs.

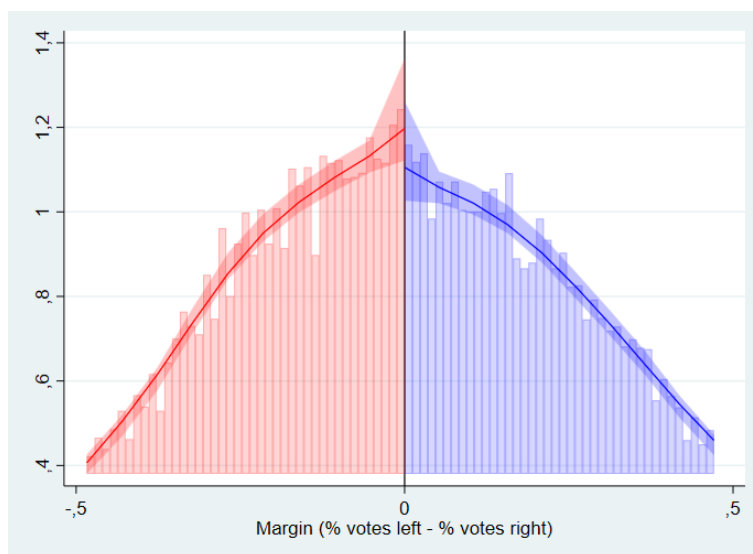
**Figure 2.1** Running variable histogram



Note: distribution of the left-right margin (all elections, pooled).

This is verified through a test of no manipulation based on Cattaneo, Jansson and Ma (2018). The test rejects the null hypothesis ( $p > 0.2785$ ), as shown in Figure 1.2.

**Figure 2.2** Running variable manipulation test

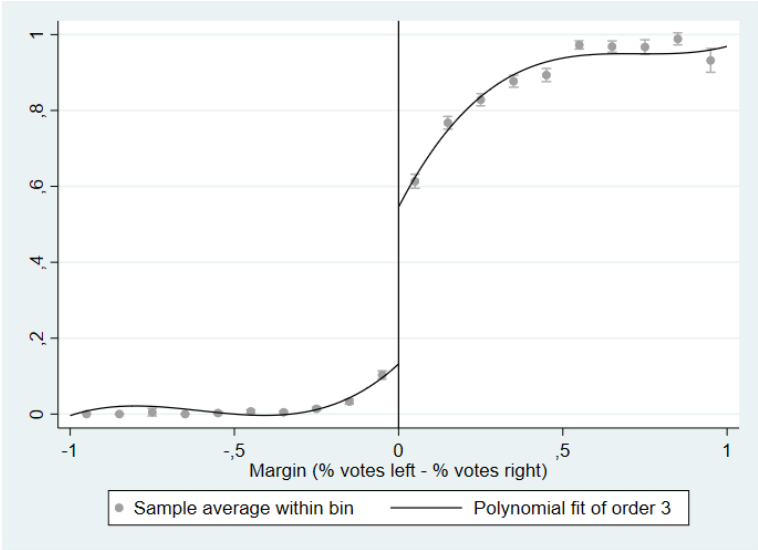


Note: based on Cattaneo, Jansson and Ma (2018).

In addition, Figure A.2.5 shows balancing tests for different covariates, to check that they do not change discontinuously at the threshold. For all variables, the coefficients are not significantly different from zero. Table A.2.6 shows the results of local linear regressions for the different covariates.

Finally, Figure 2.3 shows that the probability of having a left-wing mayor jumps substantially when the left-wing bloc barely wins. When the first stage of the regression is implemented, the instrument is strong, with a coefficient of 0.5 in all specifications and the F-statistics above 2,000 in all cases. Table A.2.7 shows the results of the first stage for different control functions.

**Figure 2.3** First stage



Note: the graph shows the discontinuity in the probability of having a left-wing mayor when the left-wing bloc barely obtained a higher vote share than the right-wing bloc.

## 2.5 Results

Table 2.1 presents the results of the different models considering the total expenditure per capita as the dependent variable. It includes four columns, one for each of the different degrees of the control function, with degrees one to four.

**Table 2.1** Party effects: total expenditures

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	0.0277** (0.0118)	0.0235* (0.0120)	0.0517*** (0.0152)	0.0489*** (0.0154)
Log(Population)	-0.5776*** (0.0164)	-0.5768*** (0.0164)	-0.5758*** (0.0164)	-0.5750*** (0.0164)
Absolute	0.0323*** (0.0050)	0.0306*** (0.0051)	0.0296*** (0.0051)	0.0279*** (0.0052)
Undefined	-0.0079	-0.0073	0.0072	0.0067

	(0.0096)	(0.0095)	(0.0106)	(0.0106)
Observations	24,970	24,970	24,970	24,970
R <sup>2</sup>	0.673	0.673	0.672	0.673

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

As can be seen in the table, there is a partisan effect on expenditure policy: there are positive and significant differences between left- and right-wing governments in total expenditure per capita. Specifically, the coefficient of the ideology variable is positive, ranging from 2.3 to 5.2%, and significant across specifications, meaning that having a left-wing government increases total expenditure per capita by this amount with respect to having a right-wing government. This result is in line with previous literature that analyzes fiscal partisanship using a two-bloc approximation in a multi-party system with proportional representation, such as Pettersson-Lidbom (2008) for the case of Sweden, albeit somewhat higher.

The other variables included in the regression present coefficients in line with the expected. For instance, there is a negative relation between population and total expenditure per capita (pointing to the existence of economies of scale in public expenditure), whereas the coefficient for the undefined mayor indicator is non-significant, as it includes many different parties neither classified as left- or right-wing, many of which are independent or strictly local. Regarding the variable of absolute majority, it is positive and significant: mayors that are able to govern alone spend more; however, as Artés and Jurado (2018) point out, endogeneity concerns prevent from interpreting this result in a causal manner.

Table 2.2 shows the results for the total revenues per capita. Again, the coefficients of the partisan indicator are positive and significant, ranging from 2.4 to 5%. This result arises almost by construction, since the analysis is focused on budgetary data and revenues must match expenditures. The interpretation of the other coefficients (population and the indicators for an absolute majority and undefined mayor) is similar to the previous one.

**Table 2.2** Party effects: total revenues

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	0.0275** (0.0118)	0.0236* (0.0120)	0.0505*** (0.0152)	0.0480*** (0.0154)
Log(Population)	-0.5749*** (0.0164)	-0.5742*** (0.0164)	-0.5732*** (0.0164)	-0.5725*** (0.0164)

Absolute	0.0295*** (0.0051)	0.0279*** (0.0051)	0.0270*** (0.0051)	0.0255*** (0.0052)
Undefined	-0.0074 (0.0099)	-0.0068 (0.0096)	0.0070 (0.0106)	0.0065 (0.0106)
Observations	24,970	24,970	24,970	24,970
R <sup>2</sup>	0.675	0.675	0.675	0.675

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Therefore, it can be seen that there exist partisan differences with respect to fiscal policy between left- and right-wing governments in municipalities, considering the total amount of expenditure and revenues per capita. In order to broaden these results, a detailed analysis, focusing on the different groups of expenditures and revenues, is conducted.

For expenditures, I estimate the same models as before but using as dependent variable the per capita expenditure in the following four categories: personnel, goods and services, current transfers, and real investments.

The interest in these specific categories is not only based on their quantitative importance (they account for almost 95% of the average total expenditure), but also on ideological and partisan considerations. For instance, Pettersson-Lidbom (2008) show that left-wing governments employ 4% more workers than right-wing governments. Besides, current transfers (subsidies) can be perceived as a left-wing type of expenditure, whereas real investments are generally seen as a right-wing type of expenditure.

Table 2.3 shows the results for the different groups of expenditure. In this case, the columns represent the categories. For each of them, separate regressions are run, considering the different degrees of the control function. It is important to note that the sample size is considerably stable, since the number of municipalities reporting zero expenditures in these categories is minimal.

**Table 2.3** Party effects: groups of expenditures

	(1)	(2)	(3)	(4)
	Personnel	Goods and services	Current transfers	Real investments
Linear	0.0202* (0.0110)	0.0310*** (0.0108)	0.0082 (0.0283)	0.0982*** (0.0343)
Quadratic	0.0184 (0.0112)	0.0272** (0.0111)	0.0082 (0.0287)	0.0907** (0.0350)

Cubic	0.0254*	0.0318**	0.0222	0.1344***
	(0.0141)	(0.0139)	(0.0358)	(0.0439)
Quartic	0.0233	0.0294**	0.0208	0.1206***
	(0.0143)	(0.0141)	(0.0361)	(0.0446)
Observations	24,969	24,968	24,726	24,880

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Starting from column 1, the coefficient of the expenditure on personnel is only significant at the 10% level in some specifications, but the magnitude is similar across models, of around 2%. Although Pettersson-Lidbom (2008) analyzes the number of local government employees per capita and not expenditure in personnel, there is some evidence of a partisan effect on this area.

Column 2 shows the results for the expenditure on goods and services. In this case, the coefficient is significant at the 5% level and stable across specifications, ranging from 2.7 to 3.2%, meaning that left-wing governments spend more money on this category.

Columns 3 and 4 show the results for current transfers and real investments. Contrary to the hypotheses mentioned above, I find no partisan differences in the first category, whereas I find a higher expenditure on real investments for left-wing municipalities. These municipalities spend 9.1-13.4% more on infrastructure or inventoriable goods than right-wing ones.

Finally, Table 2.4 shows the results of the models considering the per capita revenues in the following four categories: direct taxation, fees and other revenues, current transfers, and capital transfers. Again, the interest in these specific categories is not only based on their quantitative importance (they account for 84% of the average total revenues), but also on ideological and partisan considerations.

**Table 2.4** Party effects: groups of revenues

	(1)	(2)	(3)	(4)
	Direct taxation	Fees and other revenues	Current transfers	Capital transfers
Linear	0.0314*** (0.0094)	0.0585*** (0.0192)	0.0087 (0.0111)	0.0719 (0.0550)
Quadratic	0.0325*** (0.0095)	0.0594*** (0.0196)	0.0057 (0.0114)	0.0561 (0.0564)
Cubic	0.0431*** (0.0123)	0.0719*** (0.0248)	0.0109 (0.0143)	0.0760 (0.0714)

Quartic	0.0442*** (0.0123)	0.0665*** (0.0250)	0.0108 (0.0145)	0.0670 (0.0725)
Observations	24,970	24,967	24,970	24,155

Clustered standard errors at the municipality level in parentheses. All regressions include the log of the population, an indicator of absolute majority, an indicator of undefined mayor and term dummies. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

For instance, direct taxation at the municipal level includes the property tax (*Impuesto de Bienes Inmuebles, IBI*), the economic activity tax (*Impuesto sobre Actividades Económicas, IAE*), the vehicle tax (*Impuesto sobre Vehículos de Tracción Mecánica, IVTM*), and the tax on the increase of the urban land value (*Impuesto sobre el Incremento del Valor de los Terrenos de Naturaleza Urbana, IIVTNU*).

The category “Fees and other revenues” includes revenues obtained from the provision of basic public services, such as water supply, sewage system or waste management, as well as other fees and public prices (*precios públicos*). Finally, the current and capital transfers include revenues granted from different agents (the State, the autonomous community or other levels of government) for current operations and to finance capital operations, respectively.

Starting from columns 1 and 2, we observe that the coefficient of the partisan indicator for the direct taxation and for fees and other revenues is positive and significant at the 1% level of confidence. Specifically, left-wing municipalities obtain 3.1-4.4% more revenues from direct taxation and 5.9-7.2% from fees and other revenues than right-wing ones. All the coefficients are stable across specifications. On the contrary, as shown in columns 3 and 4, I find no effect from current or capital transfers.

These results seem consistent with the existence of a partisan fiscal policy. The party effects are circumscribed to the more discretionary groups of revenues, and there are absent for those categories that are out of the scope of the municipality (because their origin in other levels of government).

## 2.6 Robustness checks

After analyzing the party effects on the previous section, I conduct a robustness check in order to verify that the results are not driven by one of the main concerns in this literature: the assignment of parties to ideological blocs.

As mentioned in a previous section, researcher bias has been mitigated by relying on the party classification of an external source, the CHES. Following this source, I have determined that

there is a strong ideological divide between the left- and the right-wing blocs, both in terms of its overall ideological stance and in terms of its ideological stance on economic issues.

Therefore, this section analyzes whether the partisan effects on fiscal policy are robust to excluding some of the parties from their ideological bloc. In particular, I exclude Eusko Alkartasuna (EA) from the left and Coalición Canaria (CC) from the right, based on several considerations.

From the perspective of the party system, whereas the rest of the parties considered represent the main (center-) left- or right-wing party in their territories, either at the national or at the regional level, this is not the case for EA and CC. In the first case, the role of the left-wing Basque-nationalist party in País Vasco is played by the different branches of the *abertzale* (i.e., pro-independence) left. In the Canary Islands, CC has consistently had a central role; moreover, its likely Canarian-nationalist counterpart (Nueva Canarias) is not included in the CHES.

From a coalitional perspective, the left-right divide in the agreements is less clear in the two cases considered than in the rest of the parties inside their respective blocs. EA formed electoral coalitions with the center-right Partido Nacionalista Vasco (PNV) in the 1999 and 2003 elections in many municipalities. And CC has a strong record of government coalitions with either PP or PSOE.

Tables A.2.8 and A.2.9 in Appendix 2.1 show that the results presented in tables 2.1 and 2.2 are consistent to considering EA and CC as undefined parties in terms of ideology.

## 2.7 Mechanisms

Economic and political science literature has stressed the presence of constraints at the local level that can limit the impact of partisanship (see, for instance, Gerber and Hopkins, 2011). Although there is some evidence of a reduction of the importance of the government ideology since the 1990s (Potrafke, 2016), associated with changes in the electoral cohesion and party positions, as well as other constraints such as globalization, the evidence is far from being conclusive (Magkonis et al., 2021).

The literature has not only analyzed the existence of a partisan effect, but also the mechanisms that may mitigate or exacerbate it. For example, Potrafke (2016) reviews several studies covering a wide range of policies (such as macroeconomic and monetary policies, as well as fiscal policies regarding expenditure and taxes), many of which include the ideology variable and interaction terms between the ideology variable and other institutional features such as the

majority/minority status, the type of labor market institutions, the degree of capital mobility or the independence of the central bank.

Therefore, in this section I will consider several mechanisms that may limit the effect of having a left-wing government *vis-à-vis* having a right-wing one. First of all, I will consider two features that are related to the size of the municipality: the size of the constituency and the level of competencies. Afterwards, I will consider two situations with respect to time periods, comparing the last term (in which a budgetary stability law that imposed strict limits on municipal spending was passed) with the precedent ones, and the last two terms (in which Spain suffered a recession, and the GDP growth was negative) with the rest (of strong economic growth). My objective is to analyze institutional and economic features such as the effect of the electoral system, the degree of municipal competences and other constraints to discretionary fiscal policy.

In the following subsections, the model is a variation of the one presented in Section 2.4. In all cases, it also includes the institutional or economic variable (an indicator variable taking values 1 or 0 depending on the case) and an interaction term between the ideology variable and this dummy. The use of a parametric approach allows for straightforward hypothesis testing via the interaction term (such as in Beland, 2015). In the last two models, because of their focus on terms, time fixed effects are not included.

### 2.7.1 Electoral system

Starting with the effect of the electoral system, we must note that Penadés and Santiuste (2013) divide the Spanish constituencies for the Congress in three categories in terms of proportionality: small (one to five seats), medium (six to nine) and big (10 or more). In the first ones, the system is practically majoritarian, whereas in the last ones it is proportional. In the local elections, the size of the constituency is regulated by the Electoral Law, with a higher number of councilors as population grows, in discrete intervals. In particular, the divide between the small and medium, on the one hand, and big constituencies, on the other, is set at 2.000 inhabitants, with municipalities above this amount having 11 or more councilors.

I expect to find a higher partisan effect in those municipalities where the electoral system is proportional, in line with the results of Folke (2014) or Fiva, Folke, and Sørensen (2018), and lower in those municipalities where it is more majoritarian, as in Ferreira and Gyourko (2009) or Gouvêa and Girardi (2021). In particular, I consider the medium-sized constituencies as majoritarian because of the features of the electoral system: during the period of analysis, the

combination of a medium-sized constituency and the method to allocate seats (the d'Hondt rule), in the context of the two main parties having a high percentage of votes, sets the effective barrier to small parties considerably high.

Table 2.5 shows the results for total expenditures per capita. The effects of the ideology indicator are of a similar size than in the baseline model in Section 2.5, albeit more imprecise in some specifications. The coefficient of the institutional indicator, that takes value 1 if the constituency is big according to the Penadés and Santiuste (2013) classification and 0 otherwise, is non-significant. More importantly for the hypothesis is that the interaction term is also non-significant, pointing to an overall effect across constituency sizes and not specific to those that are purely proportional. It is important to note that all models include controls for the level of population and an indicator of absolute majority (more likely in smaller constituencies).

**Table 2.5** Party effects: total expenditures (size of the constituency)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	0.0260*	0.0224	0.0488***	0.0468***
	(0.0140)	(0.0141)	(0.0165)	(0.0166)
Big	-0.0068	-0.0066	-0.0070	-0.0067
	(0.0188)	(0.0188)	(0.0188)	(0.0187)
Left*Big	0.0039	0.0032	0.0047	0.0035
	(0.0156)	(0.0156)	(0.0156)	(0.0157)
Observations	24,970	24,970	24,970	24,970
R <sup>2</sup>	0.675	0.675	0.675	0.675

Clustered standard errors at the municipality level in parentheses. All regressions include the log of the population, an indicator of absolute majority, an indicator of undefined mayor and term dummies \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

## 2.7.2 Level and type of competencies

Population in the municipality also determines other relevant feature of the institutional context in which local governments operate. As mentioned in Section 2.2, municipalities have competencies over several areas, depending on population: municipalities over 5.000 inhabitants must provide more than basic public services; therefore, the analysis in this subsection and the previous one (in Subsection 2.7.1) are not overlapped.

My hypothesis is that there is a higher partisan effect in those municipalities where the degree of competences is not only higher but also less technical and more political: there is certainly a left- or a right-wing way of delivering social policy or urban public transport.<sup>29</sup>

Results are shown in Table 2.6. Now, the coefficient of the ideology variable is somewhat smaller and loses significance in some specifications. The indicator for the level of competences, which takes value 0 if the municipality must only provide basic public services and 1 otherwise, is non-significant. The interaction level is significant at the 10% level and remarkably stable across specifications: when they must provide more than basic public services, left-wing mayors spend 2.9-3% more than right-wing ones.

**Table 2.6** Party effects: total expenditures (level of competences)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	0.0213*	0.0176	0.0447***	0.0426***
	(0.0129)	(0.0130)	(0.0159)	(0.0160)
Competences	-0.0204	-0.0205	-0.0211	-0.0207
	(0.0193)	(0.0193)	(0.0193)	(0.0193)
Left*Competences	0.0294*	0.0289*	0.0297*	0.0286*
	(0.0159)	(0.0159)	(0.0160)	(0.0160)
Observations	24,970	24,970	24,970	24,970
R <sup>2</sup>	0.675	0.675	0.674	0.675

Clustered standard errors at the municipality level in parentheses. All regressions include the log of the population, an indicator of absolute majority, an indicator of undefined mayor and term dummies. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

### 2.7.3 Constraints to fiscal policy

I turn now to analyzing other types of constraints not related to the level of population, that split the sample not within a given term, but between different terms. Specifically, I first analyze the potential effects of a severe constraint to fiscal policy at the municipal level.

In 2012, after the constitutional reform that introduced the principle of budgetary stability, the Budgetary Stability Law (*Ley Orgánica 2/2012, de 27 de abril, de Estabilidad Presupuestaria y Sostenibilidad Financiera*) was passed in the Parliament. This law strictly regulates the budgetary policy of local governments, thus limiting discretionary fiscal policy.

<sup>29</sup> Following the old adage attributed to New York's Mayor Fiorello LaGuardia which states that “there is no Republican or Democratic way to pick up the garbage”.

My hypothesis is that this law, effective from May 2012, was likely to affect party effects. In particular, it may have mitigated the differences between left- and right-wing in fiscal policy. However, as presented in Table 2.7, results are inconclusive. The coefficient for the ideology variable is no longer stable across specifications. The budgetary stability indicator (taking value 1 for the term 2011-2015 and value 0 for the rest of terms) is positive and significant but is likely capturing the time trend in total expenditure. And the coefficient of the interaction is non-significant, although negative (indicating that a potential party effect was mitigated during that period). One possible explanation for these results may be the timing of the reform, which did not affect municipalities during the whole term.

**Table 2.7** Party effects: total expenses (budgetary stability)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0191 (0.0224)	-0.0097 (0.0229)	0.0594** (0.0273)	0.0472** (0.0278)
Budgetary stability	0.2352*** (0.0080)	0.2344*** (0.0080)	0.2341*** (0.0080)	0.2340*** (0.0080)
Left*Budgetary stability	-0.0167 (0.0141)	-0.0179 (0.0141)	-0.0105 (0.0142)	-0.0104 (0.0143)
Observations	24,995	24,995	24,995	24,970
R <sup>2</sup>	0.072	0.073	0.075	0.075

Clustered standard errors at the municipality level in parentheses. All regressions include the log of the population, an indicator of absolute majority and an indicator of undefined mayor. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

## 2.7.4 Economic constraints

Finally, I analyze the potential effect of a constraint of different nature. When analyzing the effects of the economic constraints during a recession, the hypotheses are not as straightforward. For instance, it can be postulated that, during an economic downturn, the margin of maneuver of governments is reduced. Conversely, the set of fiscal policies applied during recessions can be very different in partisan terms: a left-wing government may apply tax-and-spend (or just spending) policies, whereas a right-wing government may apply tax cuts. Raess and Pontusson (2015) show that, during the Great Recession in 2008-2009, left-wing governments spent more than right-wing governments, at least in large welfare states.

Results in Table 2.8 show that the coefficient for the ideology variable is no longer stable across specifications and the budgetary stability indicator (taking value 1 for the terms 2007-2011 and 2011-2015 and value 0 for the previous terms) is positive and significant but again is likely capturing the time trend. Most importantly for the hypothesis, the coefficient of the interaction is significant at the 1% level and very stable (3.8-4%). These results point to a partisan effect during the years of the Great Recession, with left-wing mayors spending more than right-wing ones.

**Table 2.8** Party effects: total expenses (Great Recession)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0070 (0.0189)	-0.0100 (0.0191)	0.0507** (0.0230)	0.0472** (0.0233)
Great Recession	0.4920*** (0.0070)	0.4928*** (0.0070)	0.4924*** (0.0070)	0.4925*** (0.0070)
Left*Great Recession	0.0385*** (0.0123)	0.0378*** (0.0123)	0.0398*** (0.0123)	0.0400*** (0.0124)
Observations	24,970	24,970	24,970	24,970
R <sup>2</sup>	0.378	0.378	0.380	0.380

Clustered standard errors at the municipality level in parentheses. All regressions include the log of the population, an indicator of absolute majority and an indicator of undefined mayor. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

## 2.8 Conclusion

The study of partisan politics has been a long-lasting topic in the economic literature, with a special focus on fiscal policy. However, the evidence is far from being conclusive, with some pieces of research finding party effects (i.e., differences between left- and right-wing governments) while others do not find any.

The literature on this topic using local government data and causal methods, notably regression-discontinuity designs, shows that the institutional context is an important aspect in these results. In this regard, there are differences across electoral systems (majoritarian vs. proportional), between single-party and coalition governments or depending on the type of expenditure analyzed.

Using data of Spanish municipalities, that share a set of institutional features but are different in many others, and a fuzzy regression-discontinuity approach, I analyze if such partisan effects exist: i.e., if the ideology of the mayor in a city council affects fiscal policy.

Results show that there exist partisan differences with respect to fiscal policy between left- and right-wing governments in municipalities: having a left-wing mayor increases expenditures and revenues per capita by 2.3 to 5% with respect to a right-wing one, a result that aligns with the literature in the topic but that is somewhat higher. These results are consistent across different specifications of a parametric model and robust to changes in the party composition of the blocs.

Besides, the results for the different groups of expenditures and revenues show that the partisan differences are driven by more spending on goods and services (2.7-3.2%) and real investments (9.1-13.4%) and by more revenues in direct taxation (3.1-4.4%) and fees and other revenues (5.9-7.2%).

Additionally, I study some of the mechanisms that may mitigate or exacerbate this partisan effect. In particular, I analyze the effect of the electoral system (majoritarian vs. proportional constituencies) and the level and type of municipal competences (more technical vs. more political), as well as the constraints imposed to fiscal policy by a budgetary stability law and the Great Recession.

I find heterogeneous effects with respect to the level and type of municipal competences: when local governments must provide more than basic public services, left-wing mayors spend 3% more than right-wing ones. I also find a partisan effect during the years of the Great Recession, with left-wing mayors spending around 4% more.

These results are relevant in both theoretical and policy terms. I present evidence that the results are not driven by the effect of the electoral system, finding no systematic differences between municipalities in which this is majoritarian *vis-à-vis* those in which it is proportional. Besides, I analyze whether these partisan effects are mediated by the institutional features of the municipalities, thus clarifying the degree of incidence of certain institutions to mitigate these differences. For instance, results point out to very different fiscal strategies during the years of the Great Recession.

Furthermore, we must take into account that the budget is the main economic policy instrument of a government. As a result, finding partisan differences in fiscal policy implies the existence of partisan differences in economic policy, contrary to the evidence (and, most notably, the

anecdotal evidence, the conventional wisdom and the political discourse) that these have diminished in recent decades.

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## Appendix 2.1. Tables

**Table A.2.1** Party classification

	<b>Left-wing</b>	<b>Right-wing</b>
<b>1995-1999</b>	PSOE, IU, BNG, ERC, HB, EA, LV-GV, LV	PP, CIU, EAJ-PNV, CC, UV-CCV, PAR
<b>1999-2003</b>	PSOE, IU, BNG, EH, IC-V-EPM, ERC-AM, LV, EA, LV-GV	PP, CIU, CC, UV, EAJ-PNV, PAR
<b>2003-2007</b>	PSOE, IU, PA, BNG, EA	PP, CIU, CC, EAJ-PNV
<b>2007-2011</b>	PSOE, IU, ESQUERRA-AM, BNG, EA, CHA	PP, CIU, EAJ-PNV, CC-PNC
<b>2011-2015</b>	P.S.O.E., I.U., BILDU-EA-ALTERNATIBA, ESQUERRA-AM, B.N.G., CHA	P.P., CiU, E.A.J.-P.N.V., CC-PNC-CCN

Note: parties are classified based on data from the Chapel Hill Expert Survey. Party names are written as they appear in the Home Office databases.

**Table A.2.2** Party identification

	<b>1995</b>	<b>1999</b>	<b>2003</b>	<b>2007</b>	<b>2011</b>
Municipalities	5,128	4,966	5,055	4,834	5,301
Left	2,041	2,089	2,224	2,262	1,873
Right	2,593	2,394	2,277	2,054	2,812
Undefined	494	483	554	518	616
Identified	90.37%	90.27%	89.04%	89.28%	88.38%

**Table A.2.3** Expenditures (euros per capita)

	Mean	Std. Dev.
Personnel	250.99	249.39
Goods and services	278.30	349.79
Financial expenses	13.12	24.50
Current transfers	54.06	99.65
Real investments	363.77	644.37
Capital transfers	14.06	66.05
Financial assets	1.43	12.50
Financial liabilities	28.60	46.45
<b>TOTAL EXPENDITURES</b>	<b>1,004.33</b>	<b>1,234.29</b>

**Table A.2.4** Revenues (euros per capita)

	Mean	Std. Dev.
Direct taxation	207.62	259.81
Indirect taxation	38.19	94.50
Fees and other revenues	166.80	270.20
Current transfers	258.63	375.24
Patrimonial revenues	37.93	123.83
Real investment sales	39.11	135.89
Capital transfers	219.70	446.69
Financial assets	2.66	32.38
Financial liabilities	43.87	110.77
<b>TOTAL REVENUES</b>	<b>1,014.53</b>	<b>1,250.61</b>

**Table A.2.5** Balancing tests

	Left-wing governments	Right-wing governments	Difference
Personnel	258.79	241.76	17.03 <sup>***</sup>
Goods and services	258.94	290.12	-31.18 <sup>***</sup>
Financial expenses	13.06	12.91	0.14
Current transfers	53.78	52.16	1.63
Real investments	352.21	365.37	-13.16 <sup>*</sup>
Capital transfers	12.77	14.70	-1.93 <sup>**</sup>
Financial assets	1.44	1.30	0.14
Financial liabilities	28.49	28.18	0.31
TOT. EXPENDITURES	979.49	1,006.51	-27.02 <sup>*</sup>
Direct taxation	190.37	217.13	-26.76 <sup>***</sup>
Indirect taxation	35.13	39.39	-4.26 <sup>***</sup>
Fees and other revenues	159.20	170.89	-11.69 <sup>***</sup>
Current transfers	264.34	249.25	15.08 <sup>***</sup>
Patrimonial revenues	33.08	41.66	-8.58 <sup>***</sup>
Real investment sales	35.01	40.33	-5.31 <sup>***</sup>
Capital transfers	224.63	215.02	9.61 <sup>*</sup>
Financial assets	2.29	2.86	-0.57 <sup>*</sup>
Financial liabilities	44.31	41.16	3.15 <sup>**</sup>
TOT. REVENUES	988.37	1,017.69	-29.32 <sup>**</sup>
Population	8,025	8,668	-642.32
% votes left	0.608	0.312	0.295 <sup>***</sup>
Absolute majority	0.721	0.826	-0.105 <sup>***</sup>
HHI index	0.472	0.515	-0.043 <sup>***</sup>
Number of parties	2.823	2.662	0.161 <sup>***</sup>

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table A.2.6** Covariate balancing

	(1)	(2)	(3)	(4)	(5)
	Population	Absolute	Undefined	HHI	Number of parties
Left	0.1173 (0.0766)	0.0015 (0.0283)	-0.0029 (0.0156)	-0.0073 (0.0059)	0.0212 (0.0513)
Observations	25,157	25,157	25,157	25,157	25,157
p-value	0.126	0.957	0.852	0.216	0.680
Bandwidth	0.131	0.087	0.158	0.120	0.148

Dependent variables: (1) Logarithm of the population, (2) Indicator of absolute majority, (3) Indicator of undefined mayor, (4) Herfindahl-Hirschman index and (5) Number of parties. Local linear regressions with uniform kernel and polynomials of order 1 fitted at the two sides of the discontinuity are reported in each column. Standard errors clustered at municipality level. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table A.2.7** First stage

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Difference positive	0.5699*** (0.0094)	0.5620*** (0.0095)	0.5094*** (0.0110)	0.5038*** (0.0111)
Observations	24,970	24,970	24,970	24,970
Clusters	5,485	5,485	5,485	5,485
F-statistic	3,702.27	3,476.66	2,141.03	2,055.35

The dependent variable is an indicator for left-wing mayor in all columns, and the coefficient corresponds to an indicator taking value 1 if the left-wing bloc obtained more votes than the right-wing one. Standard errors clustered at municipality level. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table A.2.8** Party effects: total expenditures (alternative party classification)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	0.0245** (0.0122)	0.0209* (0.0124)	0.0473*** (0.0155)	0.0444*** (0.0157)
Log(Population)	-0.5779*** (0.0164)	-0.5773*** (0.0164)	-0.5764*** (0.0164)	-0.5757*** (0.0164)
Absolute	0.0324*** (0.0050)	0.0309*** (0.0051)	0.0302*** (0.0051)	0.0287*** (0.0052)
Undefined	-0.0084 (0.0097)	-0.0082 (0.0097)	0.0055 (0.0107)	0.0048 (0.0108)
Observations	24,934	24,934	24,934	24,934
R <sup>2</sup>	0.673	0.673	0.673	0.673

Clustered standard errors at the municipality level in parentheses. All regressions include the log of the population, an indicator of absolute majority, an indicator of undefined mayor and term dummies. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

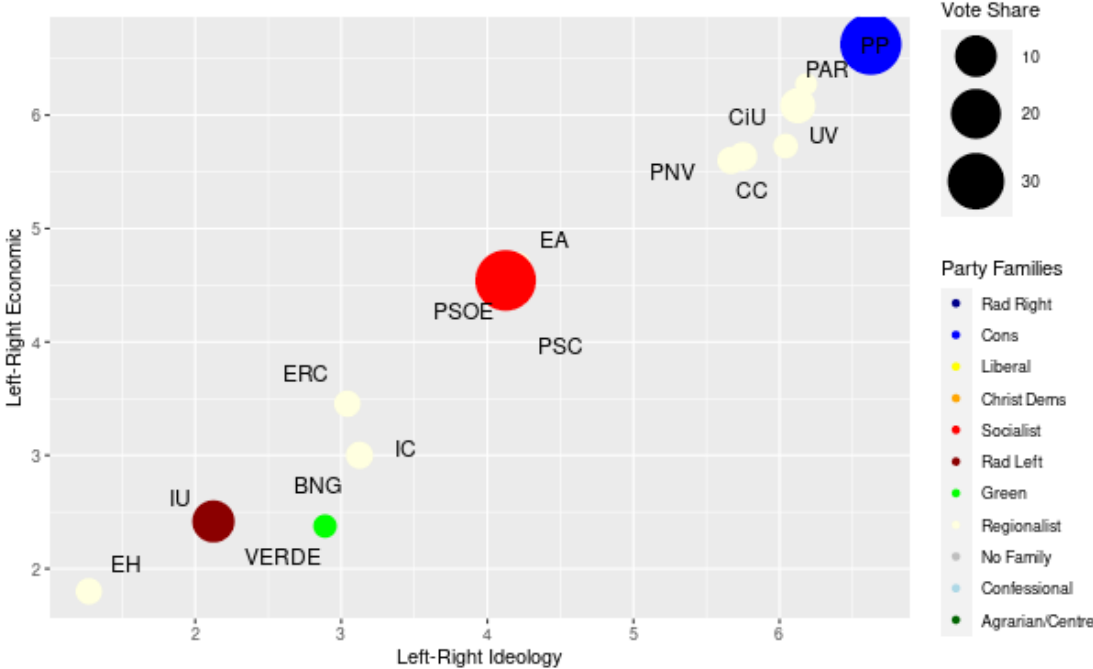
**Table A.2.9** Party effects: total revenues (alternative party classification)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	0.0246** (0.0122)	0.0213* (0.0125)	0.0466*** (0.0155)	0.0441*** (0.0158)
Log(Population)	-0.5752*** (0.0164)	-0.5746*** (0.0164)	-0.5738*** (0.0164)	-0.5732*** (0.0164)
Absolute	0.0296*** (0.0051)	0.0282*** (0.0051)	0.0276*** (0.0051)	0.0263*** (0.0052)
Undefined	-0.0079 (0.0097)	-0.0076 (0.0097)	0.0055 (0.0108)	0.0049 (0.0408)
Observations	24,934	24,934	24,934	24,934
R <sup>2</sup>	0.675	0.675	0.675	0.675

Clustered standard errors at the municipality level in parentheses. All regressions include the log of the population, an indicator of absolute majority, an indicator of undefined mayor and term dummies. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

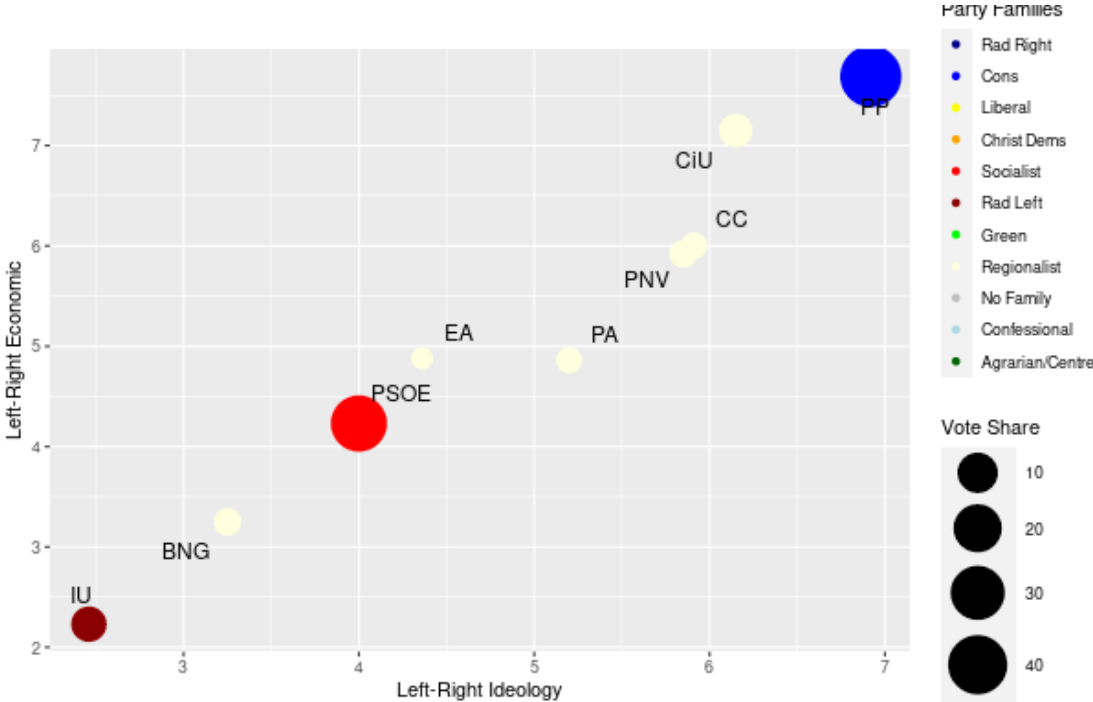
# Appendix 2.2. Figures

**Figure A.2.1** Left-right ideology vs. left-right economic in Spain 1999



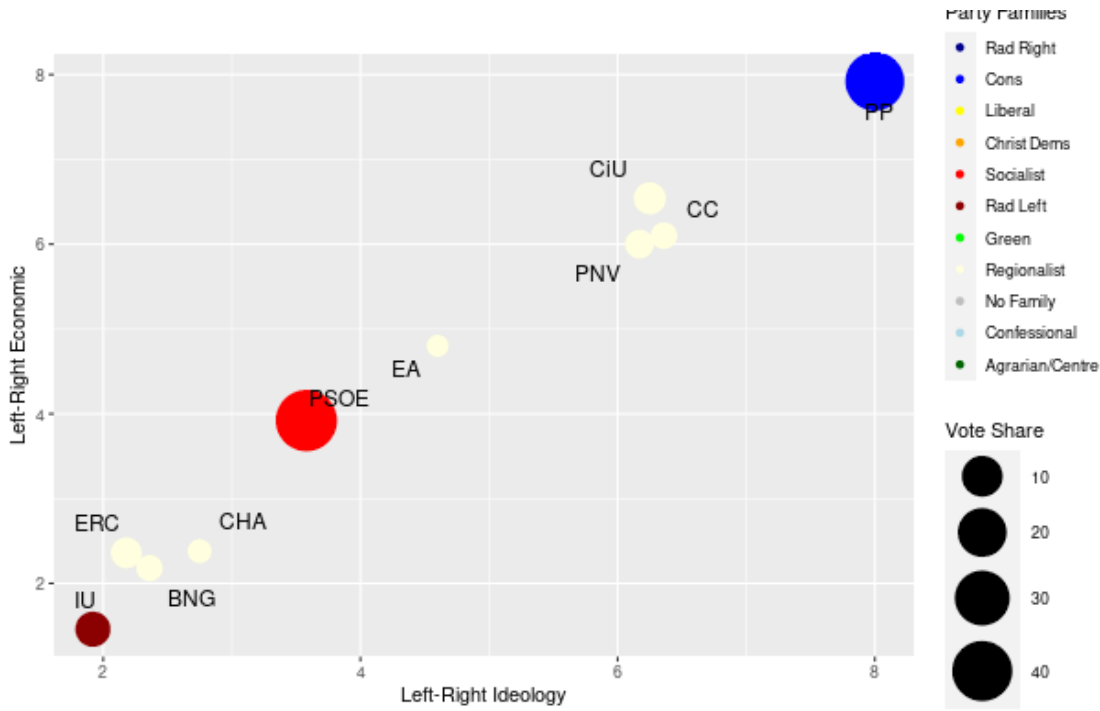
Source: Chapel Hill Expert Survey at chesdata.eu. Notes: “Los Verdes” is labeled as “VERDE”; “Iniciativa per Catalunya” (Iniciativa per Catalunya-Verds-Entesa del Progres Municipal) is labeled as “IC”; PSC is the Catalan federation of PSOE and its results do not appear separately in the electoral data.

**Figure A.2.2** Left-right ideology vs. left-right economic in Spain 2002



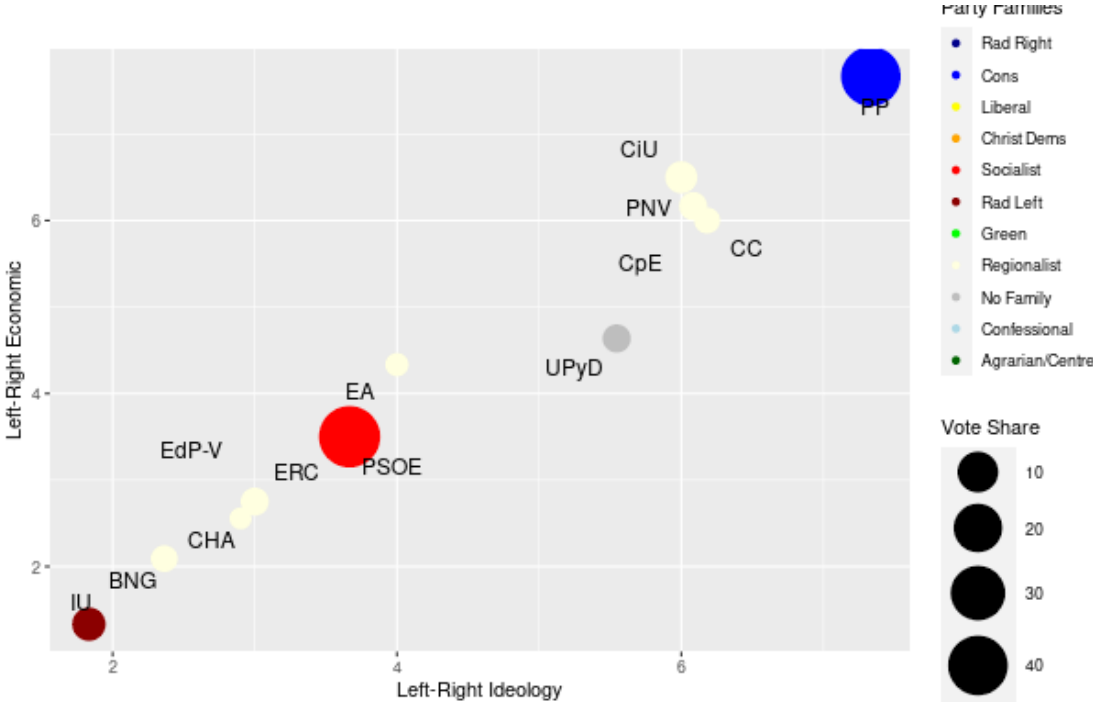
Source: Chapel Hill Expert Survey at chesdata.eu.

**Figure A.2.3** Left-right ideology vs. left-right economic in Spain 2006



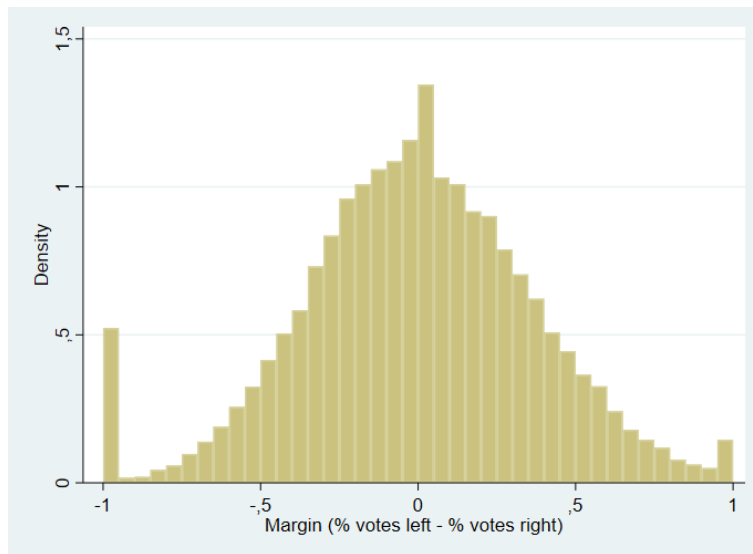
Source: Chapel Hill Expert Survey at chesdata.eu.

**Figure A.2.4** Left-right ideology vs. left-right economic in Spain 2010



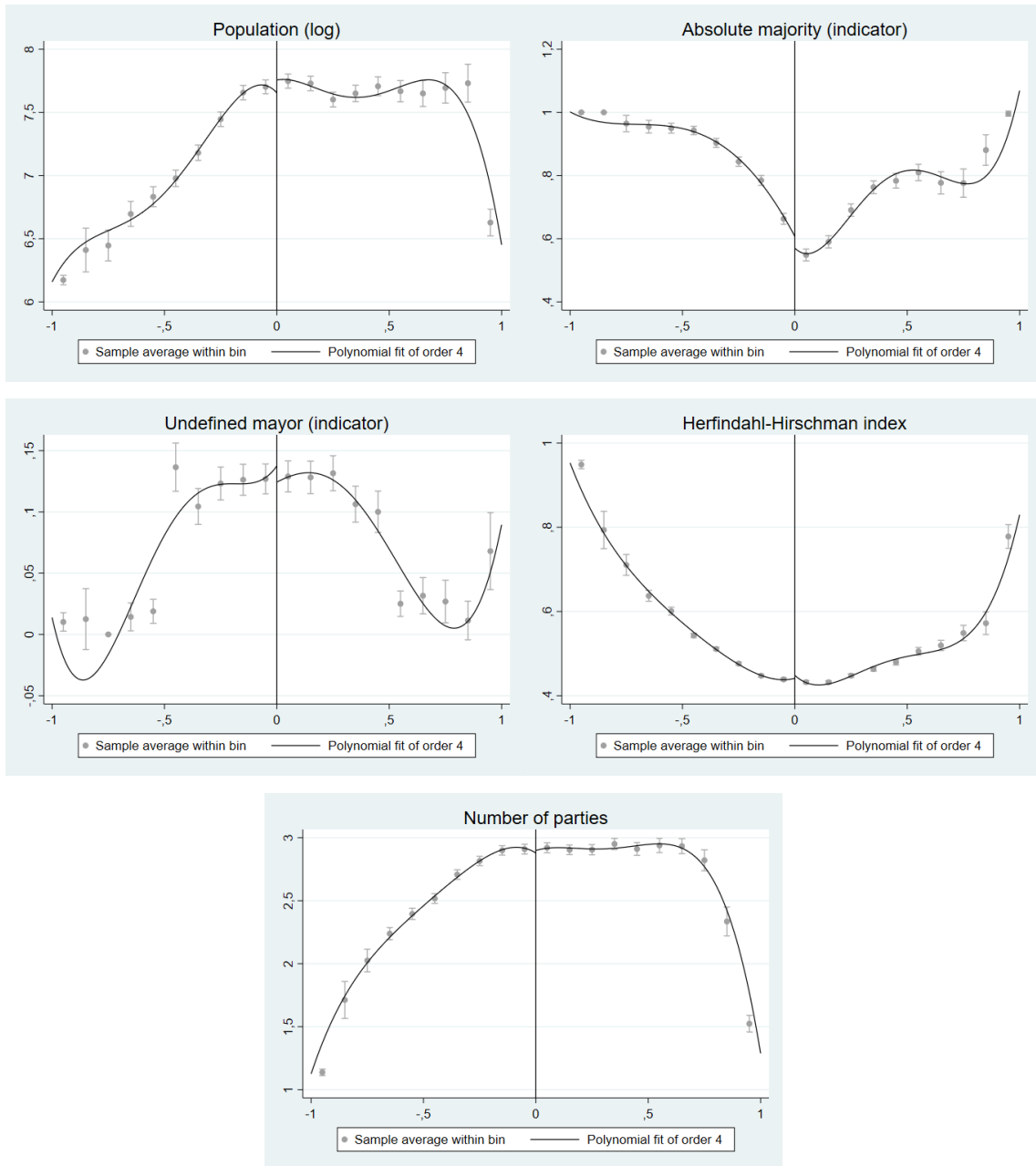
Source: Chapel Hill Expert Survey at chesdata.eu. Note: “Europa de los Pueblos-Verdes” is labeled as “EdP-V” and is a European elections coalition composed by ERC, BNG, EA and CHA, among other minor parties; “Coalición por Europa” is a European elections coalition composed by CiU, PNV and CC, among other minor parties.

**Figure A.2.5** Running variable histogram (full sample)



Note: distribution of the left-right margin (all elections, pooled).

**Figure A.2.6** Covariate balancing



Note: the horizontal axis represents the vote share difference between the left- and the right-wing blocs. From left to right and top to bottom the outcome variables are the logarithm of the population, the probability of an absolute majority, the probability of an undefined mayor, the Herfindahl-Hirschman index and the number of parties. Solid lines represent fourth-degree polynomials in the running variable. Gray dots correspond to averages for bins of the running variable. Vertical lines correspond to 95% confidence intervals around these averages.

## Appendix 2.3. Expenses and revenues: Economic classification

### EXPENSES<sup>30</sup>

#### **Non-financial operations.**

##### *Current operations.*

1. Personnel: fixed and variable salaries, contributions, social benefits and other expenses of local administration and directors, contract workers, public servants, ordinary employees, etc.
2. Current expenses in goods and services: acquisition of fungible non-inventoriable reiterative goods with an expected duration of less than one tax year; non-amortizable reiterative intangible expenses not directly related with investments (rentals, repairs and maintenance, materials and supplies, transportation...). Includes work carried out by other firms and professionals: expenses for which the municipalities are responsible but are carried out by external firms or independent professionals.
3. Financial expenses: interests (from public debt, loans, deposits...).
4. Current transfers: credits without direct compensation by the recipients, used for funding current operations (subsidies).
5. Contingency fund and other eventualities.

##### *Capital operations.*

6. Real investments: acquisition of non-fungible inventoriable non-reiterative goods with an expected duration of more than one tax year (infrastructure or inventoriable goods which are needed for amortizable services).
7. Capital transfers: credits without direct compensation by the recipients, used for funding capital operations.

#### **Financial operations.**

8. Financial assets: purchase of financial assets.
9. Financial liabilities: repayment of public debt and loans.

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<sup>30</sup> Annex III of Orden EHA/3565/2008, de 3 de diciembre, por la que se aprueba la estructura de los presupuestos de las entidades locales. <https://www.boe.es/buscar/act.php?id=BOE-A-2008-19916#aniii>

## REVENUES<sup>31</sup>

### Non-financial operations.

#### *Current operations.*

1. Direct taxation: income tax, corporation tax, capital gains tax (council tax, vehicle tax, tax on the increase in value of urban land...), Business Activity Tax, etc.
2. Indirect taxation: Value Added Tax, excise tax (alcohol, beer, wine, tobacco, hydrocarbons, energy, petrol...), ICIO (tax on buildings, installations and works), etc.
3. Fees and other revenues: revenues from non-voluntary basic public services not provided by the private sector (water supply, sewerage, garbage collection...), revenues from non-voluntary social and preferential public services not provided by the private sector (hospital, care, education, sports...), fees for execution of activities with local competency (hunting and fishing fees, urban fees...), fees for privative use of public domain, *precios públicos* (museums or urban public transport fees...), fines, etc.
4. Current transfers: non-fiscal revenues without direct compensation, used for funding current operations.
5. Patrimonial revenues: non-fiscal revenues from property income or from activities subject to private law (bonds and shares, loans, deposits, dividends, rents...).

#### *Capital operations.*

6. Real investments sales: land, industrial property, valuable objects, etc.
7. Capital transfers: non-fiscal revenues without direct compensation, used for funding capital operations.

### Financial operations.

8. Financial assets: alienation of financial assets.
9. Financial liabilities: issuance of financial liabilities (public debt, loans, deposits...).

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<sup>31</sup> Annex IV of Orden EHA/3565/2008, de 3 de diciembre, por la que se aprueba la estructura de los presupuestos de las entidades locales. <https://www.boe.es/buscar/act.php?id=BOE-A-2008-19916#aniv>

**Chapter 3. Where there's a way  
there's a will: institutional rules and  
policy outcomes**

### 3.1 Introduction

The relation between political ideology and macroeconomic outcomes has been one of the main research topics of what has been called “the interdisciplinary field of macro-political economy” (Hibbs, 1992). During the last decades, this “partisan theory” has been studied using mainly country-level data to analyze differences between the ideology of the political parties and the macroeconomic policies (Hibbs, 1997).

In particular, according to a review of panel data studies (Pofrafke, 2017), there is evidence that left- and right-wing governments pursued different economic policies until the 1990s and that, although partisan politics have not disappeared since then, it has become less pronounced: for instance, studies in the 1990s show evidence that ideology has played a role in macroeconomic outcomes such as GDP growth, unemployment or inflation.

In more recent years, the tendency has been to study partisan differences in economic policies (such as fiscal policy) using microeconometric approaches: specially using data at sub-national levels (States or municipalities) and quasi-experimental methodologies (mainly regression discontinuity models).<sup>32</sup> On the contrary, studies focused on policy goals are less frequent and their results are far from conclusive. For instance, Beland (2015) analyzes the effect of the ideology of governors in the US on labor-market outcomes and finds significant effects for black people (in particular, more annual hours worked and a lower racial earnings gap when Democratic governors are elected). On the contrary, Leigh (2008) found few differences in policy settings, social and economic outcomes between Democratic and Republican governors, although one of these differences is a lower post-tax inequality under the Democratic ones.

Among policy objectives, economic growth and inequality stand out, either separately or because of the potential relation among them. For instance, as Aghion et al. (1999) point out, the “conventional textbook approach” to the relationship between these two economic policy objectives is the existence of a tradeoff: the former is good for incentives and therefore good for the latter. This vision is frequent in actual introductory Economics textbooks: Krugman and Wells (2015) refer to “a trade-off between equity and efficiency”, in which “policies that promote equity often come at a cost of decreased efficiency in the economy, and vice versa”, whereas Mankiw (2015) explicitly consider these policy goals in the context of economic policy (“When government policies are designed, these two goals often conflict”).

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<sup>32</sup> See, for instance, Ferreira and Gyourko (2009) or Pettersson-Lidbom (2008) for seminal papers, and Gouvêa and Girardi (2021) for more recent research.

This sharp tradeoff between inequality and economic growth has, in any case, been subject to theoretical challenge, from the perspectives of Development Economics and/or Political Economy. For instance, it has been postulated that inequality can hurt growth through redistributive pressures or through social conflict (Benhabib, 2003).

This tradeoff has been studied empirically, with inconclusive results. For instance, Kenworthy (1995) finds no adverse impact of greater equality on growth of productivity of output (neither on investment, work effort, or other economic variables), whereas Forbes (2000) finds a robust positive relation between inequality and growth, and Benhabib (2003) shows an inverse-U-shaped relation between the two variables. A recent analysis (Woo, 2020) suggests that redistribution can involve a non-trivial tradeoff between equity and growth (a net decline in growth over the subsequent 5- and 10-year periods); in any case, it tends to vary with the initial level of market income inequality and with the size of redistribution itself.

Furthermore, Bjørnskov (2006) analyzes these conflicting results from the perspective of the political ideology, suggesting that this relationship is negative under left-wing governments and positive under right-wing ones.

This ideological divide is especially relevant in Europe: people who define themselves as leftists show a strong distaste for inequality, while those who define themselves as rightists are unaffected by it (Alesina et al., 2004). This result is consistent with Boix (1998), who argues that

“It must be emphasized at this point that although conservative governments are (relatively) indifferent about the redistributive effects of their growth strategy, this does not imply that they oppose the equalization of incomes per se. They only reject any equalization process insofar as they suspect that it either damages growth, upsets deeply held principles of merit or desert, or deteriorates the position of their electoral constituencies.”

This chapter contributes to existing literature in several ways. First, it studies the impact of ideology on economic policy outcomes: specifically, it analyzes the existence of a left-wing divide between economic growth and equality; furthermore, it investigates whether there is an actual tradeoff between those two policy outcomes, and if pursuing one of them can be detrimental to the other. Besides, it studies if there are institutional mechanisms that can limit or condition these partisan differences.

The remainder of the chapter is divided into eight sections. Section 3.2 outlines the main institutional context of the economic policy at the municipal level: it describes the organization of the different administrative levels and their competences, and the institutional context of the Spanish municipalities. Section 3.3 describes the different datasets that have been used (electoral and sociodemographic data) and how the final dataset is constructed; it also presents some descriptive statistics. Section 3.4 presents the model and its assumptions and verifies the validity of the research design. Section 3.5 presents the main results for the two policy outcomes studied: inequality and economic growth (as measured by the per capita income). In Section 3.6 I check the robustness of the results. In Section 3.7, a heterogeneity analysis is conducted, taking into account the variation that exists in the level of competences. Finally, Section 3.8 concludes.

## 3.2 Institutional context

### 3.2.1 Organization of the State, competences and policy goals

The general structure of the competence distribution among the different levels of government in Spain is established in the Spanish Constitution and is further developed in the ordinary laws. According to Section 137 of the Spanish Constitution, the State is organized territorially into municipalities, provinces and the Autonomous Communities, which “shall enjoy self-government for the management of their respective interests”.

For instance, the State has exclusive competence over matters such as labor legislation, basic rules and coordination of general economic planning, and basic legislation and financial system of Social Security, as well as over “regulation of basic conditions guaranteeing the equality of all Spaniards in the exercise of their rights and in the fulfilment of their constitutional duties”, which has been used as a constitutional foundation for harmonizing legislation in social matters (e.g., the Law 39/2006, of December 14, on the promotion of personal autonomy and care for dependent persons, or the Law 19/2021, of December 20, establishing the minimum vital income).

The Autonomous Communities may assume competences over many economic and social matters, such as social assistance, health, or the promotion of economic development of the Autonomous Community within the objectives set by national economic policy. Furthermore, according to Section 149.3, “matters not expressly assigned to the State by this Constitution may fall under the jurisdiction of the Autonomous Communities by virtue of their Statutes of Autonomy”.

Finally, municipalities, which constitute the lowest level of the territorial organization of the State, have competencies that exercise with autonomy,<sup>33</sup> depending on population.<sup>34</sup> The level of competencies is increasing with population, and will be described in detail in the following section.

Regarding economic policy goals, Section 1.1 of the Spanish Constitution states that “Spain is hereby established as a social and democratic State, subject to the rule of law, which advocates liberty, justice, equality and political pluralism as highest values of its legal system”.

In particular, the concept of a social state, according to Manuel Delgado-Iribarren García-Campero,

*“is not only a regulatory power but also a manager and distributor. The immediate consequence is the extension of public policies from the traditional fields of education, healthcare, and social security to interventions in the labor and economic world, as well as in urban planning and housing, the environment, culture and the media, and the special protection of the citizens who need it most.”*<sup>35</sup>

In the Constitution, the objective of equality is frequently related to territorial equilibrium and/or solidarity, focusing on territorial inequality. For example, Section 138.1 states that “The State guarantees the effective implementation of the principle of solidarity enshrined in Article 2 of the Constitution, ensuring the establishment of an adequate and fair economic balance between the various parts of Spanish territory”.

Nevertheless, Section 9.2 explicitly recognizes material equality, in a capability approach:

*“It is the responsibility of the public authorities to promote conditions ensuring that freedom and equality of individuals and of the groups to which they belong are real and effective, to remove the obstacles preventing or hindering their full enjoyment, and to facilitate the participation of all citizens in political, economic, cultural and social life.”*

Regarding the objective of economic growth, in the Spanish Constitution, it tends to be linked to equality. For instance, among the principles that govern economic and social policy,<sup>36</sup> Section

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<sup>33</sup> Article 25 of the Local Government Regulatory Law (Ley 7/1985, de 2 de abril, reguladora de las Bases del Régimen Local).

<sup>34</sup> Article 25 of the Local Government Regulatory Law (Ley 7/1985, de 2 de abril, reguladora de las Bases del Régimen Local).

<sup>35</sup> See the synopsis of Section 1.1 in the Spanish Congress webpage: <https://app.congreso.es/consti/constitucion/indice/sinopsis/sinopsis.jsp?art=1&tipo=2>

<sup>36</sup> According to the Constitutional Court, Section 40.1 expresses the “economic Constitution”. See the synopsis in the Spanish Congress webpage: <https://app.congreso.es/consti/constitucion/indice/sinopsis/sinopsis.jsp?art=40&tipo=2>

40.1 explicitly considers “a more equitable distribution of regional and personal income” as a goal of general interest:

*“The public authorities shall promote favourable conditions for social and economic progress and for a more equitable distribution of regional and personal income within the framework of a policy of economic stability. They shall in particular carry out a policy aimed at full employment.”*

Section 131.1 further reinforces this idea:

*“The State shall be empowered to plan general economic activity by an act in order to meet collective needs, to balance and harmonize regional and sectorial development and to stimulate the growth of income and wealth and their more equitable distribution.”*

These precepts contain “typically programmatic [rules] that [prescribe] the pursuit of a goal of general interest but without setting the means and conditions for its realization.” The attainment of these policy objectives is left to the legislative development, since “one of the notes that characterizes the principles regulated [in Section 40.1] is the need for the policies that develop them to be reflected in regulations for the organization of economic and working life.”<sup>37</sup> Besides, these statements show that the constitutional framework leaves an eventual choice in a hypothetical tradeoff between growth and equality to ordinary law and specific policy action. Obviously, this distribution of competences grants the State and the Autonomous Communities an important role in guaranteeing equality and promoting economic growth, with municipalities having a more restricted role. In any case, municipalities may exert their competences and orient their public policies to any policy goal, potentially contributing to it.

### 3.2.2 Institutional context of the Spanish municipalities

Spain has more than 8.000 municipalities, although they can be created, suppressed or merged according to the law, so the exact number can vary from year to year.

As mentioned before, their level of competencies depends on population, as it does its nature and scope. All municipalities must provide basic public services, such as public streetlight, cemetery, garbage collection, street cleaning, water supply, sewage system, access to population centers, and paving services. Bigger municipalities have obligations over a wider range of policies: municipalities with more than 5.000 inhabitants also must provide parks and recreations, public library, and waste management; municipalities over 20.000 inhabitants must

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<sup>37</sup> Ibidem.

provide civilian protection, some degree of social policy (i.e., “evaluation and information of social need situations and immediate assistance to people in situations or risk of social exclusion”), fire prevention and extinguishing, and public sport facilities; and the biggest municipalities (over 50.000 inhabitants) must provide urban public transport and urban environment services.

Regarding the electoral system of the Spanish municipalities and their structure, the local government consists of the mayor and the councilors. The mayor is elected by the councilors and runs the government and the local administration. The councilors are elected by direct universal suffrage in local elections, held every four years: in particular, each municipality constitutes a single district in which a number of councilors are elected based on population,<sup>38</sup> with seat allocation made according to the d'Hondt method.<sup>39</sup>

All these factors (autonomous government, autonomous exercise of competencies...) constitute an adequate institutional framework for analyzing ideological partisanship, since differences in political ideology may affect policy decisions (and, thus, policy outcomes) in an effective manner.

### 3.3 Data

#### 3.3.1 Electoral data

Electoral data for the local elections is available at the webpage of the Home Office (*Ministerio del Interior*).<sup>40</sup> In particular, I construct a dataset that contains the results of the two elections held in the years 2015 and 2019.<sup>41</sup> For this period, there is not only detailed municipal data on economic variables associated with equality and economic growth (as it will be presented in the next subsection), but also these years correspond to the period in which elections in Spain have been essentially multipartisan. Whereas the average vote share of the two main parties in the 2011 local elections was 67%, it dropped to 53% in 2015. Furthermore, in 2019, this percentage was 52,5%. Besides, in the 2015 elections two medium-sized parties (Ciudadanos and Podemos, although this last space was represented in many municipalities by various

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<sup>38</sup> Article 179 of the Electoral Law (*Ley Orgánica 5/1985, de 19 de junio, del Régimen Electoral General*).

<sup>39</sup> After excluding those parties with less than 5% of the total valid votes, the remaining ones are ordered from highest to lowest number of votes. Then, the number of votes of each party is divided by the natural numbers (1, 2, 3, ...), and seats are distributed one by one to the parties with the highest quotients. Those municipalities with less than 250 inhabitants use a majoritarian system with open lists. Therefore, they will be excluded from the analysis.

<sup>40</sup> <https://infoelectoral.interior.gob.es/>

<sup>41</sup> During this period, as shown in Figures A.3.1 and A.3.2, there was a relevant reduction in inequality (as measured by the Gini index) and an increase in the average net annual income per person in Spain.

alternative-left candidatures) emerged, and in 2019 another medium-sized party (Vox) emerged at the municipal level.

The dataset includes the identification of provinces and municipalities, therefore allowing to construct a unique identification code for each municipality. It also includes the population in the municipality and many electoral variables: in particular, the total number of votes to candidatures (parties) and the votes for each party.

However, the dataset does not include the number of seats that each party has in each municipality. Therefore, I calculate the number of seats in each municipality using the d'Hondt rule,<sup>42</sup> as well as several variables based on the number of seats: an indicator that takes value 1 if a party has an absolute majority of seats (i.e., an absolute majority in the municipal council) and 0 otherwise; the number of parties that have at least one seat; and a concentration (Herfindal-Hirschman) index.

Finally, using the data on the mayors in each municipality obtained from the Ministry of Territorial Policy (*Ministerio de Política Territorial*), I identify the party mayors belong to, assigning them to the left, to the right or to an undefined category (as in Pettersson-Lidbom, 2008).

Specifically, in order to minimize discretionarily and to mitigate research bias, I use the Chapel Hill Expert Survey (CHES), since it provides information on the political ideology of the most relevant political parties in each European country from 1999 onwards. Figure A.3.3 in Appendix 3.2, show the results for Spain in the year 2019 (based on the results of the General Elections) along the ideological and economic axes.

Despite the emergence of a liberal party (Ciudadanos) and a nationalist far-right party (Vox), that can have a mixture of characteristics in the economic and social axes,<sup>43</sup> the ideological and economic dimensions clearly overlap: parties on the left want government to play an active role in the economy, whereas parties on the right want a reduced role for government.

Besides, there is a clear ideological divide, with the main center-left party (Partido Socialista Obrero Español, PSOE), the smaller left-wing party Izquierda Unida (IU), the new alternative

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<sup>42</sup> The algorithm is imprecise in two situations: 1) in those cases in which there is a tie, allocating a seat to each party; and 2) in those cases in which none of the contesting parties gets enough votes to surpass the 5% electoral barrier (situation that happens sometimes in the data). The occurrence of the second type of cases is checked manually, whereas ties are discarded.

<sup>43</sup> For example, a progressive (conservative) stance in social issues and a free market (interventionist) stance in the economy, depending on the case.

left parties Podemos and Más País, and several left-wing regionalist or nationalist parties<sup>44</sup> on one side and the main center-right party (Partido Popular, PP), Ciudadanos and Vox, and several center-right regionalist parties<sup>45</sup> on the other.

Therefore, using the CHES allows not only to classify the parties into blocs based on their ideology, but also to determine which parties are included in those blocs. Table A.3.1 shows the party classification, where the remaining parties, many of which are strictly local, independent, centrist or (allegedly) non-partisan, are considered as “undefined”.

Once the ideology of the parties is determined, mayors are identified as left- or right-wing based on their party. Similarly, the voting share of the bloc is calculated aggregating the voting shares of the parties belonging to the bloc.

### 3.3.2 Sociodemographic data

I use the Household Income Distribution Atlas of the Spanish Statistical Office (National Statistics Institute), which includes data of Spanish municipalities, districts and census tracts for years since 2015. It includes, for each municipality, district and census tract, data on income (including income per capita), inequality (measured by the Gini index) and several demographic indicators (population, mean age of the population, percentage of population under 18 years old, percentage of population over 65 years old, or the proportion of Spanish population).

### 3.3.3 Final dataset

After merging the electoral and budgetary data and excluding those municipalities without votes to either the left- or the right-wing blocs,<sup>46</sup> the final dataset consists of 9.987 observations.

As can be observed in Table A.3.2 in Appendix 3.1, most of the mayors during the period of analysis belong to one of the two ideological blocs. The proportion of undefined mayors is below 20% in 2015<sup>47</sup> and around 25% in 2019. This last result is partly due to an abnormality in the database for mayors in this term: mayors in Catalunya are systematically labeled as

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<sup>44</sup> Bloque Nacionalista Galego (BNG), Esquerra Republicana de Catalunya (ERC-AM), and Euskal Herria Bildu (EH Bildu).

<sup>45</sup> Convergència i Unió (CiU, now Junts per Catalunya), Partido Nacionalista Vasco (EAJ-PNV), Coalición Canaria (CC-PNC).

<sup>46</sup> A total of 155 municipalities (1,53% of the sample) are excluded because of this reason, the majority of them (68%) in Navarra, because of idiosyncratic reasons.

<sup>47</sup> This is remarkable, since in 2015 Podemos did not run for local elections as a party, and many different local branches (in a coalition with IU and/or other left-wing parties) are recorded separately in the database. In particular, there are almost 160 references when looking for variations and combinations including “IU”, “Podemos”, “Ganemos”, “Guanyem” or “Se Puede” (as in “Cartagena Sí Se puede”).

“undefined”, since they appear as “Comisión Electoral” (“Electoral Commission”)<sup>48</sup> in the official database.

Table A.3.3 shows descriptive statistics (mean and standard deviation) for the economic policy outcomes, the sociodemographic variables, and the electoral variables. All data is measured at the beginning of the term (i.e., either in 2015 or in 2019). The average Gini index is 29.56 and the average income per capita is 10,658 euros. In terms of sociodemographic characteristics, the mean population is around 8,600 people, with considerable variation, as measured by the standard deviation. Finally, votes to the left are slightly above 40% (as has been shown in the proportion of left-wing mayors) and absolute majorities are relatively prevalent (in 73.4% of the municipalities one party has more than half the councilors).

Finally, Table A.3.5 presents balancing tests for the different outcomes (measured both at the beginning and the end of the term) and for several other variables in the dataset. We see that inequality is higher in right-wing councils, as it is income per capita. Moreover, differences are bigger at the end of the term than at the beginning.

Other variables also show differences between ideological blocs. For instance, right-wing municipalities are older, have less population under 18 years and more population over 65 years. Conversely, left-wing municipalities have a higher proportion of Spanish population. However, there are no statistically significant differences in population size. Finally, absolute majorities are relatively more frequent in right-wing municipalities.

These results point out to a strong selection bias and endogeneity concerns that are addressed by means of the research design described in the next section.

### 3.4 Empirical strategy

Considering that the Spanish political system can be characterized as a two-bloc one, with some parties consistently labeled as “left-wing” and some others labeled as “right-wing”, we can estimate regression discontinuity models. In particular, the model proposed is a fuzzy regression discontinuity design that includes a dependent variable, a treatment indicator and a control function. The treatment is instrumented by the difference in vote share among the left- and the right-wing blocs, which is highly positively correlated with the mayor belonging to the left (as Solé-Ollé and Viladecans-Marsal, 2013, point out).<sup>49</sup>

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<sup>48</sup> It is likely a recording error or a typo for “Electoral coalition”.

<sup>49</sup> This approach has been applied to the Spanish case, for instance, in Carozzi and Gago (2023).

To verify the robustness of the results, I estimate two types of models. First, a parametric model, that will allow (in Section 3.7) to conduct heterogeneity analyses. Besides, a non-parametric model as in Calonico et al. (2014) and Calonico et al. (2017).

The first stage in my IV estimation is, therefore:

$$Left_i = \pi_0 + \pi_1 1(Difference_i > 0) + f(Difference_i) + \gamma' X_i + Aut_i + Term_i + u_i$$

Where  $Left_i$  is a binary variable taking value 1 if municipality  $i$  is ruled by a left-wing mayor,  $1(Difference_i > 0)$  is a binary variable taking value 1 if the left-wing bloc obtained a higher vote share than the right-wing bloc and  $f(Difference_i)$  is a control function (i.e., a low-order polynomial in the margin of the left- over the right-wing bloc).

$X_i$  is a vector of socioeconomic, sociodemographic and electoral covariates including the Gini index and the income per capita, the logarithm of the population, the mean age, the percentage of population under 18 years and over 65 years, and the proportion of Spanish population (all of them measured at the beginning of the term), as well as an indicator of absolute majority (a dummy taking value 1 if a party has an absolute majority of seats in the city council and 0 otherwise) and an indicator of undefined mayors (a dummy taking value 1 if the mayor is from a party which is not labelled left- or right-wing and 0 otherwise).  $Aut_i$  are dummies for the different autonomous communities. Finally,  $Term_i$  is an indicator variable taking value 1 if the observation belongs to the 2019 term and 0 if it belongs to 2015.

As Lee and Lemieux (2010) point out, if there is little within unit variability in treatment status, then the variation in the main variable of interest may be small. Since there are only two terms in the sample, including municipality fixed effects may lead to an increase in the variance of the estimator. Therefore, the sample is pooled as a cross-section dataset, and within-individual correlation of the errors over time is accounted for using clustered standard errors. As aforementioned, autonomous community dummies are included to account for differences, for instance, in economic or social policies at that level.

The second stage is given by:

$$Outcome_i = \alpha + \beta Left_i + f(Difference_i) + \delta' X_i + Aut_i + Term_i + \varepsilon_i$$

Where  $Outcome_i$  is either the measure of inequality (the Gini index) or economic growth (per capita income)<sup>50</sup> at the end of the term and the remaining variables are the same as in the first stage. The parameter of interest in each specification is  $\beta$ , which measures the partisan effect,

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<sup>50</sup> 169 observations have missing information for the income per capita at the beginning or the end of the term..

i.e., the average difference in policy outcomes between left- and right-wing governments. For both outcomes, the parameter is expected to be negative ( $\beta < 0$ ), meaning that left-wing governments reduce inequality more but increase income per capita less than right-wing ones.

In order to verify the validity of the research design, a number of tests are conducted. First, Figure A.3.4<sup>51</sup> shows the histogram of the running variable, in order to verify its distribution at the cutoff (i.e., where margin equals zero), suggesting no manipulation at the threshold. Furthermore, a test of no manipulation based on Cattaneo, Jansson and Ma (2018) rejects the null hypothesis at all conventional levels ( $p > 0.935$ ), as shown in Figure A.3.6.

In addition, Figure A.3.8 shows balancing tests for different sociodemographic, electoral and socioeconomic covariates, all measured at the beginning of the term, to check that they do not change discontinuously at the threshold. For all variables, the coefficients are not significantly different from zero, as shown in Table A.3.5.

Finally, Figure A.3.7 shows that the probability of having a left-wing mayor jumps discontinuously when the left-wing bloc barely wins. When the first stage of the regression is implemented, the instrument is strong, with a coefficient of 0.37-0.51 across specifications and the F-statistics above 600 in all cases. Table A.3.6 shows the results of the first stage for the different control functions implemented.

### 3.5 Results

Results for the measure of inequality are presented in Tables 3.1 and 3.2. In this case, the dependent variable is the Gini index in the municipality at the end of the term, controlling for a set of covariates including the Gini index in the first year.

As we can see in Table 3.1, for the parametric models, the coefficient for the ideology variable is non-significantly different from zero in all specifications (i.e., for all the polynomials in the running variable).

**Table 3.1** Inequality (Gini index): parametric models

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0917	-0.0947	0.1335	0.1325
	(0.0974)	(0.0976)	(0.1619)	(0.1621)

<sup>51</sup> Figure A.3.6 shows a similar histogram for the full sample, before excluding those municipalities without votes to either the left- or the right-wing blocs.

Observations	9,617	9,617	9,617	9,617
R <sup>2</sup>	0.758	0.758	0.758	0.758

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Similarly, for the non-parametric models (Table 3.2), the coefficient of the ideology indicator is also non-significant in all specifications.

**Table 3.2** Inequality (Gini index): non-parametric models

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.1228	-0.2996	-0.3157	-0.1275
	(0.3550)	(0.3566)	(0.4036)	(0.4956)
Observations	9,617	9,617	9,617	9,617
Bandwidth	0.137	0.321	0.478	0.447

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Results for the per capita income are presented in Tables 3.3 and 3.4, for the different degrees of the control function.

**Table 3.3** Per capita income: parametric models

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0010	-0.0010	0.0021	0.0021
	(0.0031)	(0.0031)	(0.0050)	(0.0050)
Observations	9,616	9,616	9,616	9,616
R <sup>2</sup>	0.946	0.946	0.946	0.946

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Again, in both the parametric and the non-parametric models, the coefficients are non-significant in all specifications.

**Table 3.4** Per capita income: non-parametric models

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	0.0070	0.0028	-0.0027	-0.0021
	(0.0093)	(0.0112)	(0.0127)	(0.0132)
Observations	9,616	9,616	9,616	9,616

Bandwidth	0.171	0.322	0.379	0.477
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Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

These results suggest that there are no partisan differences in economic outcomes between left- and right-wing councils. However, as we have already seen, Spanish municipalities are only one of the multiple levels of government that can implement policies aimed at reducing inequality and/or promoting economic growth. Besides, they are relatively heterogeneous in many aspects, including the degree and scope of competences, and some municipalities must provide a higher level of them, an aspect that is analyzed in the next Section.

### 3.6 Heterogeneity

In this section, I analyze whether this absence of partisan effects in economic policy outcomes may be explained by institutional constraints. As Gerber and Hopkins (2011) suggest, the presence of constraints at the local level can limit the impact of partisanship. In particular, as mentioned previously, municipalities do not have the same legal requirements in terms of competencies, and this depends on population. Municipalities over 20.000 inhabitants must provide more than basic public services, including specifically some competences that are directly related to the objectives of equality, such a certain degree of social policy.

My hypothesis is that there is a partisan effect, but only in those municipalities where the degree of competences is not only higher but also more oriented to the objectives of equality, since they will have more instruments to pursuit their favorite policy goals. In order to test this hypothesis, I run parametric models similar to the ones described previously: in this case, they not only include the ideology variable but also an interaction term between this variable and an indicator accounting for having a higher or lower level of competences (it takes value 0 if the municipality is below 20.000 inhabitants and 1 if it is above). The use of a parametric approach allows for straightforward hypothesis testing via the interaction term (such as in Beland, 2015).

Since the model compares municipalities of different sizes, it is important to note that they also include controls for the level of population and an indicator of absolute majority (more likely in smaller municipalities).

Results for the inequality variable are shown in Table 3.5. The coefficient of the ideology variable remains non-significant across models and the indicator for the level of competences is significant at the 1% level of confidence, meaning that municipalities above 20.000 inhabitants have a higher level of inequality at the end of the term.

**Table 3.5** Inequality (Gini index)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0564 (0.0992)	-0.0587 (0.0993)	0.1601 (0.1617)	0.1590 (0.1620)
Big	0.4783*** (0.0975)	0.4951*** (0.0981)	0.4533*** (0.0970)	0.4512*** (0.0968)
Left*Big	-0.5166*** (0.1752)	-0.5332*** (0.1764)	-0.4647*** (0.1734)	-0.4658*** (0.1735)
Observations	9,617	9,617	9,617	9,617
R <sup>2</sup>	0.758	0.758	0.758	0.758

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

The coefficient of the interaction term is negative and significant at the 1% level, and stable across specifications: when they must provide, among other competences, a certain degree of social policy, left-wing councils have half a point less of the Gini index at the end of the term than right-wing ones, controlling for the value of inequality at the beginning of the term. This result is in line with the literature: for instance, Leigh (2008) that post-tax inequality is about one third of a Gini index point lower under a Democratic governor.

Table 3.6 shows the results for the economic growth variable. Again, the coefficient of the ideology indicator is not significant, whereas the indicator of the level of competences is significant at the 5% in most of the specifications. In particular, bigger municipalities have a higher level of income.

**Table 3.6** Per capita income

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0000 (0.0031)	-0.0000 (0.0031)	0.0029 (0.0050)	0.0029 (0.0050)
Big	0.0109*** (0.0041)	0.0108** (0.0042)	0.0103** (0.0041)	0.0102** (0.0041)
Left*Big	-0.0156*** (0.0059)	-0.0155*** (0.0059)	-0.0146** (0.0058)	-0.0146** (0.0058)
Observations	9,616	9,616	9,616	9,616

R <sup>2</sup>	0.946	0.946	0.946	0.946
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Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

The coefficient of the interaction term is negative and significant in all specifications. This means that the left-wing councils that must provide a higher level of competences have around 1.5% less income per capita at the end of the term than right-wing ones, controlling for the value of income per capita at the beginning of the term. This result is also consistent with previous research, such as Bjørnskov (2005), that suggest that rightwing societies have grown faster in the last decades.

These results do not only point to the existence of consistent partisan differences in economic policy, with left-wing mayors being more pro-equality, when the level of competences is higher. They also are indicative of a tradeoff between policy goals: in particular, equality and economic growth.

### 3.7 Robustness checks

As mentioned before, the proportion of undefined mayors jumps from below 20% in 2015 to around 25% in 2019. In Table A.3.2, we see that, although the overall number of municipalities and the proportion of councils controlled by a left-wing party remain constant, there seems to be a shift from right-wing to undefined mayors. This last result is partly due to the data from Cataluña: mayors in this autonomous community are labeled not belonging to any party in the 2019-2023 term.<sup>52</sup>

Therefore, Tables A.3.7 and A.3.8 show the results of the previous analyses after dropping the observations from 2019 in Cataluña from the sample.<sup>53</sup> The results are robust: the coefficient of the ideology variable is non-significant, and the coefficients of the indicator of the level of competences and the interaction are of a relatively similar magnitude.

### 3.8 Conclusion

This chapter analyzes the relation between ideology and political economic outcomes at the local level in Spain using a detailed database of municipalities and an institutional framework

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<sup>52</sup> This is obviously not true, based on the official results of the local elections (starting from the mayor of Barcelona, for instance).

<sup>53</sup> After taking this into consideration, the proportion of undefined mayors in the 2019 term is reduced to around 13%.

that is suitable not only to study the existence of partisan effects, but also the mechanisms behind them.

Using a fuzzy regression discontinuity approach, I find no difference between ideological blocs when the full sample of municipalities is analyzed, which is consistent with the fact that councils are only one of the many levels of government in the State and have relatively limited competences. However, when the level of competences is taken into account, considering those municipalities that must provide a wider range of services, these differences are significant, with left-wing councils being more pro-equality than right-wing ones. Besides, the results point out to a tradeoff between economic policy goals, with equality and economic growth going in different directions.

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Appendix 3.1. Tables

**Table A.3.1** Party classification

	<b>Left-wing</b>	<b>Right-wing</b>
<b>2015-2019</b>	PSOE, ERC-AM, IU, EH BILDU, BNG	PP, C's, CiU, EAJ-PNV, CCa-PNC, VOX
<b>2019-2023</b>	PSOE, ERC-AM, PODEMOS.IU, EH Bildu, I.U., PODEMOS, BNG	PP, Cs, VOX, JUNTS, EAJ- PNV, CCa-PNC

Note: parties are classified based on data from the Chapel Hill Expert Survey.

**Table A.3.2** Party identification

	<b>2015</b>	<b>2019</b>
Municipalities	5,010	4,977
Left	2,012	2,089
Right	2,022	1,602
Undefined	976	1,286
Identified	80.52%	74.16%

**Table A.3.3** Descriptive statistics

	Mean	Standard deviation	Observations
Gini index	29.56	3.31	9,619
Income per capita	10,657.65	2,330.82	9,869
Population	8,607.61	58,574.53	9,987
Mean age	46.34	5.34	9,987
Population under 18 years	14.55	5.07	9,987
Population over 65 years	24.59	8.39	9,987
Spanish population	92.53	7.46	9,987
% votes left	0.428	0.222	9,987
Absolute majority	0.734	0.442	9,987
HHI index	0.492	0.166	9,987
Number of parties	2.907	1.261	9,987

**Table A.3.4** Balancing tests

	Left-wing governments	Right-wing governments	Difference
Gini index (initial)	29.30	29.82	-0.52***
Gini index (final)	28.34	28.90	-0.57***
Income per capita (initial)	10,035	10,617	-582.47***
Income per capita (final)	11,300	11,916	-615.33***
Population	8,146	7,541	604.71
Mean age	46.19	47.57	-1.38***
Population under 18 years	14.52	13.40	1.11***
Population over 65 years	24.33	26.47	-2.14***
Spanish population	93.39	92.69	0.70***
% votes left	0.582	0.301	0.280***
Absolute majority	0.732	0.812	-0.080***
HHI index	0.490	0.508	-0.018***
Number of parties	2.908	2.710	0.198***

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table A.3.5** Covariate balancing

	(1)	(2)	(3)	(4)	(5)	(6)
	Population	Absolute	Undefined	HHI	Parties	Age
Left	0.0527	-0.0029	-0.0074	-0.0053	0.0144	-0.2455
	(0.1074)	(0.0360)	(0.0946)	(0.0100)	(0.0338)	(0.3604)
Observations	9,987	9,987	9,987	9,987	9,987	9,987
p-value	0.624	0.936	0.938	0.598	0.669	0.496
Bandwidth	0.173	0.153	0.180	0.141	0.141	0.163

	(7)	(8)	(9)	(10)	(11)
	Young	Old	Spanish	Gini	Income per capita
Left	0.0191	-0.1557	-0.1836	0.2062	-0.0196
	(0.3303)	(0.5479)	(0.5365)	(0.2133)	(0.0174)
Observations	9,987	9,987	9,987	9,619	9,869
p-value	0.954	0.776	0.732	0.334	0.258
Bandwidth	0.175	0.174	0.148	0.184	0.127

Dependent variables: (1) Logarithm of the population, (2) Indicator of absolute majority, (3) Indicator of undefined mayor, (4) Herfindahl-Hirschman index, (5) Number of parties, (6) Mean age, (7) Percentage of people under 18 years, (8) Percentage of people over 65 years, (9) Percentage of Spanish population, (10) Gini index in the initial year, and (11) Logarithm of income per capita in the initial year.. Local linear regressions with uniform kernel and polynomials of order 1 fitted at the two sides of the discontinuity are reported in each column. Standard errors clustered at municipality level. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table A.3.6** First stage

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Difference positive	0.5079*** (0.0114)	0.5075*** (0.0114)	0.3680*** (0.0140)	0.3675*** (0.0140)
Observations	9,617	9,617	9,617	9,617
Clusters	5.165	5.165	5.165	5.165
F-statistic	693.11	699.08	811.27	794.15

The dependent variable is an indicator for left-wing mayor in all columns, and the coefficient corresponds to an indicator taking value 1 if the left-wing bloc obtained more votes than the right-wing one. Standard errors clustered at municipality level. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table A.3.7** Inequality (excluding Cataluña 2019)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0504 (0.1021)	-0.0505 (0.1021)	0.0083 (0.1547)	0.0109 (0.1543)
Big	0.3778*** (0.0914)	0.3910*** (0.0918)	0.3830*** (0.0915)	0.3828*** (0.0915)
Left*Big	-0.3389*** (0.1386)	-0.3508** (0.1392)	-0.3396** (0.1397)	-0.3424** (0.1401)
Observations	8,891	8,891	8,891	8,891
R <sup>2</sup>	0.758	0.758	0.758	0.758

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

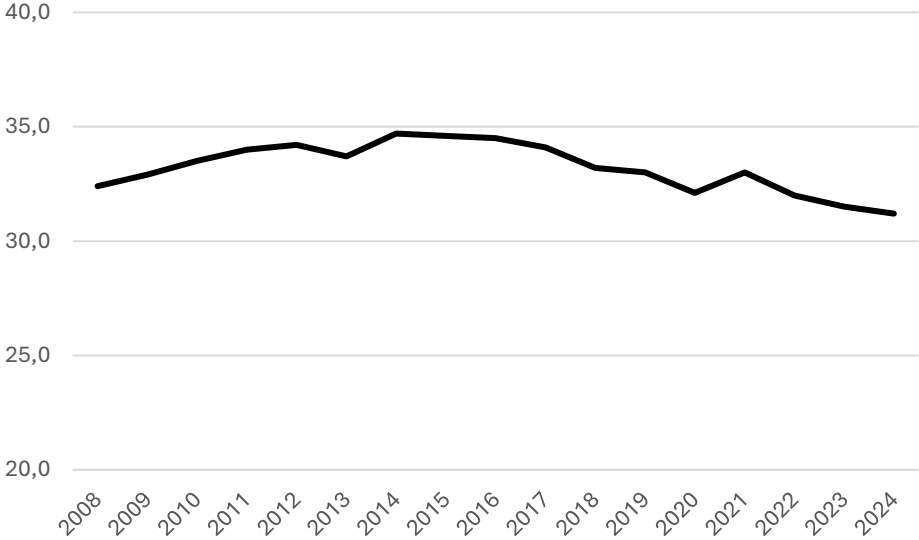
**Table A.3.8** Per capita income (excluding Cataluña 2019)

	(1)	(2)	(3)	(4)
	Linear	Quadratic	Cubic	Quartic
Left	-0.0006 (0.0031)	-0.0006 (0.0031)	0.0003 (0.0045)	0.0004 (0.0044)
Big	0.0108*** (0.0041)	0.0108*** (0.0041)	0.0107*** (0.0041)	0.0107*** (0.0041)
Left*Big	-0.0127*** (0.0048)	-0.0127*** (0.0048)	-0.0125** (0.0048)	-0.0126*** (0.0048)
Observations	8,890	8,890	8,890	8,890
R <sup>2</sup>	0.943	0.943	0.943	0.943

Clustered standard errors at the municipality level in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

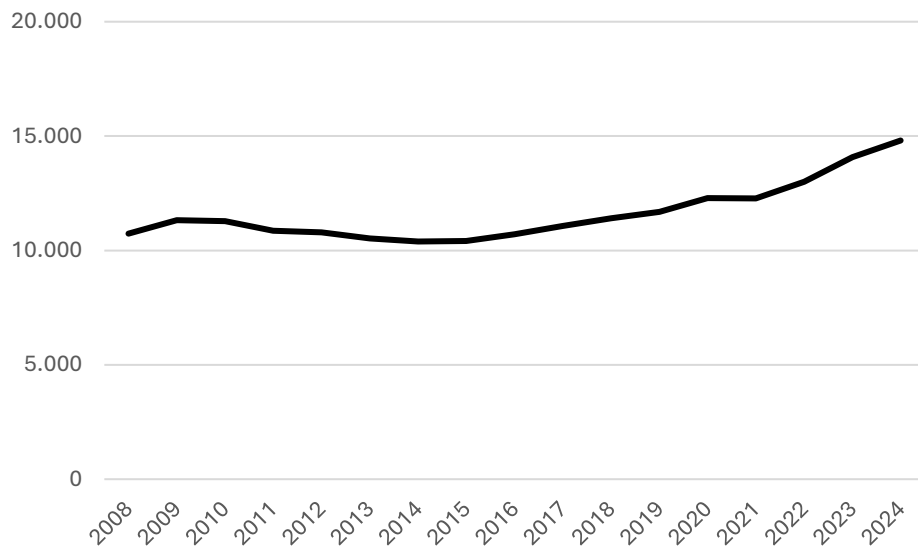
# Appendix 3.2. Figures

**Figure A.3.1** Inequality in the distribution of income: Gini index



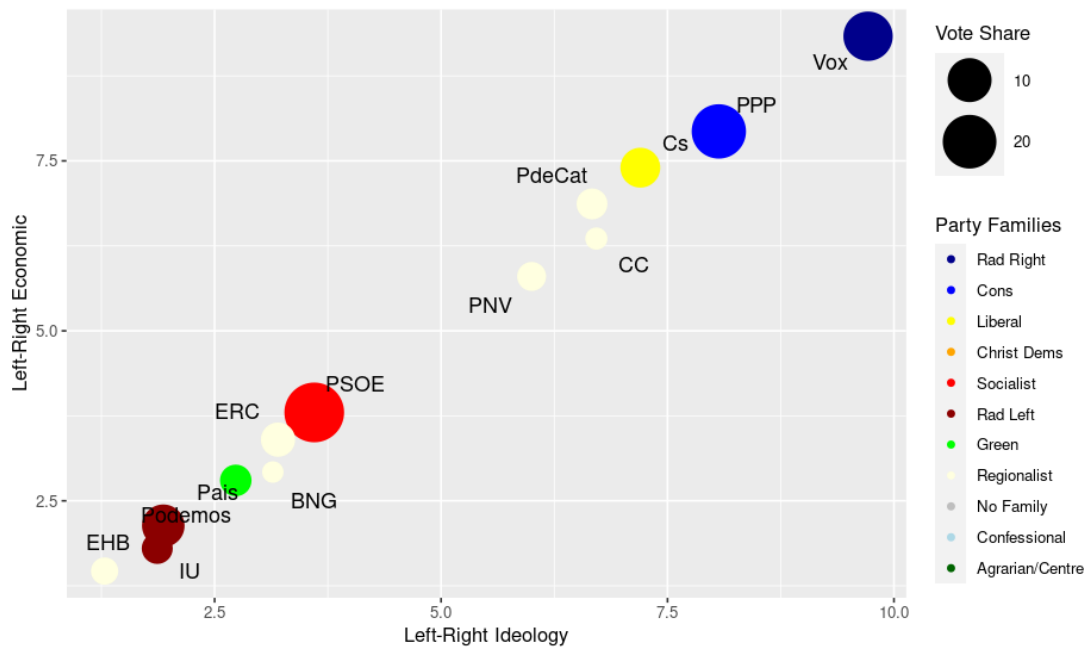
Source: Life Conditions Survey (National Statistics Institute).

**Figure A.3.2** Average net annual income per person



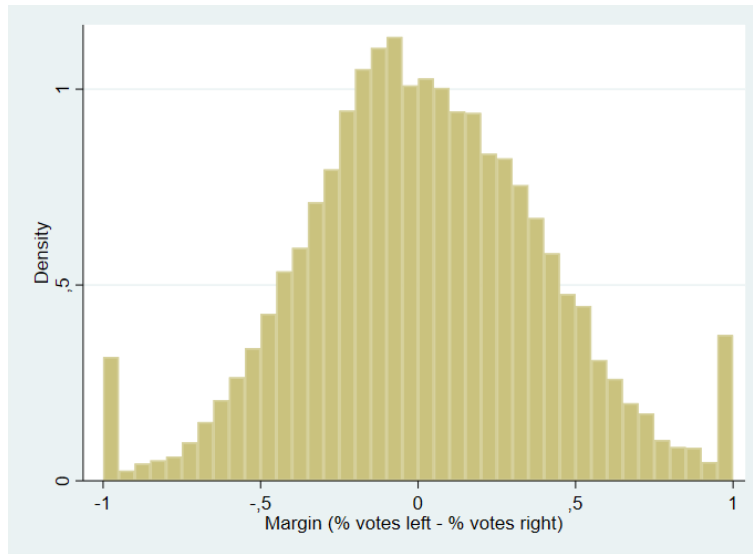
Source: Life Conditions Survey (National Statistics Institute). Note: income of the year prior to the interview.

**Figure A.3.3** Left-right ideology vs. left-right economic in Spain 2019



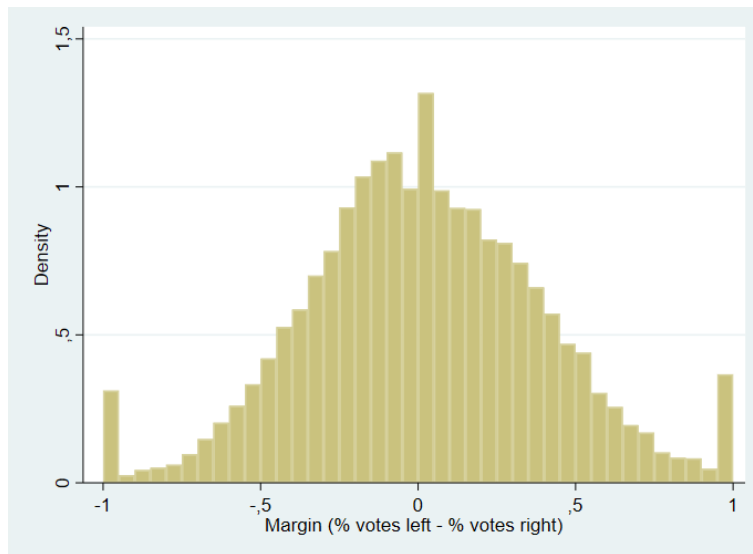
Source: Chapel Hill Expert Survey at chesdata.eu. Note: Partido Popular (PP) is mistakenly labeled as “PPP”; Más País is labeled as "País" and ran to the 2019 General Election in November.

**Figure A.3.4** Running variable histogram



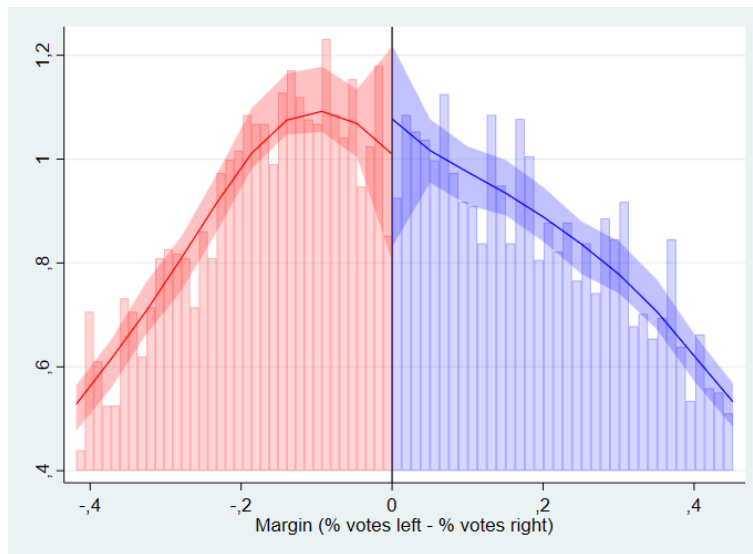
Note: distribution of the left-right margin (pooled).

**Figure A.3.5** Running variable histogram (full sample)



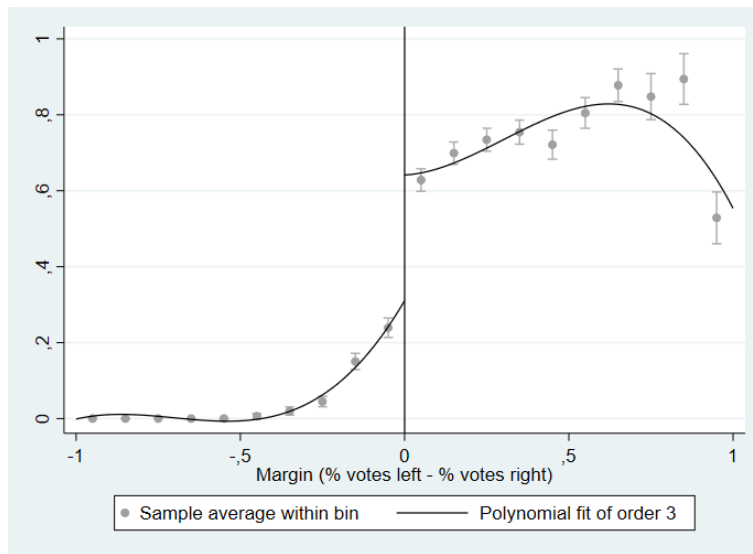
Note: distribution of the left-right margin (pooled).

**Figure A.3.6** Running variable manipulation test



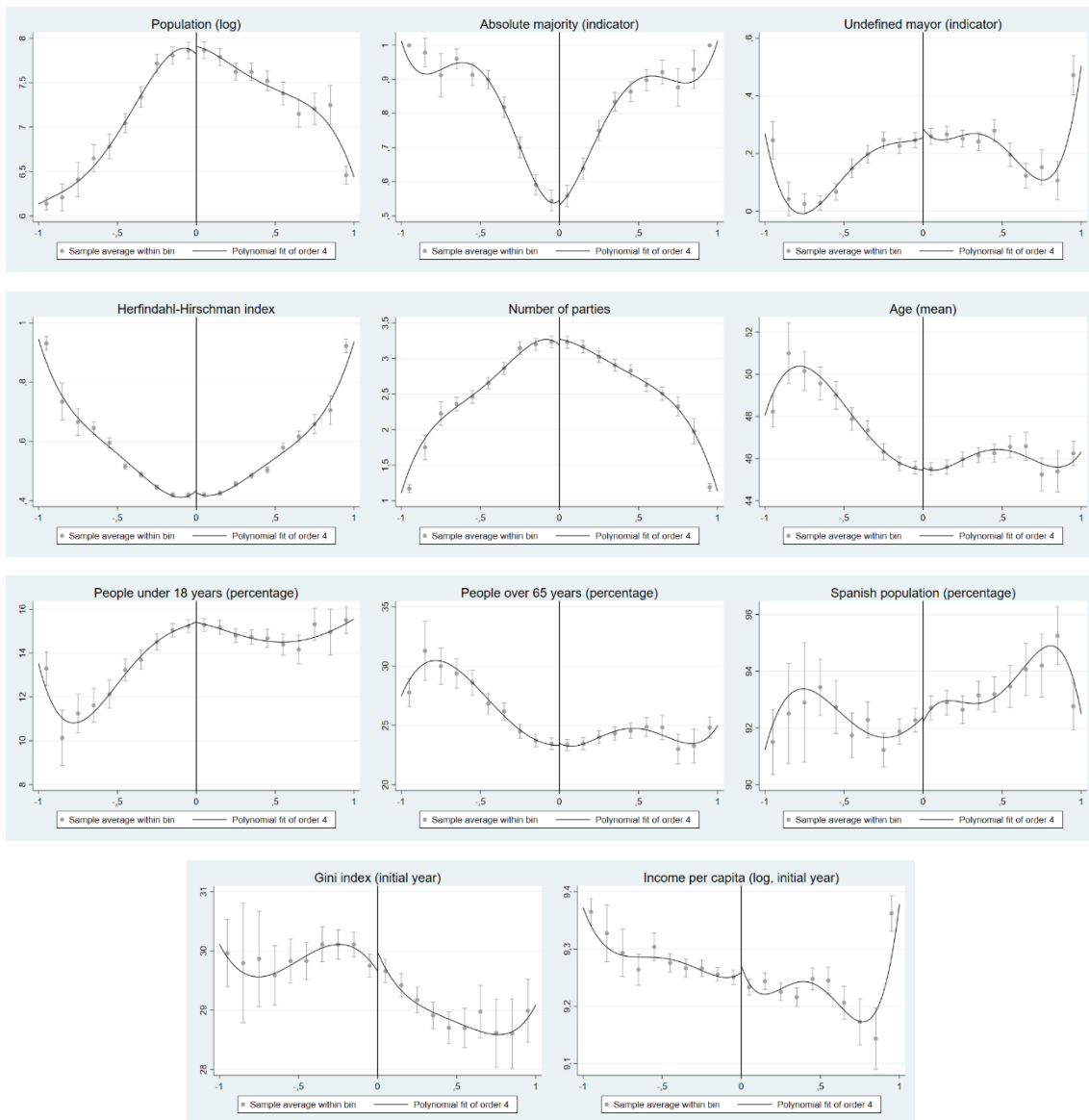
Note: based on Cattaneo, Jansson and Ma (2018).

**Figure A.3.7** First stage



Note: the graph shows the discontinuity in the probability of having a left-wing mayor when the left-wing bloc barely obtained a higher vote share than the right-wing bloc.

**Figure A.3.8** Covariate balancing



Note: the horizontal axis represents the vote share difference between the left- and the right-wing blocs. From left to right and top to bottom the outcome variables are the logarithm of the population, the probability of an absolute majority, the probability of an undefined mayor, the Herfindahl-Hirschman index, the number of parties, the mean age, the percentage of people under 18 years, the percentage of people over 65 years, the percentage of Spanish population, the Gini index in the initial year, and the logarithm of income per capita in the initial year. Solid lines represent fourth-degree polynomials in the running variable. Gray dots correspond to averages for bins of the running variable. Vertical lines correspond to 95% confidence intervals around these averages.

## Conclusions

This dissertation, by analyzing the relations between institutions and political and economic outcomes, has found suggestive evidence of the influence of the former in the latter: i.e., institutions do matter for shaping the incentives of voters and politicians regarding voting decisions, public policies and policy goals. In particular, I have documented the importance of electoral representation for the viability of new parties and the existence of ideological partisanship in Spain, both for policies and for policy outcomes, and how some institutional features (such as the scope and type of competences and the economic context) can mitigate or exacerbate these results.

Regarding the “demand” side of the political market, I have shown that voters have strategic considerations regarding the viability of parties when casting their votes in elections after an important political realignment that ostensibly changed policy preferences, even in a consolidated democracy like Spain. Therefore, even if a certain party fits the ideology or political views of some voter more closely, they take this viability considerations into account and may vote for other party “with the intention of maximizing the likelihood of a good election outcome”. In this regard, obtaining representation in a constituency in the previous election is associated with 0.6-1.2 more percentage points of votes in the next election. This result is significant and consistent among specifications, considering a set of covariates at a very granular level and a measure of district magnitude, as well as robust to considering a subset of the constituencies that consider the different potential effects of strategic voting.

I have also found partisanship on the “supply” side, with parties conducting economic policies that are ideologically consistent (i.e., the left spends more and raises more revenues than the right) or aiming at economic policy goals that are also ideologically coherent (i.e., the left being pro-equality in the inequality-growth tradeoff). Results show that there exist partisan differences with respect to fiscal policy: having a left-wing mayor increases expenditures and revenues per capita by 2.3 to 5% with respect to a right-wing one, a result that is consistent across different specifications of a parametric model and robust to changes in the party composition of the blocs. Furthermore, these partisan differences are driven by more spending on goods and services (2.7-3.2%) and real investments (9.1-13.4%) and by more revenues in direct taxation (3.1-4.4%) and fees and other revenues (5.9-7.2%). Finally, I find heterogeneous effects with respect to the level and type of municipal competences (when local governments must provide more than basic public services, left-wing mayors spend 3% more than right-wing

ones) and a partisan effect during the years of the Great Recession, with left-wing mayors spending around 4% more.

Finally, regarding policy goals (equality and economic growth), I find no difference between ideological blocs when the full sample of municipalities is analyzed, which is consistent with the fact that councils are only one of the many levels of government in the State and have relatively limited competences. However, when the level of competences is taken into account, considering those municipalities that must provide a wider range of services (specially a certain degree of social policy), these differences are significant, with left-wing councils being more pro-equality than right-wing ones. Besides, the results point out to a tradeoff between economic policy goals, with equality and economic growth going in different directions.

As aforementioned, these results highlight that institutions are important constraints for shaping the incentives of voters and politicians regarding voting decisions and public policies and goals. Depending on the institutional context, partisanship can be mitigated or exacerbated by certain features, such as the level and type of municipal competences; similarly, the electoral system and obtaining representation is an important factor in the survival of new political parties,

In any case, further research is needed to better understand the mechanisms and the motivations of voters and politicians. For instance, by analyzing survey data with specific information about partisan identification and economic decisions (preferences regarding fiscal expenditures or taxation, or policy goals). Furthermore, in some cases, longer series of data would allow us to improve methodological aspects and increase validity. Finally, the classification and identification of political parties can be refined, for instance by distinguishing different “brands” of a party, which is an issue not perfectly managed in electoral data.