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Taxing wealth or capital income? The impact of political ideology on property tax policy in Spain: A quasi-experimental study

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Abstract

Although an extensive theoretical literature debates the advantages of taxing wealth stocks versus capital income, the role of party ideology in shaping these fiscal tools remains under-explored. This study investigates the causal effect of political ideology on local property taxation in Spain, comparing a recurrent tax on property wealth with a capital gains tax on property transfers, a non-mandatory tax. By employing a regression discontinuity design on close-election outcomes from 2011 to 2015, we isolate the impact of left-wing government control. We find that left-wing governments increase effective property tax rates by an amount approximately 30% greater than right-wing governments. For the capital gains tax, however, ideology primarily influences the adoption decision (left-wing governments are 9% more likely to implement it) but not the level at which it is set, which is driven instead by technical and market factors. These findings demonstrate that the influence of political ideology is not uniform across property tax mechanisms. It strongly affects recurrent wealth taxes but plays a more limited role in transaction-based capital gains taxes after their initial adoption.

Keywords: Property taxation, political ideology, regression discontinuity.

1 Introduction

There is an extensive literature examining political attitudes toward taxation, often based on opinion surveys (Rowlingson et al., 2021; Donovan and Bowler, 2022). These studies generally show that tax preferences are aligned with respondents' ideology, personal interests, and ability to pay. By contrast, comparatively little attention has been paid to the role of political parties' ideology in shaping preferences for different mechanisms of property taxation. The few existing studies offer mixed evidence. For example, Gerber and Hopkins (2011) find no evidence that political partisanship influences property tax levels in the United States, whereas Fiva et al. (2018), using data from Norway, find that left-wing parties are associated with higher property taxation. To the best of our knowledge, no empirical studies have systematically examined other forms of property taxation, such as taxes on property transfers.

This gap is somewhat surprising, given the growing body of evidence suggesting that property taxes and other mechanisms for capturing economic rents from real estate have not kept pace with soaring property markets. This is the case in countries such as Spain (Tubío-Sánchez et al., 2026) and the United Kingdom (McAllister et al., 2018), contributing to the growing concentration of wealth in urban land and making it one of the major sources of inequality today (Stiglitz, 2015; Rognlie, 2016).

The lack of empirical attention to the role of ideology and partisanship in property taxation contrasts sharply with a wide theoretical literature that examines the choice between taxing wealth versus capital income (Bastani and Waldenström, 2023; Glogower, 2021; Scheuer and Slemrod, 2021). This choice is not purely technical, for it reflects deeper ideological and philosophical positions regarding justice, ownership, and the role of the state, which includes assumptions about individual freedom and collective responsibility.

In this debate, scholars advocating wealth taxation argue that extreme concentration of assets is intrinsically problematic, as it generates economic power and political influence, particularly through land and financial holdings. From this perspective, taxing wealth directly is justified to address accumulated privilege, intergenerational inequality, and the "structural divergence" between returns on capital and economic growth highlighted by Piketty (2014). In contrast, proponents of capital income taxation focus on taxing realized flows of economic benefit rather than the mere holding of assets, emphasizing efficiency, neutrality, and fairness. This approach aligns with liberal, market-friendly ideals that respect private ownership and seek to tax only when ownership generates income, while preserving incentives

for investment and productive activity.

This paper contributes to the debate by empirically examining whether ideological differences shape the use of two property taxation tools in Spain: the recurrent wealth tax on real estate and the capital gains tax on property transfers. Spain provides a suitable context for this analysis, as its recurrent property tax functions effectively as a tax on real estate wealth, in contrast with anglophone or common law countries. For international readers, it is important to highlight two key differences. First, anglophone countries generally have higher property taxes, historically tied to protecting property rights during the transition from medieval to modern property systems, facilitated by estate acts passed in Britain between 1660 and 1830, which created a stable economic and fiscal base (Pippin et al., 2010). In line with Piketty (2014, pp. 371), this explains why property taxes have limited redistributive capacity, serving primarily to secure property rights through title registration. Second, the liberal school of thought introduced the benefits principle in public finance, particularly in the United States, where property taxes are viewed as a user charge for public goods and services. Some scholars argue that this approach represents a return to the original sixteenth-century form of taxing the use of real estate (Hale, 1985).

On the contrary, property taxation in Spain has distinct historical roots and objectives. Spanish property tax is fundamentally ownership-based rather than use-based. Tax liability is legally attached to the cadastral owner rather than the legal property owner. This arrangement has deep historical origins in the fiscal organization of the Spanish state. Since the nineteenth century, the Cadastre has served as the central administrative instrument for recording and valuing immovable property. Unlike the Property Register (Registro de la Propiedad), which records ownership titles and legal rights, the Cadastre was designed primarily for fiscal purposes, providing a uniform and continuous record of land and buildings. Practically, tax authorities required a debtor who was clearly identifiable and administratively stable. Given that ownership disputes were common and the Property Register (a deed system register) was often incomplete or slow to update, the cadastral holder was considered the most reliable reference for taxation. This principle was later codified in the Local Treasuries Law (Ley de Haciendas Locales), which explicitly defined the cadastral registrant as the taxpayer, regardless of discrepancies with the legal owner, until the Cadastre itself was updated. Additionally, liability falls on the registered owner regardless of whether the property is occupied, rented, or left vacant. In this sense, the Spanish system is less directly linked to "use" and more explicitly anchored in wealth ownership. Although the benefits view has gained

some influence in recent years (Durán Cabré and Esteller Moré, 2014), the Spanish property tax remains closely aligned with a tax on property wealth.

This explanation is necessary to understand the different ideological differences in property taxation. For instance, this could explain why Gerber and Hopkins (2011) find no evidence of the politcal partisanship (democrats vs republicans) on property taxes in the USA, while Fiva et al. (2018) find that left-wing parties in Norway, a non anglophone country, leads to more property taxation.

With regard to the local capital gains tax, it occupies an ambiguous position between a property levy and a capital income tax. It resembles a capital income tax because it is triggered by the transfer of urban land (through sale, inheritance, or donation) and the tax base is defined as the increase in land value during the holding period. Liability falls on the seller, aligning the tax with realized gains rather than the property stock. However, it differs from a true capital income tax in practice. The tax base is a notional gain calculated from cadastral values and municipal coefficients, not the actual market gain, meaning it can be levied even when the owner suffers a loss (a feature that led to its annulment by the Constitutional Court in 2021 and subsequent reform). Moreover, unlike a capital income tax integrated into the personal income system, the capital gains tax is a local, transaction-based levy intended for municipal revenue, functioning more as a presumptive tax on transfers than a measure of actual income.

From the political point of view, the Spanish left (PSOE and allied parties) and right (PP and center-right parties) have historically converged more on the property tax than on the municipal capital gains tax, at least in formal policy discourse. Both sides consider the property tax primarily as a stable, universal local revenue source tied to cadastral values, which is easy to administer and politically relatively non-controversial. While the left tends to emphasize the redistributive potential of the property tax, the right usually stresses efficiency and tax relief, proposing lower rates or caps. Despite these differences, both sides accept the principle of taxing property based on cadastral value, and the scope for sharp ideological divergence is relatively limited because the tax is a foundational part of municipal finances.

In contrast, the local capital gains tax has been more politically contentious. The left generally frames it as a tool to capture unearned gains from rising property values and to reinforce municipal revenues, emphasizing social fairness. The right, however, tends to view it as a burdensome tax on property owners that can disincentivize transactions or penalize owners in cases where the gain is purely theoretical, particularly after the 2008–2013

crisis when many sales occurred at a loss. This divergence is intensified by the tax's technical complexity and the fact that it can produce perceived injustices, as it may be levied even when there is no real economic gain. The 2021 Constitutional Court ruling and the subsequent reform underscored the contentious nature of the tax, confirming that ideological and political debates over capital gains tax are far more intense than those surrounding the property tax. Right-wing parties have even advocated for its elimination (Ferreira, 2019).

To study the impact of ideology on both tax mechanisms, we use a regression discontinuity (RD) approach comparing close elections, a method widely applied to identify the effects of political parties on policies while controlling for omitted variables. We deliberately use the term ideology rather than the more common partisanship effect for two reasons. First, by focusing on close elections (where a government wins essentially by chance) we remove the partisan effect, that is voter preferences for a party's program are not the main driver of policy decisions, which instead reflect the party's underlying ideological principles. Second, in majority systems like Spain, RD designs must operate along ideological blocs rather than individual parties, making it conceptually misleading to interpret RD results as partisan effects.

Political scientists generally identify three perspectives on ideology (Noel, 2014): as a psychological or cultural trait (conservatives vs. progressives), as a rationalization or justification, or as a framework linking actions to principles or values. These perspectives are not mutually exclusive. Ideology can be understood as a rationalization process that connects empirical evidence with moral principles or values. In the context of property taxation, ideology informs both the normative principles that guide decision-making and the types of evidence deemed relevant. In this study, we observe that public debates over property and capital gains taxes often do not align with the actual policy choices made regarding real estate taxation.

Our study period covers the 2011–2015 local electoral cycle. Following the 2008 financial crisis, Spain's real estate market remained depressed, and local governments faced significant fiscal pressures. In this context, we generally expect a decline in capital gains taxes (to stimulate the real estate market) and an increase in property tax rates to address fiscal pressures. The effect of political ideology on these taxes is less clear, particularly for capital gains taxes. Ideologically, left-wing governments would be expected to increase property taxes relative to right-wing ones. However, in the case of the capital gains tax, which is not a pure capital income tax, the pattern is more ambiguous. Although the tax could theoretically align with right-wing principles, the strongly negative view of it among conservatives

in Spain, combined with its non-standard design, leads us to hypothesize that right-wing governments might reduce it more aggressively than left-wing governments.

The paper divides into the following sections. Section 2 provides an overview of the Spanish local government system and details the institutional features of the two main property taxes, the recurrent property tax and the municipal capital gains tax. Section 3 outlines our empirical strategy, explaining the regression discontinuity design used to identify the causal effect of ideology on tax policy and describing the data sources. Section 4 presents the main results, first for the recurrent property tax and then for the capital gains tax, followed by a series of robustness checks. Finally, Section 5 concludes by discussing the implications of our findings for understanding the political economy of property taxation.

2 Spain local government and property taxation

2.1 Spanish local governments

In Spain, local governments are organized at the municipal level, with municipalities (8,132 in total) functioning as the basic units of local administration. Municipal councils are elected every four years through a closed-list proportional representation system using the D'Hondt method. Councilors are elected from closed and blocked lists that receive more than 5% of the valid votes, which favors larger parties and often results in a concentration of seats among the main political forces. The number of councilors in each municipality depends on its population size, ranging from 7 in municipalities with 250 habitants or more to several dozens in larger municipalities. In our dataset we include municipalities with seats ranging from 9 (1000 inhabitants) to 58.

The mayor is not directly elected by the population but rather chosen by the municipal council from among its members. By convention, the candidate of the most-voted party is often elected mayor, but when no party secures an outright majority, coalition agreements or minority governments are common (around 20% of local governemnt in our dataset are coalition). This institutional design gives significant importance to party alliances and political negotiations after local elections, since pre-electoral coalitions are rare, especially in medium-sized and large municipalities where fragmented councils are the norm. The coalitions are typically formed along ideological lines. Although local issues are important, ideology is the best predictor of voter loyalty, with right-wing voters tending to be more loyal to the party

they vote for. (Sagrera et al., 2016)

In terms of fiscal autonomy, Spanish municipalities operate within a framework defined by national legislation, particularly the Ley Reguladora de las Haciendas Locales. Local governments do not enjoy complete discretion to design new taxes, but they do have the authority to set tax rates, grant exemptions, and establish rebates within the legal parameters set by the central state. This applies most notably to the property tax (Impuesto sobre Bienes Inmuebles, IBI) and the municipal capital gains tax (Impuesto sobre el Incremento del Valor de los Terrenos de Naturaleza Urbana, known as plusvalía municipal). Within these bounds, municipal governments retain meaningful room to adjust their tax policy, making political ideology and party control important determinants of fiscal outcomes.

This institutional structure implies that local taxation in Spain reflects not only economic and demographic conditions, but also the partisan composition of municipal councils and the mayor's capacity to secure majority support. As a result, the study of property and capital gains taxation at the local level must account for both the national constraints imposed on municipalities and the ideological preferences that shape their decisions within the available margins.

2.2 Local property taxation in Spain

There are two main property taxes at local level in Spain, the recurrent property tax and the capital gain taxes on urban land transfer. In the following we describe how both taxes operate and their relevance in local finances.

2.2.1 Property tax

In Spain, the Cadastre, managed by the Ministry of Finance, is responsible for the valuation of real estate, which determines the cadastral value serving as the tax base for the recurrent property tax. Cadastral updates are centrally managed but may be initiated either by the Directorate General of the Cadastre or at the request of municipalities. Mass reassessments occur when land use plans change, when cadastral and market values diverge, or after five to ten years, as mandated by law.

Municipalities set tax rates and exemptions within ranges established by the central government (0.4–1.1% for urban properties; 0.3–0.9% for rural). Cadastral values are calculated by dividing municipalities into valuation zones and determining land and construction modules. Land values are

benchmarked to market data but adjusted with a coefficient (set at 0.5), fixing cadastral values at roughly half of market values. Construction values reflect costs, adjusted for depreciation.

Although law requires updates at least every 10 years, assessments are often outdated, averaging 22 years, especially in rural areas. Property taxation is fiscally significant, providing about 25% of total local revenues and 50% of own-source revenues, with its importance growing since 2004. It is well known the inverse relationship between new assessment and nominal tax rates. When a new assessment takes place, the incumbent goverment tends to lower nominal property tax rates to reduce the tax burden. So an effective tax rate (tax liabilities divided by the tax base) is a much better measure to reflect the real tax burden (Bell and Kirschner, 2009). This also helps to prevent controlling for other factors such as exemptions.

The period under analysis, 2011–2015, coincides with the adoption of a series of extraordinary fiscal measures by the Spanish central government in the aftermath of the financial crisis. In December 2011 the national government approved Real Decreto-ley 20/2011 (30 December 2011), a package of urgent fiscal measures that explicitly modified the statutory treatment of the property tax for the tax years beginning in 2012 and 2013 and thereby created an exogenous shift in the effective property tax rate available to all municipalities (Compaired, 2011). Because this policy was a centrally imposed, nationwide change in the legal rate framework with limited room for pre-announcement manipulation by individual municipalities, it functions as a common institutional shock that changes the policy margin available to local governments. We interpret this as a mechanism that strengthens the identification of ideological effects. By imposing a common upward adjustment across all municipalities, the reform effectively neutralized a substantial portion of the variation in local tax rates that could otherwise reflect differences in fiscal stress, administrative capacity, or local economic conditions. Once discretion was restored in 2013, changes in nominal tax rates can be hardly attributed to other variables. In this sense, the central intervention can be seen as a quasi-experimental shock that helps isolate the ideological component of municipal tax choices by filtering out confounding variation associated with heterogeneous local circumstances.

2.2.2 Capital gains tax

In Spain, capital gains on property transfers are taxed through two distinct mechanisms that operate in parallel but reflect different logics of taxation.

On the one hand, the capital gains tax within the Personal Income Tax

(Impuesto sobre la Renta de las Personas Físicas, IRPF) is a state-level tax administered by the Spanish Tax Agency (which operates under the Ministry of Finance) that applies to the actual economic gain realized by the taxpayer on the entire property when sold. It is important to note that the tax applies only when there is a lucrative transfer of property, typically through a sale or exchange. Inheritance and gifts fall under the Inheritance and Gift Tax (Impuesto sobre Sucesiones y Donaciones, ISD), which is a separate tax administered by the Autonomous Communities.

The capital gains tax within the Personal Income Tax is computed as the difference between the acquisition price (adjusted for costs and allowable deductions) and the transfer price. This form of taxation reflects the income tax principle of taxing realized income flows rather than wealth stocks, and it applies independently of municipal taxation.

On the other hand, the municipal capital gains tax is a local tax and represents a distinctive form of capital gains taxation at the local level. Unlike standard capital gains taxes, which are typically levied on the difference between the acquisition price and the sale price of an asset and therefore capture the realized appreciation of wealth, the plusvalía municipal is based on a notional increase in the value of urban land (excluding buildings). The tax is triggered as well by the transfer of property rights, but non only sale but also inheritance or donation.

The taxable base is calculated by applying coefficients, set by law and adjusted periodically, to the cadastral land value, taking into account the number of years the property has been held, with a maximum period of twenty years. Due to outdated cadastral values, municipalities apply a fixed adjustment, capped at: 3.7% (1–5 years), 3.5% (up to 10 years), 3.2% (up to 15 years), and 3% (up to 20 years). The final tax base is then multiplied by a municipal coefficient (max 30%). Thus, the law assumed that property values would always increase over time, establishing a fictitious capital gain as the tax base (Merino, 2017).

This design produces several features that differentiate the Spanish system from typical capital gains taxation. First, the tax is levied only on urban land, classified as such in the cadastre records. Second, the calculation does not necessarily reflect the actual market gain realized in the transaction. Taxpayers may face a liability even in cases of zero or negative appreciation, a feature that has generated intense legal and political debate. These factors (together perceived overlaps with other taxes mentioned above) have contributed to the tax being poorly regulated, subject to frequent reforms, and the target of numerous judicial appeals, particularly with regard to the tax base (Fernández and García, 2022).

The combination of a fictive tax base, its confinement to urban land, and its role as a recurrent municipal revenue source makes the plusvalía municipal a hybrid instrument: formally a tax on capital gains, but substantively closer to a presumptive tax on land value increases, with only an indirect connection to the individual's effective economic gain from the property transaction.

The municipal capital gains tax is not a mandatory tax. Currently, around 46% of the Spanish municipalities have adopted it. Even after its implementation, the number and volume of unpaid capital gains obligations remain significant. While non-payment of property tax can trigger various responses, in the case of capital gains, the only available option is enforcement through coercive collection procedures. Despite this, total revenues from capital gains reamains important in municipalities with an active real estate market. The total revenues amount to 2.45 billion euros and, like property tax revenues, their share of total municipal revenues has increased by 5% since 2004.

3 Empirical approach and data

3.1 The effect of ideology on effective property tax

We begin by estimating the effect of ideology on effective property tax by estimating the following equation by OLS:

$$\Delta \textit{Effective tax rate}_i = \alpha \cdot \textit{Left}_i + \mathbf{X}_i'\beta + \varepsilon_i \tag{1}$$

where Δ *Effective tax rate* is the increase of effective tax rates during the term-of-office in municipality *i*. The dummy *Left* is equal to one in the case of a left-wing government and zero in the case of a right-wing government. The vector $\mathbf{X}$ includes control variables such as *Per capita debt* and *Per capita transfers*, which may influence local fiscal decisions, particularly when municipalities experience fiscal stress (Martinez-Vazquez and Sepúlveda, 2011). Another set of variables reflects residents' preferences. It is well known, for instance, that renters tend to favor property taxes because the tax burden does not fall on them while they still benefit from the publicly funded goods (Brunner et al., 2015).

The dummy variable *Fiscal distance* controls for constraints imposed by the nominal tax rate cap. It is constructed using squared distances to the maximum rate, categorized by the 33rd and 66th percentiles. This approach reduces collinearity while identifying municipalities with limited

fiscal flexibility (Low/Medium/High). The rationale for including this control is straightforward: municipalities with nominal tax rates close to the maximum have less room to increase them.

Controls such as the cadastral *Urban area* and *Last cadastral assessment* aim to capture changes that could slightly affect the nominal tax rate and therefore the effective tax rate. We describe these variables in detail in Table 1.

Despite these controls, it is difficult to fully account for residents' preferences. In a cross-sectional setting, omitted variable bias remains a concern, since factors influencing local fiscal decisions are often context-specific or may vary over the term in office. For instance, conservative municipalities tend to differ from less conservative ones in many respects (such as income levels, education, and other socioeconomic characteristics) making it challenging to disentangle the policy effects of seat allocations from these underlying differences.

In order to remove all variation related to preferences of residents and other omitted variables, such as vote signals, to identify the causal relationship political ideology of the incumbent government, we use a regression discontinuity approach based on close elections. The crucial identification assumption underlying the regression discontinuity designs based on close elections is that there is no sorting at the threshold that separates winning candidates from loser. This create the precise conditions under which the outcome of close elections can be used as a quasi-random treatment variable. Lee (2008) formalizes the logic underlying regression discontinuity designs based on close elections and many works have exploited the discontinuity in "close" election to identify various political and economic outcomes of interest, that range from the local spending, revenues and crime rate in the USA cities (Ferreira and Gyourko, 2009), spending and size of the local government in Sweden (Pettersson-Lidbom, 2008) political partisanship effect on land conversion in Spain (Solé-Ollé and Viladecans-Marsal, 2013), or closer to our case the effect on wide range of characterstics related to property taxation (Aldunate et al., 2025; Gerber and Hopkins, 2011; Fiva et al., 2018).

The logic of a regression discontinuity design in a majoritarian political system is relatively simple, since treatment status is a deterministic function of the running variable. In proportional systems, however, the situation becomes more complex. In Spain, seats are allocated using the d'Hondt rule, which translates votes into seats for multiple parties. Under this rule, seats are assigned sequentially: each new seat goes to the party with the highest ratio of votes to the number of seats it has already won plus one. Because

of this mechanism, the number of votes required to secure a majority of seats depends on the vote distribution of all competing parties. Using vote share as the running variable is therefore problematic, as there is no single vote share threshold that guarantees a majority across municipalities. The threshold varies by municipality, depending on the number of parties and the total number of seats. Moreover, it is common for no party to win more than 50% of the seats, in which case the mayor is selected through a coalition.

To address the problems of proportional systems, we have to solve the three following issues. First, it has to be possible to combine parties into two ideological blocs and them interpret the result as a two-party system. Although Spain's multi-party system includes regional parties that promote distinct national identities, the left–right divide remains the main axis shaping coalition policies. Accordingly, when the multi-party system is organized into two blocs, it can be treated as a majoritarian two-party system in which the majority bloc determines policy outcomes (Pettersson-Lidbom, 2008). This allows us to exploit the discontinuity at the 50% seat threshold, treating as close elections those in which the left-wing bloc has won or lost by a single seat. In doing so, we compare two ideologically coherent coalitions (left versus right) that differ only by a margin of one seat.

Second, it should be noted that the number of seats of a party is affected by the votes of all parties. Consequently, the distance to a seat change cannot be measured only using the vote share of an individual party. For example, the vote share at which one party will receive its first seat depends on how the remaining votes are distributed across the rest of parties (Folke, 2014). If we only compare municipalities where the left-bloc barely got a majority to those where it barely didn't, we might be comparing municipalities with very different underlying political landscapes and voter preferences (e.g., concentrated vs. fragmented opposition). These differences could independently affect our dependent variable, biasing the estimate. Folke (2014) finds that including the fourth-order polynomial vote distance (share of votes to seat change) control function greatly enhances the precision of the estimates, even though it does not significantly change their size. In our case we follow Solé-Ollé and Viladecans-Marsal (2013) who compute the vote distance to seat change for two political blocks instead of for each party.

Once this distance has been computed, the regression discontionty approach to Equation 1 can be expressed as:

$$\Delta \textit{Effective tax rate}_i = \beta_1 \textit{Left(Left seats} > \textit{Right seats)} + f(\textit{Votes to left-wing majority})_i + \mathbf{X}_i'\beta + \varepsilon_i \quad (2)$$

where *Left(Left seats > Right seats)* is a dummy variable equal to one if the left-wing bloc has more seats than its right-wing counterpart and, thus, defines the threshold, and *Votes to left-wing majority* is a polynomial of the distance in votes to the change to a left-wing bloc seat majority.

Third, a multy-party system makes it likely that the cut-off is not sharp. Therefore a fuzzy regression discontinuity is required. In our data, the jump in the probability of having a left-wing government at the 50% seat threshold is lower than one, particularly at the right side of the cut-off (see Figure 1), suggesting the need to use a fuzzy regression discontinuity design. The fuzzy regression discontinuity methodology accounts for this imperfect compliance by using the seat-majority indicator as an instrumental variable for the actual treatment, left-wing government control (Skovron and Titiunik, 2015; Valentim et al., 2021; Ademi and Kimya, 2024). Specifically, we estimate Equation 2 by two-stage least squares, where *(Left seats > Right seats)* is used as instrument for *Left*, thereby allowing us to identify a local average treatment effect for municipalities where the seat majority was pivotal for determining which bloc formed the government.

3.2 The effect of ideology on capital gains tax

The analysis of capital gains tax requires particular methodological attention due to the distinctive nature of this fiscal instrument. Unlike the mandatory property tax that apply universally across municipalities, the capital gains tax represents a discretionary policy tool that local governments may choose to implement or forgo. This creates a fundamental empirical challenge: the observed changes in tax rates emerge from a two-stage decision process that cannot be adequately captured by conventional single-equation approaches.

In the first stage, municipal governments face a binary choice regarding whether to adopt the capital gains tax at all. This adoption decision is inherently political, reflecting the government's ideological orientation toward property taxation, its revenue needs, and its assessment of political costs.

The second stage occurs only among those municipalities that have implemented the tax, where governments determine the specific rate change. Here, ideology may exert a different influence, shaping how aggressively to employ an already-adopted fiscal tool. This dual decision structure neces-

sitates an empirical strategy that explicitly accounts for both the role of ideology in adoption and the effect on tax variation.

The analysis of capital gains tax policy requires a methodological approach that accounts for its distinctive institutional features. We employ a two-part modeling framework that explicitly recognizes the sequential decision-making process of municipal governments. The first model examines the factors that determine whether a municipality implements the capital gains tax. We estimate a probit model specified as:

$$P(Adopt_i = 1 \mid \mathbf{X}_i) = \Phi(\gamma_0 + \gamma_1 Left_i + \mathbf{X}_i'\boldsymbol{\gamma}) \tag{3}$$

where $\Phi(\cdot)$ is the cumulative distribution function of the standard normal distribution. The dependent variable, $Adopt_i$, equals 1 if municipality i adopts the capital gains tax and 0 otherwise. The vector $\mathbf{X}$ is the same set of control variables than in the previos model, with a few more explained below. Notice that we have to exclude *Fiscal distance* (the distance to the maximum allowed rate), since it cannot affect adoption decision.

The second model examines how ideology affects the intensity of taxation. We procced in similar way than in the case of property taxation. First we estimate a linear regression model using ordinary least squares:

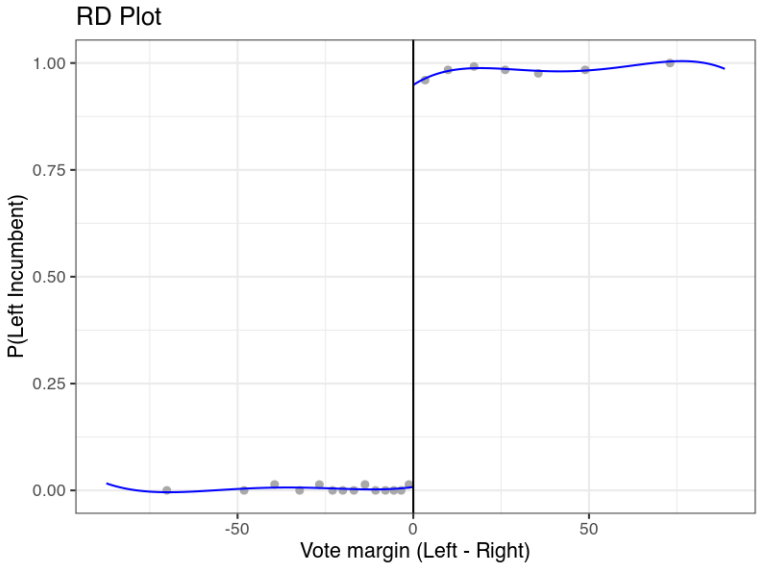
$$\Delta\, Capital\ Gain\ Tax_i = \beta_0 + \beta_1 Left_i + \mathbf{X}_i'\boldsymbol{\beta} + \varepsilon_i \tag{4}$$

This model is estimated exclusively on the subset of municipalities that adopted the capital gains tax. The dependent variable captures the change in the effective tax rate. In order to compute the effective capital gains tax rate, we first aggregate thef statutory tax parameters established in local ordinances. For each municipality, we calculate the average coefficient of the tax base by taking the mean of the prescribed percentages applicable to different holding periods. Simultaneously, we compute the average statutory tax rate using the same approach.

These two components are then combined to derive the total nominal capital gains tax rate, representing the statutory liability before the application of any rebates. It is key to consider any bonifications, since municipalities tend to increase them once they increase nominal tax rates to reduce the tax burden faced by taxpayers. Therefore, the effective tax rate is obtained by adjusting the nominal rate downward according to the reduction percentage granted by each municipality. This adjustment transforms the statutory rate into an effective rate that reflects the actual fiscal pressure.

The explanatory variables mirror those used in the property tax model. Since the capital gains tax is based on assessed cadastral values, we retain

Figure 1: Probability of left control



the controls related to cadastral assessment. In addition, we introduce one new variable, *Per capita housing transactions*, as municipalities with a more active real estate market are likely to rely more on capital gains tax revenues.

For the regression discontinuity analysis, we focus on municipalities that adopted the tax and proceed in the same manner as in the property tax regression discontinuity model.

Table 1 presents the definitions of all variables and their data sources for both models.

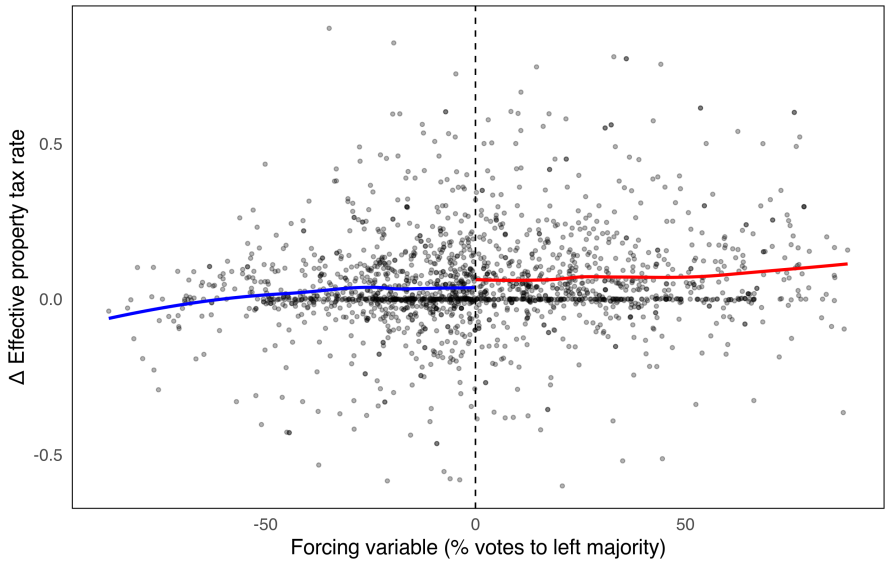
Table 1: Definition of Variables

Variable	**Definition**	**Source**
Effective tax rate	Tax liabilities divided by the tax base	Cadastre 2011; 2015
Left	Dummy equal to 1 if the mayor belongs to a party classified as left-wing	
Left(Left seats > Right seats)	Dummy equal to 1 if the parties classified as left-wing have more seats in the local council than those classified as right-wing	Ministry of Interior 2011
Fiscal distance	Three-level categorical variable indicating whether the difference between the maximum allowed tax rate and the actual tax rate falls in the lower, middle, or upper third of its distribution	Cadastre 2011
Population	Population at the beginning of the term	INE 2011
Last assessment	Year of the last cadastral assessment	Cadastre
Urban area	Urban area (ha) at the beginnin of the term	INE 2011
Per capita debt	Total debt divided by population	Ministry of Finance
Per capita transfers	Total transfers divided by population	Ministry of Finance
Capital gain rate	Effective rates set by the municipality	Ministry of Finance 2011; 2015
Per capita housing transactions	Total of housing transactions divided by population	Ministry of Transport 2011

(Continued from previous page)

Variable	**Definition**	**Source**
Graduates	Graduates (%)	INE 2011
Coalition	Dummy equal to 1 if the government is a coalition	INE 2011
Immigrants	Immigrants (%)	INE 2011
Population 16-64	Population (%) between 16-64 years	INE 2011
Unemployement	Unemployement (%)	INE 2011

Figure 2: Outcome vs forcing variable (cutoff at 0)



4 Results

4.1 Property tax

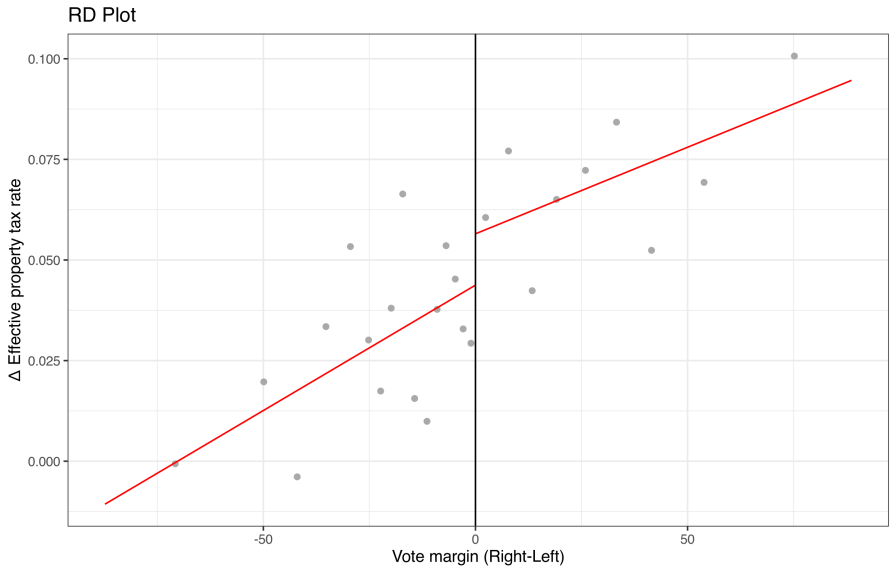
During the studied term in office, the effective property tax increased on average by 0.031 percentage points under right-wing governments and by 0.069 percentage points under left-wing governments. Figure 2 illustrates that the forcing variable (the percentage of votes securing a left-wing majority) is strongly correlated with changes in effective property tax rates, with left-wing governments (to the right of the cutoff) being more prone to raise them.

This graphical check visually suggests a potential discontinuity at the cutoff. Figure 3 illustrates this more clearly. The vote margin is divided into separate bins on the left and right of the cutoff, with the number of bins automatically determined by the sample size and the quantile-spaced bin selection method proposed by Calonico et al. (2017). The binned averages are then smoothed using a linear fit on each side of the cutoff.

Regarding the models presented in the previous section, Table 2 presents the result of the estimation of Equation 1 by OLS and 2, in the reduced form and estimated by 2SLS.

The empirical analysis reveals a consistent relationship between political

Figure 3: % Δ effetive tax rates vs. % Votes to left-wing majority



ideology and property tax policy, though the magnitude and interpretation of this relationship vary substantially between estimation approaches. The initial OLS estimates indicate a positive association between left-wing governments and increases in effective property tax rates. Specifically, municipalities governed by left-wing parties exhibit an average increase in the effective tax rate that is 0.022 percentage points (around 2%) higher than those governed by right-wing parties.

However, as anticipated in the empirical approach, these OLS estimates may reflect both the causal effect of political ideology and correlated omitted variables such as voter preferences or municipal characteristics. To address these identification challenges, we employ a regression discontinuity design that compares municipalities where the left-wing bloc narrowly won or lost a seat majority. We control both the reduced and the 2-SLS equations using second-oder polynomials of the forcing variable, which enhaced considerable the precision of of the estimates compared with first of third order polynomials.

The reduced form estimates, which capture the intent-to-treat effect of having a left-wing seat majority, show a statistically significant effect of 0.040 percentage points. The fuzzy regression discontinuity design, which instruments the actual left-wing government control with the seat majority indicator, yields a local average treatment effect of 0.041 percentage points.

The coefficient itself does not fully convey the magnitude of the impact. However, if we take into account that the average value of this variable for municipalities governed by the right is approximately 0.031, we can conclude that, on average, left-wing governments set effective property taxes about 30% higher than right-wing governments ($0.32 = (0.041 - 0.031)/0.031$). This estimate represents the causal effect of left-wing government control on property tax increases for municipalities where the seat majority was pivotal in determining which bloc formed the government. The notable difference between the OLS estimate of 0.022 and the causal RD estimate of 0.041 suggests that much of the raw correlation between left-wing governance and tax increases may be attributable to selection effects rather than causal influence.

Several control variables demonstrate consistent patterns across specifications. Municipalities with higher fiscal capacity, as measured by the fiscal distance variables, show significantly smaller tax increases, with coefficients of -0.034 and -0.038 for medium and high fiscal distance categories, respectively. Recent cadastral assessments are associated with substantial tax reductions of approximately 0.106 percentage points. Demographic characteristics also exhibit significant relationships: municipalities with higher proportions of university graduates tend to set lower tax rates (about -0.004 per percentage point), while higher shares of immigrants are associated with small but statistically significant decreases. By contrast, higher unemployment rates are associated with larger increases in effective property tax rates (around +0.003).

The regression discontinuity estimates indicate that the causal effect of left-wing governance on property tax doubles the magnitude of the OLS estimate. Specifically, the RD (2SLS) coefficient for *Left* is 0.041, compared with 0.022 in OLS. This pattern underscores the importance of accounting for endogenous sorting into political control when estimating policy effects, particularly in contexts where voter preferences and municipal characteristics may correlate with both electoral outcomes and fiscal policies.

Table 2: Estimated coefficients from Eq. 1 and Eq. 2

	OLS	RD (Reduced Form)	RD (2SLS)
Left	$0.022^{***}(0.008)$	–	$0.041^{**}(0.017)$
Left (Left seats > Right seats)	–	$0.040^{*}(0.016)$	–
Renters	$-0.001(0.001)$	$-0.001(0.001)$	$-0.001(0.001)$
Population	$-0.000^{*}(0.000)$	$-0.000^{*}(0.000)$	$-0.000^{*}(0.000)$
Per capita cadastral value	$0.000^{**}(0.000)$	$0.000^{**}(0.000)$	$0.000^{**}(0.000)$
Fiscal distance Medium	$-0.034^{***}(0.008)$	$-0.033^{***}(0.008)$	$-0.033^{***}(0.008)$
Fiscal distance High	$-0.038^{***}(0.010)$	$-0.038^{***}(0.010)$	$-0.038^{***}(0.010)$
Per capita debt	$0.000(0.000)$	$0.000(0.000)$	$0.000(0.000)$
Per capita transfers	$0.000(0.000)$	$0.000(0.000)$	$0.000(0.000)$
Urban area	$0.000(0.000)$	$0.000(0.000)$	$0.000(0.000)$
Coalition	$0.014(0.009)$	$0.014(0.009)$	$0.013(0.009)$
Last assessment	$-0.107^{***}(0.011)$	$-0.106^{***}(0.011)$	$-0.106^{***}(0.011)$
Graduates	$-0.004^{***}(0.001)$	$-0.004^{***}(0.001)$	$-0.004^{***}(0.001)$
Immigrants	$-0.002^{**}(0.001)$	$-0.002^{**}(0.001)$	$-0.002^{**}(0.001)$
Population 16–64	$-0.001(0.001)$	$-0.001(0.001)$	$-0.001(0.001)$
Unemployment	$0.003^{***}(0.001)$	$0.003^{***}(0.001)$	$0.003^{***}(0.001)$
Observations	1,884	1,884	1,884
R^2	0.116	0.119	0.118
Adjusted R^2	0.109	0.110	0.109

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

4.2 Capital tax gain

Table 3 reports the results from the estimation of Equations 3 and 4. The first column presents the probit model, which captures the determinants of adopting the capital gains tax. In contrast to the mandatory property tax case, ideology plays a statistically significant role in adoption. Municipalities governed by left-wing parties are more likely to introduce the tax, as indicated by the positive and significant coefficient on the *Left* variable (0.270).

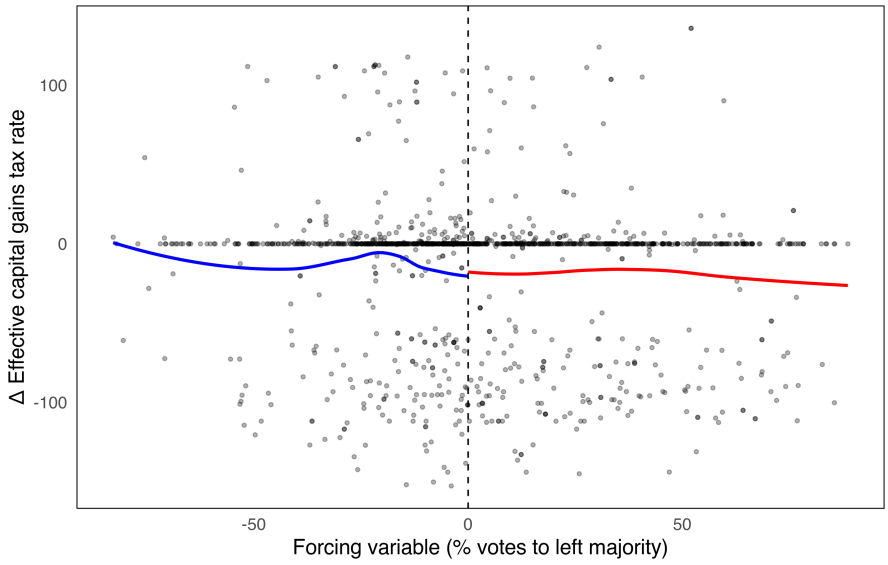
In a probit model, coefficients do not directly represent changes in adoption probability; rather, they affect an underlying latent index. To obtain the marginal effect on the actual probability of adoption, the coefficient must be multiplied by the slope of the standard normal cumulative distribution function evaluated at the relevant point. In our sample, the baseline probability of adoption is approximately 73%, which corresponds to a latent index value of about 0.61. The slope of the normal density at that point is roughly 0.33. Multiplying this value by the estimated coefficient for left-wing governments (0.270) yields an average marginal effect of about 0.089. This implies that left-wing municipalities have an 9 percentage point higher probability of adopting the tax than right-wing municipalities. Put differently, if a municipality with average characteristics has a 73% probability of adopting the tax, switching from a right-wing to a left-wing government would increase this probability to roughly 82%.

The effect is moderate but meaningful. Note that controls like *Per capita debt*, *Graduates*, or *Unemployment* are still significant but their marginal effects, in terms of probability change, are individually smaller than the effect of the left-wing dummy at typical values of the covariates. This means that political ideology is the strongest predictor of adoption, highlighting that the choice to introduce a capital gains tax is highly sensitive to the partisan orientation of the municipal government rather than just economic or demographic conditions.

Once the tax is in place, however, a different pattern emerges. During the term in office, the effective tax rate fell by an average of 16%, with left-wing governments reducing the rate by approximately 5% more than right-wing governments, as illustrated in Figure 4. This graphical check already shows that the difference at the cut-off is not very large.

The OLS estimates (second column) show that subsequent changes in the effective capital gains tax rate are not systematically linked to ideology, as the coefficient on left-wing governments is statistically insignificant. Instead, technical and economic fundamentals dominate rate-setting. Mu-

Figure 4: Outcome vs forcing variable (cutoff at 0)



nicipalities that have gone longer without a cadastral revaluation display systematically higher effective tax rates. Moreover, market activity exerts a strong influence: municipalities with more housing transactions per capita set significantly higher effective rates, underscoring the reliance of local governments on this revenue source when real estate markets are more dynamic.

The regression discontinuity estimates (third column) reinforce this interpretation. Around the electoral threshold of political control, left-wing governments do not exhibit systematically higher capital gains tax rates than right-wing ones (the coefficient for left-wing goverments is 0.22, but statistically insignificant). This suggests that ideology has little impact on rate-setting at the margin. In contrast, the same set of technical and socioeconomic factors (cadastral assessments, unemployment, educational attainment, and housing market activity) continue to explain variation in effective tax rates.

Taken together, these findings indicate that ideology matters primarily for the decision to adopt the capital gains tax, but not for the level at which it is set once in place. In contrast to property taxation, where ideology has a clear and persistent influence, capital gains taxation appears more pragmatic. It is activated when fiscal pressures and socioeconomic conditions align, and its rate is subsequently adjusted in response to cadastral revaluations and market dynamics rather than political ideology.

Table 3: Determinants of capital gains tax: Two-part model and regression discontinuity estimates

	Probit	OLS	RD (Reduced Form)
Left	$0.270^{***}(0.085)$	$-3.508(2.658)$	–
Left (Left seats > Right seats)	–	–	$-0.227(6.875)$
Renters	$0.007(0.008)$	$0.002(0.227)$	$0.050(0.228)$
Population	$0.000^{***}(0.000)$	$-0.000(0.000)$	$0.001^{***}(0.000)$
Total cadastral value	$10.300^{***}(2.532)$	$-522.400^{***}(45.680)$	$-0.000^{***}(0.000)$
Per capita debt	$0.001^{***}(0.000)$	$0.005(0.004)$	$0.004(0.004)$
Per capita transfers	$0.000^{*}(0.000)$	$-0.020^{*}(0.010)$	$-0.022^{**}(0.010)$
Urban area	$-0.001^{**}(0.000)$	$0.000(0.003)$	$-0.002(0.003)$
Coalition	$0.138(0.113)$	$2.932(2.953)$	$2.188(2.995)$
Last assessment	$-0.007(0.127)$	$49.300^{***}(3.817)$	$51.860^{***}(3.790)$
Graduates	$0.079^{***}(0.013)$	$0.795^{**}(0.302)$	$0.440(0.300)$
Immigrants	$0.003(0.005)$	$0.232(0.164)$	$-0.058(0.162)$
Population 16–64	$0.057^{***}(0.011)$	$0.296(0.377)$	$-0.454(0.373)$
Unemployment	$0.060^{***}(0.009)$	$0.174(0.278)$	$0.284(0.289)$
Transactions	$-0.001(0.002)$	$0.007(0.006)$	$0.032^{***}(0.006)$
Observations	1,677	1,226	1,226
R^2	-	0.238	0.245
Adjusted R^2	-	0.229	0.232

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$.

Finally, since the variable *Left* and *(Left seats > Right seats)* is very close in value, having the instrument very little independent variation, it makes no sense to estimate the regression discontinuity using 2SLS. Therefore we present exclusively the results for the reduced form.

4.3 Robustness checks

Regarding the robustness checks, we focus on the property tax model (Eq. 2), since the capital gains tax RD model (Eq. 4) does not show statistically significant estimates. Our goal is to assess how robust the key coefficients are to alternative tests and specifications. In general, four main concerns arise when evaluating the sensitivity of results in an RD design: (1) the chosen functional form; (2) potential manipulation of the forcing variable; (3) sensitivity to different bandwidth choices; and (4) the possibility of covariate discontinuities at the cutoff.

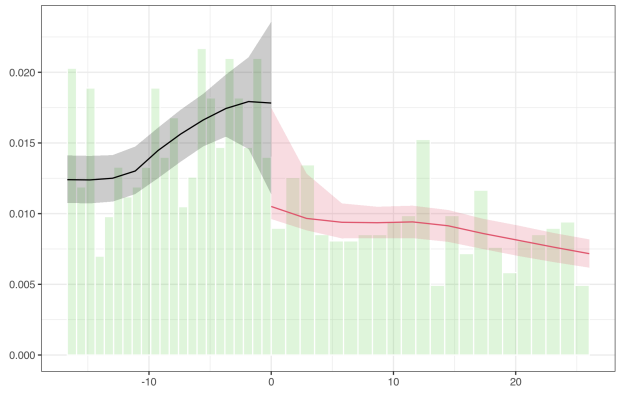
Regarding the functional form, parametric RD specifications have recently received criticism for several reasons: they can produce noisy estimates, are sensitive to the degree of the chosen polynomial, and tend to provide confidence intervals with poor coverage (Gelman and Imbens, 2019). Moreover, because parametric approaches rely on the full sample, they place excessive weight on observations far from the threshold. For these reasons, several authors recommend using non-parametric methods instead (Valentim et al., 2021). Following this approach, we implement a fuzzy regression discontinuity design using local polynomial estimation on both sides of the cutoff, with optimal bandwidth selection as proposed by Cattaneo et al. (2024), and including covariates. The resulting fuzzy RD estimate indicates that crossing the threshold increases the outcome by approximately 0.05, a result very similar to our 2SLS estimates. Overall, the evidence suggests that our findings are largely robust to the choice of functional form.

Table 4: Fuzzy RD of local polynomials with optimal bandwith

Polynomial	Coef	Std. Err	z	p-value	95% CI
Linear	0.047	0.021	2.238	0.045	0.002-0.100
Quadratic	0.052	0.025	2.049	0.091	-0.008-0.110

Regarding the possibility of manipulation of the forcing variable, recall that the validity of the RD design relies on the assumption of local randomization, that is, the absence of sorting around the threshold. In our context, manipulation could in principle arise from two sources: pre- or post-electoral coalition formation, or electoral fraud. Since there is no evidence of electoral

Figure 5: Discontinuity in the forcing variable. McCrary test.



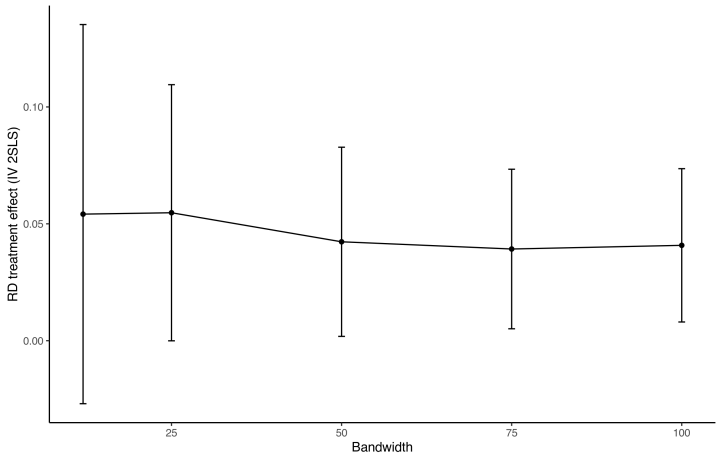
fraud in Spain, only coalition behavior remains as a potential concern. Post-electoral coalitions are not an issue here because we rely on electoral blocs rather than post-hoc agreements. Pre-electoral coalitions are generally rare in Spain due to the incentives created by the proportional representation system. However, the substantial political fragmentation that followed the Great Recession of 2008 makes this a potential source of sorting.

To address any such concerns, we conduct the density discontinuity test proposed by McCrary (2008). The test yields no evidence of manipulation (p-value = 0.179). The graphical evidence in Fig. 5 shows some differences in the distribution of observations on either side of the cutoff, but no indication of a considerable discontinuous jump at the threshold. Both the numerical test and the graphical inspection are based on data-driven bandwidths chosen using mean squared error–optimal selection.

Figures 6 displays the estimated coefficients of the IV–RD model across a range of bandwidths for the property tax and capital gains tax specifications, respectively. The bandwidths are expressed as multiples of the optimal bandwidth selected following Cattaneo et al. (2024). The estimated coefficients remain consistently close to 0.05 across all bandwidth choices. This indicates that the RD effect is highly stable and not particularly sensitive to bandwidth selection.

Finally, we conduct a placebo test on the predetermined covariates to assess whether any discontinuities arise at the threshold. As shown in Table 5, nearly all covariates display no statistically significant jumps at the cutoff. The only exception is the percentage of immigrants. However, controlling for this variable does not alter our main results, suggesting that it does

Figure 6: Robustness of RD treatment effect on effective property tax across bandwidths



not confound the estimated treatment effects. Overall, this evidence supports the identifying assumption that municipalities just above and below the cutoff are comparable in observable characteristics, thereby reinforcing the causal interpretation of our findings.

Table 5: Covariate Balance Tests Around the RD Cutoff

Variable	BW Left	BW Right	RD Estimate	Robust p-value	95% CI	Effective N
Renters (%)	15.321	15.321	-0.758	0.377	[-3.276, 1.240]	715
Population	11.413	11.413	-5974.428	0.184	[-19060.705, 3658.372]	553
Per capita cadastral value	21.096	21.096	1.754	0.659	[-5.519, 8.728]	936
Per capita debt	18.831	18.831	27.877	0.468	[-58.263, 126.776]	850
Per capita transfers	14.738	14.738	-8.252	0.833	[-38.184, 30.772]	685
Urban area	12.369	12.369	-131.300	0.100	[-358.922, 31.559]	594
Years since assessment	18.876	18.876	-0.175	0.881	[-2.833, 2.432]	851
Graduates (%)	25.523	25.523	0.947	0.133	[-0.359, 2.717]	1105
Immigrants (%)	19.034	19.034	-2.648	0.024	[-5.319, -0.367]	859
Population 16–64 (%)	20.122	20.122	0.001	0.980	[-1.564, 1.605]	897
Unemployment (%)	24.419	24.419	-0.921	0.215	[-2.119, 0.477]	1071

5 Conclusions

This study provides evidence that political ideology exerts distinct influences on different forms of property taxation in Spanish municipalities. Our analysis reveals a clear causal effect of left-wing governance on recurrent property taxation, with municipalities under left-wing governments increasing effective property tax rates by approximately 30% more than their right-wing counterparts. This finding, established through regression discontinuity designs that address endogeneity concerns, demonstrates that ideological preferences significantly shape fiscal policy in the realm of wealth taxation.

The pattern for capital gains taxation, however, reveals a more nuanced relationship. While left-wing governments are approximately 9% more likely to adopt the capital gains tax initially, ideology plays no statistically significant role in determining the level at which the tax is set once implemented. Instead, technical factors such as cadastral assessments and market dynamics dominate rate-setting decisions. This divergence suggests that capital gains taxation operates more as a pragmatic revenue tool than as an instrument of ideological preference, despite the polarized political debate on it.

These findings contribute to several important debates in political economy and public finance. First, they help explain the mixed evidence in comparative studies of property taxation by highlighting how institutional context mediates ideological effects. The Spanish system's foundation in ownership-based taxation, contrasted with the use-based approach common in anglophone countries, creates different opportunities for ideological expression in fiscal policy. Second, our results demonstrate that the same political ideology can have divergent effects across different tax instruments within the same institutional setting.

The period under study (2011-2015) provides particular insight into how ideological preferences interact with fiscal constraints. The central government's intervention in property tax rates created an exogenous shock that revealed underlying ideological tendencies, with left-wing governments more willing to utilize the newly created fiscal space. This suggests that institutional constraints and crisis conditions can amplify rather than suppress ideological differences in taxation.

From a policy perspective, these findings indicate that debates about property taxation reform should account for the different political economies of recurrent versus transaction-based taxes. While recurrent property taxes appear sensitive to ideological preferences and may serve redistributive objectives, capital gains taxes on property transfers seem driven more by ad-

ministrative and revenue considerations once implemented.

Future research could extend this analysis to examine whether these patterns persist across different economic cycles and institutional reforms, particularly following the significant changes to capital gains taxation introduced after 2021. Additionally, investigating the mechanisms through which ideology translates into tax policy decisions (whether through party platforms, voter preferences, or bureaucratic implementation) would provide valuable insights into the political economy of local public finance.

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