Do political parties matter for municipal finances? Evidence from property reassessments and estate taxes*

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We evaluate whether political partisanship affects local taxes in an emerging economy. Using detailed residential property-level data in Chile, we study whether the political leaning of mayors affects the reassessment process and thus the taxes paid by home owners. In Chile, this type of tax is especially relevant since it represents one of the largest sources of municipal income. To address endogeneity concerns, we use a regression discontinuity design, exploiting the quasi-experimental variation provided by close municipal elections. Our main results show that after a right-wing mayor is elected, property assessments increase 35% to 40% more than in a similar municipality where a left-wing mayor was elected. Using a limited sample of commercial property values we provide suggestive evidence that only part of this effect is related to an increase in commercial prices.

Keywords government, public finance, political economy, estate taxes

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1 Introduction

Many local governments in developing countries face the near-impossible task of funding the infrastructure and services required to meet the basic needs of growing urban populations, a challenge that has been recently highlighted by social unrest in several countries including Bolivia, Chile, Colombia, and Ecuador. To increase revenue and fulfill their constituents demands, one of the tools available to local politicians are local property taxes. Since in many cases there is a threshold below which home owners are exempt from this tax, politicians' incentives to employ this tool might depend on their political ideologies as there are various preferences for redistribution and taxes are essential for local infrastructure.

In this paper we evaluate whether political factors affect local property taxes in an emerging economy: Chile. Specifically, we study whether the political leaning of mayors affects the reassessment process and thus the taxes paid by home owners. This tax is especially relevant in Chile since it represents one of the largest sources of income for municipalities. These tax assessments must periodically go through massive updating processes performed simultaneously for all properties. According to the Chilean Internal Revenue Service (Servicio de Impuestos Internos or SII), these processes consider variables such as behavior of the real estate market, road infrastructure, urban equipment, public investment, category of buildings, and land use. Thus, at least in principle, this process should be independent of partisan politics.

Politicians' incentives to influence local taxing policy could be higher in a developing country considering the higher unmet needs and demands of the local populations. Additionally, a weaker rule of law could allow local politicians to exert influence on the property taxing policy beyond the constitutional limitations of their positions. On the contrary, it is also possible that in a developed economy, the central government exercises influence on local decisions, limiting the importance of political parties. However, isolating the effect of political partisanship on local tax collections through properties' reassessments is not an easy task because of a potential omitted variables problem: voters could have chosen a specific mayor because of the prospects for their local economy or property values, which could influence their property assessments. To alleviate this endogeneity concern, we follow a regression discontinuity design approach, exploiting the quasi-experimental variation that occurs as a result of close municipal elections.

The idea is that municipalities where a right-wing candidate won by a small margin, are similar to the municipalities where a left-wing candidate won by a small margin.

Our main results show that after a right-wing mayor is elected, residential property assessments increase an additional 35% to 40% more than in a similar municipality where a left-wing mayor was elected. This result is economically significant given that the average increase in assessment is 39%. These results are robust to the kernel choice, higher-order polynomial, and the inclusion of observable characteristics at the property level and the income of the municipalities' residents . Finally, using a limited sample of commercial property values we provide suggestive evidence that only part of this effect can be related to an increase in commercial prices.

We combine two different datasets for our main results. First, we use administrative data from the SII. The panel data provided by this institution includes yearly information between 2009 and early 2019 for all properties. The dataset contains detailed information about tax assessments and observable property characteristics that we include as controls. Second, we collect data on municipal elections from the Chilean Electoral Service (SERVEL). These elections are held simultaneously in all Chilean municipalities every four years. We collect data for 2012 and 2016, that is, two years before each housing re-valuation process. The data include the percentage of votes each candidate obtains, which allows us to employ a regression discontinuity approach. We classify candidates on their political affiliation and include an "independent" category. Overall in our sample, 39% and 45% of elections are won by right- and left-wing candidates respectively ("independent" candidates win the remainder).

We complement these datasets with hand-collected information about construction characteristics and distance between properties and several services and amenities for a limited subsample of municipalities. We use the data to perform a balance test before the elections between municipalities where a right-wing candidate was narrowly elected and where a left-wing candidate was narrowly elected. Finally, we collect property-level commercial prices for a subsample of municipalities. With this information we study whether an increase in commercial values accompanied the increase in property reassessment.

The influence of political factors on municipal financial management has been a subject of interest (Poterba (1994), Roubini and Sachs (1989), and Solé-Ollé and Sorribas-Navarro

(2008)). Many authors have analyzed how political factors can predict specific aspects of financial management (Alesina and Tabellini (1990), and Alesina and Perotti (1995)). Yet, at the municipal level, few works have researched any aspect of public finances, and they have ambiguous results (Ashworth et al. (2005), and Borge (2005)).[1]

Note that the question of whether a government should redistribute from the rich to the poor and how much is probably the most important dividing line between the political left and the political right at least on economic issues. This tension is present in our current setting, as, in our setting, only high-income households own houses which prices are above the tax threshold. Therefore, a politician that wants to tax the rich, to increase its local public spending, would have a clear incentive to raise the value of the appraisals.

This paper elaborates on the territorial tax literature for developing countries. To our knowledge, it represents the first approach to the influence of political factors on the indirect mechanisms that influence the determination of said tax in this type of country. This is especially relevant because it is a progressive tax that allows more significant resources to be allocated to social spending at the expense of higher taxes than the wealthiest sectors of the population. Therefore, politicians from different factions may have different preferences regarding the level of this tax.

Our paper relates to the previous literature that studies the effects of party affiliation on local fiscal and tax policies. Ferreira and Gyourko (2009) present a regression discontinuity analysis for U.S. cities and find that the mayor's party does not affect any of the policy outcomes they study, including the size of the city government and the allocation of public spending. Gerber and Hopkins (2011), find that the party of U.S. mayors does affect public safety spending, but not tax or social policies. They argue that these results support the hypothesis that the overlap between local, state, and federal governments can limit the influence of local governments. The international evidence is provided by Pettersson-Lidbom (2008), who uses a regression discontinuity (RD) analysis with Swedish local government data and concludes that there is a significant difference between left- and right-wing governments, including a 2%-3% higher taxing by left-wing governments. However, Folke (2014) also uses data from Swedish municipalities and

[1]While Borge (2005) finds a robust effect of local government's political characteristics on budget deficits, Ashworth et al. (2005) concludes that there is no long-term effect, but only a correlation in the short term between debt levels and the number of parties in a coalition.

concludes that party representation does not affect tax policy. Freier and Odendahl (2015) find ambiguous results for different left-wing parties in Germany, while Fiva et al. (2018) find more property taxing in Norwegian municipalities when the left-wing party increases its representation. We complement this literature by studying political partisanship effects on local taxes in an emerging economy, where as explained above, the incentives for politicians to increase revenue could be even stronger. Finally, Gouvea and Girardi (2019) study political partisanship on local fiscal policy in Brazil. Interestingly the authors find no effect on spending nor the size of the government. However, they do not study local tax policy, which is the focus of our study.

Our paper also relates to a broader literature studying these questions at the state or national level. Leigh (2008) considers 32 policy settings and economic outcomes under Democratic and Republican governors in the U.S. and concludes that there are few differences between them. The author finds no effects of political partisanship on state tax rates. Fredriksson et al. (2013) uses a panel of U.S. states to study the effects of political partisanship on state tax policy. Interestingly, they find that if the governor is re-electable, then Democrats tend to increase income tax relative to Republicans. However, if they cannot run for re-election, they do the opposite. In a related study, Beland and Oloomi (2017) finds that the governor's party does not affect total spending, but only the allocation of funds. In summary, the literature studying the effects of political partisanship on fiscal policies and specifically on tax policy has reached inconclusive results. Our main contribution to the literature is that, to the best of our knowledge, we are the first paper to present an RD design to explore local property taxes in an emerging economy.

The rest of the paper is organized as follows. Section 2 discusses the Chilean Municipal tax system and the theoretical framework. A description of our data is presented in Section 3. Section 4 describes our empirical strategy. Section 5 presents the main empirical analysis and robustness test are discussed in Section 6 . Section 8 concludes.

2 Chilean Estate Taxes and Theoretical Framework

In this section we briefly explain the model used by the Chilean government to reassess the value of properties and discuss how politicians could influence the variables involved.

2.1 *Operation of the appraisal and estate taxes in Chile*

The basis for the current Chilean territorial tax was established in 1998 by Law 17235 (1998). Although its exact operation has undergone subsequent modifications (Razmilic (2014)), the law establishes a real estate tax that levied based on appraisal, determined by the provisions of the code. It also established that the Chilean revenue collection agency (*Servicio de Impuestos Internos or SII*) is the institution that must carry out the appraisal process and reassess agricultural and non-agricultural real estate every four years. Importantly, the SII can request the assistance and cooperation of the municipalities in the appraisal process.

The law also establishes that not all properties are subject to the payment of contributions. In the case of non-agricultural properties with a residential destination, after the last reassessment process in 2018, it was considered exempt from taxes properties whose assessed value was less than USD 44,865.[2] There is also a reduced payment tranche, in which a reduced rate is applied. Given these conditions, after the last reassessment process, 23% of homes throughout Chile paid estate taxes.

Once the appraisal is determined, the territorial tax is calculated for the property. The law mentioned above establishes that the total national collection cannot increase more than 10% due to a reassessment process. Hence, authorities must adjust contribution rates accordingly. Table 1 presents the standards established in the original law and used in the last reassessment processes for non-agricultural housing properties. For more details about the appraisal system, along with exceptional cases and fees that apply, see Appendix B.

It is important to note that a significant portion of the estate taxes levied goes directly to the municipality, and an additional percent returns to the same municipality through a distributive mechanism called the Municipal Common Fund (*Fondo Común Municipal* or FCM). This system is designed to allocate resources from the wealthier municipalities to the poorer ones, to lower inequality between them, and guarantee a steady supply of public goods for all citizens. The FCM and represents the primary source of income for the municipalities, and its funds come from different types of taxes. A quarter of the FCM is divided into equals parts between every municipality. The rest is redistributed through a system that takes into account different

[2] $ 33,199,976 Chilean pesos. Throughout this article, we use an exchange rate of 740 Chilean pesos per 1 US dollar, the exchange rate at the end of December 2019.

factors, such as the poverty rate and the number of properties that are not subject to property tax income per capita from other municipal revenue sources. In the case of territorial taxes, 40% stays in the same municipality, while 60% goes to the FCM (65% for the wealthiest communes).

2.2 Variables affecting appraisals

In theory, given the model presented in Appendix B, property appraisals should only be affected by the factors included in the appraisal process. By law, the SII has to be transparent to the owners about the variables considered. Thus, theoretically, the analysis can be replicated to reach the appraisals described. However, what is not entirely transparent is how these parameters are determined (Trivelli (2014)). The SII argues that it is based on the behavior of the real estate market, road infrastructure, urban equipment, public investment, category of buildings, and land use. The sources used to establish these criteria are not clear, and as reported by Trivelli (2013), there may be an "arbitrary discrimination" towards certain types of properties.

As already mentioned, although the municipalities should not be able to affect the parameters of the model directly, they are in charge of providing the necessary information to keep the property valuations updated. The problem is that this is an expensive process, and, as Bravo (2014) suggests, it can entail both administrative and political costs since people could negatively associate the increases in the amount of levied taxed with the municipal authorities. On the other hand, an increase in levied estate taxes would increase the municipal budget. [3]

These ambiguities in the process make us wonder whether systematic elements may be influencing decision-making. As the literature shows (Freier and Odendahl (2015)), there is evidence of a desire on the part of municipal authorities to affect property taxes. Thus, Chilean municipalities can affect these taxes through the information provided to the SII indirectly On the other hand, as reported by Solé-Ollé and Viladecans-Marsal (2013), it is also possible that political partisanship affects the urban development policies taken by local governments. Hence, political partisanship could correlate with assessments through commercial prices.

[3] Appendix C explains how estate taxes are split between municipalities and the national government).

3 Data Description

To study the effects of political partisanship on estate taxes, we use data on the fiscal valuations and municipal elections for our main results. To complement these results we additionally include a limited sample of commercial prices and of municipal level data

3.1 Fiscal valuations

Fiscal valuations come from the official databases of the SII. This data set features panel data on all properties nationwide from 2009 to early 2019, which includes the tax assessment, the number of contributions paid, and the percentage of the property exempt from payment. It also provides information on the observable characteristics of the property, such as the surface area by type of soil and the surface area per construction line, together with its material, quality, age, and unique condition. The panel is not balanced as some properties exit the sample, and others enter.

We do not use all years in the sample because the valuations in a semester without a reappraisal remain relatively constant, and the prices adjust only for inflation. Thus, we focus only on changes related to reassessment processes. There are two residential property reassessments in our sample: 2014 and 2018. We drop all observations for which we have changes in observable characteristics such as remodelings or increases in the square footage of the construction. We do so to filter out changes in valuations related to differences in the property characteristics and not necessarily to the elected mayor.

Panel A on table 2 presents descriptive statistics of these two reassessments processes. The table shows the essential differences between the 2014 and 2018 processes. The latest process involved significant changes in fiscal valuations. Panel B of this table shows that these changes are not constant across pre-reassessments valuation deciles. This is important because a significant percentage of houses are not subject to estate taxes.

It is important to note that the change in fiscal valuation is limited by -1, but it has no upper limit for increases in assessments. [4] Thus, to avoid results are driven by observations located at

[4]Extreme changes are driven by cases where property characteristics were excluded from the assessment. It is hard to identify these cases individually.

the far right of the distributions we trim our sample at a 1% level [5].

3.2 Municipal elections and income

The data about municipal elections comes from the Chilean Electoral Service ($SERVEL$). Since we study the 2014 and 2018 reassessments processes, we use data for the 2012 and 2016 municipal elections. To classify, according to the political orientation of each mayor, we follow the methodology proposed in Leiva (2018). The criterion proposed by the author consists in assigning the candidates according to the coalition to which they belong, and classifying these coalitions in left and right according to whether they belong to parties traditionally associated with each political orientation.[6] If the candidate does not belong to any right or left-wing coalition, then she is defined as an "independent". The results of this classification are shown in Panel A on table 3. Also, Panel B shows that changes in political orientation are relatively common. In 38% of cases, the elected mayor comes from a different political direction than the existing one.

A key element of our identification strategy is the voting margin by which the elected mayor won the election. In Chile, mayors are elected via direct voting, and the candidate with the highest vote count is elected. Therefore we group ballots at the candidate level, and we define the voting margin as the difference between the two most voted candidates. When an elected candidate obtains a voting margin of α%, the variable is defined as α for the winning ideology and $-\alpha$ for his closest competitor. We exclude third-party orientations from our analysis when a majority of the commune does not support them. Furthermore, we exclude from the data elections in which the two majorities corresponded to candidates of the same orientation and those in which only a single candidate participated.

For robustness, we consider a new specification of the margin variable, defined as *restricted sample margin*, which only considers cases in which the first- and second-place in the election include a right-wing candidate and a left-wing candidate. This ensures that all communes have a defined political position. A restricted sample margin greater than 0 corresponds to a mayor

[5] Considering the shape of the reassessments distributions, we decide to use trimming instead of winsorizing to avoid a large mass of observations pooled at specific percentiles that could bias our results

[6] The parties are: Right: Independent Democratic Union and National Renewal. Left: Christian Democracy, Party for Democracy, Social Democratic Radical Party, Socialist Party, and Communist Party.

of the right being elected, while a negative value means that the candidate from the left was elected. Table 4 shows the result of all the assignments described. The number of observations decreases because we only include elections in which the top two candidates belong to different political coalitions.

3.3 Additional data

To complement our main results, we use three additional datasets. First, we collect data from the Unemployment Insurance database which includes information about all dependent workers over 18 years whose contracts are ruled by the Labor code.[7] We compute the average of workers' taxable income at the semester-municipality level. This information is available for all municipalities in our sample and we use it as a control variable in our main specifications as explained below

Second, to explore a potential mechanism driving our results we collect commercial prices at the property level for 43 municipalities. These municipalities are mostly located in the capital of Chile, Santiago, where 35.6% of the population lives. The data was provided by one of the major real state commercial data providers in the country.

Finally, we hand-collect information about constructions' characteristics and distances to different amenities for a subsample of municipalities located in Santiago. The small number of municipalities for which this data is available does not allow us to perform a regression-discontinuity analysis, but we use this data for a balance test in section 5.1. Appendix table A.1 present a description of the different variables we use in this study.

4 Empirical Framework

4.1 Identification Strategy

Estimating the influence of political factors on the fiscal appraisals is a challenging task since unobserved municipal characteristics could correlate with the political orientation of the elected

[7]The database excludes the following individuals: workers subject to apprenticeship contracts, younger than 18 years old, from private homes, independent or self-employed, public sector officials, and retirees.

mayor. Thus traditional estimating methods could suffer from an endogeneity problem driven by omitted variables. To isolate the causal effect that a representative of a particular political orientation has on local policies the political economy literature has exploited the quasi-experimental variation that occurs as a result of hard-fought elections. If we order the elections based on the voting margins obtained by the candidates, then the elections closer to the cut-off point would resemble a random experiment, since the probability of having fallen to either side of the cutoff is the same. Formally, the analysis corresponds to a regression discontinuity design (RD).

The fundamental assumption for this analysis is that municipalities below the cutoff are similar to those above it. The only difference among them is the political orientation of the elected mayor. If an effect is found, we can establish a causal relationship between the changes in the tax appraisals and the political ideology that governs the commune.

An essential element of the identification strategy is to determine which officials are responsible for implementing local policies. According to Chilean law, municipalities are "autonomous public law corporations, with legal personality and their assets, whose purpose is to meet the needs of the local community and ensure their participation in the social and cultural economic progress of the commune". For this purpose, they entail a mayor and a communal council, both elected by simultaneous popular vote every four years. The council is composed of 4, 6, or 8 councilors, depending on the size of the commune. In this study, we will focus on mayors as the main force that determines the political orientation of the commune. We do so because the mayor is the primary official in charge of the commune administration, while the council has a supervisory and advisory role.

Finally, a more technical aspect of the identification strategy relates to the specifics of the appraisals' changes. By law, the parameters of the model are updated jointly at the national level every four years in a reassessment process, with changes in the other years restricted to adjust for inflation and resolve specific cases. Thus, we exploit the variation from national-level reassessments.

4.2 OLS model controlling for observable factors

We start with an OLS model that includes observable property factors. A mentioned above, this approach is susceptible to an omitted variable problem. The estimated model is given by

equation 1.

$$\Delta Valuation_{ikt} = \alpha + right_{kt} + left_{kt} + X_{it} + income_{kt} + \epsilon_{ikt} \quad (1)$$

In the estimated model, $Valuation_{iky}$ corresponds to the change in the price of each property i reassessment period t located in municipality k. The dummy variables $right_{kt}$ and $left_{kt}$ are equal to 1 if the mayors of municipality k was from a right or left-wing coalition, respectively. Note that it is possible to include both variables because the omitted category is for independent mayors. X_{it} is a vector of control variables at the property-level i, including the land area, the area by type of material and quality, the percentage of the property subject to different special conditions, and the average age of construction. We also control for $income_{kt}$ the average income of workers in municipality k at the time of the reassessment process t.

4.3 Regression Discontinuity Design

There could be unobservable municipality characteristics that influence the relation between changes in fiscal appraisals and political elections. Thus our preferred specification corresponds to a model that filters out these effects by exploiting close elections. We use an RD that allows us to analyze the effect on the dependent variable at the discontinuity. The running variable corresponds to the elected mayor's political ideology. It is necessary to define a bandwidth interval around the cutoff to determine which observations are relevant to the analysis. For the choice of bandwidth, we implement the methodology proposed by Calonico et al. (2014), which establishes the criteria for choosing a robust optimal bandwidth, taking into account the bias that can occur by selecting large intervals (also known as the CCT criterion). The RD model is presented in equation 2.

$$\Delta Valuation_{ikt} = \alpha + \beta_i Margin_{kt} + \rho D_{ikt} + \epsilon_{ikt} \quad (2)$$

Where $Valuation_{iky}$ corresponds to the change in the price of each property i, for reassessment period t, located in municipality k. $Margin_{kt}$ is a function of the voting margin, which

does not necessarily follow a linear trend. Finally, D_{ikt} is a dummy variable, which is 1 if the observation falls to the right of the cutoff and 0 otherwise. Considering that our mayors' classification consists of three categories (left, right, and independent), we estimate the model for each ideology separately and pool the other two groups. We also present the results if we restrict the sample to elections where only right and left-wing candidates obtained the top two voting percent.

We can estimate equation 2 using polynomial or non-parametric methods such as linear regressions.[8]. For the base case of this model, we will perform the estimation using first-degree (linear) polynomials. As a robustness exercise, we also estimate the model using quadratic and cubic polynomials. We also estimate the base model using a triangular kernel, and perform further robustness tests using Epanechnikov and uniform kernels.

Another issue to consider is the possible autocorrelation that may exist within spatial areas and how this can affect our standard errors. To account for it, we cluster the standard errors at the city block level. As a robustness exercise, we present results clustered at the municipality level in section 6.

5 Main Results

This section presents the main results of our study. We start with a balance test for different variables for a subsample of municipalities. Then we present the OLS model, yet our preferred specification is based on the RD results, because of the endogeneity concerns discussed above.

5.1 Municipalities' characteristics

Even though our empirical strategy is based on a regression discontinuity design to address the potential endogeneity between municipal characteristics and the party of the elected mayor, it is still interesting to explore potential differences between municipalities before the election. To do so, we hand collected a series of variables that we aggregate at the municipal level. These variables include constructions related variables, such as the total construction surface, the total non-habitable construction surface and the number of building permits among others.

[8]For more information about how this technique works, we refer the reader to Cattaneo et al. (2019a)

Additionally, we have a second set of variables measuring the average distance from a house to the closest public park, supermarket, police station, public transportation (bus or subway), and hospital. A detailed description of the variables can be found on Appendix table A.1.

Table 5 compares municipalities where a left-wing mayor was elected by a narrow margin to municipalities where a right-wing mayor was elected by a narrow margin.[9] Panels A and B present the comparison for the variables measured on January 2012 and January 2016 respectively, that is a few months before the October elections we exploit in our empirical design. As the table shows there are variables for which we have very few observations, so we only presents these results as suggestive evidence, but it is important to consider the limited scope of this analysis.

Despite the caveat discussed in the previous paragraph, it is interesting to note that there are no statistically significant differences between any of the variables right before the 2012 elections as shown by the p-values in the last column of panel A on table 5. If we analyze the economic significance of these differences, we note that the averages are similar, with the higher difference in percentage terms being equal to -26% for the total of non-habitable constructions surface variable. Overall, the average of the absolute differences of the variables is only 14% for 2012.

Finally, panel B of table 5 presents the same comparison but for January 2016, that is eight months before the municipal election. The results are similar to the ones on panel A. Only three out of the twelve variables show averages that are statistically significant at the 10% level and in only one case the significance is at the 5% level. However, it is important to note that the differences do not show a consistent pattern of any of the two types of municipalities being worse than the other type. For example, while municipalities where eventually a left-wing candidate will narrowly win the election show a higher average distance to a hospital or to a supermarket, the average distance in this municipalities to other amenities such as a public park, a police station, and to public transportation is lower.

[9] We cannot not use the same optimal bandwidth that we use in our main results because we do not have enough observations as information was not available for every municipality in the original sample. Thus we select a 10% bandwidth to have enough observations to be able to perform this comparison.

5.2 OLS model

We start analyzing the 2014 reassessment process. As explained above, we are restricting the sample to observations where the house characteristics have remained static over the period. Restricting the sample this way allows us to isolate the effects driven by variations in the land, building, or shared amenities that could affect property assessments. Table 6 presents the OLS results. In all columns, the dependent variable is the change in the assessment value at the property level. The table shows that there are significant effects on the influence of political factors in all specifications. However, the results depend on the control variables included in the specifications, which supports the hypothesis that there are variables simultaneously influencing the election of mayors and the estimator of the political coalition.

In column 1 of table 6, we do not include any controls and find that left and right-wing mayors are associated with smaller increases in appraisals relative to independents. The difference between the coefficients on the left and right dummy variables suggests that municipalities with left-wing politicians are the ones with the smaller increases without conditioning on observable variables. However, these results changed when we added property-level controls in column 2 and municipal-level controls in column 3. Specifically, column 3 shows that the conclusions are the opposite when we include all our control variables. Both left and right-wing mayors are associated with more considerable changes is fiscal valuations. Thus, the mixed result highlights the importance of using proper empirical identification to understand the relationship between political partisanship and reassessments.

Columns 4 to 6 on table 6 present the same set of results for the 2018 reassessment process. The results are more stable than for the previous procedure, although they suggest a different conclusion. Focusing on column 6 that includes all controls, we find that right wing mayor is associated with lower increases in valuations than left-wing mayors. Another difference with the 2014 results is that the changes are more economically significant in columns 4 and 5. For example, column 4 shows that unconditionally, a right-wing mayor is associated in 2018 with a 9.5% lower reassessment change compared to a -1.2% in 2014. Overall, the main conclusion of the OLS analysis is that while there seems to be a statistically significant association between partisanship and reassessments, there is little consistency in the estimates.

5.3 Regression Discontinuity Analysis

The previous section suggests a relation between the mayor's political orientation and the change in fiscal assessments and, thus, with estate taxes to be paid at the municipal level. However, in addition to the ambiguous results, there is a potential endogeneity problem related to omitted variables. In this section, we study whether there is a causal effect using a Regression Discontinuity Design. This methodology allows us to have a good counterfactual that corrects for unobservable factors.

Table 7 presents the main results of this study. We are considering the differences between the 2014 and 2018 reassessment processes. We offer the results separately in panels A and B, respectively. The table shows that the effect is much higher than suggested by the OLS analyses, which highlight the importance of this empirical specification to filter out endogeneity concerns. The first row shows that the right-wing mayor's election results in a 38% increase in valuations. Similarly, if a left-wing mayor is elected, the assessment values decrease by 35%. It is important to note that both cases do not consider the same sample because independent candidates are also included. Finally, the last row of panel A shows that if we restrict the sample to elections where the top two candidates are from either the right or the left, there is a 35% increase associated with a victory by the right-wing candidate. This result is statistically and economically significant as it represents an increase of 1.24 standard deviations.

Panel B of table 7 repeats the analysis for the 2018 process. The results are not significant for the right margin analysis. Independent candidates seem to be driving this result, as in the case of the restricted sample, there is an increase of 40.75%. On the other hand, independent candidates do not affect the significance of the left margin results, where the effect found is -37.02%. A potential explanation for the difference is that in this particular election, many independent candidates could have effectively been right-leaning candidates. In absolute terms, these effects are more substantial than in the 2014 reassessment. However, in the restricted sample case, it represents an effect of close to 0.83 standard deviations, so in relative terms, these results suggest a smaller impact than in the previous process.

Figure 2 presents these results graphically. The change in the appraisals is plotted on the y-axis. The x-axis corresponds to the victory margin of the candidate. In the top two plots, a positive value in the x-axis corresponds to the margin by which a right-wing candidate won

the election. The strong effect is corroborated in the top left figure, while the top right figure clarifies why there was no effect on table 7 panel B for this specification. Next, the top middle graphs correspond to the margin of left-wing candidate victories over to all other candidates. Here, we observe a significant jump at the cutoff in both figures, suggesting a robust negative effect on valuations after a left-wing candidate is elected. Finally, the pictures on the bottom row correspond to the restricted sample, and a positive value corresponds to a victory by the right-wing candidate. There are strong positive effects on valuations after a right-wing mayor defeats a left-wing candidate in the municipal elections. As explained above, the results are consistent with independent mayors behaving similarly to right-wing candidates in terms of policies that affect property appraisals.

Overall, our main results show how the mayor's political partisanship can affect reassessment outcomes. In our preferred specification, the right-wing mayor's election over a left-wing candidate results in an increase in property valuation between 35.4% and 40.8%. This would imply that right-wing local politicians exert and effort to influence the reassessment processes to increase alternatively, the positive correlation could be driven by changes in commercial prices that drive the increases changes in valuations. In section 7 below we explore this hypothesis.

6 Robustness

6.1 Manipulation of elections

When working with close elections, a possible concern is the presence of external influence on the running variable. To test this scenario in the discontinuity, we follow the methodology proposed by Cattaneo et al. (2019b), which builds on McCrary (2008).

As we can see in table 8, we reject that there is evidence of manipulation in the variable that determines the treatment, that is, the margin obtained by the mayors who were elected. As already mentioned, this would be evidence that there is no evident systematic influence on close elections. Figures A.1 and A.2, show there is no significant difference in the density of observations on each side of the cut-off.

6.2 Alternative empirical specifications

An RD model is also necessary to see if the results are sensitive to different kernel choices. Using an Epanechnikov kernel and a triangular kernel, we can see in table A.2 that for the 2014 reassessment, we maintain significance in all specifications. A similar situation occurs when we use a uniform kernel, as table A.3 shows, where coefficients remain significant.

Another relevant analysis is the order of the polynomial used to estimate the equation of the RD. As already mentioned, we obtain our main results by estimating a linear equation on both sides of the cut-off. However, as table A.4 shows, the results remain robust if we use a quadratic polynomial. Higher-order polynomials were also tested with similar results.

As we mentioned before, errors were clustered at the block level in an attempt to resemble the relevant Homogenous Area (HA) as much as possible. But if we now correct at the commune level - which represents a more conservative test since the appraisals show higher deviations relative to a block - we see in table A.5 that the significance remains across all 2014 specifications.

6.3 Controlling for observable characteristics at the municipal level

To avoid results to be driven by differences in observable home characteristics near the cut-off point, we include controls for the size of the land, size of the constructions, and the logarithm of the average communal income. Given the quasi-experimental behavior of the communes near the cut-off point, that is to say where the allocation is theoretically random, *a priori* we should not find very drastic changes in the results. As table A.6 shows, this is indeed what happens since the only specification that loses significance relative to the base specification is that of the restricted sample margin variable for the 2018 reassessment.

6.4 Falsification test

Another way to test the model's performance is to see the effect on those variables that should not be altered in the allotted time frames of the reassessment processes. To do so, we test the impact on income changes at the commune level from one semester to another, consistent with

each reassessment. Table A.7 shows that this is indeed what happens as there is no significant effect on any of the variables for both reassessment processes.

7 Discussion

In this section, we discuss the economic relevance of the results and also present a series of potential explanations as well as different variables that could be related to our main results.

7.1 Relevance and heterogeneity of results

The previous sections have shown that there is sufficient evidence to conclude that political factors are associated with changes in appraisals in Chilean municipalities. In our preferred specifications, the changes are economically significant, representing an increase of 35% to 40%. For the average house in our sample, these results imply an additional $7,575 usd increase in the appraisal for 2014 and $10,990 usd for 2018. These are significant quantities considering that according to the World Bank, the GDP per capita in Chile is $25,223 usd (The World Bank (2018)). Transferring this to territorial taxes is complicated, as the rates and thresholds could change with the results, however, taking the average amount of taxes paid by each home before the revaluation and adjusting for the calculated effects would translate in an increase of 15.7% (2014) and 22.6% (2018) in the total taxes perceived from residential properties.

An important point to consider is that the SII is not an autonomous body, but depends on the Ministry of Finance. Thus, the coalition ruling at the national level could influence appraisals to benefit those municipalities that share their political ideology. However, this does not seem to be the case in our study. While in 2014, a left-wing coalition was in power, in 2018, there was a right-wing coalition, and in both processes, the results are similar.

In terms of the political motivation to influence the assessments, it is interesting to analyze if there is a differential effect for properties that are subject or exempt from paying property taxes. As explained above, properties with assessments below a specific value are exempt from paying estate taxes. We explore this question on tables A.8 and A.9 in the Appendix. Overall the tables show that there are no apparent differences in the results if we split the sample between properties that are subject and exempt from estate taxes. Considering how the assessment values

are updated, it would not be possible for a mayor to influence properties individually, so our tests are an imperfect approximation to study this effect. Nevertheless, these results suggest that there might be other factors, beyond increasing tax revenues associated with our main results.

7.2 Commercial property prices

As previously discussed, our results could be associated with changes in commercial property prices driven by policies implemented by mayors from different political affiliations. If the assessment model captures these changes, then our results could be, in part, explained by this channel. To study this hypothesis, we collect property-level commercial prices for a subsample of 43 municipalities located mostly in the city of Santiago, which is the capital of Chile and represents 35.6% of the country's total population.

We consider transactions that occur within a one-year time-frame around the moment the new tax reassessments came into effect. Then we construct the average of all these transactions by municipality for the year before and the year after the reassessment. Using these averages, we compute the average change in commercial prices for each of the 43 municipalities. We then replicate the same calculations for the changes in the assessment processes of 2014 and 2018, restricting the sample to properties for which we observe transactions during the same period.

Table 9 presents the results of our analysis. We observe a significant positive association between changes in commercial prices and changes in assessment values. This result is in line with SII's official statements that it relies on commercial data available to construct their appraisals. However, the table also shows that there is still a high fraction of the total variation that remains unexplained, which could be related to local politicians.

8 Conclusion

The evidence presented in this paper shows that political partisanship plays a significant role in property reassessments and estate taxes. We use property-level data in Chile, and a regression discontinuity design based on close elections to account for possible omitted variables driven a positive association between partisanship and assessments. In our preferred specification, the election of a right-wing mayor over a left-wing candidate increases assessments between

35.4% and 40.8%, representing a one standard deviation increase on average. This increase in property assessment implies that individuals located in these municipalities have to pay higher estate taxes.

This result is surprising, considering that most of the previous literature in developed countries have found either no effects (Gerber and Hopkins (2011), and Folke (2014)). or the opposite result, that is, that left wing local governments are associated with higher taxes (Pettersson-Lidbom (2008), and Fiva et al. (2018)). Thus, a relevant question is whether our results are driven by the direct influence of mayors on the assessment process to increase tax collections or are driven by policies that affect commercial prices and thus, property assessment.

To shed some light on this topic, we use a subsample of commercial property prices and find that changes in commercial prices have a positive correlation with changes assessed values. However, there is a significant portion of the variation in assessments that is not explained by commercial prices. Thus, we conclude that mayors may influence the reassessment process directly. If this were the case, the consequences are ambiguous. On the one side, voters could punish the mayor in the next election because of the higher estate taxes levied on their properties. On the other hand, more estate taxes increase the municipalities' budgets and could have a positive effect on their re-election. Future work could study this question and analyze the potential changes in public spending after increases in estate taxes related to right-wing mayors after close elections. It could also be interesting to study the re-election success of mayors in municipalities that experience increases in property assessments and estate taxes.

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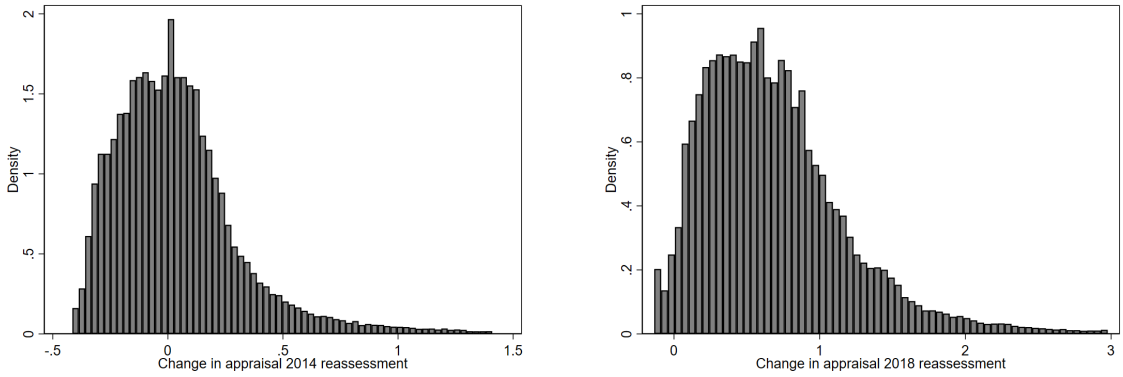
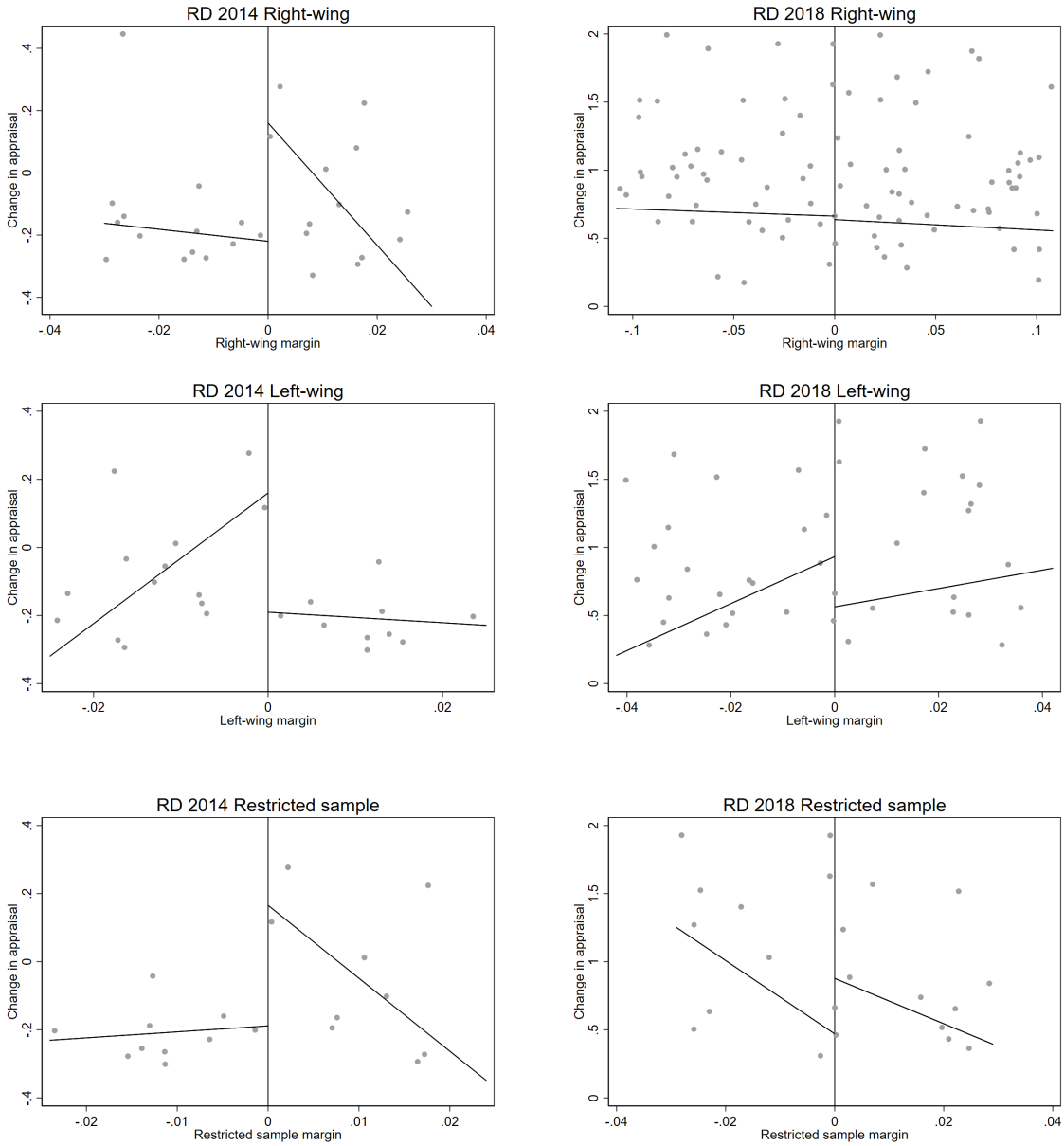
Figure 1. Histograms of trimmed changes in appraisals.



Note: This figure presents density distributions for changes in appraisals as a result of the reassessment process. Due to how the property database is updated, several outliers present problems with previous measurements of the assessment value. These problems lead to abnormal changes when reassesed. To account for this, we trim the results at the 1% level. *Source*: Constructed using data from *Servicio de Impuestos Internos* (SII).

Figure 2. Regression discontinuity design using municipal elections.



Note: This figure shows regression discontinuity results for close elections (2012 and 2016 municipal elections) and their subsequent effect on the change in appraisal. The running variable is the margin between the top two candidates of the election, so plots on the right side of the cutoff indicates that the candidate was elected. The bottom row only includes observations in which the election was decided between left-wing and right-wing candidates (i.e., the restricted sample). In this case, falling to the right of the cutoff means the right-wing candidate was elected, while falling to the left means the left-wing candidate was elected.

Table 1. Property tax rates.

Tax rate	Law 17,235	2014	2018
Agricultural	1.0%	1.0%	1.0%
Non-agricultural	1.4%	1.2%	1.088%
Non-agricultural, residential (reduced rate tranche)	1.2%	0.98%	0.933%
Non-agricultural, residential	1.4%	1.143%	1.088%

Note: This table shows the various tax rates for each type of property. The Law 17,235 rate was established first in 1969. The 2014 and 2018 rates correspond to those established in each residential property reassessment process. Tax rates are slightly lowered with each reassessment to comply with the rule that the total national tax collection cannot increase more than 10% in a single year. *Source*: *Servicio de Impuestos Internos* (SII).

Table 2. Appraisal changes by reassessment year.

(a) Panel A: Summary statistics

Process	N	Average	Std. Dev.	Min	Max
2014 reassessment	4,332,542	0.041	0.275	-0.415	1.409
2018 reassessment	4,747,412	0.681	0.493	-0.135	2.977

(b) Panel B: Change in appraisal per decile of appraisal

Decile	Average 2014 reassessment	Average 2018 reassessment
1	0.119	1.138
2	0.034	0.944
3	-0.001	0.858
4	0.001	0.812
5	0.010	0.698
6	0.027	0.627
7	0.026	0.559
8	0.032	0.467
9	0.068	0.365
10	0.098	0.342
N	4,332,542	4,747,412

Note: Changes in appraisal are constructed using the tax assesment value before and after a reassessment process and calculating the percentage increase. The data per year are trimmed at 1%. Deciles are constructed using the appraisal value before a reassessment. *Source*: Constructed using data from *Servicio de Impuestos Internos* (SII).

Table 3. Election summary statistics.

(a) Panel A: Mayors of each ideology by election year

Election year	Right-wing	Left-wing	Independent	Total
2012	121	167	57	345
2016	145	141	59	345

(b) Panel B: Election results by political incumbency (mayors)

Year of election	Incumbent coalition	Different coalition	Total
2012	198	147	345
2016	231	114	345
Total	429	261	690
Percentage	62%	38%	

Note: Panel A shows mayoral elections for the various municipalities. A candidate is classified as *right-wing* or *left-wing* if the candidate identifies with a coalition that includes a traditionally right-wing or left-wing party. If the candidate does not fall into any of these categories, he or she is classified as an *independent*. Panel B shows the percentage of candidates who belonged to the same coalition as the previous mayor. If the appointed mayor is of the same coalition as the former mayor, he or she is classified as belonging to the incumbent coalition. *Source*: *Servicio Electoral de Chile* (SERVEL).

Table 4. Election margins of candidates for mayor by coalition.

(a) 2012 election

Margin	Obs.	Average	Std. Dev.	Min	Max
Right	272	-0.030	0.230	-0.817	0.613
Left	290	0.038	0.221	-0.613	0.817
Independent	92	-0.030	0.198	-0.611	0.433
Restricted sample	235	0.040	0.231	-0.817	0.613

(b) 2016 election

Margin	Obs.	Average.	Std. Dev.	Min	Max
Right	263	0.014	0.253	-0.707	0.643
Left	286	0.002	0.266	-0.643	0.752
Independent	105	-0.041	0.246	-0.752	0.563
Restricted sample	222	0.011	0.263	-0.707	0.643

Note: This table shows the summary statistics for the election margins. We define an election margin as the difference in voting percentage between the winning candidate and the runner-up, although more than two candidates may be involved in an election. This means that coalitions are not present in every municipality election observation in the data, as the observations only take into account the top two candidates. A margin higher than 0% means the candidate was elected. *Source*: Constructed using data from *Servicio Electoral de Chile* (SERVEL).

Table 5. Balance test for relevant variables before elections.

(a) 2012 election

	Left-wing			Right-wing			
Variable	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.	p-value
Total general constructions surface	1,031,582	2,287,495	44	1,144,428	2,111,818	40	0.815
Total non-habitable constructions surface	6,083	11,490	5	4,481	7,870	5	0.804
Number of general constructions	12,507	28,091	44	14,690	28,187	40	0.723
Number of non-habitable constructions	0.318	1.177	44	0.3	0.911	40	0.723
Number of issued building permits	73	57	8	65	51	6	0.795
Total surface of issued building permits	60,765	70,590	8	50,933	53,018	6	0.780
Total building permits	430	486	8	539	557	6	0.702
Average distance to public park	277	48	4	324	43	4	0.197
Average distance to supermarket	602	307	4	609	231	4	0.973
Average distance to police station	984	254	4	1,172	188	4	0.279
Average distance to public transportation	126	21	4	144	13	4	0.203
Average distance to hospital	1,360	1,187	4	1,440	721	4	0.914

(b) 2016 election

	Left-wing			Right-wing			
Variable	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.	p-value
Total general constructions surface	752	1,222,750	33	842,064	1,376,577	35	0.776
Total non-habitable constructions surface	1,200	1,602	5	12,587	14,923	4	0.128
Number of general constructions	10,573	15,575	33	9,588	15,560	35	0.795
Number of non-habitable constructions	0.788	2.848	33	0.743	2.672	35	0.947
Number of issued building permits	46	31	4	38	37	3	0.757
Total surface of issued building permits	14,102	19,016	4	14,281	21,299	3	0.991
Total building permits	200	316	4	140	202	3	0.789
Average distance to public park	290	32	3	380	164	3	0.406
Average distance to supermarket	876	216	3	547	88	3	0.071
Average distance to police station	1,047	170	3	1,123	198	3	0.641
Average distance to public transportation	132	13	3	167	22	3	0.078
Average distance to hospital	1,991	491	3	927	264	3	0.030

Note: This table shows the balance test for key variables on municipalities classified as either left-wing or right-wing before each election, which corresponds to the treatment under this approach. *Source*: Constructed using data from XXX.

Table 6. OLS estimates for changes in appraisals.

	2014			2018		
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Right	-0.023***	-0.019***	0.002***	-0.057***	-0.024***	0.013***
	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Left	-0.043***	-0.038***	-0.000	0.098***	0.076***	0.037***
	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
ln(Income)			0.258***	-0.516***		
			(0.003)	(0.008)		
Constant	0.070***	0.052***	-3.359***	0.672***	-0.133***	6.732***
	(0.000)	(0.001)	(0.046)	(0.001)	(0.001)	(0.111)
Controls						
Land area	No	Si	Si	No	Si	Si
Material/Quality	No	Si	Si	No	Si	Si
Special condition	No	Si	Si	No	Si	Si
Construction age	No	Si	Si	No	Si	Si
Shared Amenities	No	Si	Si	No	Si	Si
N	4,332,542	4,332,542	4,332,542	4,747,412	4,747,412	4,747,412

Note: This table shows OLS estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to its percentage change in appraisals. The *Income* variable corresponds to the municipal average. Robust standard errors in parentheses. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table 7. Regression discontinuity results.

(a) 2014 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.380***	0.030	68,474	195,418
	(0.013)			
Left margin	-0.350***	0.025	229,367	25,977
	(0.017)			
Restricted sample margin	0.354***	0.024	25,977	187,973
	(0.020)			

(b) 2018 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	-0.026	0.108	573,756	736,226
	(0.021)			
Left margin	-0.370***	0.042	294,185	226,222
	(0.027)			
Restricted sample margin	0.408***	0.029	104,842	136,767
	(0.045)			

Note: This table shows RD estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to its percentage change in appraisal. *Effective N* corresponds to the number of observations that fall inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and left-wing mayor. The RD coefficients are estimated using a triangular kernel. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table 8. Manipulation test applied to municipal elections.

2012 election

	Bandwidths		Effective N		Test	
	Left	Right	Left	Right	T	p-value
Right	0.187	0.171	85	77	0.383	0.700
Left	0.161	0.211	76	104	0.235	0.815
Independent	0.183	0.163	31	29	-1.208	0.227
Restricted sample	0.201	0.160	78	58	-0.713	0.458

2016 election

	Bandwidths		Effective N		Test	
	Left	Right	Left	Right	T	p-value
Right	0.208	0.204	71	90	-0.135	0.893
Left	0.199	0.247	82	91	0.337	0.736
Independent	0.311	0.297	49	30	-0.984	0.325
Restricted sample	0.225	0.207	59	74	0.125	0.901

Note: This table shows density estimators for the RD running variable, which is the margin obtained by the mayor of the coalition. Each observation consists of a municipal election. *Effective N* corresponds to the number of observations that fall inside the optimal bandwidth. The RD coefficients are estimated using a triangular kernel. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table 9. Commercial price changes by municipality.

	(1)	(2)
	2014 reassessment change	2018 reassessment change
Change in commercial price	0.782***	1.328***
	(0.195)	(0.201)
Constant	-0.034	0.539***
	(0.039)	(0.045)
Observations	43	43
R^2	0.281	0.517
Adjusted R^2	0.264	0.505

Note: Standard errors are shown in parentheses. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

ONLINE APPENDIX

Do political parties matter for municipal finances? Evidence from property reassessments and estate taxes

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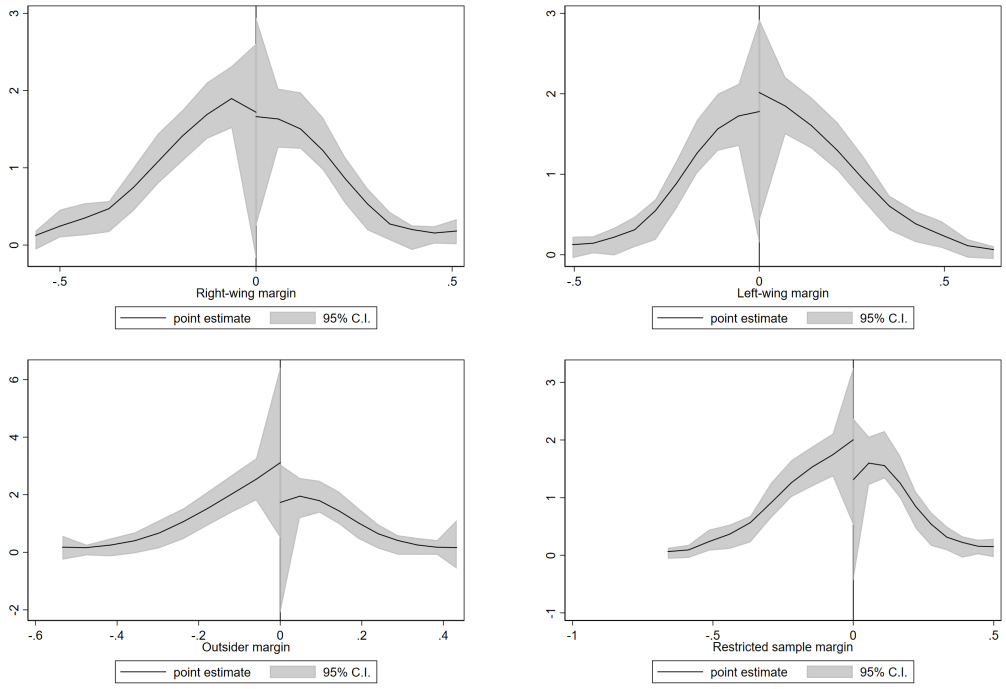
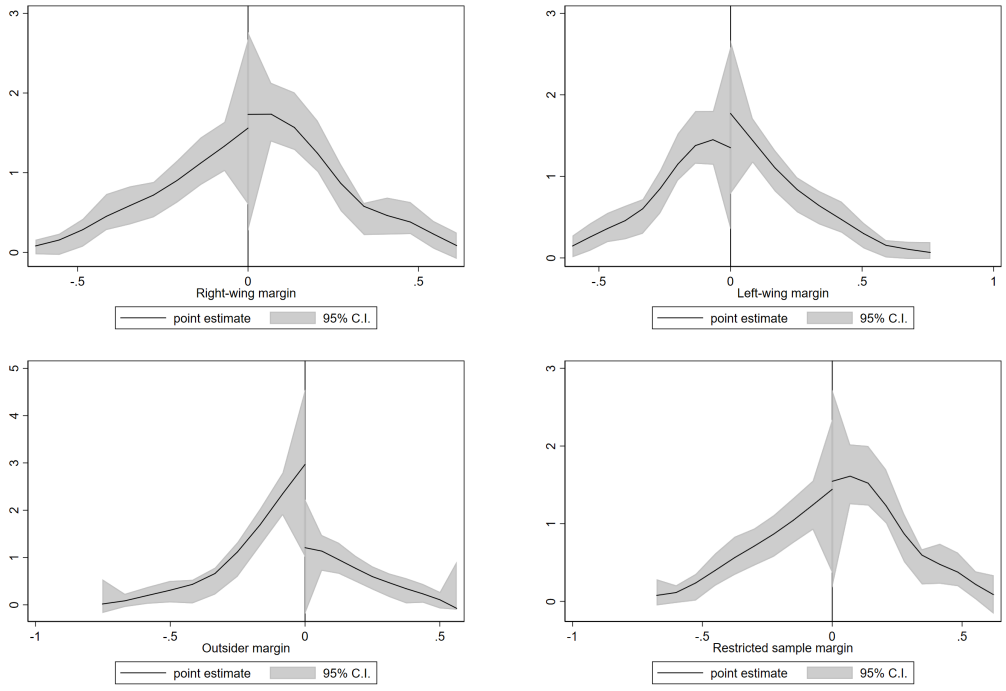
A Figures and Tables

Figure A.1. Density test: 2014 reassessment.



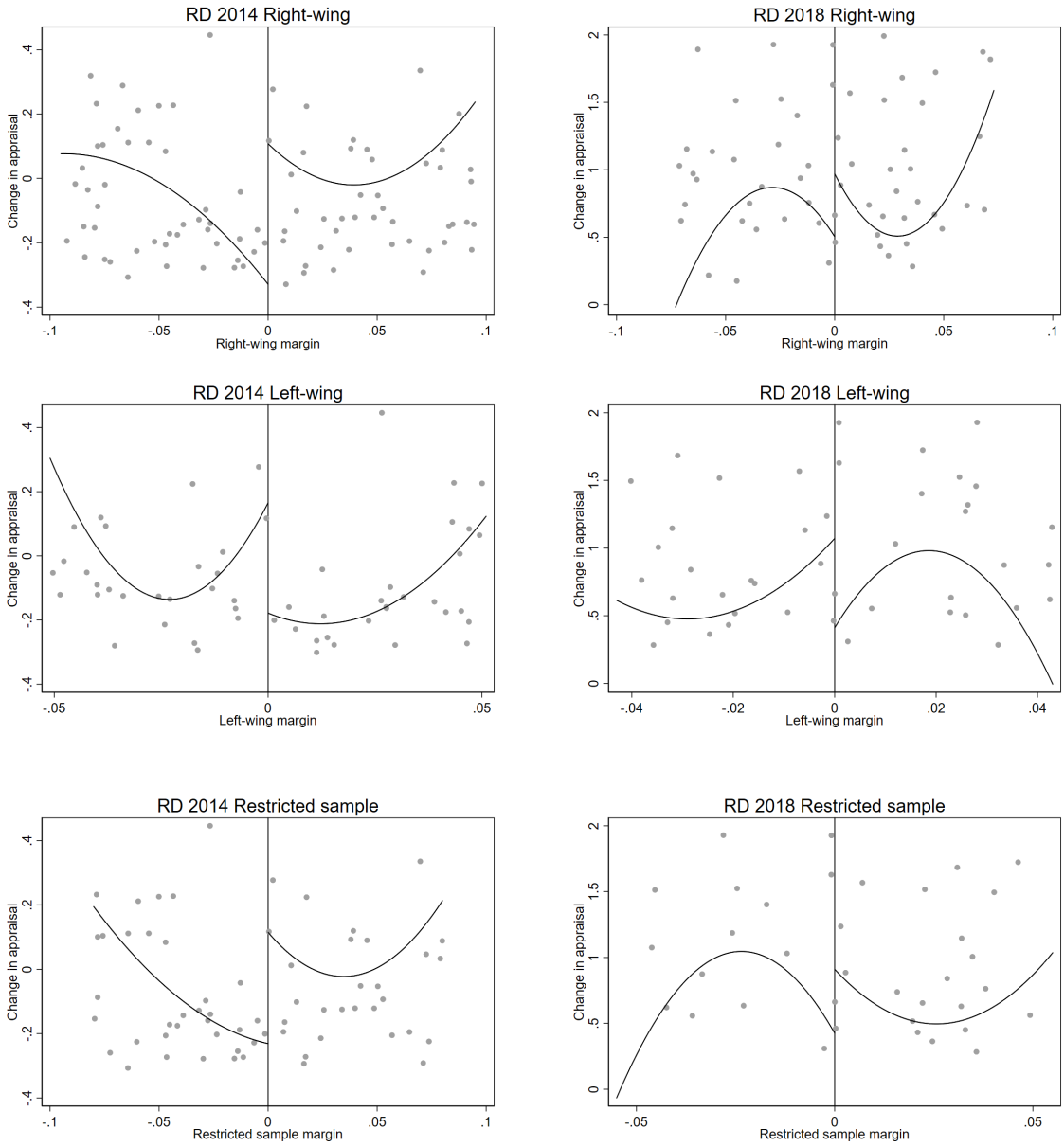
Note: This figure shows density estimators for the RD running variable, which is the margin obtained by the mayor of each coalition for the 2012 municipal election. A significant difference in the density near the cutoff would provide evidence of coalitions having a systematic impact on election results.

Figure A.2. Density test: 2018 reassessment.



Note: This figure shows density estimators for the RD running variable, which is the margin obtained by the mayor of each coalition for the 2016 municipal election. A significant difference in the density near the cutoff would provide evidence of coalitions having a systematic impact on election results.

Figure A.3. Regression discontinuity (Quadratic polynomial).



Note: This figure shows regression discontinuity results for close elections (2012 and 2016 municipal elections) and their subsequent effect on changes in appraisals. The running variable is the margin between the top two candidates in the election, so falling on the right side of the cutoff means that the right-wing or the left-wing candidate was elected. The bottom row includes only observations in which the election was decided between left-wing and right-wing candidates (i.e., the restricted sample). In this case, falling to the right (left) of the cutoff means the right-wing (left-wing) candidate was elected, while falling on the left means the left-wing candidate was elected. Results were estimated using a quadratic polynomial.

Table A.1. Variable Description.

Variable	Definition	Source
Fiscal valuation variables		
$\Delta Valuation$	Percent change fiscal valuation of the property due to reassessment.	SII
Elections and income variables		
Right margin	Voting margin obtained by the right-wing candidate in a mayoral election, considering only the two most voted candidates.	SERVEL
Left margin	Voting margin obtained by the left-wing candidate in a mayoral election, considering only the two most voted candidates.	SERVEL
Independent margin	Voting margin obtained by a candidate that doesn't belong to either a right-wing or left-wing coalition in a mayoral election, considering only the two most voted candidates.	SERVEL
Restricted sample margin	Voting margin obtained by a candidate in an election where the two most voted candidates were members of both a right-wing and a left-wing coalition. A margin greater than 0 corresponds to a mayor of the right being elected, while a negative value means that the candidate from the left was elected.	SERVEL
Average municipal income	Average income earned by the municipality's resident.	SP
Additional variables		
Total general constructions surface	Sum of the surfaces of all constructions inside the municipality classified as general constructions (primarily destined to be habitable). Measured in square meters.	SII
Total non-habitable constructions surface	Sum of the surfaces of all constructions inside the municipality classified as non-habitable constructions. Measured in square meters.	SII
Number of general constructions	Total number of constructions inside the municipality classified as general constructions (primarily destined to be habitable).	SII
Number of non-habitable constructions	Total number of constructions inside the municipality classified as non-habitable constructions.	SII
Number of issued building permits	Number of building permits issued during the period.	INE
Total surface of issued building permits	Sum of the surfaces of all constructions corresponding to the issued building permits. Measured in square meters.	INE
Total building permits	Total number of building permits outstanding.	INE
Average distance to public park	Average distance from each property in the municipality to the nearest public park. Measured in meters.	RemLab
Average distance to supermarket	Average distance from each property in the municipality to the nearest supermarket. Measured in meters.	RemLab
Average distance to police station	Average distance from each property in the municipality to the nearest police station. Measured in meters.	RemLab
Average distance to public transportation	Average distance from each property in the municipality to the nearest bus stop or subway. Measured in meters.	RemLab
Average distance to hospital	Average distance from each property in the municipality to the nearest hospital (public or private). Measured in meters.	RemLab

Note: This table presents definitions and sources for the variables used in this study. SII corresponds to the Chilean Internal Revenue Service (*Servicio de Impuestos Internos*). SERVEL corresponds to Chilean Electoral Service (*Servicio Electoral*). SP corresponds to Chilean Superintendency of Pensions (*Superintendencia de Pensiones*). INE corresponds to Chilean National Institute of Statistics (*Instituto Nacional de Estadísticas*). RemLab corresponds to Real Estate Modeling Lab at Universidad de Los Andes, Chile.

Table A.2. Regression discontinuity results (Epanechnikov kernel).

(a) 2014 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.350***	0.024	25,977	189,496
	(0.018)			
Left margin	-0.343***	0.023	228,189	19,479
	(0.018)			
Restricted sample margin	0.355***	0.020	19,479	187,973
	(0.025)			

(b) 2018 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	-0.098***	0.065	372,177	383,295
	(0.026)			
Left margin	-0.284***	0.049	299,525	255,364
	(0.027)			
Restricted sample margin	0.011	0.073	252,621	220,298
	(0.038)			

Note: This table shows RD estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and a left-wing mayor. The RD coefficients are estimated using a Epanechnikov kernel. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.3. Regression discontinuity results (uniform kernel).

(a) 2014 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.283***	0.063	141,125	351,200
	(0.010)			
Left margin	-0.390***	0.056	433,676	210,529
	(0.011)			
Restricted sample margin	0.304***	0.041	78,138	303,686
	(0.015)			

(b) 2018 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	-0.186***	0.073	423,443	390,401
	(0.025)			
Left margin	-0.644***	0.016	85,105	61,593
	(0.051)			
Restricted sample margin	0.285***	0.035	107,990	186,259
	(0.037)			

Notes: This table shows RD estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and a left-wing mayor. The RD coefficients are estimated using a uniform kernel. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.4. Regression discontinuity results (quadratic polynomial).

(a) 2014 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.436***	0.095	441,470	516,501
	(0.012)			
Left margin	-0.344***	0.051	428,968	195,632
	(0.023)			
Restricted sample margin	0.345***	0.080	351,869	453,483
	(0.013)			

(b) 2018 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.463***	0.073	423,443	390,401
	(0.039)			
Left margin	-0.657***	0.043	294,185	244,146
	(0.038)			
Restricted sample margin	0.485***	0.055	177,620	215,082
	(0.0463)			

Note: This table shows RD estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and a left-wing mayor. The RD coefficients are estimated using a triangular kernel and a quadratic polynomial. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.5. Regression discontinuity results (errors corrected by municipality).

(a) RD 2014

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.377***	0.075	298,238	463,573
	(0.080)			
Left margin	-0.362***	0.071	448,145	376,481
	(0.085)			
Restricted sample margin	0.372***	0.080	351,869	463,712
	(0.081)			

(b) RD 2018

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	-0.014	0.197	876,774	1,150,532
	(0.197)			
Left margin	0.046	0.175	933,387	793,319
	(0.239)			
Restricted sample margin	-0.184	0.153	476,924	736,345
	(0.342)			

Note: This table shows RD estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and a left-wing mayor. The RD coefficients are estimated using a triangular kernel. Errors are corrected at the municipality level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.6. Regression discontinuity results (including controls).

(a) 2014 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.409***	0.037	71,614	225,664
	(0.011)			
Left margin	-0.485***	0.019	223,652	19,069
	(0.012)			
Restricted sample margin	0.483***	0.033	71,614	191,801
	(0.011)			

(b) 2018 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.012	0.049	245,452	373,242
	(0.025)			
Left margin	-0.106***	0.051	302,090	252,450
	(0.022)			
Restricted sample margin	0.027	0.090	283,213	241,687
	(0.025)			

Note: This table shows RD estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and a left-wing mayor. Estimates control for land area, surface of the construction, average age of the construction, and the logarithm of the municipality's average income. The RD coefficients are estimated using a triangular kernel. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.7. Falsification test: Effects on income.

(a) 2014 reassessment

	Δ Income	Bw	Eff. N	
			Left	Right
Right margin	-0.003	0.134	733,844	732,231
	(0.010)			
Left margin	-0.000	0.149	893,171	736,720
	(0.010)			
Restricted sample margin	-0.000	0.137	537,587	722,689
	(0.011)			

(b) 2018 reassessment

	Δ Income	Bw	Eff. N	
			Left	Right
Right margin	0.010	0.147	677,295	997,337
	(0.007)			
Left margin	-0.007	0.116	744,380	555,749
	(0.006)			
Restricted sample margin	0.007	0.150	492,877	750,494
	(0.008)			

Note: This table shows RD estimates for changes in the average municipal income. Each observation consists of a residential property. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and a left-wing mayor. The RD coefficients are estimated using a triangular kernel. Errors are corrected at the municipality level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.8. Regression discontinuity results according to payment of property tax: 2014 reassessment.

(a) Properties exempt from taxes

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.400***	0.028	59,323	122,307
	(0.016)			
Left margin	-0.383***	0.022	150,677	19,103
	(0.022)			
Reduced sample margin	0.394***	0.027	40,286	120,798
	(0.018)			

(b) Taxable properties

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin)	0.029*	0.169	219,964	159,994
	(0.017)			
Left margin	0.042	0.039	74,423	2,158
	(0.071)			
Reduced sample margin	0.141***	0.088	108,822	110,320
	(0.025)			

Note: This table shows RD estimates for changes in appraisals for the 2014 reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and left-wing mayor. Panel (a) includes properties that are exempt of property taxes because they fall below the defined appraisal threshold. Panel (b) includes properties that are above that threshold. The RD coefficients are estimated using a triangular kernel. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.9. Regression discontinuity results according to payment of property tax: 2018 reassessment.

(a) Properties exempt from taxes

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.013	0.064	297,035	280,816
	(0.031)			
Left margin	-0.440***	0.025	147,266	67,951
	(0.038)			
Restricted sample margin	0.092**	0.057	172,776	142,918
	(0.046)			

(b) Taxable properties

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.249***	0.194	142,127	373,877
	(0.022)			
Left margin	-0.282***	0.058	86,964	44,274
	(0.024)			
Reduced sample margin	0.311***	0.071	30,020	72,210
	(0.033)			

Note: This table shows RD estimates for changes in appraisals for the 2018 reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and left-wing mayor. Panel (a) includes properties that are exempt of property taxes because they fall below the defined appraisal threshold. Panel (b) includes properties that are above that threshold. The RD coefficients are estimated using a triangular kernel. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

Table A.10. Regression discontinuity results (controlling for mayor incumbency).

(a) 2014 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	0.368***	0.027	41,423	194,123
	(0.020)			
Left margin	-0.381***	0.031	232,816	69,187
	(0.014)			
Restricted sample margin	0.361***	0.026	25,977	192,600
	(0.022)			

(b) 2018 reassessment

	Δ Appraisal	Bw	Eff. N	
			Left	Right
Right margin	-0.037	0.103	525,889	735,285
	(0.024)			
Left margin	-0.565***	0.019	101,886	63,161
	(0.054)			
Restricted sample margin	-0.031	0.023	61,445	95,188
	(0.059)			

Note: This table shows RD estimates for changes in appraisals for each reassessment process. Each observation consists of a residential property and corresponds to the percentage change in its appraisal. *Effective N* corresponds to the number of observations that are inside the optimal bandwidth. The restricted sample includes only observations in which the election was decided between a right-wing and a left-wing mayor. These data control for mayors that belong to the incumbent coalition. The RD coefficients are estimated using a triangular kernel. Errors are corrected at the block level. Significance levels: * p-value < .1, ** p-value < .05, *** p-value < .01.

B Appraisal Model Explanation

The model values agricultural and non-agricultural real estate differently and takes into account different factors. Since we focus only on residential properties, the relevant model is that of non-agricultural real estate. All Chilean homes fall under this category.

The tax assessment of non-agricultural real estate is determined as follows:

$$Fiscal\ Appraisal = Land\ Appraisal + Construction\ Appraisal + Shared\ Amenities\ Appraisal. \tag{3}$$

- *Fiscal Appraisal* refers to the monetary value that determines the contribution payable by the person associated with the *role*. The role is the individual ID number associated with every Chilean property.
- *Land Appraisal* refers to the monetary value associated with the land on which a structure is built. There does not need to be one linked to the role directly.
- *Construction Appraisal* refers to the sum of the valuation of all the structural components (known as *lines*) that make up the construction directly associated with the property.
- *Shared Amenities Appraisal* refers to the appraised value associated with some lands or constructions that are shared between different properties. This component considers the amount of appraisal that is associated with each role after apportionment between the various units that are linked. In the case of non-agricultural housing, amenities are land, warehouses, or parking lots. There may be more than one shared amenity associated by role.

Different factors determine each of these components:

$$Land\ Appraisal = Area \times Land\ Value\ HA \times Guide\ Coef. \times Corrective\ Coef. \tag{4}$$

Where:

- *Surface* refers to the size of the property associated with the role, measured in m^2.
- *Land Value Homogeneous Area* (HA) refers to the value, measured in \$ m^2, of the HA, corresponding to territorial units defined by the SII, considering the location, the urbanization works, and available equipment. The SII also analyzes the urban planning regulations contained in the regional planning instruments in force in the study area. Before 2014, the values were defined by *Zones of Similar Characteristics* (ZSCs), which were larger than the HA, so the number of different values per commune for the parameter was smaller.

- *Guide Coefficient* refers to an extraordinary adjustment that applies to individual blocks or roles within a commune.
- *Corrective Coefficient* refers to an adjustment for various characteristics, including:
  - Surface adjustment (CS): Applies based on a range defined by HA.
  - Front-Back ratio adjustment (FF): It is applied based on the ratio between the meters located at the front of the property and the ones located at the back of the property.
  - Height adjustment (CA): Determined at HA level if taller and shorter buildings co-exist.
  - Exceptional case adjustments (EC): These apply if a particular property presents a duly supported handicap that justifies a lower value.

Thus, we define the correction coefficient as

$$Corrective\ Coefficient = Min[(FF \times CS), CE] \times AC. \tag{5}$$

While we define the construction as

$$Construction\ Appraisal = \sum_{i=1}^{n} Surface_i \times Construction\ Value_i \times Adjustment\ Coef._i. \tag{6}$$

Since a role can have multiple lines associated with it, we compute the construction value as the sum of each of these segments. The components of the line appraisals are:

- *Surface* refers to the line size, measured in m^2 or m^3, depending on the material.
- *Construction Value* refers to the value according to the type, class, and quality of the material used in the line. It is measured in m^2 or m^3, depending on the material.
- *Adjustment Coefficient* considers adjustment factors for special building conditions, age, commune, and location in commercial areas.

Finally, we define the appraisal of the shared amenities as:

$$Valuation\ of\ Shared\ Amenities = \sum_{j=1}^{n} Total\ Apraisal\ of\ Shared\ Amenity_j \times \%Apportionment \tag{7}$$

- *Total Shared Amenity Appraisal* refers to the total value of appraisal calculated using the corresponding tax appraisal formula.
- *% Apportionment* refers to the percentage of the shared amenity assigned to the role, given by the co-ownership contract.

C Municipal Common Fund (FCM) explanation

The *Fondo Común Municipal* (FCM) serves as the the main source of financing for Chilean municipalities. It is established in Article 122 of the Chilean constitution, which states, "An organic constitutional law will contemplate a solidarity redistribution mechanism of own income among the country's municipalities with the name *Fondo Común Municipal*." To accomplish this, a coefficient was developed to divide the total national fund. The coefficient is set at the commune level and is determined as follows:

$$FCM\ Coefficient = 0.25 \times IDP + 0.1 \times Poverty\ Index + 0.3 \times Property\ Index + 0.35 \times IPP \quad (8)$$

- *Equal parts index* (IDP) refers to a coefficient that is the same for all the communes in the country. This means that 25 % of the FCM is distributed equally among all the communes.
- *Poverty Index* considers the number of citizens below the poverty line (based on the national CASEN survey and the population of the commune) divided by the total national population below the poverty line.
- *Property Index* considers (a) the percentage of properties in the commune that are exempt from property taxes and (b) the percentage of all exempt properties.
- *Own Permanent Income Index* (IPP) considers the per capita income of the commune. This income comes from territorial taxes, circulation permits, municipal patents, cleaning rights, and other municipal rights.