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Preface

This dissertation represents my doctoral thesis as a student of the Ph.D. School in Economics and Finance of the Catholic University of the Sacred Heart. The thesis, elaborated under the supervision of Massimo Bordignon¹, Davide Cipullo² and Matteo Gamalerio³, is composed of three chapters, each including an essay on political economics.

The first chapter presents an essay titled “Is populism reversible? Evidence from Italian local elections during the pandemic” and co-authored with Massimo Bordignon and Matteo Gamalerio. The paper inspects - using data on municipal elections in Italy - the electoral consequences of the economic insecurity generated by the Covid-19 pandemic, finding a positive effects for the consensus to progressive and left-wing parties.

The last two chapters, both single-authored, constitute a unitary composition, as Chapter III is the ideal continuation of Chapter II. The second chapter is titled “Split-ticket voting in Italy: evidence from concurrent European and municipality elections” and presents - using data from Italian municipalities and analysing concurrent European and local elections in the period 1999-2019 - evidence of vertical split-ticket voting in favour of the center-left parties in municipality elections. Finally, Chapter III is titled “Explaining split-ticket voting in concurrent European and local elections in Italy” and is aimed to understand - through the analysis of different hypothesis - the motivations behind the evidence documented in Chapter II.

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CHAPTER I

Is Populism reversible? Evidence from Italian local elections during the pandemic

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Abstract

We study the effect of economic insecurity on electoral outcomes using data on municipal elections in Italy. We implement a difference-in-differences approach that exploits exogenous variation across municipalities in the share of inactive workers due to the economic lockdown introduced by the central government to deal with the Covid-19 pandemic. We show that lockdown-induced economic insecurity positively affected the electoral performance of progressive and left-wing parties, while it negatively affected conservative and far-right parties. Conversely, we find no effect for the populist Five Star Movement, local independent parties (i.e., Civic Lists), and electoral turnout. We provide evidence that extraordinary economic measures introduced by the central government to compensate workers for the economic insecurity can explain this shift in partisanship toward the left and the increasing support for pro-EU parties, away from euro-skeptic and populist forces.

Keywords: COVID-19, Elections, Voting behaviour, Populism, Economic Insecurity

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1 Introduction

In recent years, various democratic countries have experienced a rise in the electoral success of anti-establishment and populist parties at the expense of mainstream and traditional parties (Guriev and Papaioannou, 2020). We can find clear examples of this success in Donald Trump’s victory, the Brexit vote in 2016, and the rising support for far-right and populist parties in European countries like France, Italy, and Spain. Recent literature in economics and political science has highlighted the role of economic insecurity as one of the main factors explaining this electoral success (Algan et al., 2017). Specifically, the literature has shown how populist and anti-establishment parties are more likely to gain votes when mainstream parties fail to deal with the economic insecurity felt by voters during a period of crisis, as happened for example in Europe during the 2008-2011 financial and sovereign debt crisis (Guiso et al., 2019). In light of this evidence, one interesting question is whether voters would react similarly to increases in economic insecurity during crises in which governments did manage to respond appropriately.

This paper analyzes the effect of the Covid-19 economic lockdown on voting behavior to study whether voters reacted differently to an increase in economic distress during a crisis in which governments worldwide responded to compensate for this increased level of insecurity. Specifically, we study the case of the economic lockdown imposed by the Italian government in the period March-May of 2020 to deal with the Covid-19 pandemic, which mandated the closing of non-essential economic activities and thus led to severe economic losses for part of the population and a general increase in economic insecurity. There are several reasons to exploiting the Italian case to study this topic. First, many Italian municipalities held elections for the renewal of the municipal councils and the election of mayors in September-October of 2020, just a few months after the economic lockdown introduced by the Italian central government. This feature, combined with the availability of electoral data at the municipal level for the 2020 elections and the previous electoral years, enables us to build a panel dataset that we use to study the effect of economic insecurity on electoral outcomes.

Second, in September-October 2020, the national government led by Prime Minister Giuseppe Conte received the support of both center-left parties (e.g., the Democratic Party) and populist forces (i.e., the Five Star Movement). Conversely, right-wing parties were forming the opposition, composed of both moderate (e.g., center-right Forward Italy) and more extreme-right parties like the League and Brothers of Italy. This political scenario characterized by peculiar alliances enables us to study the effect of the lockdown-induced economic insecurity from different points of view, distinguishing between different mechanisms. Specifically, it allows us to look at the impact of the lockdown-induced economic insecurity on shifts in partisanship and electoral orientation by part of voters, distinguishing between center-left and center-right political parties and between mainstream and pro-European Union parties and populist forces (see Figure [A1](#)). In addition, the alliance between forces with different political stances, such as the mainstream Democratic Party and the populist Five Star Movement, allows us to separate the eventual shifts in partisanship from a rally “round the flag” effect (Mueller, [1970](#)), with increasing support for parties that support the central government.

Third, for the identification strategy, we exploit exogenous variation across municipalities in the intensity of the economic insecurity due to the imposition of the economic lockdown. Specifically, we use variation across municipalities in the share of inactive workers generated by the restrictions introduced by the central government as a measure of the local intensity of the economic insecurity due to the lockdown (Borri et al., [2020](#)). As explained in section [3](#), in response to the Covid-19 pandemic, in March 2020, the Italian national government imposed the closing of non-essential economic activities and severely constrained the movement of people. Given the heterogenous pre-Covid distribution of non-essential economic activities across different areas of Italy, the economic restrictions affected different municipalities with a different intensity. We exploit this lockdown-induced variation in the share of inactive workers to run a difference-in-differences model. We use this model to compare the evolution of electoral outcomes before and after the Covid-19 crisis across municipalities

affected differently by the economic lockdown.

A priori, predicting the direction of the political impact of lockdown-induced economic insecurity is complex. On the one hand, the increase in economic insecurity due to the pandemic and the associated restrictions combined with the closing of non-essential economic activities may have increased the support for the opposition and populist political parties. On the other hand, as described in section 3, the Italian government accompanied the economic lockdown with special economic measures introduced to support the firms, the workers, and in general, the people more affected by the pandemic and the economic restrictions. Therefore, the pandemic might have convinced even traditionally skeptical voters of the usefulness of government protection and intervention in the economy in the presence of large shocks to provide support to the center-left parties more associated with these risk reduction and redistribution policies. In addition, these measures may have convinced voters to reward the protection provided by the national government and increase their support for political parties aligned with the central government, leading to a rally “round the flag” effect.

The results of the difference-in-differences analysis provide evidence of a shift in partisanship, with increasing support for center-left forces by part of voters. Specifically, we find a positive effect of the lockdown-induced economic insecurity on the electoral performance of center-left parties (i.e., the Democratic Party and other center-left political forces in the same coalition) and a negative effect on the vote shares of center-right and extreme-right parties. More in detail, we find that an increase in the share of inactive workers by one standard deviation (i.e., 14.7 percentage points) led to an increase in the vote shares of center-left parties by around 1 percentage points. At the same time, we find that a rise in the share of inactive workers by one standard deviation decreased the vote shares of center-right and extreme-right political parties by 1.2 percentage points. Conversely, the lockdown-induced economic insecurity did not affect the electoral performance of the Five Star Movement, the main populist party supporting the central government, the vote shares of independent municipal parties (i.e., Civic Lists), and electoral turnout.

We also verify the same results in public opinion survey data collected in 2020. Specifically, we use detailed survey individual data provided by IPSOS¹ to confirm further this shift in partisanship in the opinions of Italian citizens interviewed. We provide this evidence through survey data in two ways. First, we produce descriptive evidence about how survey participants' opinions changed between March and September 2020. We distinguish between individuals who had to stop working because of the economic lockdown and those who did not. The evidence shows that inactive individuals, while on average supported more center-right parties than center-left ones, over time during 2020, became more supportive of center-left parties and less of center-right forces, eventually converging toward the opinions of those who remained active. This evidence suggests that supporters of center-right parties affected by the economic lockdown changed their preference toward center-left parties in 2020. In addition, the descriptive evidence shows that inactive individuals in 2020 were more concerned about their economic situation than their health situation, confirming that the share of inactive individuals represents a good measure of the level of lockdown-induced economic insecurity.

Second, by combining the voting intentions of respondents in September 2020 with their self-reported past voting behavior (i.e., in elections held in 2018 and 2019), we build a time-variant proxy for the individual probability of voting for political parties with different political orientations. This information, combined with the variable capturing the probability of being inactive due to the lockdown, enables us to apply the same difference-in-differences strategy to these individual data. This exercise confirms the increasing support for center-left parties, and the drop in the support for center-right parties, while there is no effect for the Five Star Movement.

How can we interpret these results? First, the rising support for progressive left-wing parties and the negative effect for conservative right-wing forces signals an increasing demand for government protection and intervention in the economy, and a connected reward for those

¹Ipsos is a multinational market research and consulting firm with headquarters in Paris, France. We provide more details on the survey data in section [5.2](#)

forces more in favor and responsible for this protection during the lockdown period. To provide further evidence on this increasing demand, we repeat the difference-in-differences analysis distinguishing between the share of inactive workers in the services sector and the share of inactive workers in the industry sector. We find that the share of inactive workers in the services sector drives our results. In contrast, the share of inactive workers in the industry sector did not affect electoral outcomes.

The fact that the share of inactive workers in the service sector drives the results is evidence that the economic measures introduced by the central government to reduce workers' economic insecurity represents the more likely explanation for the increased support for progressive and left-wing parties and the negative effect for conservative and right-wing forces. As described in section 3, these economic measures represented an important innovation for the services sector, given that workers in these occupations did not benefit from any particular protection in the pre-Covid era. Conversely, the insignificant impact of the share of inactive workers in the industry sector is consistent with the fact that workers in these occupations already benefited from extensive unemployment protections even before the Covid-19 crisis. Hence, for workers in these occupations, the economic measures introduced to deal with economic security did not represent an innovation.

To further reinforce the evidence supporting this mechanism, we repeat the diff-in-diff analysis using the per capita benefits received by self-employed workers during the lockdown as the treatment variable. While this variable has the limit to be one of the various compensatory measures introduced by the Italian government (see section 3.1), it represents a good proxy for the intervention of government in the economy during the lockdown. This analysis confirms that the support for center-left parties grew more in areas that received more benefits. At the same time, these areas experienced a greater decline in electoral support for center-right parties. This evidence confirms that the economic measures introduced by the central government to reduce economic insecurity represents the more likely explanation for the increased support for center-left parties and the negative effect on right-wing forces.

Second, the positive effect for pro-EU parties like the Democratic party and the null effect for the populist and euro-skeptic Five Star Movement is further evidence that the economic measures introduced to compensate for economic insecurity represent the more likely explanation for the main results. Specifically, as described in more detail in section [3.1](#), the direct support of the European Union to countries during the pandemic made possible the funding of the economic measures introduced by the Italian government. Hence, these contrasting effects for mainstream pro-EU and populist euro-skeptic parties represent further evidence of the role of the protective and recovery measures introduced to compensate for economic insecurity. These EU-supported measures allowed the EU to regain credibility in front of the eyes of voters, which in turn increased their support for pro-EU parties. In addition, we find similar results in the descriptive analysis produced with the IPSOS survey data, which shows how inactive individuals became more supportive of the EU during 2020.

Third, the fact that the economic lockdown did not benefit the populist Five Star Movement allows us to rule out the existence of a rally “round the flag” effect. Specifically, in September-October 2020, the Five Star Movement was the biggest party supporting Conte’s government. In addition, Giuseppe Conte was an independent politician with close links with the Five Star Movement until he became president of the Movement in August of 2021. Hence, in the presence of a rally “round the flag” effect, we should have observed increasing support for the Five Star Movement. Besides, we confirm further the absence of a rally “round the flag” effect by showing that the level of lockdown-induced economic insecurity did not affect the re-election probability of incumbent mayors.

Finally, we show that our results of the impact of the lockdown-induced economic insecurity on electoral outcomes do not change if we control for variables capturing the intensity of the economic recovery during the summer of 2020. We also show that our results do not change if we control for the pandemic’s health consequences, specifically for the municipal level of excess mortality due to the Covid-19 pandemic. Besides, the analysis below shows how the effect of the health shock goes in the opposite direction, with excess mortality pos-

itively associated with support for conservative and right-wing parties. The fact that the results are robust to controlling for the level of excess mortality indicates that potentially different positions of the political parties on health policies and countermeasures against the health consequences of the Covid-19 do not explain our results.

2 Related literature

This paper contributes to two streams of literature. First, it contributes to the literature analyzing the effect of economic insecurity on electoral outcomes, and specifically the electoral support for populist and anti-establishment forces (Algan et al., 2017) and radical-right parties (Dehdari, 2022). This literature shows how economic insecurity due to economic crises can increase both the demand and the supply of populist policies and political forces. This effect is strong in countries with low fiscal space (Guiso et al., 2021) and in which governments fail to compensate for the economic insecurity felt by voters, as happened during the 2008-2011 financial and sovereign debt crisis (Guiso et al., 2019), which worsened citizens' perceptions of quality of governance and the level of social trust (Bordignon et al., 2022). This paper contributes to this literature by showing that when governments introduce measures that compensate for the increase in economic distress, the effect of economic insecurity can go in the opposite direction, with increasing support for left-wing and mainstream parties and with a null or negative effect for populist and anti-establishment parties. In addition, our results, combined with the role played by the European Union in funding the measures introduced to deal with the Covid-19 pandemic, suggest that voters can reward mainstream and pro-EU parties when governments and EU institutions manage to meet their demand for protection against economic insecurity.

Second, this paper contributes to the literature that studies the political impact of the Covid-19 crisis (Amat et al., 2020; Daniele et al., 2020; Fernandez-Navia et al., 2021; Giommoni and Loumeau, 2020; Noury et al., 2021; Picchio and Santolini, 2021). This literature

analyzes the political consequences of the health shock and the restrictions in terms of electoral turnout (Picchio and Santolini, 2021), support for nationalist parties (Fernandez-Navia et al., 2021), and support for incumbent politicians (Giommoni and Loumeau, 2020). The literature has also studied the impact of elections on the pandemic diffusion (Cipullo and Le Moglie, 2022) and electoral incentives on the restrictions adopted by governments around the world (Pulejo and Querubín, 2021). Our paper contributes to this literature by focusing on a novel margin, i.e., the political consequences of the economic insecurity introduced by the Covid-19 crisis. Specifically, the richness of our data allows us to distinguish between the economic aspects of the Covid-19 crisis, which combine an increase in economic insecurity with measures introduced by governments to deal with that, from the health consequences of the Covid-19 pandemic captured by the excess mortality. Our analysis below shows how the economic aspects of the Covid-19 crisis generated effects that go in the opposite direction compared to the electoral impact of the health shock.

3 Institutional background

3.1 The Covid-19 in Italy

The first salient disposition to face the Coronavirus pandemic was adopted on January the 31st 2020 with the central government declaring a state of emergency for six months in order to have the appropriate operative instruments to contrast the pandemic.² Given the rapid diffusion of the infection, the subsequent and stricter decisions concerning gathering prohibition and movement limitations followed immediately after: from the initial isolation of a limited number of municipalities in Lombardy and Veneto, proclaimed on the 23rd of February,³ to a progressive territorial extension, culminated on March the 9th, when in the entire country the maximum alert was declared.⁴

²Resolution of the Council of Ministers (31.01.2020).

³Decree of the President of the Council (23.02.2020)

⁴Decree of the President of the Council (09.03.2020).

The restrictive measures were further reinforced after a few days, suspending many business activities: from the 11th of March retail shops and restaurants and then, from the 22nd of the same month, all the non-essential or non-strategic economic activities.⁵ That moment coincided with the beginning of the period of most significant limitations, which lasted until the 3rd of May; from then started the so-called “phase two” of the first pandemic wave, meaning a gradual loosening the restrictions.⁶ In particular, from the 4th of May, all the industry and wholesale sectors reopened, while the artistic, cultural, and sports activities, as well as retail shops and restaurants, resumed only by the end of the month. Subsequently, from June onward, the first pandemic wave turned into its third phase, consisting of a careful coexistence with the virus, which continued until the beginning of October, when the second pandemic wave stroked again the country and restrictive measures came back.

Given the forced and prolonged suspension of most economic activities, the Italian government strongly intervened to support the whole economy to attenuate the overwhelming impact of Covid-19. Considering only the period of the first pandemic wave (March-September), the government earmarked more than €100 billion to support the economy. In addition, the government provided guarantees on corporate loans extended to small businesses. Three decrees contained all the socioeconomic support programs. First, the “Care Italy” decree was approved on the 17th of March and allocated €25 billion.⁷ Second, the “Recovery” decree, approved on the 19th of May and allocating €55 billion.⁸ Finally, the “August” decree, which was approved on the 14th of August and allocated other €25 billion.⁹

About €35 billion of the overall budget were assigned to workers’ protection, primarily to preserve the occupational levels and ensure adequate individual and family income. For this purpose, the government extended a special “Covid-19” redundancy pay to all employees of every productive sector in the entire national territory for 36 weeks. In addition, different

⁵Decrees of the President of the Council (11.03.2020) and (22.03.2020).

⁶Decree of the President of the Council (26.04.2020)

⁷Decree Law 17 March 2020, n. 18 converted with amendments into Law 24 April 2020, n. 27.

⁸Decree Law 19 May 2020, n. 34 converted with amendments into Law 17 Law 2020, n. 77.

⁹Decree Law 14 August 2020, n. 104 converted with amendments into Law 13 October 2020, n. 126.

forms of compensation were recognized to a broad audience of self-employed, freelance, or seasonal workers, such as a €600 or €1.000 benefit distributed in March, April, and May, depending on the specific job category (we will refer to this type of intervention again in section 4 and in section 5.1). Furthermore, the government instituted the Emergency Income (REM), an extraordinary and temporary antipoverty support destined for extremely low-income families, ranging from €400 to €800. This benefit - not combinable with other forms of support - was assigned twice, plus - on request - a third time, with a fixed amount of €400. Finally, the ordinary unemployment benefits were prolonged for two months for those people who were not included in any of the newly established measures. A further important action to prevent a vast surge of unemployment consisted in the suspension of dismissal procedures, in force from the 23rd of February 2020 and then repeatedly prolonged, even beyond the following year.

It is important to notice how the abovementioned measures benefitted mostly individuals working in the services sector.¹⁰ A structural and preexisting reason determined this occurrence: this category of workers could typically rely on a narrower level of social protection than their counterparts in the industrial sector. For example, the special "Covid-19" redundancy pay aimed to extend such benefits to traditionally excluded workers, namely to services sector workers. The new forms of protection provided by the Italian government came not only in terms of cash and benefit payments but also in terms of taxes and tariff payments postponement and loan guarantees. This increased protection for workers in the services sector is also documented by Monteduro et al., 2023, who show how the policy interventions in response to the first pandemic year played a crucial role in keeping overall income inequality under control. For example, they show that, without the government's interventions, self-employed individuals would have experienced an income loss considerably higher (on average €1.288) than employees (€311).

¹⁰It is important to stress how we are referring here to a broad definition of the services sector, including also small firms, self-employed individuals, and retail shops. We provide a more detailed description of the activities considered within the services and the industry sectors in section 5.1 and Tables A3, A4 and A5.

The government also intervened in favor of Italian companies, mainly through grants and fiscal benefits, to ensure their endurance during the emergency phase and facilitate their relaunch during the recovery phase. Primarily, non-repayable contributions were distributed to companies with an economic activity up to €5 million whose April's revenue decreased by at least 33% compared to the same period the year before. The exact amount was a percentage - between 10% and 20% and decreasing as revenues increase - of the difference between the sales volume of April 2019 and April 2020. The government also recognized a 60% tax credit - up to a maximum of €80.000 - for the expenses incurred in 2020 to enforce health requirements and containment measures against the spread of the virus. The same facility was applied to sanitation costs and the purchase of personal protective equipment.

Moreover, firms and self-employed workers with total revenues below €250 million - except for banks, insurance companies, and public administrations - benefited from the abolition of June's Regional Business Tax (IRAP) payment, supported by an allocation close to €4 billion. In addition, the government developed other fiscal relaxations. The Single Municipal Tax (IMU), a property tax, was suspended for beach resorts and hotels in 2020 and theaters and cinemas. For the latter group, the suspension also applied in 2021 and 2022. Finally, the fees for the occupation of public spaces were suspended until the end of the year for retail businesses holding concessions for public land use.

At the peak of the first pandemic wave, because of the forthcoming severe economic contraction, further legislative provisions were assumed, especially to preserve the credit market, which would inevitably hit from two sides. On the one hand, earning reductions for firms and families may compromise their ability to fulfill previous financial commitments. On the other hand, these income conditions worsen their possibility of obtaining new financing. To this end, the "Liquidity" decree¹¹ approved on the 8th of April, and securing €30 billion, was aimed to guarantee the necessary liquidity to all economic actors. Among the other measures, self-employed workers and small and medium-sized enterprises (SMEs) received

¹¹Decree Law 8 April 2020, n. 23 converted with amendments into Law 5 June 2020, n. 40.

an extraordinary moratorium on current account lines of credit and other short-term loans, initially until the 30th of September and then prolonged up to the end of January 2021. Moreover, for all classes of enterprises, the treasury department granted guarantees - in a range between 70% and 90% - in favor of banks and other financial institutions that provided new loans, which can amount up to 25% of the 2019 revenue and have a six-year maximum duration.

From the above brief recapitulation, it is clear how in Italy - as in almost all other countries - the public sector heavily hand stepped in to tackle the widespread consequences of the pandemic. To summarize the magnitude of the overall effort, the 2020 Italian government deficit was more than €156 billion, equal to 9,5% of the GDP, which is the highest since 1995.

It is worth mentioning that the European Union financially supported part of such an extraordinary economic intervention. At the beginning of April 2020, the European Commission proposed the institution of a temporary “Support to mitigate Unemployment Risks in an Emergency” (SURE) dedicated to safeguarding jobs and workers from the consequences of the Covid-19 pandemic crisis.¹² The support to the EU Member States was provided via financial assistance, up to €100 billion in total, and in the form of loans granted on favorable terms, to (partially) cover the costs devoted to social safety nets. The Italian government formally required the activation of the SURE program on the 8th of August for an amount close to €28 billion, based on the measures adopted in the “Care Italy” and “Recovery” decrees. The European Commission approved the request on the 24th of August,¹³ and the first tranche was distributed the 27th of October. Hence, the EU strongly contributed to bearing the financial exposure implemented by the Italian government, providing close to one-quarter of the total additional resources expended.

A further significant contribution for the Italian government derived from the European

¹²Approved by the Council of the European Union with the Council Regulation (EU) 2020/672 of 19 May 2020.

¹³Approved by the Council of the European Union with the Council Implementing Decision (EU) 2020/1349 of 25 September 2020.

Central Bank through the launch in March 2020 of the Pandemic Emergency Purchase Programme (PEPP), an additional non-standard monetary policy measure aimed at safeguarding the monetary policy transmission mechanism against the COVID-19 outbreak.¹⁴ The program consists of a temporary asset purchase program of private and public sector securities, initially amounting to €750 billion and then increased up to €1850 billion. Finally, the most significant intervention of the European institutions in 2020 was the Next Generation EU, a more than €800 billion temporary recovery instrument – proposed by the European Commission in May and approved in general political terms by the European Council in July – finalized to repair the economic and social damages caused by the Covid-19 pandemic.

3.2 2020 municipal elections in Italy

Initially scheduled in the Spring and then postponed to the Autumn of 2020, Italian local elections took place on the 20th and 21st of September. The elections involved 1178 municipalities, 608 belonging to ordinary statute regions and 570 to special statute regions. In concomitance with these elections, there were two other electoral appointments: a constitutional referendum regarding reducing the number of parliamentarians and regional elections in six ordinary statute regions (Veneto, Liguria, Campania, Marche, Puglia, and Toscana) and the special region Valle d’Aosta.

As reformed in 1993 by Law 81/1993, the Italian legislation states the direct election of the mayor following a majoritarian rule, differentiated based on the municipal population (Bordignon and Colussi, 2020; Bordignon et al., 2016; Gamalerio et al., 2021). Specifically, municipalities with less than 15,000 inhabitants use a first-past-the-post mechanism to elect the mayor. With this system, the mayoral candidate who wins the most votes is directly elected mayor. The electoral rule also assigns a majority of 2/3 of the council seats to the list connected to the newly elected mayor. Municipalities with more than 15.000 inhabitants

¹⁴Decision (EU) 2020/440 of the European Central Bank of 24 March 2020 on a temporary pandemic emergency purchase program (ECB/2020/17).

use a runoff or dual ballot electoral system, in which the candidate who wins more than 50 percent of the votes is elected mayor. If no candidate gets more than 50 percent of the votes, the first two candidates go to a second round. The winner of the second round is elected mayor. The lists connected to the elected mayor get 60 percent of the municipal council seats.

4 Empirical strategy

To study the effect of lockdown-induced economic insecurity on electoral outcomes, we perform multiple difference-in-differences analyses based either on municipal or survey data, later described in section [5](#).

With the Italian municipal data, we run the following model:

$$Y_{i,t} = \gamma_0 + \gamma_1 \cdot \% \text{ inactive}_i + \gamma_2 \cdot \text{post}_t + \gamma_3 \cdot \% \text{ inactive}_i \cdot \text{post}_t + \gamma_k \cdot X_{k,i} + \xi_{i,t} \quad (1)$$

where the dependent variable $Y_{i,t}$ captures electoral outcomes measured in municipality i and during the electoral year t , with $t \in [2008, 2020]$. As described in section [5.1](#), we have information for three electoral years for all municipalities in our sample. The continuous variable $\% \text{ inactive}_i$ is the share of inactive workers during the first lockdown in municipality i , calculated as described in section [5.1](#). This variable represents our main measure that captures the level of economic insecurity suffered by workers at the municipal level. The dummy variable post_t is equal to 1 for the 2020 municipal elections. The vector $X_{k,i}$ contains k covariates capturing socio-economic municipal characteristics for municipality i and electoral year t , described in section [5.1](#). We cluster the standard errors at the municipality level. The coefficient of interest is γ_3 , which captures the effect of an increase in the share of inactive workers due to the Covid-19 restrictions on electoral outcomes.

Then, we run the following modified version of equation [1](#) with municipal and year of

election fixed effects:

$$Y_{i,t} = \beta_0 + \beta_1 \cdot \% \text{ inactive}_i \cdot \text{post}_t + \delta_i + \lambda_t + \xi_{i,t} \quad (2)$$

where the year of election FE λ_t control for temporal shocks that affect all the municipalities at the same time and the municipal FE δ_i captures all the time-invariant municipal characteristics. In equation 2, λ_t absorbs the variable post_t , while the municipal FE δ_i absorbs the variable $\% \text{ inactive}_i$ and the vector $X_{k,i}$. The coefficient of interest in model 2 is β_1 , which estimates whether an increase in the share of inactive workers during the first lockdown leads to a differential change in electoral outcomes across municipalities hit differently by the Covid-19 restrictions introduced by the central government during the first lockdown.

The central assumption of the difference-in-differences approach is that municipalities with different shares of inactive workers during the lockdown should have been following common electoral trends in the electoral years before 2020. We test this assumption, in the subsequent empirical analysis, interacting the variable $\% \text{ inactive}_i$ with a dummy variable pre_t equal to 1 for the first (out of three) electoral years observed in the data for all municipalities in our sample. We add this interaction term to equation 2 to empirically check for the absence of differential pre-treatment trends in electoral outcomes across municipalities affected differently by the restrictions introduced during the lockdown.

We also replicate this difference-in-differences model changing the treatment variable. More precisely, we use as alternative measure of the economic insecurity level in each municipality the per capita amount (total amount in one municipality over the resident population) of the different forms of monetary compensation recognized to self-employed workers: also this variable is later described in section 5.1.

We then adopt the same empirical strategy also to study the consequences of the pandemic emergency on voting intention collected in the survey data described in section 5.2. The necessary variations to perform this second specification are the following. First, the dependent variable $Y_{i,t}$ is a dummy variable which indicates the probability of voting a spe-

cific party or coalition, for individual i in year t with $t \in [2018, 2020]$. As better illustrated in section 5.2, we know the voting preferences for both the current year (2020) and the two preceding elections (2019 and 2018), then the dummy variable $post_t$ is equal to 1 for when the year is 2020. Second, the treatment variable - properly described in section 5.2 - is a dummy variable, then more simply indicated as $inactive_i$. It represents the employment status of the interviewee: equal to 1 when inactive. Third, the vector $X_{k,i}$ contains k covariates capturing characteristics of individual i in year t . The coefficient of interest γ_3 indicates the effect of being an inactive worker due to the restrictions introduced by the Italian government on the declared voting intention. Finally, to test the common trend assumption, we interact the treatment variable $inactive_i$ with a dummy variable pre_t equal to 1 if the year is 2018.

5 Data

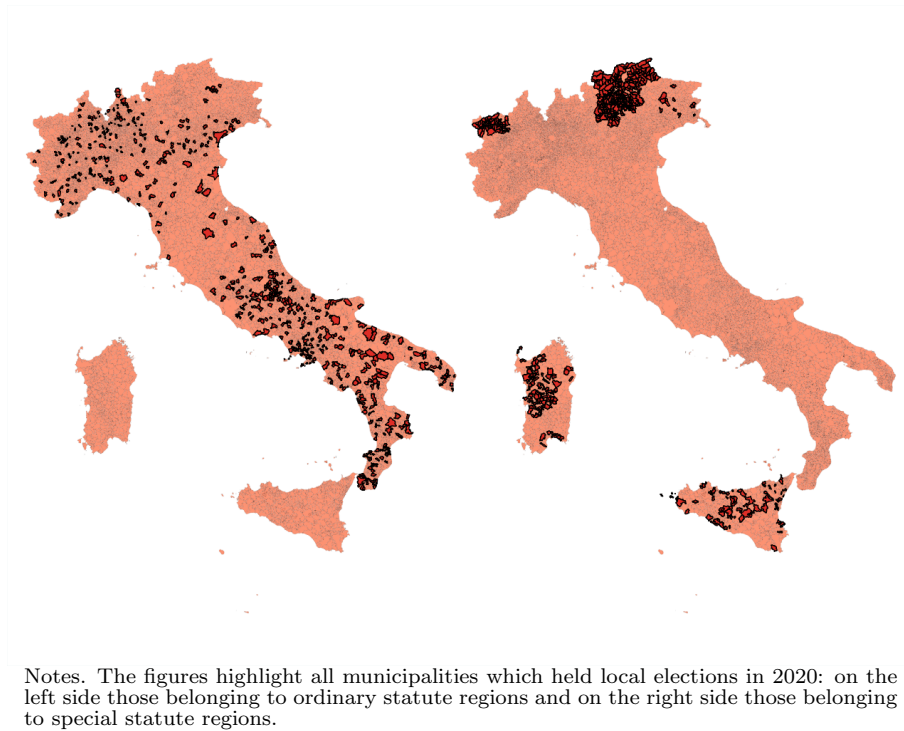
This research employs two different data-sets - one based on Italian municipal data and the other built around survey data provided by IPSOS Italia - on which we apply the empirical strategy described in the previous section 4.

5.1 Data on Italian municipalities

We get data on Italian municipalities from different sources: the Italian National Institute of Statistics (ISTAT), the Ministry of Interior or the National Institute for Social Security (INPS). Our sample is composed of 575 of the 1178 municipalities that voted in 2020. The difference between the totality of potential and the actually employed cities is because electoral data regarding special statute regions are not available; therefore, the starting reference point is the 608 municipalities belonging to ordinary statute regions; the remaining discrepancy depends on further missing data in the relevant variables used in the empirical analysis. Figure 1 shows the distribution of the Italian territory of municipalities from ordinary (left graph) and special (right graph) statute regions that voted in 2020. We also

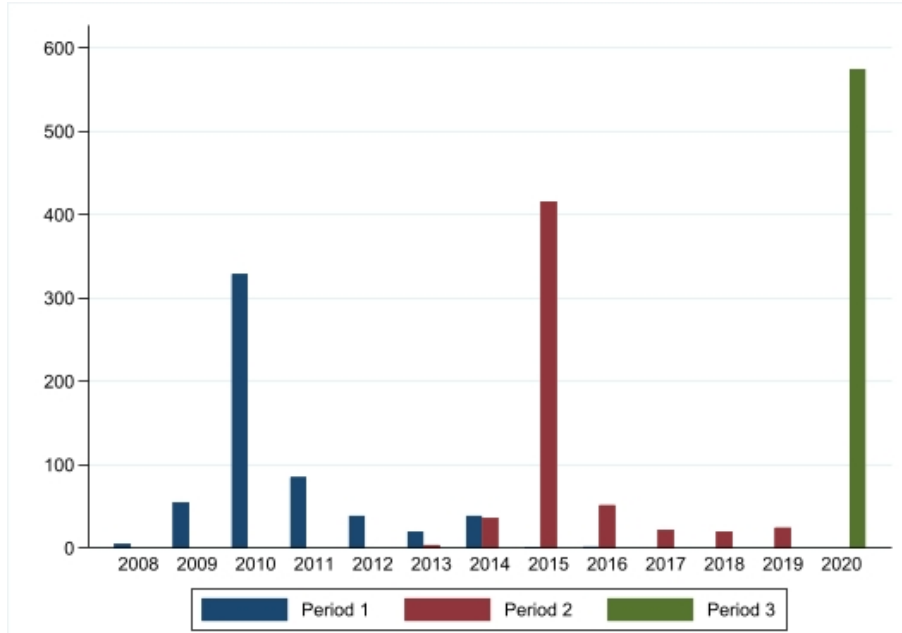
collected data from the two previous local elections for each municipality, thus reaching a total number of observations equal to 1725. As represented in Figure 2, most of the precedent elections occurred in 2010 and 2015, coherently with the five-year frequency established by the legislation.

Figure 1: Municipalities from ordinary and special statute regions that voted in 2020



The dependent variable of the analysis is the vote shares of different political parties. In municipalities above the 15.000 inhabitants, we use votes expressed to the lists (not the candidates) in the first round. The variable *Center-Right Votes* gathers the preferences conferred to center-right parties, namely: the League, Brothers of Italy, Forza Italia, and other past or present smaller parties belonging to that faction. *Center-Left Votes* collects the votes in favor of the Democratic Party plus other (smaller) leftist movements or parties. Both groups are also integrated with those civic lists - participating especially in small cities - which refer (for the name and/or the logo) clearly to one of the two coalitions. To correctly identify those lists, we exploit both the Registry of local administrators (arranged by the Ministry of Interior) and local newspapers' information. The variable *Five Star*

Figure 2: Observations by period for each electoral year



Notes. The figure shows the number of observations for each electoral year: in blue the first period, in red the second period and finally in green the third period, namely the 2020.

Votes refers to the votes for the Five Star Movement, a party that - at the time - always run alone, allowing for a neat identification. All the civic lists without an evident political affiliation are assembled in the variable *Civic Lists Votes*. Table [A2](#) in the appendix provides a complete list of each party forming the center-right and the center-left blocks. Finally, the variable *Turnout* indicates the effective popular participation in the electoral competitions with respect to the eligible voters. All this information is derived from the historical archive of the elections of the Ministry of Interior.

To provide a consistent evidence of the programmatic platforms of these parties, Figure [A1](#) reports a summary their political positions, as elaborated by the Manifesto Project¹⁵. First, it confirms that the parties forming both the Center-Left and the Center-Right coalition are actually leaning to their respective political side; then, it shows the prevalence of pro-EU stances for the Center-Left while the prevalence of against-EU stances for the Center-Right and - even more moderately - for the Five Star Movement as well.

¹⁵The Manifesto Project analyses parties' election manifestos in order to study parties' policy preferences: <https://manifesto-project.wzb.eu/>

The treatment variable - elaborated and made available by the Italian National Institute of Statistics - captures the effect of the economic lockdown in terms of economic insecurity. Specifically, we use three indicators of the share of inactive workers, which estimate how many people had to stop their working activity due to the restrictive measures.¹⁶ The main treatment variable is the *Share Inactive Workers*, which captures the ratio between the number of people not allowed to work - in the period from the 22nd of March to the 3rd of May - and the total number of workers. More in detail, this distinction follows the ATECO 2007¹⁷ classification of economic activities: the DPCM of the 22nd of March clearly list those with the permission to regularly carry on the business and - by subtraction - those who had to suffer the suspension. The adoption of this treatment variable is not new in the literature since it is the same employed by Borri et al., 2020. However, differently from them, in addition to such a general subdivision, we also provide a more detailed partitioning, using two other indicators. The first indicator measures the share of inactive workers in the industry sector, while the second captures the share of inactive workers in the services sector.

For an appropriate comprehension of the treatment variable, it is important to understand which economic activities remained open. In broad terms, in the industry sector, this is the case for food and beverage, chemical and pharmaceutical products, construction of roads, railways, and other public utility operas; on the other hand, in the services sector, the wholesale commerce for raw materials, food and beverage, the logistics sector, the information and communication sector, education and health and social assistance. A broad

¹⁶The starting point to build these variables is the 2017 “*Frame SBS Territoriale*” which contains an extensive municipality-based report about the typology of all active firms and businesses, including the respective number of their workers (both employers and employees). For completeness, this survey does not include some economic categories: agriculture, credit and insurance, public administration, and part of the sector regarding personal services. The following step incorporates the aforementioned restrictive measures adopted the 22nd of March and contained in the Decree of the President of the Council of Ministers (DPCM) of the same day. Based on that disposals, each economic organization is assigned either to the group allowed to continue the working activity or to the group forced to stop; simultaneously, we also obtain a subdivision between active and inactive workers.

¹⁷The ATECO code is an alpha-numeric combination that identifies an economic activity. Letters and numbers have different meanings: letters identify the macro-sector, while numbers represent the sectors’ categories and sub-categories. The numbers range from a minimum of two digits up to a maximum of six digits: the various articulations describe a different degree of detail.

classification of the suspended activities is reported in Table [A3](#) in the appendix, while the full list of all open and close activities for both sectors is reproduced in two distinguished tables (Table [A4](#) and Table [A5](#)), in the appendix as well.¹⁸

We also collected data on tourism activity and excess mortality due to the Covid-19 pandemic for robustness checks. The variables *Tourism Relevance Index* and *Elderly Excess Mortality* are drawn as follows. According to a governmental decision of July 2020, the ISTAT designed a series of novel indicators to capture the role of tourism - in terms of attractiveness (demand side) and proposal (supply side) - for each Italian municipality. We make use of the measure which embraces all the relevant aspects, the “synthetic index of tourist density”, computed on a scale from 1 (lowest) to 5 (highest). We re-scale this variable to take values between 0 and 1. The mortality impact of the epidemic disease is evaluated in terms of excess mortality - with respect to the moving average of the previous 5 years (2015-2019) - in the period ranging from March to August 2020 and for the section of the population more than 65 years old.

Finally, we also included data - retrieved from INPS - containing information on one of the various compensatory measures introduced by the Italian government in 2020. Specifically, we collected data on the different forms of monetary compensation (€600 or €1.000) that were recognized (from the 10th of April to the 28th of July 2020) to a broad audience of self-employed, freelance or seasonal workers. More in detail, the variable *Share Bonus Self-Employed* represents the per capita amount of all these benefits, i.e., the total amount in each municipality over the resident population. As anticipated in section [4](#), we use this variable as a further treatment variable to reinforce our analysis with an alternative measure of the economic insecurity level in each municipality. It is important to stress how this variable captures only one of the economic interventions produced by the Italian government in 2020. We focus on this measure because of data availability.

¹⁸The subdivision between active and inactive sectors is ruled by Annex 1 of the DPCM approved the 22nd of March 2020 and based on the 2007 ATECO classification. Each macro-sector, category, or sub-category is correspondingly labeled with 1 if active and with 0 if inactive.

The data set is then completed by a series of control variables that provide full information on each municipality’s geographical, economic, and social characteristics. The summary and descriptive statistics of all independent and dependent variables are represented in Table [1](#) while Table [A1](#) in the appendix reports each corresponding source.

Table 1: Summary and Descriptive Statistics of the Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Center-right Votes	1725	0.077	0.164	0	1
Center-left Votes	1725	0.060	0.140	0	1
Five Stars Movement Votes	1725	0.011	0.037	0	0.574
Civic Lists Votes	1725	0.771	0.331	0	1
Turnout	1725	0.674	0.109	0.209	0.950
Share Inactive Workers	1725	0.488	0.147	0	0.958
Share Inactive Workers (Services)	1725	0.413	0.137	0	1
Share Inactive Workers (Industry)	1725	0.613	0.213	0	1
Tourism Relevance Index	1725	0.456	0.351	0	1
Elderly Excess Mortality	1725	0.118	0.574	-1	4
Share Bonus Self-Employed	1722	102.618	47.843	3.152	410.345
Population	1725	9,112	18,782	48	261,362
Share Population 0-14	1725	0.129	0.030	0.021	0.225
Share Population 15-64	1725	0.643	0.042	0.354	0.743
Share Population 64-	1725	0.227	0.065	0.094	0.614
Provincial Capital	1725	0.021	0.143	0	1
Area (km ²)	1725	40.233	51.473	1.527	415.899
Density (Population/km ²)	1725	452.568	1091.378	0.920	12224.405
Elevation (m)	1725	366	310	0	2,035
Share Primary Educated	1725	0.217	0.050	0.125	0.554
Secondary Educated	1725	0.290	0.038	0.113	0.463
Share Upper Secondary Educated	1725	0.270	0.042	0.117	0.412
Share Graduated	1725	0.076	0.028	0.014	0.189
Active Enterprises	1725	668	1,578	1	25,243
Occupation Rate	1725	0.422	0.076	0.188	0.596
Activity Rate	1725	0.480	0.062	0.203	0.633
Total Income	1725	108,600,000	268,100,000	673,748	4,482,000,000

Notes. The tables summaries all dependent and independent variables and provides the main descriptive statistics: the number of observations, the mean, the standard deviation and the minimum and maximum values. The variable Share Bonus Self-Employed presents only 1722 observations because data for one municipality are missing.

5.2 Survey data

The second dataset is built around survey data elaborated by IPSOS SA in Italy from March to September 2020 using the CAWI methodology. It consists of 27 sessions of surveys with about 800 interviews for each session and provides information regarding the interviewees' personal, professional, political, and geographical characteristics.

Of primary interest for our research are the data regarding the current national voting intention, the vote expressed at the 2019 European election and the vote expressed at the 2018 parliamentary election. With this information, it is possible to build an individual-based panel data-set, knowing the individual political party preferences over the years 2018, 2019, and 2020. Hence, the voting intentions represent the dependent variables, grouped as follows. The first is the probability of voting for center-left parties (Democratic Party, Free, and Equals, The Left, Italian Left, Article One). The second is the probability of voting for center-right parties (League, Brothers of Italy, Forza Italia, Us with Italy, Cambiamo!). Finally, the probability of voting for the Five Star Movement. For coherence and homogeneity, in gathering together parties to form the center-left and the center-right coalitions, we included the same political forces both with electoral and survey data.

A second relevant question, posed only in the surveys conducted during the first lockdown (late March, April, and early May 2020), regards a possible swing in the employment status. Interviewees were asked whether they regularly continued to work (i.e., active worker) or they were forced to interrupt the working activity due to the restrictive measures adopted to contain the spread of the virus (i.e., inactive worker). Students, pensioners, homeworkers, and unemployed people were excluded from this question since they could not be affected.

In order to cover the remaining period (from late May to September) with this type of information, we first estimate with a logit regression the probability of being an inactive worker, using surveys conducted between the 22nd of March and the 3rd of May, that is in the period when strongest and territorially homogeneous limitations were in place. The estimation is performed including a series of explanatory variables regarding both individual

characteristics - age, years of education, gender, profession, sector of employment (private or public), type of employment contract (permanent or fixed-term) - and features related to the municipality in which the interviewee is living - population, area, elevation, the provincial capital, per capita total income, coastal area, share of workers in different professional sectors.

Once obtained these estimates, we then predicted the employment status of the individuals interviewed in the subsequent months, attributing the status of inactive worker to those with a predicted probability equal to or higher than 0.50; symmetrically, those with a predicted probability lower than 0.50 are considered as not affected by the restrictive measure when they were in force (active workers). In this exercise - apart from excluding the above-mentioned categories which are not involved in any working activity - we performed some adjustments to refine the prediction: public sector employees with a permanent contract, farmers, and teachers were assumed to be active workers, independently from the result of the prediction. The reason behind this choice is to exclude from the category of the inactive workers people whose job was very unlikely affected by the restrictive measures since they were allowed to carry on the profession.

Hence, through these steps, we are able to define a dummy treatment variable that covers the whole temporal interval: equal to one for people who stop their working activity in compliance with the governmental decisions. Finally, the data set contains an individual weighing variable in order to make the interviewees of each session representative of the whole Italian population.

6 Results from municipal data

6.1 Main results - The effect of lockdown-induced economic insecurity on electoral outcomes

This section describes the main results of the effect of the economic lockdown on electoral outcomes. We investigate the impact on the vote shares of center-left parties, center-right parties, the Five Star Movement, local independent parties (i.e., Civic Lists), and the electoral turnout. Center-right political forces did not align with the central government during the municipal elections in September and October of 2020. Civic Lists are, by default, independent from levels of government above the municipal one (Gamalerio, 2020). Conversely, at the time of the municipal elections studied, center-left political parties and the Five Star Movement supported the central government led by Giuseppe Conte.

We start by investigating the effect on the vote shares of center-left parties. We report in Table 2 the results estimated running models 1 and 2 presented in section 4. In column 1, we report the coefficients estimated running model 1 without additional municipal covariates, while in column 2, we add the covariates. In column 3, we report the results obtained running model 2. In column 4, we test for potentially differential pre-treatment electoral trends by adding the interaction between $\% \text{ inactive}_i$ and pre_t to model 2. The results in Table 2 indicate that the lockdown-induced economic insecurity positively affected the electoral performance of center-left parties. The estimated coefficients of the interaction term between $\% \text{ inactive}_i$ and $post_t$ are all different from zero and stable across different specifications. More in detail, the coefficients indicate that an increase in the share of inactive workers by one standard deviation (i.e., 14.7 percentage points) led to an increase in the vote shares of center-left political parties by approximately 1 percentage point. In addition, the coefficient in column 4 of the interaction between $\% \text{ inactive}_i$ and pre_t is not statistically different from zero. This last result confirms that the common trends assumption in electoral outcomes before 2020 holds.

Table 2: The effect on center-left vote shares

	(1)	(2)	(3)	(4)
Dependent variable	Vote shares of center-left parties			
Covariates	No	Yes	No	No
Municipal FE	No	No	Yes	Yes
Election Year FE	No	No	Yes	Yes
<i>post</i> · % <i>inactive</i>	0.076*** (0.027)	0.076*** (0.027)	0.071** (0.033)	0.062* (0.035)
<i>post</i>	-0.063*** (0.015)	-0.063*** (0.015)		
% <i>inactive</i>	-0.106** (0.045)	-0.060 (0.041)		
<i>pre</i> · % <i>inactive</i>				-0.018 (0.025)
Observations	1,725	1,725	1,725	1,725
R-squared	0.016	0.215	0.788	0.789

Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the share of vote to center-left parties. The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the share of votes in favour of center-left parties. Covariates in column (2) are the following: Population, Share Population 0-14, Share Population 15-64, Share Population 64+, Provincial Capital, Area (km²), Density (Population/km²), Elevation (m), Share Primary Educated, Share Secondary Educated, Share Upper Secondary Educated, Share Graduated, Tourism Relevance Index, Active Enterprises, Occupation Rate, Activity Rate, Total Income. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 3 reports the results obtained using the vote shares of center-right political parties as the dependent variable. The structure of Table 3 is the same as that of Table 2. The results in Table 3 indicate that economic insecurity negatively affected the electoral performance of center-right parties. The estimated coefficients of the interaction term between % *inactive*_{*i*} and *post*_{*t*} are all negative, statistically different from zero, and stable across different specifications. The results indicate that an increase in the share of inactive workers by one standard deviation (i.e., 14.7 percentage points) led to a decrease in the vote shares of center-right political parties by 1.2 percentage points. Besides, the coefficient in column 4 of the interaction between % *inactive*_{*i*} and *pre*_{*t*} is small and not statistically different from zero. This last result supports the common trends assumption in electoral outcomes before

Table 3: The effect on center-right vote shares

	(1)	(2)	(3)	(4)
Dependent variable	Vote shares of center-right parties			
Covariates	No	Yes	No	No
Municipal FE	No	No	Yes	Yes
Election Year FE	No	No	Yes	Yes
<i>post</i> · % <i>inactive</i>	-0.077*** (0.025)	-0.077*** (0.025)	-0.082*** (0.031)	-0.068*** (0.025)
<i>post</i>	0.028** (0.012)	0.028** (0.012)		
% <i>inactive</i>	0.100** (0.043)	0.041 (0.038)		
<i>pre</i> · % <i>inactive</i>				0.030 (0.036)
Observations	1,725	1,725	1,725	1,725
R-squared	0.006	0.262	0.795	0.795

Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the share of vote to center-right parties. The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the share of votes in favour of center-right parties. Covariates in column (2) are the following: Population, Share Population 0-14, Share Population 15-64, Share Population 64+, Provincial Capital, Area (km²), Density (Population/km²), Elevation (m), Share Primary Educated, Share Secondary Educated, Share Upper Secondary Educated, Share Graduated, Tourism Relevance Index, Active Enterprises, Occupation Rate, Activity Rate, Total Income. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

In Table 4, we look at the impact of economic insecurity on the electoral performance of the Five Star Movement. The Five Star Movement is a populist political force (Boffa et al., 2023; Bordignon and Colussi, 2020) that, at the time of the 2020 municipal elections, supported the national government led by prime minister Giuseppe Conte. Columns 1-4 of Table 4 replicate the same structure of Tables 2-3. As we can see, all the coefficients are small and statistically insignificant. These results suggest that lockdown-induced economic insecurity did not affect the electoral performance of the Five Star Movement.

¹⁹To further validate the absence of differential pre-treatment trends in electoral outcomes across municipalities affected differently by the restrictions introduced during the lockdown, we performed the same empirical experiment using the electoral results of the 2018 General Elections and the 2019 European Elections. Even this additional test, reported in Figure A3, indicates the validity of the common trends assumption in electoral outcomes before 2020.

Table 4: The effect on Five Star Movement vote shares

	(1)	(2)	(3)	(4)
Dependent variable	Vote shares of Five Star Movement			
Covariates	No	Yes	No	No
Municipal FE	No	No	Yes	Yes
Election Year FE	No	No	Yes	Yes
<i>post</i> · % <i>inactive</i>	-0.011 (0.009)	-0.011 (0.009)	-0.009 (0.010)	-0.010 (0.016)
<i>post</i>	-0.001 (0.004)	-0.001 (0.004)		
% <i>inactive</i>	0.001 (0.009)	0.012 (0.008)		
<i>pre</i> · % <i>inactive</i>				-0.002 (0.014)
Observations	1,725	1,725	1,725	1,725
R-squared	0.006	0.166	0.550	0.550

Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the share of vote to the Five Star Movement. The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the share of votes in favour of the Five Stars Movement. Covariates in column (2) are the following: Population, Share Population 0-14, Share Population 15-64, Share Population 64+, Provincial Capital, Area (km²), Density (Population/km²), Elevation (m), Share Primary Educated, Share Secondary Educated, Share Upper Secondary Educated, Share Graduated, Tourism Relevance Index, Active Enterprises, Occupation Rate, Activity Rate, Total Income. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Finally, in columns 1-4 of Table 5, we study the impact of economic distress on the electoral performance of the Civic Lists, which are municipal political organizations independent from national political parties (Gamalerio, 2020). Finally, in columns 5-8 of Table 5, we analyze the impact on electoral turnout. Columns 1-4 and columns 5-8 of Table 5 use the same structure as Tables 2-3. As we can see, all the coefficients estimated in Tables 5 are small and statistically insignificant. Thus, the results in Tables 5 suggest that economic distress did not affect Civic Lists. Also, in contrast with existing evidence in the literature (Giommoni and Loumeau, 2020; Noury et al., 2021; Picchio and Santolini, 2021), we do not find any effect on electoral participation.

Table 5: The effect on Civic Lists and Electoral Turnout

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent var.	Civic Lists vote shares				Electoral turnout			
Covariates	No	Yes	No	No	No	Yes	No	No
Municipal FE	No	No	Yes	Yes	No	No	Yes	Yes
Election Year FE	No	No	Yes	Yes	No	No	Yes	Yes
<i>post</i> ·% <i>inactive</i>	0.010 (0.039)	0.010 (0.039)	0.018 (0.048)	0.013 (0.046)	0.011 (0.018)	0.011 (0.018)	0.009 (0.021)	0.005 (0.022)
<i>post</i>	0.042** (0.020)	0.042** (0.020)			-0.042*** (0.008)	-0.042*** (0.008)		
% <i>inactive</i>	0.016 (0.072)	-0.001 (0.060)			0.008 (0.034)	-0.018 (0.031)		
<i>pre</i> ·% <i>inactive</i>				-0.011 (0.043)				-0.009 (0.018)
Observations	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725
R-squared	0.007	0.375	0.859	0.859	0.025	0.194	0.906	0.906

Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the share of vote to the Civic Lists and the Turnout. The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the share of votes in favour of the Civic Lists, from column (1) to (4), and in the Turnout, from column (5) to (8). Covariates in column (2) and (6) are the following: Population, Share Population 0-14, Share Population 15-64, Share Population 64+, Provincial Capital, Area (km2), Density (Population/km2), Elevation (m), Share Primary Educated, Share Secondary Educated, Share Upper Secondary Educated, Share Graduated, Tourism Relevance Index, Active Enterprises, Occupation Rate, Activity Rate, Total Income. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

6.2 Main mechanism

Tables 2-3 in section 6.1 show that economic insecurity negatively impacted center-right parties and positively impacted center-left parties. This section provides evidence on the main mechanism that can explain the core results. In addition, we show that two potential alternative stories do not seem to explain our results.

In Table 6, we provide evidence of the main mechanism. Specifically, we split our treatment (i.e., the interaction term between the variables % *inactive*_{*i*} and *post*_{*t*}) into two separate treatment variables. The first is the interaction between *post*_{*t*} and the variable % *inactive services*_{*i*}, which is equal to the share of workers in the service sectors that remained inactive during the first lockdown due to the economic restrictions introduced by the central government. The second is the interaction term between *post*_{*t*} and the variable % *inactive industry*_{*i*}, which is the share of inactive workers in the industry sector during the first economic lockdown mandated by the central government. As explained in section 3.1, the Italian

central government intervened in the economy to support and compensate workers in occupations affected by the economic lockdown. However, while the tools used to compensate workers in industry sectors were pre-existing to the Covid-19 crisis, the central government introduced new special economic measures to protect workers in the services sector. The reason for introducing these new special measures is that occupations in the services sector did not benefit from the same protection as the industry sector before 2020.

We provide evidence on center-left parties in columns 1 to 4 and center-right parties in columns 5 to 8. The coefficients reported in Table 6 indicate that the share of inactive workers in the service sector drives our main results. Specifically, we find a positive effect of the share of inactive workers in the services sector on the vote shares of center-left parties and a negative effect on the vote shares of center-right parties. Conversely, we do not find any effect of the share of inactive workers in the industry sector on electoral outcomes. The results remain the same if we control for both treatments, as in columns 4 and 8. This evidence suggests that the new special economic measures introduced by the central government to protect workers in the services sector may have induced those who benefited from these measures to vote for center-left parties. This increased support for center-left parties came at an electoral cost for center-right political parties, which in September 2020 did not align with the central government. Hence, these results suggest that the combination of economic insecurity with new protective measures generated a partisanship shift toward the left of the political spectrum.

To provide additional evidence on the main mechanism that explains our results, we compute another empirical analysis using an alternative measure of economic insecurity. We perform the same difference-in-differences experiment with the alternative treatment variable *Share Bonus Self-Employed*. This variable represents the per capita amount (in each municipality) of all benefits in favor of self-employed workers (see section 3.1 for a description). In other words, we measure economic insecurity through the per capita municipal incidence of one important compensatory measure introduced by the central government. Even though

Table 6: Main mechanism: Services vs. Industry

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent var.	Center-left vote shares				Center-right vote shares			
Covariates	No	No	No	No	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Elect. Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>post</i> ·% <i>inactive</i>	0.071** (0.033)				-0.082*** (0.031)			
<i>post</i> ·% <i>inactive</i> <i>services</i>		0.085** (0.037)		0.083** (0.039)		-0.070** (0.033)		-0.065* (0.033)
<i>post</i> ·% <i>inactive</i> <i>industry</i>			0.014 (0.024)	0.005 (0.026)			-0.026 (0.018)	-0.019 (0.019)
Observations	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725
R-squared	0.788	0.789	0.787	0.789	0.795	0.795	0.794	0.795

Notes. Difference-in-differences estimates. The treatments variables are: the overall share of inactive workers, the share of inactive workers in the industry and services sectors. The estimated coefficients indicate the effect of the share of inactive workers (in overall terms and then separately for either the services or the industry sector), during the greatest lockdown period due to the restrictive measures, on the share of vote to the center-right and center-left parties. The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the share of votes in favour of the center-left parties, from column (1) to (4), and of the center-right parties, from column (5) to (8). Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

this measure has the limit to be only one of the various compensatory measures introduced by the Italian government in 2020 (see section 3.1), Table A6 shows its pertinence as an alternative treatment variable. Specifically, Table A6 shows how this variable positively correlates with the share of inactive workers in the services sector, which is indeed the variable that drives our main results.

We report the results in Table 7, where the dependent variables are the vote shares for the center-left in columns 1 and 2, and the vote shares for the center-right in columns 3 and 4. Columns 1 and 3 report the results obtained running model 2. In columns 2 and 4, we test for potentially differential pre-treatment electoral trends, including the interaction between % $bonus_i$ and pre_t to model 2. Once more, Table 7 confirms the same tendency: a positive effect on the vote shares for the center-left parties and a negative effect on the vote shares for the center-right parties. Given that we measure *Share Bonus Self-Employed* by €100, we should interpret the estimated coefficients as the effect of a variation of €100 in the per capita amount. For example, an increase of €100 per capita leads to an increase of 1.3 percentage points in the vote shares for the center-left parties.

Table 7: Main mechanism: Share Bonus

	(1)	(2)	(3)	(4)
Dependent var.	Center-left vote shares	Center-right vote shares	Center-right vote shares	Center-right vote shares
Covariates	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes
Election Year FE	Yes	Yes	Yes	Yes
<i>post</i> ·% <i>bonus</i>	0.013** (0.006)	0.012* (0.007)	-0.008 (0.010)	-0.016* (0.009)
<i>pre</i> ·% <i>bonus</i>		-0.001 (0.008)		-0.015 (0.011)
Observations	1,722	1,722	1,722	1,722
R-squared	0.788	0.788	0.794	0.794

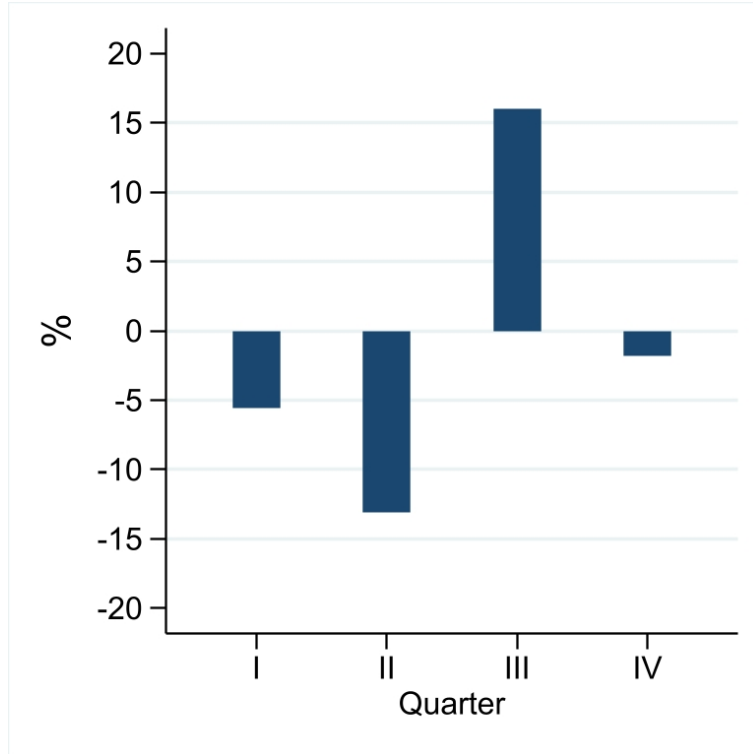
Notes. Difference-in-differences estimates. The treatment variable is the overall monetary amount of the bonus in favour of self-employed workers over the resident population, divided by 100 (this means that the estimated coefficients should be interpreted as a variation of €100 in the per capita amount). The estimated coefficients indicate the effect of the per capita share of the overall monetary amount of the compensations devoted to self-employed workers, introduced during the greatest lockdown period to compensate for the restrictive measures, on different electoral outcomes: the vote shares for the Center-Left in columns (1) and (2), and the vote shares for the Center-Right in columns (3) and (4). The sample is composed by 3 observation for each of the 574 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. Municipalities are 574 and not 575 because for one municipality of the canonical sample data are not available. The outcome variable are the variations of different electoral outcomes: the vote shares for the Center-Left in columns (1) and (2), and the vote shares for the Center-Right in columns (3) and (4). Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

6.3 Alternative stories

In this section, we control for two alternative stories that could explain our results. First, we control for a proxy of the economic recovery that many parts of Italy experienced during the summer of 2020. As shown in Figure 3, Italy experienced an important economic recovery during the third quarter of 2020. The tourism sector was the main sector to drive this recovery. Hence, in columns 2 and 6 of Table 8, we add as an additional control variable the interaction term between the dummy variable $post_t$ and the dummy variable $tourism$ which, as described in section 5, captures the relevance of tourism at the municipal level. The results in columns 2 and 6 show that our main coefficients of interest capturing the effect of lockdown-induced economic insecurity on center-left and center-right vote shares do not change once we include this proxy for the economic recovery during the summer of 2020.

Second, we show that a measure of the health consequences of Covid-19 does not explain

Figure 3: 2020 Quarterly GDP Growth



Notes. The figure shows the 2020 quarterly GDP growth in Italy, which respectively was: -5.7%, -13.1%, +15.9% and 1.7%.

our results. Specifically, we add as a control variable the interaction term between the dummy variable $post_t$ and a measure for elderly excess mortality at the municipal level, described in section 5. The reason to control for this interaction term is that recent literature (Picchio and Santolini, 2021) has shown how the excess mortality generated by Covid-19 affected political outcomes. The results in columns 3 and 7 of Table 8 show that our main coefficients do not change once we include this measure capturing the health consequences of Covid-19. Besides, as shown in columns 4 and 8 of Table 8, the main coefficients do not change if we include both proxies for economic recovery and health consequences. In conclusion, these two alternative stories cannot explain our findings.

Table 8: Alternatives stories: Toursim and Excess Mortality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent var.	Center-left vote shares				Center-right vote shares			
Covariates	No	No	No	No	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Elect. Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>post</i> · % <i>inact.</i>	0.071** (0.033)	0.077** (0.033)	0.068** (0.034)	0.075** (0.033)	-0.082*** (0.031)	-0.082*** (0.031)	-0.093*** (0.032)	-0.093*** (0.032)
<i>post</i> · <i>tourism</i>		-0.021* (0.012)		-0.020* (0.012)		-0.001 (0.014)		-0.000 (0.014)
<i>post</i> · <i>EM</i>			0.005 (0.008)	0.005 (0.008)			0.022* (0.011)	0.022* (0.011)
Observations	1,725	1,725	1,725	1,725	1,725	1,725	1,725	1,725
R-squared	0.788	0.789	0.789	0.789	0.795	0.795	0.796	0.796

Notes. Difference-in-differences estimates. The treatments variables are: the overall share of inactive workers, the tourism relevance index and the over65 excess mortality in the period March-June 2020 (with respect to the M.A. 2015-2019 of the same period). The estimated coefficients indicate the effect of the share of inactive workers (in overall terms and then separately for either the services or the industry sector), during the greatest lockdown period due to the restrictive measures, on the share of vote to the center-right and center-left parties. The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the share of votes in favour of the center-left parties, from column (1) to (4), and of the center-right parties, from column (5) to (8). Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

6.4 Additional robustness checks

This section presents a sequence of robustness checks that reinforce the results presented in sections [6.1](#) and [6.2](#). The first exercise considers the possibility that, for some municipalities, the municipal elections were held on the same day as the regional elections. We are interested in this aspect because the results of municipal elections could have been affected by the concomitant regional competition, especially in 2020, due to the fact that the Italian constitutional framework delegates health policies to the regions. As this overlap does not occur, on a specific date, to all municipalities in the sample but, on the contrary, is verified over different electoral years and for different municipalities, year-fixed effects do not capture this phenomenon. Therefore, we introduce in the model described in equation [2](#) a dummy variable equal to 1 if, in a municipality, in a specific electoral year, the local election takes place in conjunction with the regional election. We report the results of this exercise in Table [A7](#) in the appendix. These results do not show any alteration of the estimated coefficients, meaning that the overlap between municipal and regional elections does not influence our

findings.

Second, we deal with those cases in which some political parties did not present candidates in a specific municipality and electoral year, or we could not identify them following the procedure illustrated in section 5.1. In both situations, we coded the share of votes for the missing party/coalition as equal to zero. To check whether these cases drive our results, we modify again the model described in equation 2. More in detail, we introduce a set of dummy variables, one for each political party, equal to one if the corresponding party/coalition is not running at the municipal election of a specific year. We report the estimates in Table A8. Table A8 confirms that these cases do not drive our results, except for the coefficient estimated for the center-right, which maintains the same sign but becomes statistically insignificant. Given this result for the center-right coalition, in Table A9 in the appendix, we estimate the effect of our treatment on dummy variables capturing the probability of running at the municipal elections of each political party. It emerges that economic insecurity negatively affected the probability of competing and presenting candidates at the municipal elections for the center-right coalition only. Therefore, the results in Tables A8 and A9 suggests that a lower probability of participating in municipal elections due to the lockdown-induced economic insecurity explains the negative effect on the vote shares of the center-right coalition estimated in Table 3. We do not find the same evidence for the center-left coalition or the other political forces.

Third, we modify the regressions presented in section 6.1 clustering the standard errors at the labor district level instead of at the municipality level.²⁰ The aim is to assess whether electoral results are independently distributed or not within each labor district due to the high intensity of workers' inter-municipality mobility. As shown in Table A10 in the appendix, results are identical to the previous ones, indicating the absence of within-labor districts correlation. Finally, we study if the lockdown-induced economic insecurity influ-

²⁰Labor districts are geographical units where most labor force lives and works, and firms can find the labor force needed. Municipalities in the same labor district share similar economic and social characteristics. No government levels correspond to these labor districts (Gamalerio and Negri, 2022).

enced the re-election probability of the incumbent mayor. In this way, we want to test the presence of a local rally “round the flag” effect. The results in Table [A11](#) in the appendix rule out the possibility of such an effect. We do not find evidence of a higher probability for an incumbent mayor (columns 1-4) or any municipal government member (columns 5-8) to be re-elected.

7 Results from Survey Data

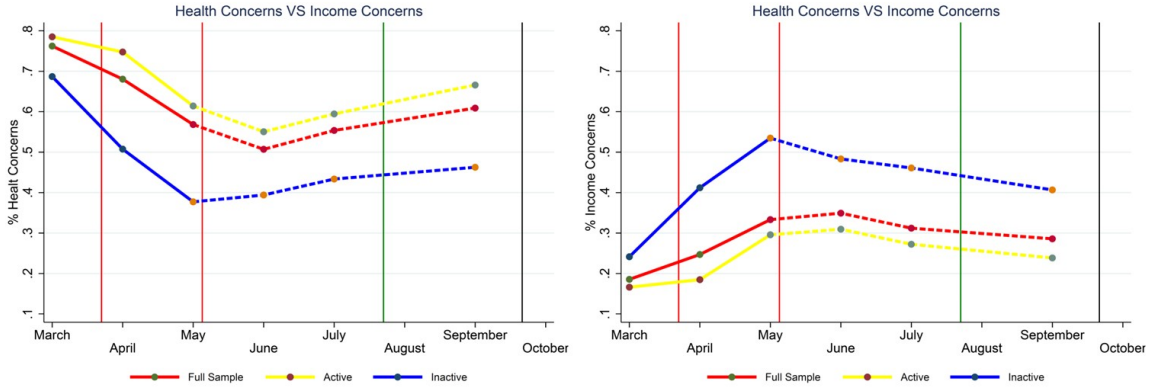
As section [6](#) reported results emerging from the analysis of municipal data, this section presents a set of additional results obtained using the survey data described in section [5.1](#) in order to provide corroborative evidence in support to the previous findings.

7.1 Descriptive Evidence from survey data

Let us begin with some descriptive evidence presented through different graphs. First, we confirm that the restrictive measures adopted to stop the spread of Covid-19 gave rise to economic insecurity. For this purpose, Figure [4](#) shows the answers for active and inactive workers to the following question: “What are your actual greater concerns? Health concerns or income concerns?”. As it is evident - and also expected - those who suffered the break off of their working activities exhibit lower concerns toward health problems and more concerns toward income problems. As expected, the peak of this divergence is reached at the end of the greater lockdown but remains consistent even later.

The second piece of descriptive evidence in Figure [5](#) shows how the support for the different political forces and the European Union changed over time. The graphs indicate the following trends as election day approaches: an increase in the voting intention for the center-left and the approval rate for the European Union; vice versa, a decrease in the voting intention for the center-right; finally, no relevant deviations for the Five Star Movement. The same tendencies are described in Figure [A4](#) in the appendix, where it is instead shown the

Figure 4: Health Concerns VS Income Concerns



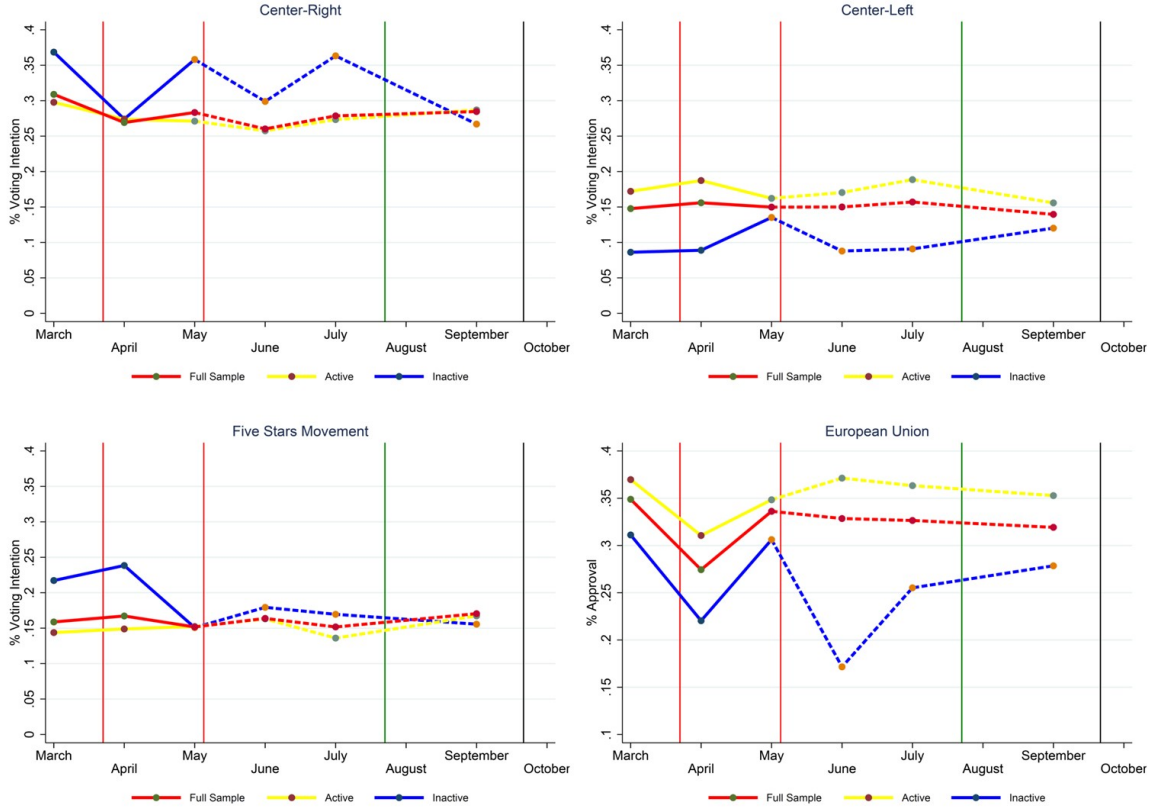
Notes. The Figure shows the probability of answering “health concerns” on the left and “income concerns” on the right to the following question: “What are your actual greater concerns? Health concerns or income concerns?”. Results - monthly grouped - are collapsed over different subcategories: i) the full sample; ii) the active workers; iii) the inactive workers. The dotted line indicates that such subdivision is made through our predictions while the full line indicates that the information derives from the survey. The results are obtained weighting each observation with the correspondent socio-demographic coefficient in order to make the survey sample representative of the whole population. The vertical lines represents the following events: start of the greater lockdown, 22nd of March; end of the greater lockdown, 3rd of May; announcement of the launch of the Next Generation EU, 21st of July; election day, 20th of September.

average consensus - that is, the average opinion on a scale from 1 to 10 - for the same variables.

The third contribution consists of evaluating the approval rates of different institutions: the government, the prime minister, the interest in politics, and the trust in the institutions. Figure 6 shows a common tendency for all of them: an increase in the approval rates at the outbreak of Covid-19, then a decline during the following months, and finally, a recovery nearing the September elections. These results are also confirmed in Figure A5 in the appendix, where we report the average consensus.

Two messages derive from this descriptive evidence. First, people who were forced to stop their working activities were initially skeptical and diffident towards political institutions and the government. Subsequently, they received the government’s support, and thus their opinion improved in terms of interest in politics and trust in the institutions. The other side of the coin is that such attitude was then reflected in terms of increased political support both in favor of the parties promoters of the extraordinary measures for which they benefited (the center-left) and for the institution which played a fundamental role in their approval and realization (the government, the prime minister and the European Union).

Figure 5: Parties' voting intention & EU approval rate

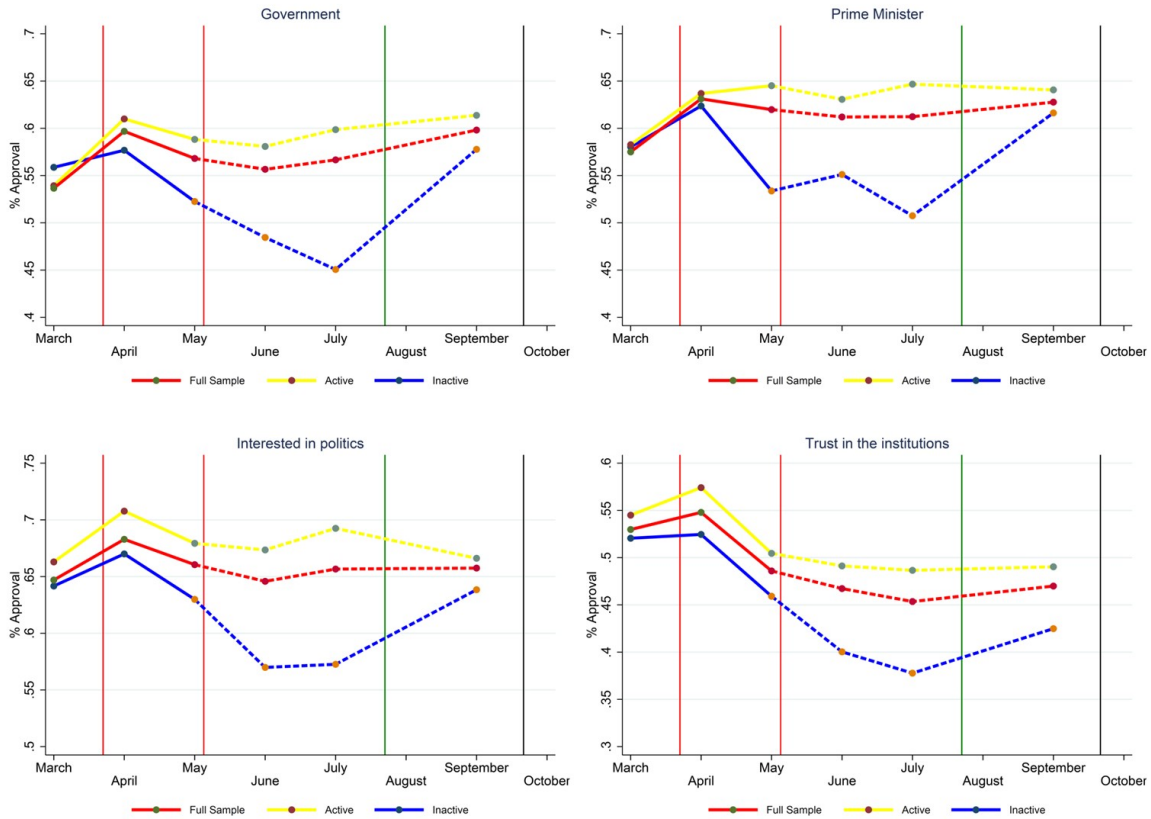


Notes. The Figure shows the voting intention - that is the exclusive probability of voting - in favour of different political forces: for center-left parties (Democratic Party and The Left), for center-right parties (League, Brothers of Italy and Forza Italia) and for the Five Star Movement. It shows also the approval rate - that is the probability of expressing a sufficient or a more than sufficient opinion - for the European Union. Results - monthly grouped - are collapsed over different subcategories: i) the full sample; ii) the active workers; iii) the inactive workers. The dotted line indicates that such subdivision is made through our predictions while the full line indicates that the information derives from the survey. The results are obtained weighting each observation with the correspondent socio-demographic coefficient in order to make the survey sample representative of the whole population. The vertical lines represents the following events: start of the greater lockdown, 22nd of March; end of the greater lockdown, 3rd of May; announcement of the launch of the Next Generation EU, 21st of July; election day, 20th of September.

7.2 Causal Evidence from survey data

This second section provides causal evidence using the survey data. As anticipated in section 4, we employ the same difference-in-differences empirical strategy used above. As described in more detail in section 5.2, the treatment variable captures people who declared, or we predicted, to have suspended their professional activities due to the restrictive measures. The control group includes people who regularly continued to work, plus students, pensioners, and homeworkers. Since our interest is studying the effect of economic insecurity, we decided to include these categories in the control group, as they were not affected by the restrictions and

Figure 6: Institutions' approval rates



Notes. The Figure shows the approval rate - that is the probability of expressing a sufficient or a more than sufficient opinion - for different political variables: the government, the prime minister, the interest in politics and the trust in the institutions. Results - monthly grouped - are collapsed over different subcategories: i) the full sample; ii) the active workers; iii) the inactive workers. The dotted line indicates that such subdivision is made through our predictions while the full line indicates that the information derives from the survey. The results are obtained weighting each observation with the correspondent socio-demographic coefficient in order to make the survey sample representative of the whole population. The vertical lines represents the following events: start of the greater lockdown, 22nd of March; end of the greater lockdown, 3rd of May; announcement of the launch of the Next Generation EU, 21st of July; election day, 20th of September.

did not benefit from the socioeconomic support programs. People unemployed for reasons different from the economic restrictions (e.g., unemployed before the introduction of the restrictions) are the sole professional category excluded from the analysis, given the difficulty of establishing whether these individuals received or not any benefit linked to the emergency measures introduced as a response to Covid-19.

Even though a broader time frame was available, we focus the empirical analysis on the period antecedent to the Italian local elections, which took place on the 20th and 21st of September, therefore employing four sessions of surveys, ranging from late August up to the middle of September, for a total number of 3198 interviews. In other words, we chose

the period closest to the electoral competition, considering that people, influenced by the electoral campaign and the media coverage, usually accurately decide how to vote just when the election date is approaching. Consequently, this strategy gives us a higher chance of dealing with more aware and precise answers from part of the respondents in the survey.

The results in Table 9 regard the center-left block in columns from 1 to 4 and the center-right block in columns from 5 to 8. In columns 1 and 5, the coefficients are estimated with the model 1 and without adding any covariate; in columns 2 and 6, we add a set of covariates; in columns 3 and 7, we estimate the coefficients with the model 2, that is with individual and year fixed effect; finally, in columns 4 and 8, to test for potentially differential pre-treatment trends, we add the interaction between $inactive_i$ and pre_t to model 2. The coefficients in Table 9 show how economic insecurity influenced the probability of voting for the center-left and the center-right block. More precisely, the results indicate that being inactive during the lockdown increased the probability of voting for center-left parties by close to 5 percentage points. At the same time, it decreases the probability of voting for center-right parties by slightly less than 7 percentage points. Since the coefficients in columns 4 and 8 - representing the interaction between $inactive_i$ and pre_t - are not statistically different from zero, we have a confirmation that in both cases, the common trends assumption holds.

In Table 10 - which presents the same structure as Table 9 - we study the effects on the Five Star Movement. We see how all the coefficients are small and not statistically significant. These results prove that economic insecurity did not affect the probability of voting for the Five Star Movement. Thus, even this last exercise corroborates our main findings.

Table 9: Evidence from survey data: center-left and center-right

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent var.	Prob. of voting the center-left				Prob. of voting the center-right			
Covariates	No	Yes	No	No	No	Yes	No	No
Individual FE	No	No	Yes	Yes	No	No	Yes	Yes
Year FE	No	No	Yes	Yes	No	No	Yes	Yes
<i>post-inactive</i>	0.047** (0.019)	0.047** (0.019)	0.047** (0.023)	0.056** (0.024)	-0.069*** (0.023)	-0.069*** (0.023)	-0.069** (0.028)	-0.063* (0.036)
<i>inactive</i>	-0.092*** (0.026)	-0.042 (0.031)			0.060* (0.033)	-0.021 (0.047)		
<i>post</i>	-0.050*** (0.011)	-0.050*** (0.011)			0.047*** (0.012)	0.047*** (0.012)		
<i>pre-inactive</i>				0.018 (0.021)				0.012 (0.030)
Observations	9,594	9,594	9,594	9,594	9,594	9,594	9,594	9,594
R-squared	0.015	0.072	0.810	0.810	0.004	0.080	0.840	0.840

Notes. Difference-in-differences estimates. The results are obtained weighting each observation with the correspondent socio-demographic coefficient in order to make the survey sample representative of the whole population. The treatment variable is the probability of being an inactive worker. The estimated coefficients indicate the effect of being an inactive worker, during the greatest lockdown period due to the restrictive measures, on the probability of vote to the center-right and center-left parties. The sample is composed by 3 observations for each of the 3198 individuals interviewed between August and September 2020 referring respectively: to the current voting intention, the vote expressed in 2019 European election and the vote expressed in 2018 parliamentary election. The outcome variable is the variation in the probability of vote in favour of the center-left parties, from column (1) to (4), and of the center-right parties, from column (5) to (8). Covariates in columns (2) and (6) referring to the individual are the following: age, years of education, gender, profession, sector of employment (private or public), type of employment contract (permanent or fixed-term). Covariates in columns (2) and (6) referring to the municipality in which the interviewee is living are the following: Population, Area (km²), Elevation (m), Provincial Capital, Per Capita Total Income, Coastal Area, Share of workers in the following Sectors: Accommodation and Food Service, Arts and Spots, Commercial, Construction, Education, Gas And Electricity, Health, Manufacturing Industry, Mineral Extraction, Other Services, Real Estate, Rental and Support, Scientific and Technological, Transport and Storage, Water and Waste Management. Robust standard errors clustered at the individual level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 10: Evidence from survey data: the Five Star Movement

	(1)	(2)	(3)	(4)
Dependent var.	Prob. of voting the Five Star Movement			
Covariates	No	Yes	No	No
Individual FE	No	No	Yes	Yes
Year FE	No	No	Yes	Yes
<i>post·inactive</i>	0.011 (0.023)	0.011 (0.023)	0.011 (0.028)	0.002 (0.029)
<i>inactive</i>	0.006 (0.031)	0.063* (0.033)		
<i>post</i>	-0.067*** (0.012)	-0.067*** (0.012)		
<i>pre·inactive</i>				-0.019 (0.022)
Observations	9,594	9,594	9,594	9,594
R-squared	0.012	0.090	0.802	0.803

Notes. Difference-in-differences estimates. The results are obtained weighting each observation with the correspondent socio-demographic coefficient in order to make the survey sample representative of the whole population. The treatment variable is the probability of being an inactive worker. The estimated coefficients indicate the effect of being an inactive worker, during the greatest lockdown period due to the restrictive measures, on the probability of vote to the Five Star Movement. The sample is composed by 3 observations for each of the 3198 individuals interviewed between August and September 2020 referring respectively: to the current voting intention, the vote expressed in 2019 European election and the vote expressed in 2018 parliamentary election. The outcome variable is the variation in the probability of vote in favour of the Five Stars Movement. Covariates in column (2) referring to the individual are the following: age, years of education, gender, profession, sector of employment (private or public), type of employment contract (permanent or fixed-term). Covariates in column (3) referring to the municipality in which the interviewee is living are the following: Population, Area (km²), Elevation (m), Provincial Capital, Per Capita Total Income, Coastal Area, Share of workers in the following Sectors: Accommodation and Food Service, Arts and Spots, Commercial, Construction, Education, Gas And Electricity, Health, Manufacturing Industry, Mineral Extraction, Other Services, Real Estate, Rental and Support, Scientific and Technological, Transport and Storage, Water and Waste Management. Robust standard errors clustered at the individual level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

8 Conclusion

This paper studies the political impact of lockdown-induced economic insecurity imposed by the Italian government to deal with the Covid-19 pandemic. We provide evidence of a partisanship effect that benefited center-left and pro-EU political parties but not populist parties supporting the central government. We also show how the lockdown-induced economic insecurity electorally damaged conservative and far-right populist parties in the opposition. We provide evidence that the extraordinary measures introduced by the central government to compensate for the increased level of economic insecurity represent the most plausible explanation for these results. This evidence indicates that the *forgotten women and men* probably felt less forgotten during the pandemic than in the past. It also suggests that the social groups more heavily hit by the pandemic, traditionally more in favor of center-right parties, realized the importance of government support in dealing with large economic shocks, thus shifting their support in favor of parties traditionally more in favor of a larger role for the public sector, such as the left parties. At the same time, voters showed more support for pro-EU parties and less for euro-skeptic and populist ones, a fact explained by the important involvement of the EU in financing the measures introduced to deal with the economic consequences of the Covid-19 pandemic.

The results of this paper show that the electoral effect of economic insecurity can go in the opposite direction compared to the evidence provided by the literature (Algan et al., 2017; Guiso et al., 2019) when government and mainstream parties manage to deal with economic distress, with more support for mainstream parties and less for populist and anti-establishment ones. These results open the opportunity for future lines of research that merit being analyzed, like understanding whether the above-described findings are common in the other EU countries and whether these effects are persistent or conversely disappear over time. It would be interesting to know whether similar results also happened in the past and whether the anti-populist feeling we saw emerging in Italy during the pandemic will last.

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Online Appendix: additional Tables and Figures

Table A1: Variables definition and sources

VARIABLE	DEFINITION	SOURCE
<i>ELECTORAL INFORMATION</i>		
Center-right Votes	Share of votes to the far-right parties.	Historical archive of the elections of the Ministry of Interior & Registry of local administrators of the Ministry of Interior
Center-left Votes	Share of votes to the left parties.	
Five Stars Movement Votes	Share of votes to the Five Stars Movement.	
Civic Lists Votes	Share of votes to the Civic Lists.	
Turnout	Share of eligible that voted.	
<i>COVID-19 IMPACT</i>		
Share Inactive Workers	% of total inactive workers due to the Covid-19 restrictive measures	Italian National Institute of Statistics (ISTAT)
Share Inactive Workers (Services)	% of services inactive workers due to the Covid-19 restrictive measures	
Share Inactive Workers (Industry)	% of industry inactive workers due to the Covid-19 restrictive measures	
Elderly Excess Mortality	Excess mortality of the over65 population in period March-August 2020, with respect to the years 2015-2019	
Share Bonus Self-Employed	per capita % of the total amount monetary compensation	National Institute for Social Security (INPS)
<i>DEMOGRAPHICAL CHARACTERISTICS</i>		
Population	Overall resident population	2011 Census Italian National Institute of Statistics (ISTAT)
Share Population 0-14	Share of resident population 0-14	
Share Population 15-64	Share of resident population 15-64	
Share Population 64+	Share of resident population over 65	
<i>GEOGRAPHICAL CHARACTERISTICS</i>		
Provincial Capital	= 1 if the municipality is a provincial capital	2011 Census Italian National Institute of Statistics (ISTAT)
Area (km2)	Total area of the municipality	
Density (Population/km2)	Population density of the municipality	
Elevation (m)	Height above the sea level of the municipality	
<i>EDUCATIONAL CHARACTERISTICS</i>		
Share Primary Educated	Share of population with a primary education.	2011 Census Italian National Institute of Statistics (ISTAT)
Share Secondary Educated	Share of population with a secondary education.	
Share Upper Secondary Educated	Share of population with an upper secondary education.	
Share Graduated	Share of graduate population.	
<i>SOCIO-ECONOMIC CHARACTERISTICS</i>		
Tourism Relevance Index	= 1 if the tourism relevance is maximum	Italian National Institute of Statistics (ISTAT)
Active Enterprises	Number of active enterprises of the municipality	2011 Census Italian National Institute of Statistics (ISTAT)
Occupation Rate	Occupation rate of the municipality	
Activity Rate	Activity rate of the municipality	
Total Income	Total taxable income of the municipality	

Notes. The tables summaries and describes all dependent and independent variables, providing the corresponding source from which each of the is retrieved.

Table A2: Complete index of parties and lists

Center-Right Parties	Center-Right Civic Lists	Center-Left Parties	Center-Left Civic Lists
Alleanza Di Centro Alleanza Nazionale Alternativa Popolare Area Popolare Cambiamo! Conservatori E Riformisti Forza Italia Fratelli D'Italia Futuro E Libertà Il Popolo Della Libertà La Destra Lega Nord Lega Per Salvini Premier Noi Con L'Italia Noi Con Salvini Nuovo Centro Destra Oltre Con Fitto Unione Italiana Centrodestra	Alleanza Frattese Alleanza Per Bracciano Centro Destra Amo Cortemilia Avigliano Libera Baranzate Riparte Dal Centrodestra Bodega Sindaco Destra Per Lecco Bogogno Un Paese Per Tutti Carraresi Noi Per Voi Cava Per Le Libertà Centro Destra Arcisate Centro Destra Cormio Centro Destra Finalese Centro Destra Per Bagnacavallo Centro Destra Per Chitignano Centro Destra Per Cotignola Centro Destra Per Cupello Centro Destra Per Figino Centro Destra Per Tartabini Centro Destra Per Verola Centro Destra Pietralunga Centro Destra Rovato Centro Destra Uniti Per Peglio Centro Destra Unito Con Onori Centrodestra Baronissi Centrodestra Per Castelfranco Centrodestra Per Castelvetro Centrodestra Per L'alternativa Centrodestra Per Luzzara Centrodestra Per Montefiascone Centrodestra Per Montopoli Centrodestra Per Sedriano Centrodestra Per Vallefoglia Centrodestra Per Vecchiano Circolo Della Libertà Destra Liberale Destra Per Rovigo Due Carrare Per Il Futuro Forza Avezzano Forza Avezzano Forza Casorate Forza Chieti Forza Lonato Forza Matera Forza Pagani Forza Pomigliano Idea Soragna Il Centrodestra Per Caprile Il Centrodestra Per San Costanzo Il Popolo Del Centro Destra Per Bosa Il Popolo Di Veroli Con La Destra Immagina Verucchio Centro Destra Indipendenti Di Centrodestra Per Tallone Insieme Alla Gente Centrodestra Insieme Per Pernumia Insieme Per Treviolo Centrodestra L'arca Origgio Lavoriamo Per Bogogno Lista Civica Avigliano Movimento Di Destra Per Montichiari Noi Con Rocchi Sindaco Noi Felizzano Insieme Per Il Centrodestra Per Due Carrare Per Levanto Per Torre Di Mosto Più San Bonifacio Centro Destra Pontenure Per Te Centro Destra Civico Pontremoli A Destra Popolo Di Levanto Premana Centrodestra Prima I Cittadini Alleanza Di Centro Destra Progetto Sociale Di Destra Per Cesate Rinnovamento Di Destra Tutti Per Calcio Uniti Per Lonato Uniti Per Zuccarello Viva San Cesario Centro Destra Viviamo Bogogno	Articolo Uno Centrosinistra Coalizione Progressista Comunisti Italiani Con Emiliano Democratici E Progressisti Emiliano Sindaco Di Puglia Giovani Democratici I Democratici Italia Dei Valori Liberi E Uguali L'Ulivo Partito Democratico Partito Socialista Italiano Rifondazione Comunista Sinistra Democratica Sinistra Ecologia Libertà Sinistra Italiana Socialisti E Democratici	Alpignano Democratica Andria Bene In Comune Campo Democratico Cardito Democratica Casorate Democratica Cologno Solidale E Democratica Comunità Democratica Cuggiono Democratica Democratici Insieme Democratici Per Arianò Democratici Per Castelfranco Democratici Per Ceccano Democratici Per Lonigo Democratici Per Marcanise Democratici Per San Nicola Democratici Per Travagliato Democratici Per Turate Democratici Per Uzzano Democratici Per Venaria Democratici Riformisti Frattamaggiore Democratica Gd Gemonio Democratico Genzano Democratica Giovani Democratici Impegno Democratico Insieme Per Almè Insieme Per Arcade Insieme Per Brioni Insieme Per Cascinette Insieme Per Cervinara Insieme Per Due Carrare Insieme Per Fara In Sabina Insieme Per Il Paese Santo Stefano Belbo Insieme Per Legnano Insieme Per Montelanico Insieme Per Parabiago Insieme Per Ripartire Insieme Per Roncadelle Insieme Per Vicoforte Insieme Per Vistrorio Insieme Per Voghera Intesa Democratica Lonigo Democratica E Solidale Riparte Marcanise Democratica Orciano Democratica Pattada Democratica Patto Democratico Per La Città Pomigliano Democratica Prospettiva Democratica Quartu Democratica E Solidale Rocchetta Democratica Settimo Progressista Soragna Democratica Terzigno Democratica Unione E Progresso Pont Unità Popolare Avigliano Uniti Per Avigliano Uniti Per Bollate Uniti Per Canossa Uniti Per Ceccano Uniti Per Cervinara Uniti Per Corsico Uniti Per Fontevivo Uniti Per Malo Uniti Per Montefortino Uniti Per Pont Uniti Per Rocca Di Papa Uniti Per Roncadelle Uniti Per S. Demetrio Uniti Per Sant'Angelo Uniti Per Turate Uniti Per Vistrorio Uniti Per Curtatone Viadana Democratica Viareggio Democratica

Notes. The tables provides the complete index of parties and lists for the variable *Center-Right Votes*, composed using the above-listed far right parties, and for the *Center-Left Votes*, composed with both the left parties and lefties civic lists.

Table A3: Classification of the suspended economic activities during the economic lockdown

SUSPENDED ACTIVITIES	
INDUSTRY SECTOR	SERVICES SECTOR
Rubber industry	Wholesale trade
Packaging industry	Retail trade
Textile and leather industry	Real estate activities
Wood industry	Rental services
Metallurgical industry	Travel agencies
Electronics industry	Business support services
Vehicles industry	Artistic and cultural activities
Private construction industry	Sports and entertainment activities

Notes. The Table shows a broad subdivision of the suspended activities during the economic lockdown - distinguishing between the services sector and the industry sector - in compliance with the Decree of the President of the Council dated 22.03.2020.

Table A4: Open and Close Activities in the Industry Sector

<i>ATECO CODE 2007</i>	<i>DESCRIPTION</i>	<i>ACTIVE</i>
<i>B</i>	<i>EXTRACTION OF MINERALS FROM QUARRIES AND MINES</i>	
5	Coal mining (excluding peat)	1
6	Extraction of crude oil and natural gas	1
7	Extraction of metal ores	0
8	Other mining activities from quarries and mines	0
9	Extraction support services activities	
9.1	Support activities for the extraction of oil and natural gas	1
9.9	Support activities for the extraction of other minerals from quarries and mines	0
<i>C</i>	<i>MANUFACTURING ACTIVITIES</i>	
10	Food industries	1
11	Beverage industry	1
12	Tobacco industry	0
13	Textile industries	0
14	Packaging of articles of clothing; packaging of leather and fur articles	0
15	Manufacture of leather goods	0
16	Industry of wood and cork (excluding furniture); manufacture of straw articles and weaving materials	0
17	Manufacture of paper and paper products	1
18	Printing and playback of recorded media	1
19	Manufacture of coke and petroleum refining products	1
20	Manufacture of chemical products	1
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	1
22	Manufacture of rubber and plastic articles	
22.1	Manufacture of rubber articles	0
22.2	Manufacture of plastic articles	1
23	Manufacture of other products of non-metallic mineral processing	0
24	Metallurgy	0
25	Manufacture of metal products (excluding machinery and equipment)	0
26	Manufacture of computers and electronics and optics products; electromedical equipment, measuring equipment and watches	
26.1	Manufacture of electronic components and electronic boards	0
26.2	Manufacture of computers and peripheral units	0
26.3	Manufacture of telecommunications equipment	0
26.4	Manufacture of audio and video consumer electronics products	0
26.5	Manufacture of measuring, testing and navigation instruments and apparatus; clocks	0
26.6	Manufacture of irradiation instruments, electromedical and electrotherapeutic equipment	1
26.7	Manufacture of optical instruments and photographic equipment	0
26.8	Manufacture of magnetic and optical media	0
27	Manufacture of electrical and non-electrical household equipment	
27.1	Manufacture of electric motors, generators and transformers and of equipment for the distribution and control of electricity	1
27.2	Manufacture of batteries of electric batteries and accumulators	1
27.3	Manufacture of wiring and wiring equipment	0
27.4	Manufacture of lighting equipment	0
27.5	Manufacture of household appliances	0
27.9	Manufacture of other electrical equipment	0
28	Manufacture of other machinery and equipment	
28.29.30	Manufacture of automatic dosing, wrapping and packaging machines (including parts and accessories)	1
28.95	Manufacture of machinery for the paper and paperboard industry (including parts and accessories)	1
28.96	Manufacture of machinery for the plastics and rubber industry (including parts and accessories)	1
28.1	Manufacture of general purpose machinery	0
28.2	Manufacture of other general purpose machinery	0
28.3	Manufacture of agricultural and forestry machinery	0
28.4	Manufacture of metal forming machines and other machine tools	0
28.9	Manufacture of other special-use machinery	0
29	Manufacture of motor vehicles, trailers and semi-trailers	0
30	Manufacture of other means of transport	0
31	Manufacture of furniture	0
32	Other manufacturing industries	
32.1	Manufacture of jewellery, costume jewellery and related articles; processing of precious stones	0
32.2	Manufacture of musical instruments	0
32.3	Manufacture of sporting goods	0
32.4	Manufacture of games and toys	0
32.5	Manufacture of medical and dental instruments and supplies	1
32.9	Other manufacturing industries	0
33	Repair, maintenance and installation of machinery and equipment	1
<i>D</i>	<i>SUPPLY OF ELECTRICITY, GAS, STEAM AND AIR CONDITIONING</i>	
35	Supply of electricity, gas, steam and air conditioning	1
<i>E</i>	<i>WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES</i>	
36	Collection, treatment and supply of water	1
37	Management of sewerage networks	1
38	Waste collection, treatment and disposal activities; material recovery	1
39	Remediation activities and other waste management services	1
<i>F</i>	<i>CONSTRUCTIONS</i>	
41	Construction of buildings	0
41.1	Development of real estate projects	0
41.2	Construction of residential and non-residential buildings	0
42	Civil engineering	
42.1	Construction of roads and railways	1
42.2	Construction of public utility works	1
42.9	Construction of other civil engineering works	0
43	Specialized construction work	
43.1	Demolition and preparation of the construction site	0
43.2	Installation of electrical, plumbing and other construction and installation work	1
43.3	Completion and finishing of buildings	0
43.9	Other specialized construction work	0

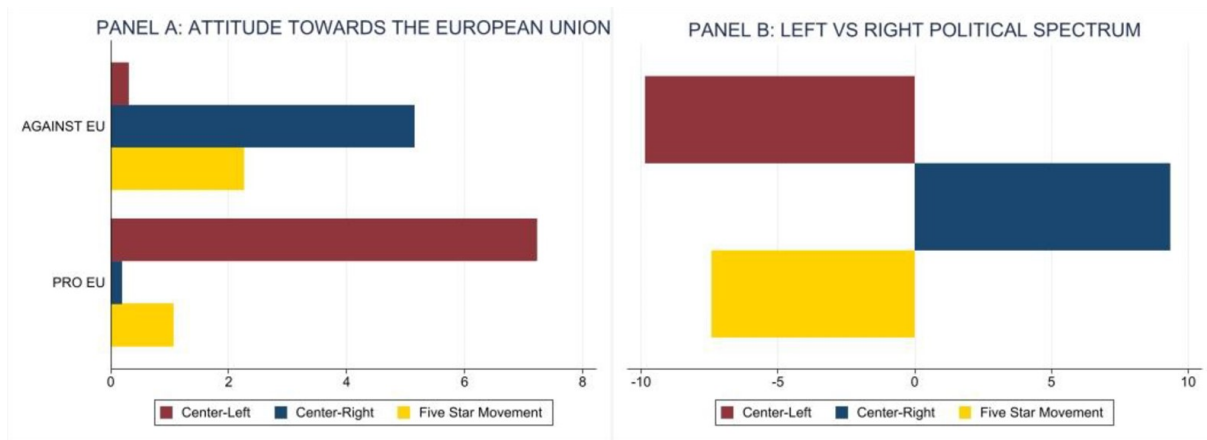
Notes. The table lists categories and subcategories (following the ATECO code 2007) of economic activity belonging to the industry sector, distinguishing between those remained open (= 1) and those forced to close (= 0), in compliance with the Decree of the President of the Council dated 22.03.2020.

Table A5: Open and Close Activities in the Services Sector

<i>ATECO CODE 2007</i>	<i>DESCRIPTION</i>	<i>ACTIVE</i>
<i>G</i>	<i>WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES</i>	
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	
45.1	Trade in motor vehicles	0
45.2	Maintenance and repair of motor vehicles	1
45.3	Trade in parts and accessories of motor vehicles	1
45.4	Trade, maintenance and repair of motorcycles and related parts and accessories	1
46	Wholesale trade (excluding motor vehicles and motorcycles)	
46.1	Intermediaries of commerce	0
46.2	Wholesale of agricultural raw materials and live animals	1
46.3	Wholesale of food, beverages and tobacco products	1
46.4	Wholesale of final consumer goods	0
46.5	Wholesale of ICT equipment	0
46.6	Wholesale of other machinery, equipment and supplies	0
46.7	Specialized wholesale of other products	0
46.9	Non-specialized wholesale trade	0
47	Retail trade (excluding motor vehicles and motorcycles)	0
<i>H</i>	<i>TRANSPORT AND STORAGE</i>	
49	Land transport and pipeline transport	1
50	Maritime and water transport	1
51	Air transport	1
52	Storage and transport support activities	1
53	Postal services and courier activities	1
<i>I</i>	<i>ACCOMMODATION AND CATERING SERVICES ACTIVITIES</i>	
55	Accommodation	
55.1	Hotels and similar structures	1
55.2	Holiday accommodation and other facilities for short stays	0
55.3	Camping areas and areas equipped for campers and caravans	0
55.9	Other accommodations	0
56	Catering services activities	0
<i>J</i>	<i>INFORMATION AND COMMUNICATION SERVICES</i>	
58	Publishing activities	1
59	Film, video and television programme production; music and sound recordings	1
60	Programming and broadcasting activities	1
61	Telecommunications	1
62	Software production, IT consulting and related activities	1
63	Activities of information services and other IT services	1
<i>L</i>	<i>REAL ESTATE ACTIVITIES</i>	
68	Real estate activities	0
<i>M</i>	<i>PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES</i>	
69	Legal activities and accounting	1
70	Management and management consulting activities	1
71	Activities of architecture and engineering; technical testing and analysis	1
72	Scientific research and development	1
73	Advertising and market research	0
74	Other professional, scientific and technical activities	1
75	Veterinary services	1
<i>N</i>	<i>RENTAL, TRAVEL AGENCIES, BUSINESS SUPPORT SERVICES</i>	
77	Rental and operating leasing activities	0
78	Research, selection, supply of personnel	
78.1	Activities of employment agencies	0
78.2	Activities of temporary (temporary) employment agencies	1
78.3	Other human resources supply and management activities	0
79	Activities of travel agency services, tour operators and booking services	0
80	Surveillance and investigation services	
80.1	Private security services	1
80.2	Services related to supervisory systems	1
80.3	Private investigative services	0
81	Service activities for buildings and landscape	
81.1	Integrated building management services	0
81.2	Cleaning and disinfection activities	1
81.3	Landscape care and maintenance	0
82	Support activities for office functions and other business support services	
82.1	Support activities for office functions	1
82.2	Call-centre activities	1
82.3	Organization of conferences and fairs	0
82.9	Other business support services	
82.91	Activities of debt collection agencies; commercial information agencies	0
82.92	Packaging and packaging activities for third parties	1
82.99	Other business support services	0
<i>P</i>	<i>EDUCATION</i>	
85	Education	1
<i>Q</i>	<i>HEALTH AND SOCIAL CARE</i>	
86	Health care	1
87	Residential Social Care Services	1
88	Non-residential social assistance	1
<i>R</i>	<i>ARTISTIC, SPORTS, ENTERTAINMENT AND ENTERTAINMENT ACTIVITIES</i>	
90	Creative, artistic and entertainment activities	0
91	Activities of libraries, archives, museums and other cultural activities	0
92	Activities related to lotteries, betting, casinos	0
93	Sports, entertainment and entertainment activities	0
<i>S</i>	<i>OTHER SERVICE ACTIVITIES</i>	
94	Activities of associative organizations	1
94.1	Activities of economic, employers' and professional organisations	1

Notes. The table lists categories and subcategories (following the ATECO code 2007) of economic activity belonging to the services sector, distinguishing between those remained open (= 1) and those forced to close (= 0), in compliance with the Decree of the President of the Council dated 22.03.2020.

Figure A1: Parties' political positions



Notes. The Figure indicates different parties' political positions based on the Manifesto Project: a database which analyses parties' election manifestos in order to study parties' policy preferences. The data refers to the 2018 Italian General Elections; the Center-Left includes the Democratic Party and Free and Equal while the Center-Right includes the League, Brother of Italy and Forward Italy. The three variables inspected are: 1) European Community/Union (Positive); 2) European Community/Union (Negative); 3) the Right-Left programmatic dimensions. In Panel A the values reported constitute the relative share of statements for each category in relation to all statements in the manifesto. 0.35 means that 0.35 percent of the manifesto was devoted to that category. Since this is a relative share, the scale can run between zero (no statement at all) and 100 (the whole manifesto is about this category). In Panel B the same rules apply but the Left programmatic dimension presents negative values while the Right programmatic dimension presents positive values.

Figure A2: The effect of lockdown-induced economic insecurity on electoral outcomes

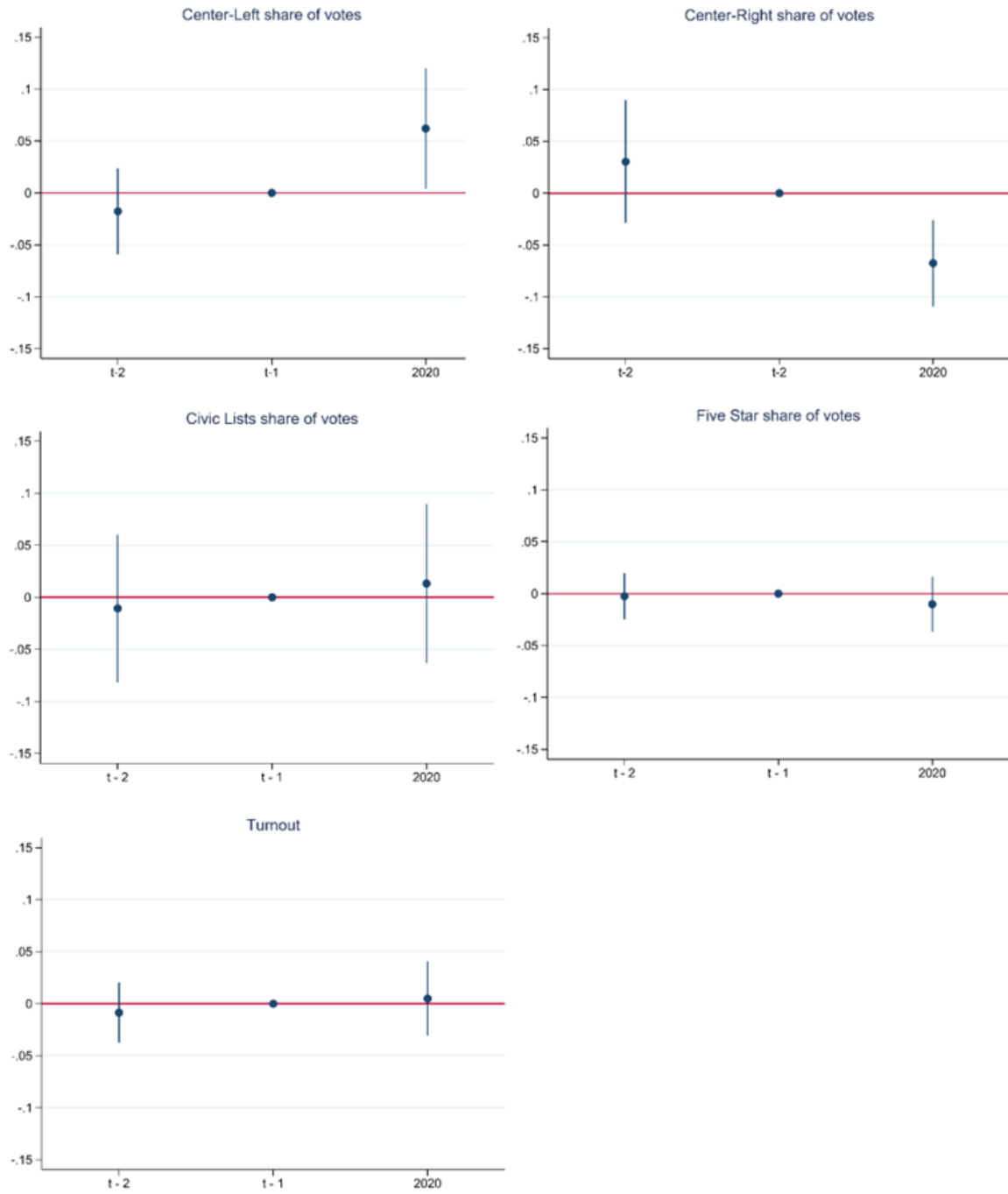
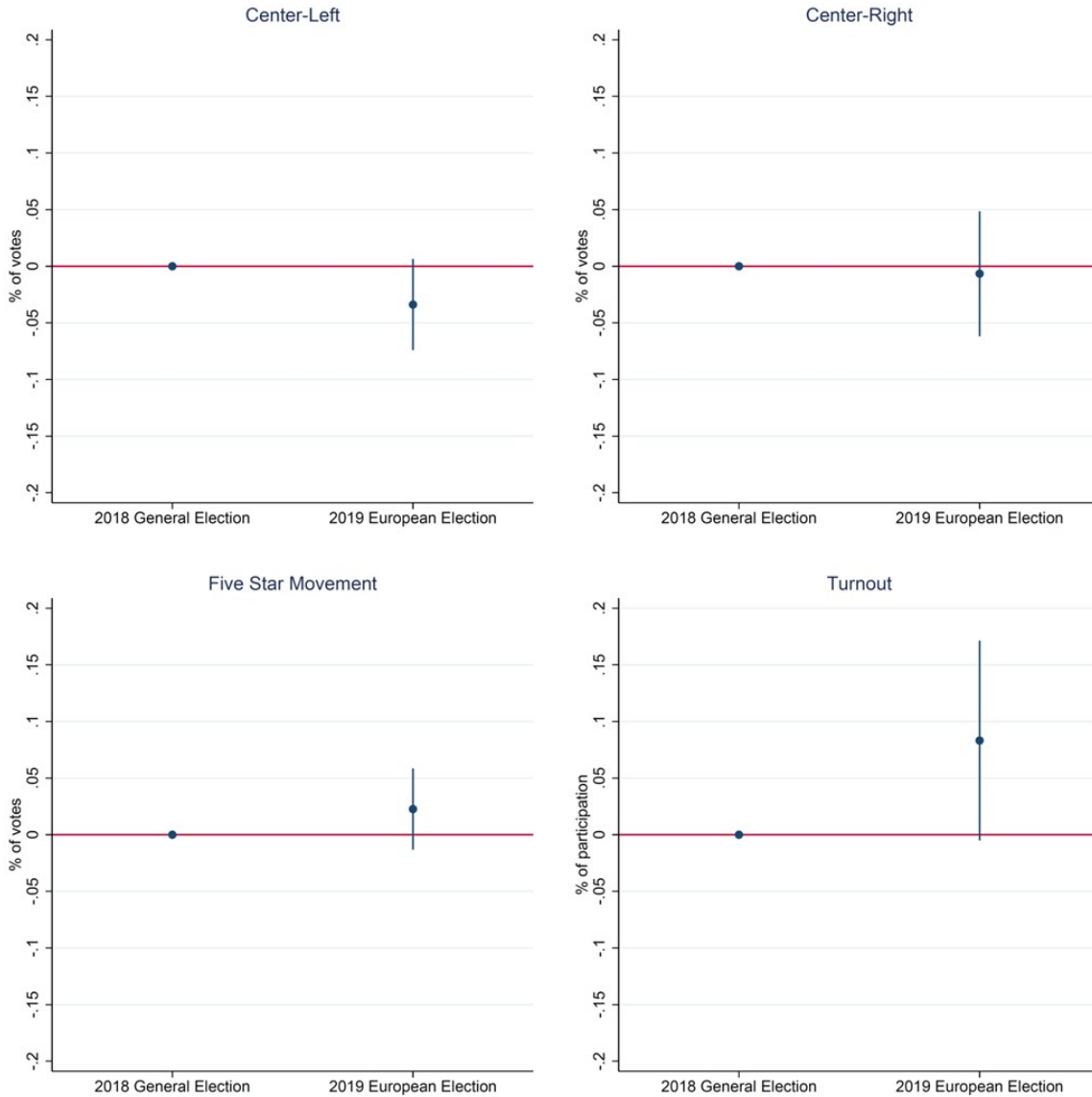


Figure A3: Additional pre-treatment trends



Notes. The Figure displays the difference-in-differences estimates of the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the share of votes of different political forces and on the turnout. The treatment variable is the overall share of inactive workers. The outcome variable is the variation in the share of votes in favour of different political forces and on the turnout. The sample is composed by 2 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the 2018 General Elections (Chamber of Deputy) and one referring to the 2019 European Elections. The variable Center-Left includes the Democratic Party and The Left/Free and Equal while the variable Center-Right includes the League, Brother of Italy and Forward Italy. All regressions include municipality and year fixed effects. Robust standard errors are clustered at the municipality level.

Table A6: Share of inactive workers & Share of per capita bonus

	(1)	(2)	(3)	(4)
Dependent variable		<i>post · % bonus</i>		
Covariates	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes
Election Year FE	Yes	Yes	Yes	Yes
<i>post · % inactive</i>	12.557 (18.994)			
<i>post · % inactive serv.</i>		37.577** (18.482)		40.325** (19.192)
<i>post · % inactive indu.</i>			-5.618 (12.365)	-10.028 (12.954)
Observations	1,722	1,722	1,722	1,722
R-squared	0.837	0.839	0.837	0.839

Notes. Difference-in-differences estimates. The treatments variables are: the overall share of inactive workers and the share of inactive workers in the industry and services sectors. The estimated coefficients indicate the effect of the share of inactive workers (in overall terms and then separately for either the services or the industry sector), during the greatest lockdown period due to the restrictive measures, on overall monetary amount of the bonus in favour of self-employed workers over the resident population. The sample is composed by 3 observation for each of the 574 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. Municipalities are 574 and not 575 because for one municipality of the canonical sample data are not available. The outcome variable is . Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A7: Robustness I: Concurrent Regional Elections

	(1)	(2)	(3)	(4)	(5)
Dependent variable	Center-Left	Center-Right	Five Star M.	Civic Lists	Turnout
Covariates	No	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes	Yes
Election Year FE	Yes	Yes	Yes	Yes	Yes
<i>post % inactive</i>	0.071** (0.033)	-0.079*** (0.030)	-0.009 (0.010)	0.015 (0.047)	0.008 (0.021)
<i>Concurrent</i>	-0.002 (0.009)	-0.031** (0.012)	0.001 (0.003)	0.032** (0.015)	0.016*** (0.005)
Observations	1,725	1,725	1,725	1,725	1,725
R-squared	0.789	0.797	0.550	0.860	0.908

Notes. The treatments variables is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on different electoral outcomes: the vote shares for the Center-Left in column (1), the vote shares for the Center-Right in column (2), the vote shares for the Five Star Movement in column (3), the vote shares for the Civic Lists in column (4) and the Turnout in column (5). The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable are the variations of different electoral outcomes: the vote shares for the Center-Left in column (1), the vote shares for the Center-Right in column (2), the vote shares for the Five Star Movement in column (3), the vote shares for the Civic Lists in column (4) and the Turnout in column (5). The dummy variable *Concurrent* id equal to 1 when in a municipality the Local Election take place the same day as the Regional Election. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A8: Robustness II: Party not competing

	(1)	(2)	(3)	(4)
Dependent variable	Center-Left	Center-Right	Five Star M.	Civic Lists
Covariates	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes
Election Year FE	Yes	Yes	Yes	Yes
<i>post · % inactive</i>	0.060** (0.027)	-0.024 (0.024)	-0.001 (0.008)	0.024 (0.042)
<i>Center-Left Missing</i>	-0.279*** (0.026)			
<i>Center-Right Missing</i>		-0.262*** (0.025)		
<i>Five Star Missing</i>			-0.085*** (0.007)	
<i>Civic Lists Missing</i>				-0.402*** (0.046)
Observations	1,725	1,725	1,725	1,725
R-squared	0.890	0.875	0.760	0.869

Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the share of vote to center-left (1), center-right (2) Five Stars Movement (3) and civic lists (4). For each political force and for each election, the regression includes also a dummy variable (Center-Left Missing, Center-Right Missing, Five Star Missing and Civic Lists Missing) which is equal to 1 if the correspondent party is not competing at the election. The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the share of votes in favour of the following political forces: center-left (1), center-right (2) Five Star Movement (3) and civic lists (4). Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A9: Robustness III: Probability of competing

	(1)	(2)	(3)	(4)
Dependent variable	Center-Left	Center-Right	Five Star M.	Civic Lists
Covariates	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes
Election Year FE	Yes	Yes	Yes	Yes
<i>post · % inactive</i>	0.039 (0.065)	-0.209** (0.083)	-0.089 (0.064)	-0.013 (0.039)
Observations	1,725	1,725	1,725	1,725
R-squared	0.845	0.832	0.640	0.510

Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the probability of running at the election of center-left (1), center-right (2) Five Star Movement (3) and civic lists (4). The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the probability of running at the election of the following political forces: center-left (1), center-right (2) Five Stars Movement (3) and civic lists (4) . Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A10: The effect of lockdown-induced economic insecurity on electoral outcomes

	(1)	(2)	(3)	(4)	(5)
Dependent variable	Center-Left	Center-Right	Five Star M.	Civic Lists	Turnout
Covariates	No	No	No	No	No
Municipal FE	Yes	Yes	Yes	Yes	Yes
Election Year FE	Yes	Yes	Yes	Yes	Yes
<i>post · % inactive</i>	0.071** (0.032)	-0.082** (0.039)	-0.009 (0.010)	0.018 (0.053)	0.009 (0.023)
Observations	1,725	1,725	1,725	1,725	1,725
R-squared	0.788	0.795	0.550	0.859	0.906

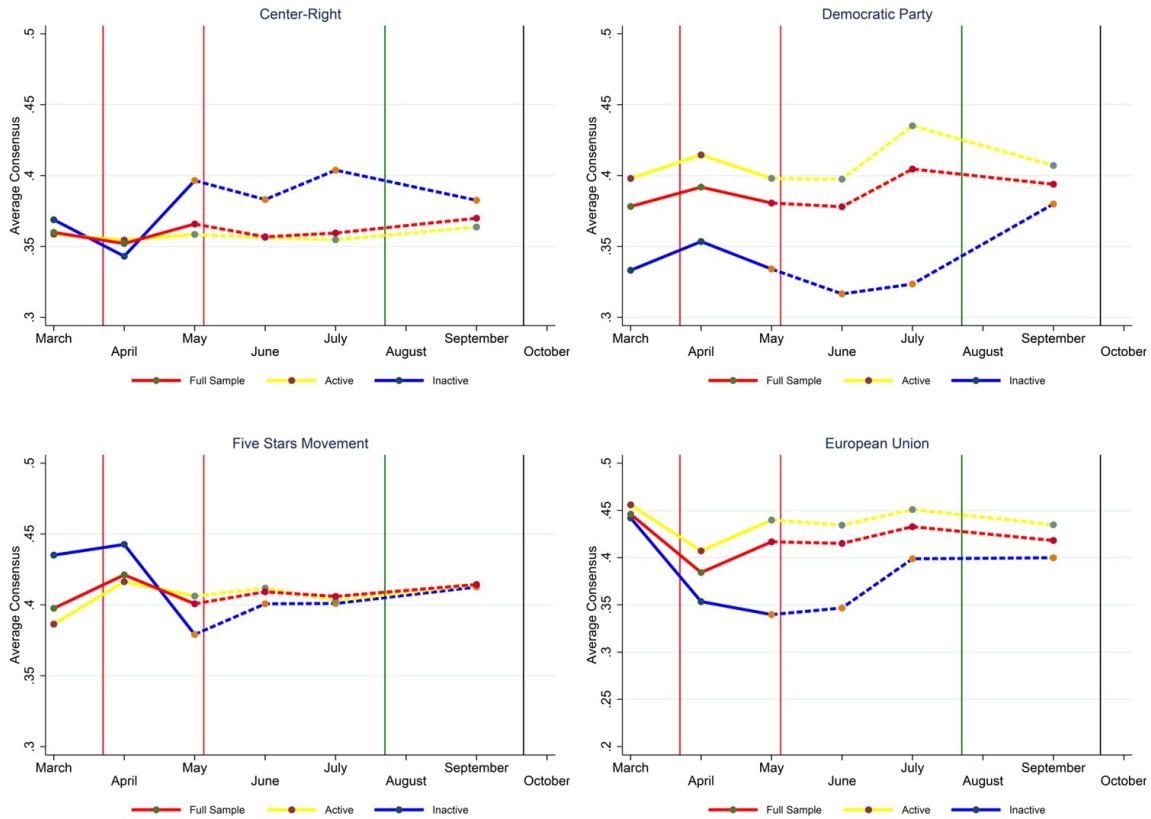
Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the effect of the share of inactive workers, during the greatest lockdown period due to the restrictive measures, on the probability of running at the election of center-left (1), center-right (2), Five Stars Movement (3), Civic Lists (4) and Turnout (5). The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the probability of running at the election of the following political forces: center-left (1), center-right (2), Five Star Movement (3), Civic Lists (4) and Turnout (5). Robust standard errors clustered at the **labour district** level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A11: Incumbent mayor re-election probability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent var.	Major				Major and/or Board			
Covariates	No	Yes	No	No	No	Yes	No	No
Municipal FE	No	No	Yes	Yes	No	No	Yes	Yes
Election Year FE	No	No	Yes	Yes	No	No	Yes	Yes
<i>post</i> ·% inactive	-0.137 (0.152)	-0.035 (0.188)	0.007 (0.237)	0.081 (0.247)	0.075 (0.141)	0.041 (0.172)	0.134 (0.209)	0.060 (0.231)
<i>post</i>	0.176** (0.079)	0.130 (0.096)			0.111 (0.074)	0.127 (0.088)		
% inactive		-0.158 (0.112)				-0.051 (0.097)		
<i>pre</i> ·% inactive				0.165 (0.232)				-0.153 (0.196)
Observations	1,410	1,410	1,410	1,410	1,725	1,725	1,725	1,725
R-squared	0.011	0.032	0.458	0.459	0.020	0.042	0.352	0.353

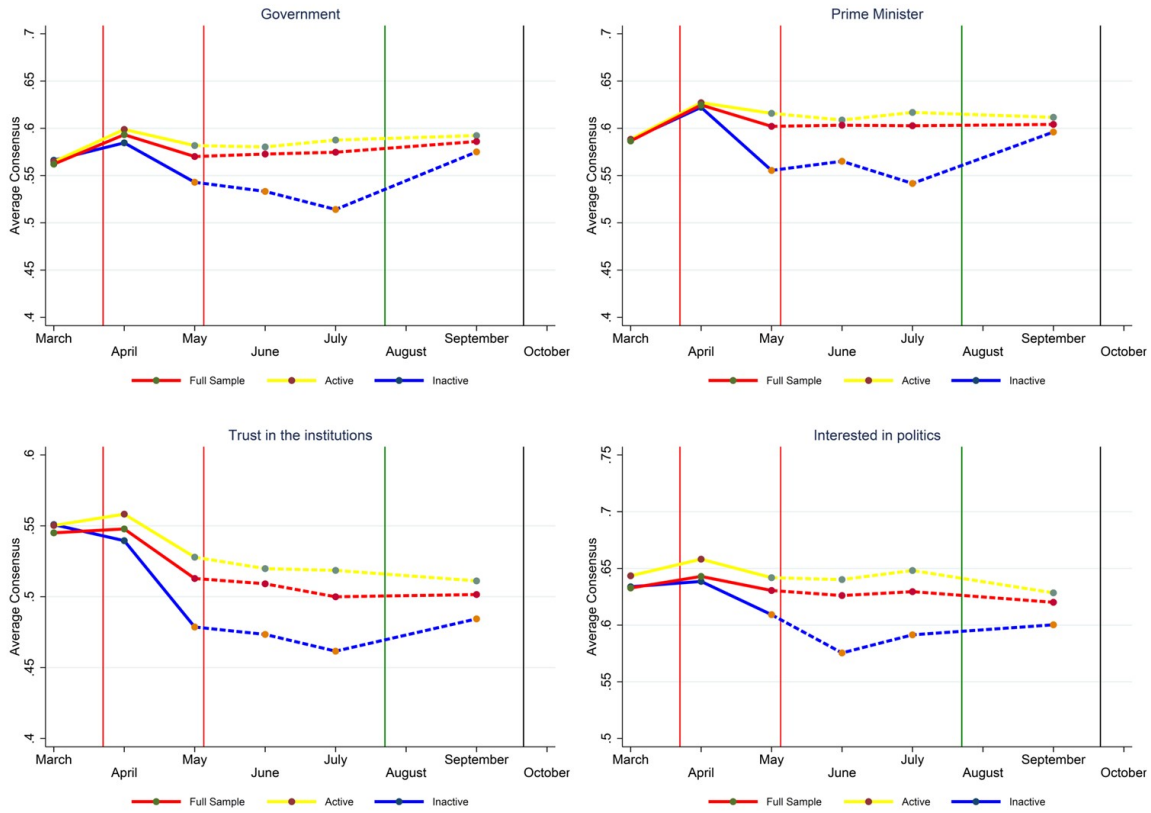
Notes. Difference-in-differences estimates. The treatment variable is the overall share of inactive workers. The estimated coefficients indicate the probability of being re-elected of an incumbent mayor - from column (1) to (4) - and for either an incumbent mayor or a incumbent member of the municipality board, from column (5) to (8). The sample is composed by 3 observation for each of the 575 municipalities (belonging to ordinary stature regions) which voted for local elections in 2020: one referring to the last electoral competition plus the two precedent ones. The outcome variable is the variation in the probability of being re-elected for an incumbent mayor, from column (1) to (4), and for either an incumbent mayor or a incumbent member of the municipality board, from column (5) to (8). Covariates in column (2) and (6) are the following: Population, Share Population 0-14, Share Population 15-64, Share Population 64+, Provincial Capital, Area (km²), Density (Population/km²), Elevation (m), Share Primary Educated, Share Secondary Educated, Share Upper Secondary Educated, Share Graduated, Tourism Relevance Index, Active Enterprises, Occupation Rate, Activity Rate, Total Income. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Figure A4: Parties & EU average consensus



Notes. The Figure shows the average consensus - that is the average opinion in a scale from 1 to 10 - about different political forces: for the Democratic Party, for center-right parties (League, Brothers of Italy and Forza Italia) and for the Five Star Movement. It shows also the average consensus for the European Union. Results - monthly grouped - are collapsed over different subcategories: i) the full sample; ii) the active workers; iii) the inactive workers. The dotted line indicates that such subdivision is made through our predictions while the full line indicates that the information derives from the survey. The results are obtained weighting each observation with the correspondent socio-demographic coefficient in order to make the survey sample representative of the whole population. The vertical lines represents the following events: start of the greater lockdown, 22nd of March; end of the greater lockdown, 3rd of May; announcement of the launch of the Next Generation EU, 21st of July; election day, 20th of September.

Figure A5: Institutions' average consensus



Notes. The Figure shows the average consensus - that is the average opinion in a scale from 1 to 10 - about different political variables: the government, the prime minister, the interest in politics and the trust in the institutions. Results - monthly grouped - are collapsed over different subcategories: i) the full sample; ii) the active workers; iii) the inactive workers. The dotted line indicates that such subdivision is made through our predictions while the full line indicates that the information derives from the survey. The results are obtained weighting each observation with the correspondent socio-demographic coefficient in order to make the survey sample representative of the whole population. The vertical lines represents the following events: start of the greater lockdown, 22nd of March; end of the greater lockdown, 3rd of May; announcement of the launch of the Next Generation EU, 21st of July; election day, 20th of September.

CHAPTER II

Split-ticket voting in Italy: evidence from concurrent European and municipality elections

Federico Franzoni*

Abstract

This paper - using data from Italian municipalities - analyses concurrent European and local elections in the period 1999-2019 in Italy. It documents evidence of vertical split-ticket voting in favour of the center-left parties in municipality elections with respect to the European elections. The results are consistent across different subdivisions of the sample: in terms of geographical distribution over the entire country; in terms of temporal persistence over the five rounds of elections investigated; in terms of municipalities' population size.

Keywords: Voting behaviour, Split-ticket voting, Italian elections.

JEL Codes: D70, D72, H70.

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1 Introduction

In liberal and constitutional democracies citizens exert their sovereignty primarily through free elections. They are indeed regularly called upon to vote for national, super-national and sub-national elections in order to choose their representatives and rulers. In those occasions, voters can - and usually do - simply recursively vote the same party or, alternatively, opt for a split-ticket vote. Providing a simple definition, a split-ticket vote occurs when voter i votes for party a in contest X and votes for party b in some other contest Y .

This particular electoral behaviour observed in several countries has motivated a widely covered research field both in political science and in political economy aimed at discovering if and understanding when, why and how often voters make such discordant voting decisions. More in detail, the literature focusing on this argument has analysed the phenomenon - as outlined in the comparative study of [Burden and Helmke \(2009\)](#), which follows the original study of [Campbell and Miller \(1957\)](#) - along two key dimensions. The first dimension concerns the type of institutions involved: an horizontal split-ticket may occur when multiple and equivalent offices are contested, while a vertical split-ticket may occur when elections are held to fill offices at different levels of government. The second dimension concerns the timing of the elections: concurrent elections versus non-concurrent elections.

This paper contributes to the latter field of research - more precisely the category of vertical split-ticket voting in concurrent elections - analysing the voting behaviour in five different rounds of concurrent European and municipality elections in Italy. A research based on Italian municipal data and - to the best of my knowledge - covering a topic which has not yet been addressed in a formal empirical analysis.

The argument of individual electoral behaviour in different competitions has been extensively discussed by scholars in numerous applications. In what follows I briefly review the main studies which provide evidence of split-ticket voting for each of the four categories identified following the previously described taxonomy: horizontal split-ticket in concurrent elections, vertical split-ticket in concurrent elections, horizontal split-ticket in non-concurrent elections

and vertical split-ticket in non-concurrent elections. Horizontal split-ticket voting in concurrent elections may occur in mixed member electoral systems, that is in systems in which a voter can simultaneously choose a party under a proportional representation rule and a district candidate under a majoritarian rule (e.g., [Jesse, 1988](#); [Karp et al., 2002](#); [Moser and Scheiner, 2005](#)). On the other hand, vertical split-ticket voting in concurrent elections may occur in legislative elections which take place in concomitance with the executive elections, for example the U.S. presidential and congressional elections, which are held simultaneously every four years (e.g., [Jacobson, 1990](#); [Fiorina, 1992](#); [Burden and Kimball, 2002](#)); in simultaneous national and local elections (e.g., [Rallings and Thrasher, 1998, 2001, 2003](#); [Elklit and Kjær, 2005](#)); in simultaneous national and regional elections (e.g., [Sanz, 2008](#)); in simultaneous European and local elections (e.g., [Rallings and Thrasher, 2005](#)). Then, horizontal split-ticket voting in non-concurrent elections may occur in case of staggered multi-member elections, for example the U.S. Senate elections (e.g., [Fiorina, 1992](#); [Burden and Kimball, 2002](#)). Finally, vertical split-ticket voting in non-concurrent elections may occur in legislative elections which take place separately from the executive elections, for example the U.S. midterm elections (e.g., [Alesina and Rosenthal, 1995](#)); in non-concurrent national and local elections (e.g., [Erikson and Filippov, 2001](#)); in non-concurrent national and European elections (e.g., [Carrubba and Timpone, 2005](#)).

For what concerns the Italian context, the closer work to this field is the one of [Bracco and Revelli \(2018\)](#) who study the effect on turnout decision and voting behaviour in concurrent municipal and provincial elections. It focuses the attention on the consequences of such concomitance on the political accountability of the local governments, rather than on the switching political party choice, finding that issues related to municipal elections affect the provincial elections outcomes, then leaving issues related to provincial elections less relevant for the provincial elections themselves. In addition, remaining on the Italian context, although more distant in the topic, are still relevant to mention the works of [Revelli \(2017\)](#) and [Cantoni et al. \(2021\)](#), which show evidence of higher turnout to the polls in case of

concurrent elections.

As mentioned above, this work scrutinizes concurrent European and municipal elections, although a comparative analysis of concurrent national and municipal elections would probably have been of greater interest; however, this second type of concomitance occurred only in few occasions and when occurred few municipalities were involved. For this practical reason, the paper examines European and local elections which instead recursively took place in concomitance. Nevertheless, this issue does not weaken the significance of the research since national and European elections still exhibit very similar patterns in the historical and geographical distribution of the vote shares.

Results emerging from the research are quite different from those reported in the above-mentioned literature. Referring to vertical split-ticket voting in concurrent elections, [Rallings and Thrasher \(2005\)](#) show that in 2004 simultaneous European and local elections in the United Kingdom the three major political parties (Labour, Liberal and Conservative) received a larger share of votes at the local than at the European elections, lost in favour of smaller parties. The same authors, still inspecting the United Kingdom, show also that in concomitant general and local elections in 1997 the Conservative and Labour parties performed better on average at the general election, whereas the Liberal Democrat consensus was consistently higher in the local elections ([Rallings and Thrasher, 2003](#)). While referring to vertical split-ticket voting in non-concurrent elections, [Carrubba and Timpone \(2005\)](#) claim more generally that in European parliamentary elections larger and more moderate parties obtain a lower support than in the previous national elections. Besides, [Erikson and Filippov \(2001\)](#), analysing Canadian electoral data for the period 1949-1997, show that the incumbent party at the federal level loses votes in provincial elections.

Differently, the overall descriptive evidence presented in this paper indicates that parties and candidates belonging to the centre-left regularly achieve better results at municipal elections compared to European elections, while the opposite occurs systematically for parties and candidates belonging to the centre-right. A pattern also recently confirmed in 2022 local

and national elections.

2 Institutional background

Italy is characterized by a decentralized institutional framework, organized in 3 levels of sub-national governments. In a descending hierarchical order, the territorial organization is structured in 20 regions (*Regioni*), 107 provinces (*Province*) and 7.904 municipalities (*Comuni*)¹; in more detail, five regions - composed of 21 provinces and 1339 municipalities - are special statute regions (*Regioni a Statuto Speciale*) as they benefit from particular conditions of autonomy from the central government.²

This paper focuses its analyses on the lowest administrative level - the municipality - whose local government is composed in the following articulation: a mayor (*Sindaco*), directly elected by the citizens and in charge of the executive power; a municipality board (*Giunta municipale*), appointed by the mayor which co-operates and assists the mayor in carrying out the executive power; a municipality council (*Consiglio Comunale*) directly elected by the citizens and in charge of indicating and controlling the political-administrative orientation of the local government.

Municipalities are in charge to provide a broad range of public services: childcare and nursery schools, local police, cultural and leisure activities, elderly social services, waste management, environment protection, city planning and maintenance. To fund all these expenditures they can rely on different forms of revenues : i) tax revenues, that is the revenues from the local taxation, mainly from the property tax and the municipal surtax on the personal income tax; ii) transfers from the central government; iii) fees' revenues, that is revenues from building permits, traffic fines and the payment of other services; iv) capital revenues, coming from the sale of public properties or assets; v) loans.

MUNICIPAL ELECTIONS ELECTORAL SYSTEM. Regarding the rules regulating the local elec-

¹See <https://www.istat.it/it/archivio/6789>

²Namely: Sicily, Sardinia, Valle d'Aosta, Friuli-Venezia Giulia and Trentino-Alto Adige (constituted by the autonomous provinces of Trento and Bolzano).

tions³, as mentioned above, mayors are directly elected by the citizens' vote, through a majoritarian electoral law, differentiated on the basis of the population. A first-past-the-post rule (or single ballot) for municipalities with less than 15.000 inhabitants and a runoff rule (or dual ballot) for municipalities with more than 15.000 inhabitants; in this latter scenario, if no candidates obtain 50% plus one of the valid votes, after two weeks there will be a second round between the two more voted candidates at the first round (Bordignon et al., 2016).

Under the single ballot system - that is below the population threshold - a mayoral candidate can be supported by only one list/party and voters can cast only one vote: voting for the list, they also support the candidate and voting for the candidate, they also support the list. The list supporting the winning candidate receives two third of the seats in the municipality council, while the remaining seats are proportionally distributed among the other lists.

Under the dual ballot system - that is above the population threshold - a mayoral candidate can be supported by more lists/parties. In this case citizens have different modality to express their choice: i) voting for a mayoral candidate only, without expressing any preference for a supporting party/list; ii) voting only for a party/list (in this case the vote is also valid for the mayoral candidate supported by such list/party); iii) voting for a mayoral candidate and for one party/list which supports that candidate; iv) voting for a mayoral candidate and for one party/list which does not support that candidate (this last eventuality is called "disjoint vote" and it is the least frequent). The list/lists supporting the winning candidate receive 60% of the seats in the municipality council, while the remaining seats are proportionally distributed among the lists which have obtained at least 3% of the valid votes.

In both systems, mayors are elected for a five⁴ years term and for a maximum of two consecutive terms, namely they face a term limit if re-elected.

POLITICAL CONTEST. For what concerns the type of political contest disputed in local

³See the Law n°81/1993

⁴Originally the Law n°81/1993 established a four-year mandate, then the Law n°120/1999 extended the legislature to a five-year mandate.

elections, since the 1993 reform of the electoral legislation, there has been, in most of the situations, a polarized competition between a center-right and a center-left list/coalition. This occurrence was an ineludible consequence of a mutation in the national political configuration: after the end of the so called "First Republic" in the biennium 1992-1993 and due to the adoption of a new (mostly) majoritarian electoral law⁵, the national political system thoroughly changed and was then characterized by the presence of two predominant and alternative alliances.

EUROPEAN ELECTIONS ELECTORAL SYSTEM. As the paper involves also the European elections, it is necessary to describe its regulation as well. As the municipality elections, they take place every five years, while the electoral mechanism to designate the Italian members of the European Parliament is an open list proportional system⁶, with the introduction of an election threshold equal to 4% from 2009 onward.⁷

3 Data

This section describes the data employed in the analysis, which are based on Italian municipalities and retrieved from either the Italian National Institute of Statistics (ISTAT) or the Ministry of Interior.

3.1 Concurrent European and municipal elections

The research involves concurrent European and municipal elections, relying on those municipalities in which the local elections occurred in concomitance⁸ - that is the same day or days and the same timing - with the European elections. To be precise, the elections under inspection are those highlighted in green in Table [A1](#), which reports the Italian electoral

⁵See the Law n°276/1993 and the Law n°277/1993.

⁶See the Law n°18/1979.

⁷See the Law n°10/2009.

⁸Namely the elections which simultaneously took place on the following dates: the 13th of June 1999, the 12th and the 13th of June 2004, the 6th and the 7th of June 2009, the 25th of May 2014 and finally the 26th of May 2019.

calendar from 1999 onward.⁹

A salient aspect to emphasize is the appropriateness of the European elections to represent an adequate benchmark for real electoral preferences of the voters and then a valid term of comparison for the local elections. This feature derives from the combined effect of being a second order election (than with little at stake) and from the proportional type of electoral rule, which provides little incentives to distort a truthful party preference (Reif and Schmitt, 1980). Thus, based on these considerations, it is possible to interpret the vote expressed for the European elections as an indication of the real political preference with which comparing those expressed at the local level.¹⁰

A further benefit of considering concurrent elections is in terms of effective turnout in the two competitions. As mentioned above, they happen the same day/days and with the same length of time; in addition, they took place exactly in the same site and voters received in their hands the ballot papers together. Thus, there are no additional costs to cast an additional ballot. These conditions are reflected in the fact that the same number of people had voted in the two competitions, as shown in Figure 1, with a minimal discrepancy, equal to 0.03% on average.

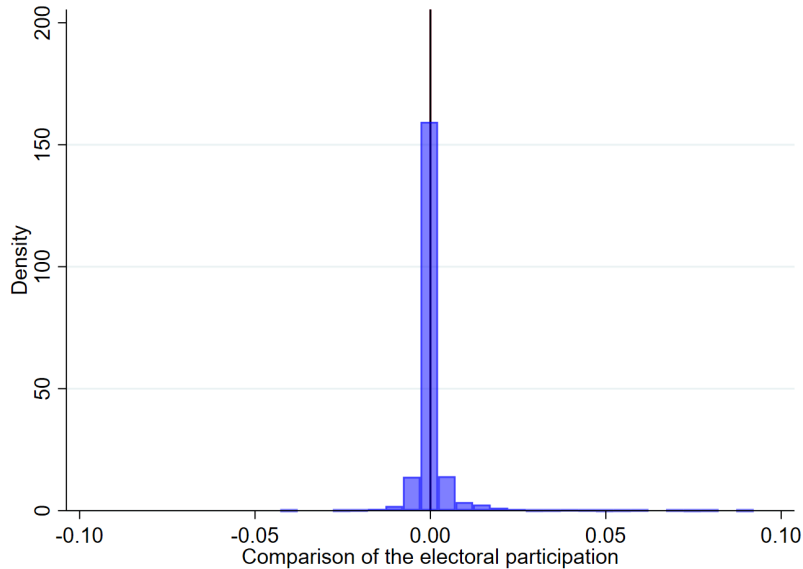
Such minimal difference in the electoral participation may be the consequence of two aspects: either the decision of some voters to pick-up at the polling place only one ballot paper, then choosing to vote for just one competition, or a different number of eligible voters, due to the slightly different norms regulating the active electorate.¹¹ In more detail, a part from resident citizens, at the local elections are eligible to vote - upon request - residents who

⁹The Table shows, on one hand, how the concomitance between parliamentary and municipal elections occurs only infrequently; furthermore, when it happens only few and different municipalities are involved, as the general elections did not maintain the five-year frequency, due to an early end of the legislature in 2008. On the other hand, it clearly indicates the more recurrent concomitance between European and municipal elections, since both elections have five-year legislature term.

¹⁰Note also how European and general reveal common tendency in the distribution of the share of votes both in geographical and historical terms, as proved by Figure A1, A2 and A3. They show the vote shares (at the provincial level) of at the time two principal Italian parties in three couples of national and European elections, indicating a strong correlation of the electoral results, sometimes even overlapping, between the two elections, which persists in each of the three pairs of elections inspected.

¹¹It regards the electoral participation of citizen of EU countries or Italian citizens resident abroad: <https://www.interno.gov.it/it/temi/elezioni-e-referendum/cittadini-comunitari-urne>

Figure 1: Comparison of the electoral participation



Notes. The Figure shows the frequency density of the comparison of the electoral participation - calculated as the number of effective voters over the eligible voters - between the local elections and the European elections considered in the analysis.

are citizen of a member country of the European Union, while at the European elections can vote - again, upon request - citizens of other EU countries or Italian citizens who are resident abroad and decide to vote in Italy. On the whole, the descriptive evidence provided in the subsequent section [4](#) is performed comparing the votes of the same individuals for two different type of elections, namely the local and the European.

3.2 Construction and elaboration of the data-set

Although the concomitant condition between European and municipal election applies for approximately half of the Italian municipalities, due to the purposes of the study, it is not possible to employ all of them in the research. The first exclusion regards municipalities which are part of special statute regions since data are nor publicly available, as they are, on the contrary, for those which are part of ordinary statute regions. The second exclusion involves municipalities in which lists competing at the local elections do not present an indication of any political affiliation, as for the scope of this analysis - as we will see later - is necessary to know the share of votes of the two main political coalitions: center-right and

center-left.¹²

For local elections, in fact, not all the lists or movements running show a (at least clear) connection with national parties or alliances, as they are characterized by the presence of “civic lists”, that is local independent parties whose program is focused on local issues only (Gamalerio, 2020). Such a situation of (apparently) absence of any political affiliation of the lists competing at the local elections is recurring especially in municipalities with less than 15.000 inhabitants, in which the electoral law - as explained in section 2 - allows the mayoral candidate to be supported by only one list, which indeed rarely corresponds to a national political party but, on the contrary, is more likely to be a broad-ranging civic list.

However, not all the civic lists perfectly correspond to the conventional definition as, in truth, some of them are expression or inspired by traditional political movements.

Then, considered these circumstances, the subsequent groundwork consisted in distinguishing between lists which are really independent and unconnected with any national party and those who are only seemingly independent but, in reality, have an organic relationship with a national party or coalition. A procedure that was made possible thanks to an in-depth consultation of local newspapers’ information and the Registry of local administrators¹³, which reserves, for each person who has held a public office in a municipal, provincial or regional administration, a page with the record of all appointments covered, including the affiliate party. In practice, such consultations consisted in searching a certified political affiliation for the mayoral candidate or for a member of the municipality board, checking if in a previous or a in subsequent legislature he/she was registered as member of a party or coalition.

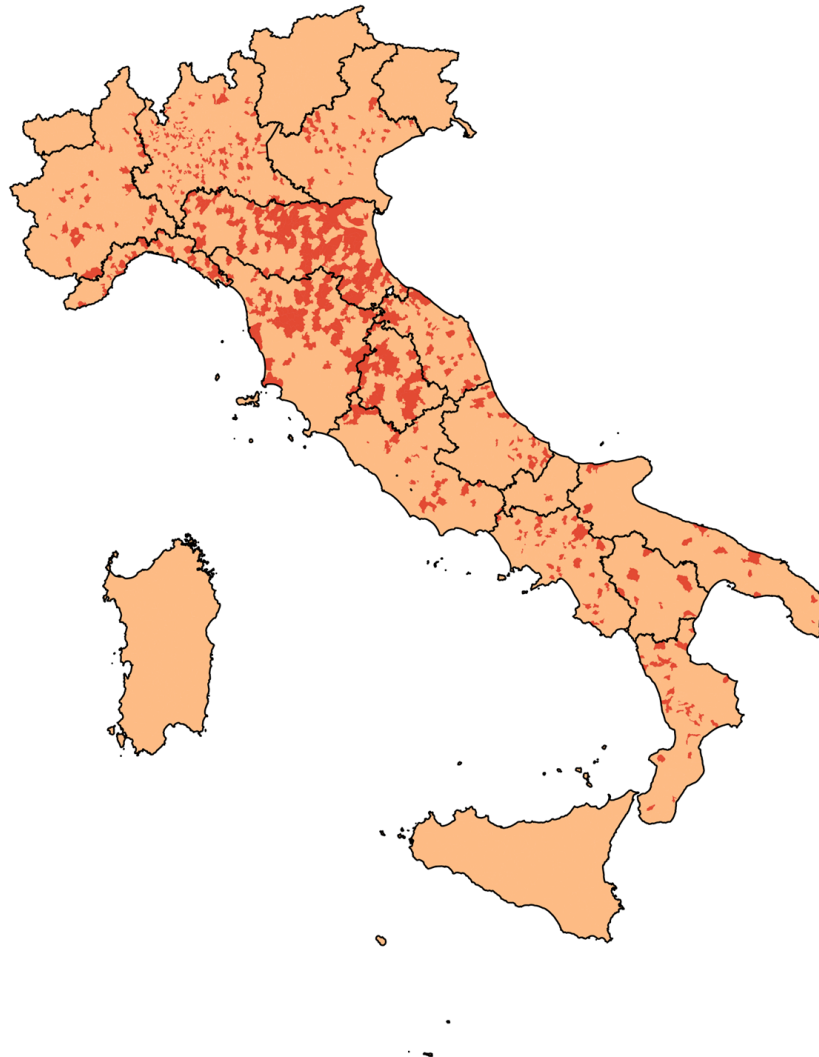
At the end of this process, keeping only those municipalities where both the center-right and the center-left are constantly present at the local elections, the sample results composed by

¹²An approach similar to the one adopted by Rallings and Thrasher (2005), which focused their analysis only on those councils where there was a so-called “perfect competition”, that is involving candidates from at least each of the three major UK parties (Conservative, Labour and Liberal Democrats).

¹³Maintained by the Ministry of Interior and available on: <https://dait.interno.gov.it/elezioni/anagrafe-amministratori>

752 municipalities - highlighted in Figure 2 - observed over five electoral years, forming then a panel data-set counting 3760 observations.

Figure 2: Italian municipalities in the sample



Notes. The figure shows the Italian country - with regional boundaries - highlighting those municipalities which are part of the sample used in the analysis.

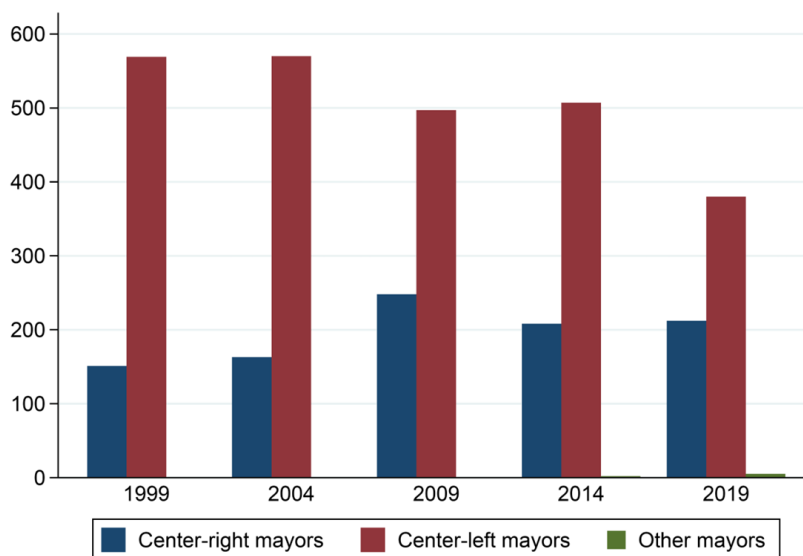
At this point, for this set of municipalities I collected and re-organized data regarding both European and local elections. More precisely, I assembled the votes in favor of the center-right and the votes in favor of the center-left, adding up the votes of all parties or lists belonging to each block. For what concern European elections, the partition between center-right and center-left follows the subdivision presented in Table A2; the same criteria apply for local elections as well, even though for these competitions I consider also those civic lists

with a clear political profile, in coherence on what explained above.¹⁴

However, in both cases the sum of center-right and center-left votes it is not always equal to the totality of the valid votes: for the European elections - as shown in Table A2 - there are some parties not classified in neither of the two categories while for the local elections it is still possible to encounter authentic civic lists.

For the 752 municipalities composing the sample I accounted also the political membership of the elected mayor, distinguishing between center-right and center-left. Figure 3 shows the number of mayors for each of the two categories in every round of elections, indicating a clear and persistent predominance of mayors belonging to the center-left (2523) with respect to those belonging to the center-right (982). Only 7 of them are affiliated with neither of the main coalitions, as they are member either of an authentic civic list or of an independent party. Thus, the number of identified mayors is equal to 3512: the remaining observations - to reach the entire amount of 3760 - are missing due to an early/postponed local election or the suppression of the municipality.

Figure 3: Elected mayors by year and political affiliation



Notes. The Figure shows the number of elected mayors for each round of elections, distinguishing the political affiliation: center-right, center-left or other affiliation.

¹⁴In municipalities above the 15.000 inhabitant threshold the votes refer to the ones in favour of the mayoral candidate, in order not to lose electoral preferences only expressed for one of them, and to the first electoral round.

3.3 Representativeness of the data-set

Finally, to convey the degree of representativeness of the 752 municipalities included in the sample - which count in total 8.429.122 inhabitants, that is about 15% of the whole population¹⁵ - I reported in Table 1 the main socioeconomic, demographic and geographical characteristics of both the entire Italian country and of the municipalities belonging of the sample under assessment. Similarly, from the results of the European elections it is also possible to understand the degree of political representativeness of the 752 municipalities which are part of sample. In Table 2 are indeed reported the vote shares of the majority of the parties running at the European elections, comparing those obtained in the municipalities included in the sample with those of the entire country.

To provide a more formal assessment, Tables from A3 to A8 in the Appendix present the results of a series of t-tests on the equality of means between in-sample and out-of-sample and municipalities: Table A3 compares a list of socioeconomic, demographic and geographical characteristics, while Tables from A4 to A8 compare the vote share for the main political forces at the European elections. The results of Table A3 show statistically significant differences in the means in most of the attributes, even though the magnitude of such differences is small in magnitude. In particular, the greater gap in the census population - and the other geographical characteristics - reflects the modalities through which the sample is composed. As explained in section 3.2, in bigger municipalities (above 15.000 inhabitants) is much simpler to identify the political membership of the mayoral candidates, thus that type of municipalities is almost entirely included in the sample; vice versa, those below the 15.000 inhabitant threshold are more likely to be excluded. Tables A4-A8 report similar outcomes: most of the variables present statistically significant differences in the means, but again not very large in magnitude. Then, the sampled municipalities, although they do not derive from a random selection, still reveal a satisfactory level of representativeness.

¹⁵The Italian population was equal to 59.433.744 according to the 2011 Census.

Table 1: Socioeconomic, demographic and geographical characteristics

PANEL A: Italy					
VARIABLES	Obs.	Mean	S.D.	Max	Min
Census population	8092	7,344.753	39,741.762	2,617,175.000	30.000
% population under 14	8092	0.131	0.028	0.237	0.000
% population 15-64	8092	0.642	0.038	0.765	0.348
% population over 65	8092	0.227	0.058	0.620	0.055
% primary school diploma	8092	0.224	0.048	0.570	0.071
% middle school diploma	8092	0.297	0.039	0.494	0.113
% upper intermediate school diploma	8092	0.269	0.044	0.460	0.090
% graduated	8092	0.070	0.026	0.271	0.000
Per-capita taxable income (€)	8092	16,545.683	3,479.824	45,900.969	7,152.083
Occupation rate	8092	0.451	0.079	0.740	0.180
Unemployment rate	8092	0.101	0.063	0.422	0.000
Area (sq. km)	8092	37.329	50.029	1,287.390	0.121
Elevation (m)	8092	357.520	297.586	2,035.000	0.000
Density (population/sq. km)	8092	296.942	631.829	12,224.405	0.920

PANEL B: Municipalities in the sample					
VARIABLES	Obs.	Mean	S.D.	Max	Min
Census population	752	11,208.939	20,939.703	315,933.000	399.000
% population under 14	752	0.135	0.021	0.197	0.050
% population 15-64	752	0.643	0.029	0.715	0.464
% population over 65	752	0.222	0.046	0.472	0.106
% primary school diploma	752	0.212	0.033	0.418	0.121
% middle school diploma	752	0.288	0.030	0.402	0.176
% upper intermediate school diploma	752	0.279	0.031	0.400	0.141
% graduated	752	0.078	0.025	0.231	0.027
Per-capita taxable income (€)	752	17,847.229	3,159.866	27,831.047	8,769.026
Occupation rate	752	0.476	0.065	0.623	0.252
Unemployment rate	752	0.086	0.042	0.296	0.024
Area (sq. km)	752	45.145	49.743	449.501	0.121
Elevation (m)	752	238.475	206.136	1,037.000	0.000
Density (population/sq. km)	752	406.988	648.501	7,354.892	9.190

Notes. The Table presents the main socioeconomic, demographic and geographical characteristics of the Italian country (in Panel A) and of the 752 municipalities included in the sample (in Panel B). All the information are retrieved from the 2011 Census made by the Italian National Institute of Statistics.

Table 2: Comparison of the European elections share of votes

1999		
PARTIES	% SAMPLE	% NATIONAL
DEMOCRATICI SINISTRA	25.00%	17.38%
FORZA ITALIA	22.92%	25.18%
ALLEANZA NAZIONALE - PATTO SEGNI	9.18%	10.31%
LISTA EMMA BONINO	8.80%	8.46%
I DEMOCRATICI	7.12%	7.68%
RIFONDAZIONE COMUNISTA	5.17%	4.27%
LEGA NORD	4.28%	4.50%
PARTITO POPOLARE ITALIANO	3.58%	4.25%
COMUNISTI ITALIANI	2.39%	1.99%
SOCIALISTI DEMOCRATICI ITALIANI	1.96%	2.15%
CRISTIANI DEMOCRATICI UNITI	1.92%	2.15%
CENTRO CRISTIANO DEMOCRATICO	1.81%	2.60%
FEDERAZIONE DEI VERDI	1.78%	1.75%

2004		
PARTIES	% SAMPLE	% NATIONAL
UNITI NELL'ULIVO	36.00%	31.08%
FORZA ITALIA	20.00%	20.93%
ALLEANZA NAZIONALE	10.23%	11.49%
RIFONDAZIONE COMUNISTA	6.98%	6.06%
LEGA NORD	4.67%	4.96%
UNIONE DI CENTRO	4.15%	5.89%
COMUNISTI ITALIANI	3.09%	2.42%
FEDERAZIONE DEI VERDI	2.38%	2.47%
LISTA EMMA BONINO	2.36%	2.25%
SOCIALISTI UNITI	2.13%	2.04%
DIPIETRO OCCHETTO	2.05%	2.14%

2009		
PARTIES	% SAMPLE	% NATIONAL
IL POPOLO DELLA LIBERTA'	32.00%	35.26%
PARTITO DEMOCRATICO	32.00%	26.12%
LEGA NORD	10.27%	10.12%
DI PIETRO ITALIA DEI VALORI	7.65%	8.00%
UNIONE DI CENTRO	5.24%	6.51%
RIFONDAZIONE COMUNISTA	3.64%	3.39%
SINISTRA E LIBERTA'	2.87%	3.31%
LISTA MARCO PANNELLA - EMMA BONINO	2.45%	2.43%

2014		
PARTIES	% SAMPLE	% NATIONAL
PARTITO DEMOCRATICO	45.65%	40.81%
MOVIMENTO 5 STELLE	20.17%	21.16%
FORZA ITALIA	14.81%	16.81%
LEGA NORD	5.95%	6.15%
L'ALTRA EUROPA CON TSIPRAS	4.04%	4.04
FRATELLI D'ITALIA - ALLEANZA NAZIONALE	3.80%	3.67%
NUOVO CENTRO DESTRA - UDC	3.33%	4.38%
VERDI EUROPEI-GREEN ITALIA	0.98%	0.91%

2019		
PARTIES	% SAMPLE	% NATIONAL
LEGA SALVINI PREMIER	35.56%	34.26%
PARTITO DEMOCRATICO	26.67%	22.74%
MOVIMENTO 5 STELLE	14.87%	17.06%
FORZA ITALIA	7.37%	8.78%
FRATELLI D'ITALIA	5.60%	6.44%
PIU' EUROPA	2.89%	3.11%
EUROPA VERDE	2.36%	2.32%
LA SINISTRA	1.77%	1.75%
PARTITO COMUNISTA	1.17%	0.88%

Notes. The Table shows the of share of votes for the main Italian parties in the five rounds of European election between 1999 and 2019, comparing the results obtained at the national level and those obtained in the municipalities of the sample. Data retrieved from the Historical archive of Italian elections published by Italy's Ministry of Interior.

4 Descriptive evidence

Thanks to the information assembled, as delineate in section 3, the descriptive analysis can finally be computed through the elaboration of three indexes.

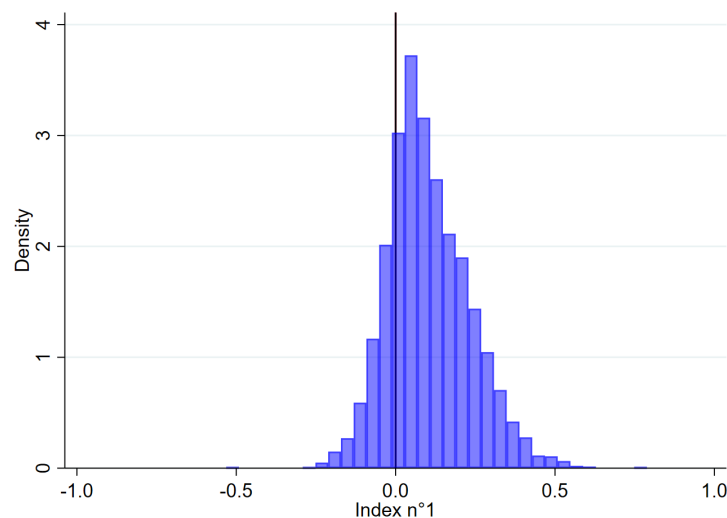
4.1 Index n°1

Index n°1 calculates the difference between the share of votes in favour of the center-left at the local elections minus the share of votes in favour of the center-left at the European elections: it shows how much the center-left over-performed (if the index is positive) or under-performed (if the index is negative) at the local election compared to the European elections.

$$\frac{Center-left_{Local}}{Voters_{Local}} - \frac{Center-left_{European}}{Voters_{European}} \quad (1)$$

The overall frequency density of Index n°1 is reported in Figure 4: it is clearly skewed above zero, indicating a generalized over performance of the center-left at the local elections compared to the European elections.

Figure 4: Index n°1



Notes. The Figure shows the overall frequency density of Index n°1.

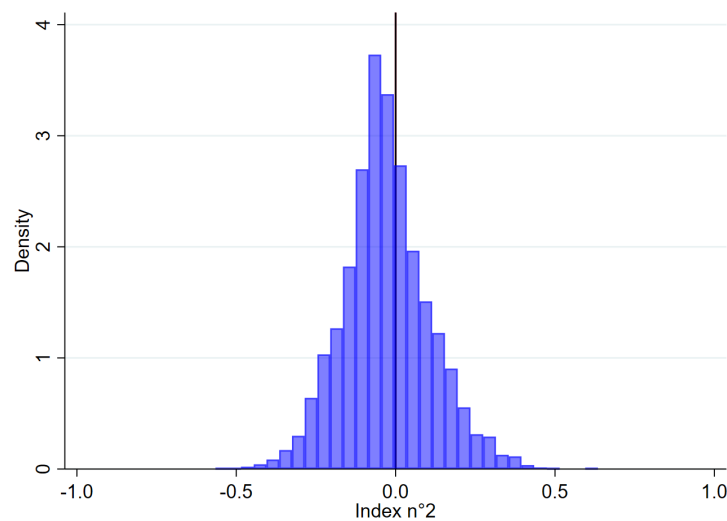
4.2 Index n° 2

Index n° 2 calculates the difference between the share of votes in favour of the center-right at the local elections minus the share of votes in favour of the center-right at the European elections: it shows how much the center-right over-performed (if the index is positive) or under-performed (if the index is negative) at the local election compared to the European elections.

$$\frac{Center-right_{Local}}{Voters_{Local}} - \frac{Center-right_{European}}{Voters_{European}} \quad (2)$$

The overall frequency density of Index n°2 is reported in Figure 5: in this case it is skewed below zero, indicating a generalized under performance of the center-right at the local elections compared to the European elections.

Figure 5: Index n°2



Notes. The Figure shows the overall frequency density of Index n°2.

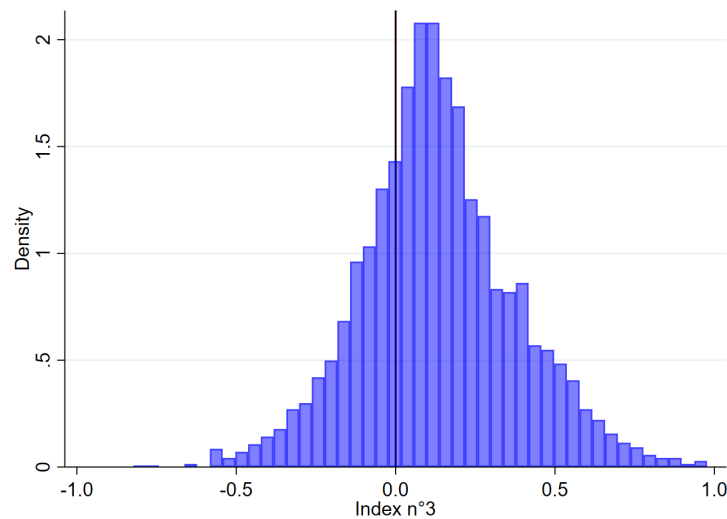
4.3 Index n° 3

Index n° 3 is a combination of the two previous indexes and calculates the percentage margin of victory of the center-left on the center-right at the local elections, that is the difference between the votes in favour of the center-left minus the votes in favour of the center-right over the total number of voters, minus the percentage margin of victory of the center-left on the center-right at the European elections. It shows, then, how much the center-left is stronger than the center-right at the local election compared to the European elections.

$$\frac{Center-left_{Local} - Center-right_{Local}}{Voters_{Local}} - \frac{Center-left_{European} - Center-right_{European}}{Voters_{European}} \quad (3)$$

The overall frequency density of Index n°3 is reported in Figure 6: even in this case is clearly skewed above zero, implying the presence of positive percentage margin of victory of the center-left over the center-right at the local elections compared to the European elections.

Figure 6: Index n°3



Notes. The Figure shows the overall frequency density of Index n°3.

To enhance the descriptive evidence, I then perform three type of heterogeneous analysis - reported in the Appendix - of Index n°3: in Figure [A4](#) is presented its frequency density subdivided by each electoral year, in Figure [A5](#) is shown its frequency density subdivided by population brackets and finally in Figure [A6](#) is reported its average value for each of the 15 regions included in the sample. Overall, the outcomes are consistent over all these three sub-specifications. More into the details, from Figure [A4](#) we see how the frequency density of Index n°3 is skewed to the right in every electoral year under inception, indicating the persistence over time of such positive margin of victory in favor of the center-left. The only exception is in 2014 when the index is centered around zero; that year coincided with the electoral triumph of the center-left Democratic Party at the European election ([De Sio et al., 2014](#)), which arguably may have been cancelled out such imbalance. The same persistence can be seen in Figure [A5](#) as well, showing a pattern which is homogeneous also in municipalities with different dimensions. Then, from Figure [A6](#) we notice how Index n°3 is uniform (in its positive sign) over the entire country: both in the North and in the South and both for traditionally left-oriented regions (like Emilia-Romagna and Tuscany) and for those traditionally right-oriented (like Lombardia and Veneto).

Overall, Index n°3 - as well as Index n°1 and Index n°2 - highlight the presence of a different electoral behaviour of the voters at the local election with respect to the European elections. More importantly, this phenomenon cannot be imputed to “different electoral preferences for different elections” as in [Alesina and Rosenthal \(1995\)](#): this is a systematic choice of the citizens to favour of the center-left in the local elections compared to European elections.

5 Conclusion

This paper presents a detailed evidence - based on Italian municipal data - of vertical split-ticket voting in concurrent European and local elections from 1999 to 2019.

The descriptive analysis clearly illustrates a systematic pattern, which is consistent over

time and across the country, in the electoral behaviour: citizens support more the center-left parties - and specularly less the the center-right parties - at the local elections compared to the European elections.

The outcomes emerged from this work diverge from findings of analogous researches and thus stimulate further studies to understand the underlying reasons of such phenomenon.

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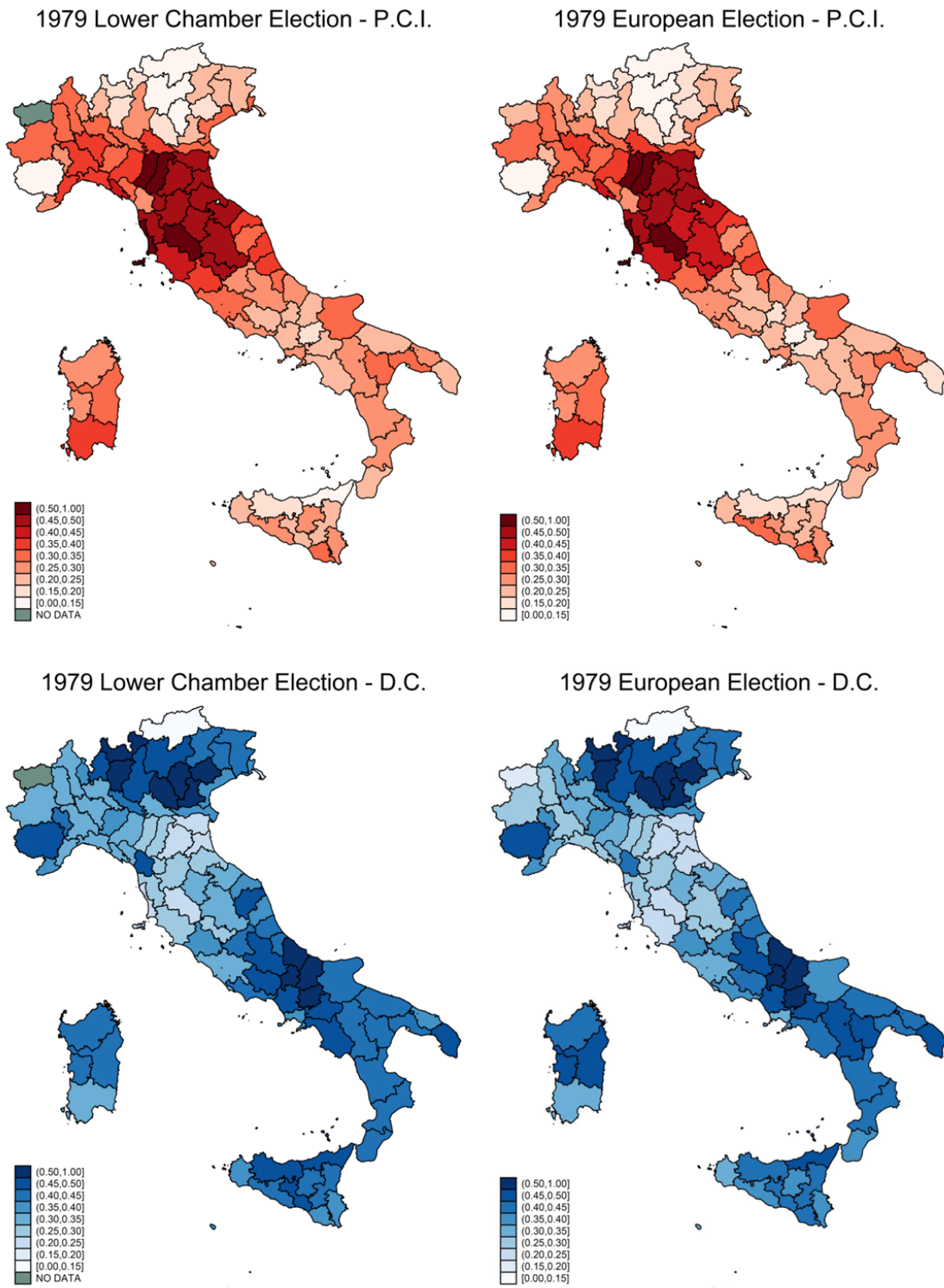
Appendix

Table A1: Electoral calendar

Type of Election	Date	Type of Election
Municipality Election	<i>13th of June 1999</i>	European Election
Municipality Election	<i>16th of April 2000</i>	
Municipality Election	<i>13th of May 2001</i>	General Election
Municipality Election	<i>27th and 28th of May 2002</i>	
Municipality Election	<i>25th and 26th of May 2003</i>	
Municipality Election	<i>12th and 13th of June 2004</i>	European Election
Municipality Election	<i>3rd and 4th of April 2005</i>	
	<i>9th and 10th of April 2006</i>	General Election
Municipality Election	<i>28th and 29th of May 2006</i>	
Municipality Election	<i>27th and 28th of May 2007</i>	
Municipality Election	<i>13rd and 14th of April 2008</i>	General Election
Municipality Election	<i>6th and 7th of June 2009</i>	European Election
Municipality Election	<i>28th and 29th of May 2010</i>	
Municipality Election	<i>15th and 16th of May 2011</i>	
Municipality Election	<i>6th and 7th of May 2012</i>	
	<i>24th and 25th of February 2013</i>	General Election
Municipality Election	<i>26th and 27th of May 2013</i>	
Municipality Election	<i>25th of May 2014</i>	European Election
Municipality Election	<i>31st of May 2015</i>	
Municipality Election	<i>5th of June 2016</i>	
Municipality Election	<i>11th of June 2017</i>	
	<i>4th of May 2018</i>	General Election
Municipality Election	<i>10th of June 2018</i>	
Municipality Election	<i>26th of May 2019</i>	European Election
	<i>25th of September 2022</i>	General Election

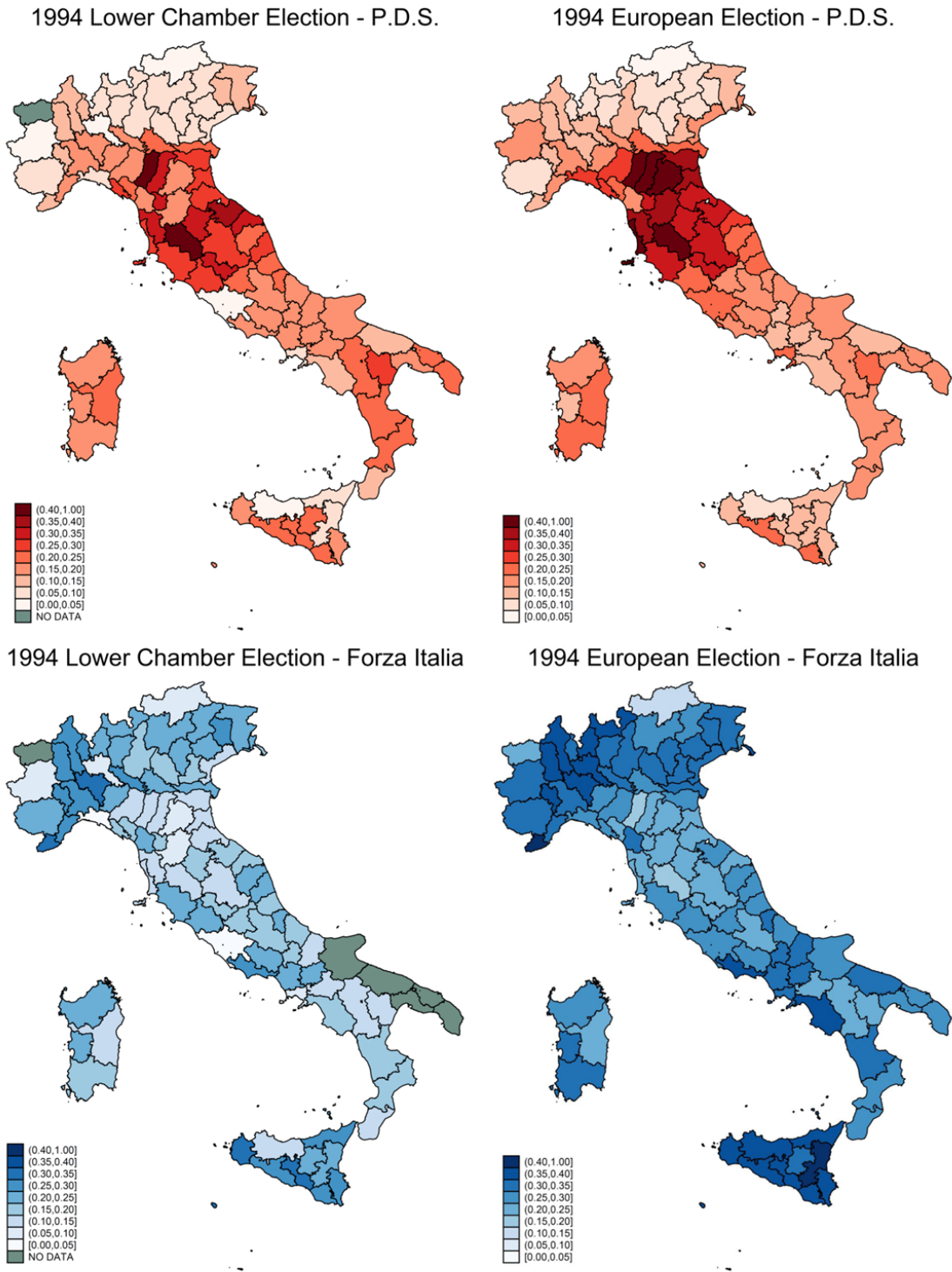
Notes. The Table shows the Italian electoral calendar from 1999 to 2022 for the municipality elections (on the left-hand side), and the European and the general elections (on the right-hand side). Elections on the same row took place the same day or days. The elections (municipal and European) on which this paper is based on are highlight in green.

Figure A1: 1979 Lower Chamber & European Elections



Notes. The Figure shows the share of votes (grouped in different brackets with different color intensity) for the two most important Italian parties at the time: the Italian Communist Party (in the upper part) and the Christian Democracy (in the lower part). They refer to two elections: the 1979 Lower Chamber Election (on the left side) and the 1979 European Election (on the right side). The two elections were held respectively the 3rd and 4th of June and the 10th of June. Data retrieved from the Historical archive of Italian elections published by Italy's Ministry of Interior.

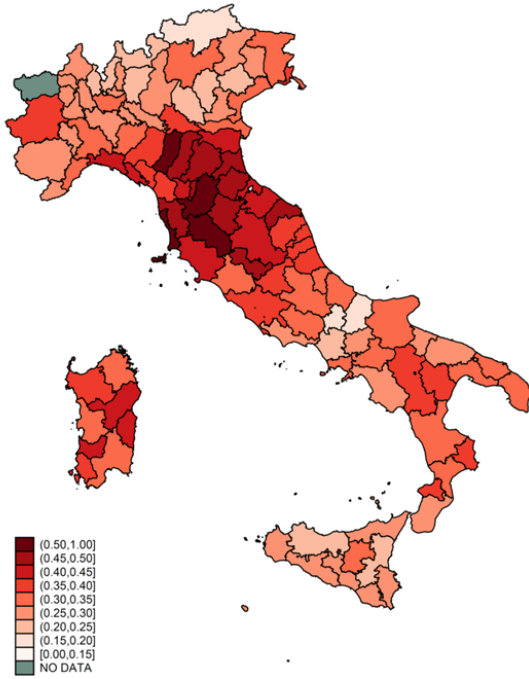
Figure A2: 1994 Lower Chamber & European Elections



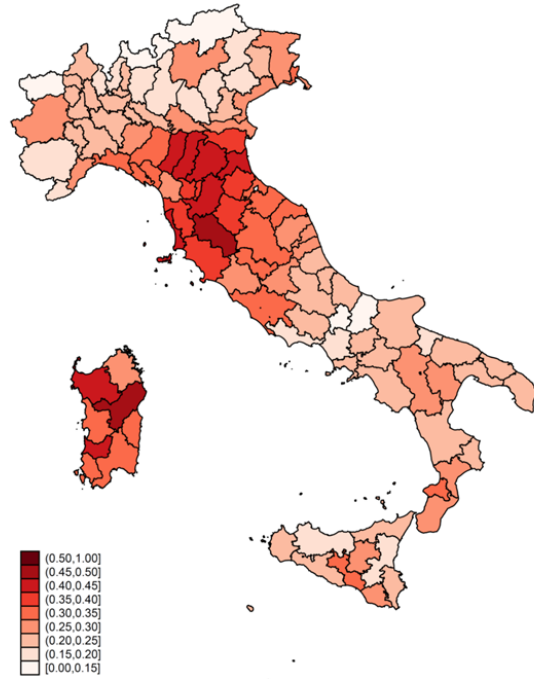
Notes. The Figure shows the share of votes (grouped in different brackets with different color intensity) for the two most important Italian parties at the time: the Democratic Party of the Left (in the upper part) and Forza Italia (in the lower part). They refer to two elections: the 1994 Lower Chamber Election (on the left side) and the 1994 European Election (on the right side). The two elections were held respectively the 27th and 28th of March and the 12th of June. Data retrieved from the Historical archive of Italian elections published by Italy's Ministry of Interior.

Figure A3: 2008 Lower Chamber Election & 2009 European Election

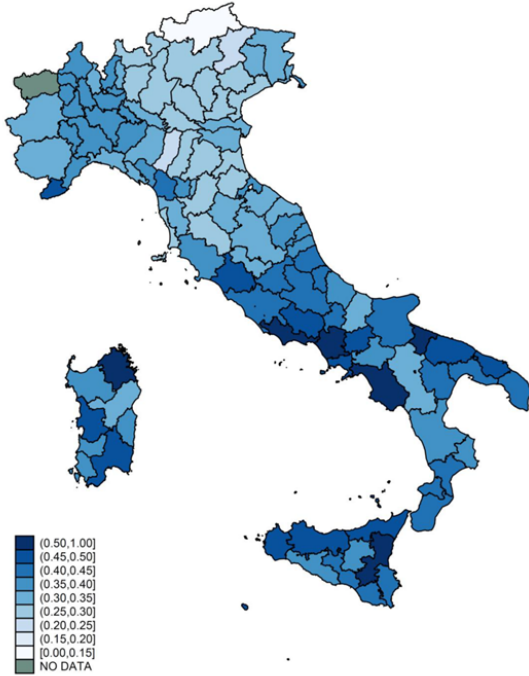
2008 Lower Chamber Election - P.D.



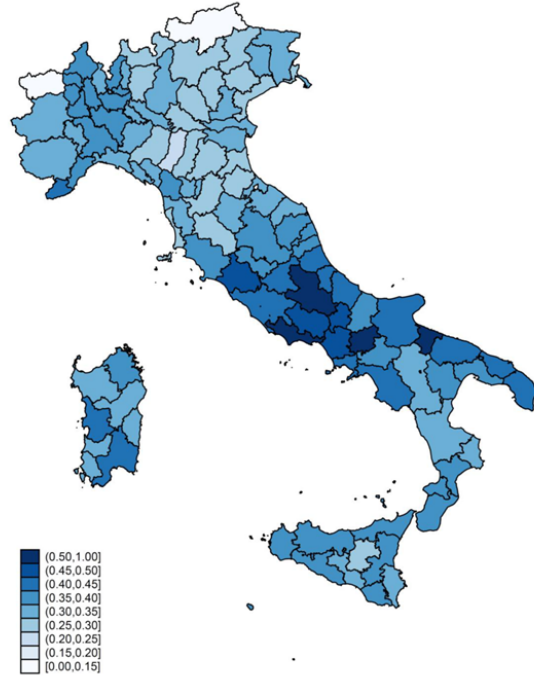
2009 European Election - P.D.



2008 Lower Chamber Election - P.D.L.



2009 European Election - P.D.L.



Notes. The Figure shows the share of votes (grouped in different brackets with different color intensity) for the two most important Italian parties at the time: the Democratic Party (in the upper part) and for the People of Freedom (in the lower part). They refer to two elections: the 2008 Lower Chamber Election (on the left side) and the 2009 European Election (on the right side). The two elections were held respectively the 13th and 14th of April and the 6th and 7th of June. Data retrieved from the Historical archive of Italian elections published by Italy's Ministry of Interior.

Table A2: Classification of the parties at the European elections

CENTER-RIGHT	CENTER-LEFT	OTHERS
<i>1999</i>		
MOVIMENTO SOCIALE TRICOLORE FORZA ITALIA ALLEANZA NAZIONALE - PATTO SEGNI LEGA NORD CRISTIANI DEMOCRATICI UNITI CENTRO CRISTIANO DEMOCRATICO PARTITO PENSIONATI UDEUR	LISTA EMMA BONINO RINNOVAMENTO ITALIANO - LISTA DINI PARTITO REPUBBLICANO ITALIANO DEMOCRATICI SINISTRA I DEMOCRATICI COMUNISTI ITALIANI PARTITO POPOLARE ITALIANO FEDERAZIONE DEI VERDI SOCIALISTI DEMOCRATICI ITALIANI RIFONDAZIONE COMUNISTA FEDERALISTI - CONSUMATORI	SÜDTIROLER VOLKSPARTEI LIGA REPUBBLICA VENETA LEGA D'AZIONE MERIDIONALE
<i>2004</i>		
MOVIMENTO IDEA SOCIALE RAUTI FORZA ITALIA ALLEANZA NAZIONALE LEGA NORD UNIONE DI CENTRO ALTERNATIVA SOCIALE PARTITO PENSIONATI FIAMMA TRICOLORE I LIBERAL SGARBI ABOLIZIONE DELLO SCORPORO VERDI VERDI	UNITI NELL'ULIVO RIFONDAZIONE COMUNISTA COMUNISTI ITALIANI FEDERAZIONE DEI VERDI SOCIALISTI UNITI DI PIETRO OCCHETTO LISTA EMMA BONINO UDEUR PAESE NUOVO ALLEANZA LOMBARDA AUTONOMIA	SÜDTIROLER VOLKSPARTEI PATTO SEGNI SCOGNAMIGLIO
<i>2009</i>		
FIAMMA TRICOLORE FORZA NUOVA IL POPOLO DELLA LIBERTA' LEGA NORD LA DESTRA LIBERAL DEMOCRATICI - MAIE UNIONE DI CENTRO	PARTITO DEMOCRATICO LISTA MARCO PANNELLA - EMMA BONINO DI PIETRO ITALIA DEI VALORI RIFONDAZIONE COMUNISTA - COMUNISTI ITALIANI SINISTRA E LIBERTA' PARTITO COMUNISTA DEI LAVORATORI	SÜDTIROLER VOLKSPARTEI
<i>2014</i>		
LEGA NORD - DIE FREIHEITLICHEN - BASTA EURO FRATELLI D'ITALIA - ALLEANZA NAZIONALE FORZA ITALIA NUOVO CENTRO DESTRA - UNIONE DI CENTRO	SCELTA EUROPEA PARTITO DEMOCRATICO L'ALTRA EUROPA CON TSIPRAS	MOVIMENTO 5 STELLE VERDI EUROPEI-GREEN ITALIA ITALIA DEI VALORI SÜDTIROLER VOLKSPARTEI
<i>2019</i>		
LEGA FRATELLI D'ITALIA - ALLEANZA NAZIONALE FORZA ITALIA CASA POUND FORZA NUOVA POPOLARI PER L'ITALIA POPOLO DELLA FAMIGLIA	PARTITO DEMOCRATICO PIU' EUROPA VERDI LA SINISTRA PARTITO COMUNISTA	PARTITO ANIMALISTA PARTITO PIRATA SÜDTIROLER VOLKSPARTEI MOVIMENTO 5 STELLE AUTONOMIA PER L'EUROPA PPA MOVIMENTO POLITICO PENSIERO AZIONE

Notes. The Table shows the subdivision of the Italian parties between center-right and center-left for the European elections from 1999 and 2019.

Table A3: Socioeconomic, demographic and geographical characteristics: t-tests

VARIABLES	Obs. out-of-s.	Obs. in-s.	Mean out-of-s.	Mean in-s.	Difference in means	St. Error	t-value	p-value
Census population	7340	752	6.948.859	11.208.939	-4260.08	1.521.019	-2.8	0.005
% population under 14	7340	752	0.131	0.136	-0.005	0.001	-4.35	0
% population 15-64	7340	752	0.642	0.643	-0.001	0.002	-0.55	0.572
% population over 65	7340	752	0.227	0.222	0.005	0.002	2.45	0.014
% primary school diploma	7340	752	0.225	0.212	0.012	0.002	6.7	0
% middle school diploma	7340	752	0.298	0.288	0.009	0.002	6.5	0
% upper intermediate school diploma	7340	752	0.268	0.279	-0.011	0.002	-6.3	0
% graduated	7340	752	0.070	0.077	-0.008	0.001	-8.2	0
Average taxable income (€)	7340	752	16.412.337	17.847.229	-1.434.892	132.288	-10.85	0
Occupation rate	7340	752	0.449	0.476	-0.028	0.003	-9.05	0
Unemployment rate	7340	752	0.103	0.086	0.018	0.003	7.25	0
Area (sq. km)	7340	752	36.528	45.145	-8.617	1.913	-4.5	0
Elevation (m)	7340	752	369.717	238.475	131.242	11.301	11.6	0
Density (population/sq. km)	7340	752	285.668	406.988	-121.32	24.156	-5	0

Notes. The Table presents the results of a series of t-tests on the equality of means. They are performed comparing a list of socioeconomic, demographic and geographical characteristics between municipalities out-of-sample and municipalities in-sample. In the Table are reported the number of observations and the mean of both out-of-sample and in-sample municipalities and the difference in means, the standard error, the value of the t-statistic and the correlated p-value.

Table A4: 1999 European election: t-tests

VARIABLES	Obs. out-of-sample	Obs. in-sample	Mean out-of-sample	Mean in-sample	Difference in means	St. Error	t-value	p-value
DEMOCRATICI SINISTRA	6933	752	0.139	0.222	-0.083	0.004	-24	0
FORZA ITALIA	6934	752	0.257	0.228	0.029	0.003	9.15	0
ALLEANZA NAZIONALE - PATTO SEGNI	6933	752	0.088	0.085	0.004	0.002	1.9	0.06
LISTA EMMA BONINO	6933	752	0.079	0.081	-0.002	0.002	-1.1	0.268
I DEMOCRATICI	6929	752	0.072	0.066	0.005	0.002	2.95	0.003
RIFONDAZIONE COMUNISTA	6933	752	0.039	0.051	-0.012	0.001	-12.6	0
LEGA NORD	6892	752	0.075	0.058	0.018	0.004	5.45	0
PARTITO POPOLARE ITALIANO	6920	752	0.053	0.044	0.009	0.002	4.15	0
COMUNISTI ITALIANI	6921	752	0.021	0.025	-0.004	0.001	-5.7	0
SOCIALISTI DEMOCRATICI ITALIANI	6916	752	0.026	0.02	0.005	0.002	3.85	0
CRISTIANI DEMOCRATICI UNITI	6912	752	0.026	0.021	0.005	0.002	3.9	0
CENTRO CRISTIANO DEMOCRATICO	6929	752	0.034	0.029	0.005	0.001	5.95	0
FEDERAZIONE DEI VERDI	6919	752	0.014	0.015	-0.001	0.001	-1.3	0.202

Notes. The Table presents the results of a series of t-tests on the equality of means. They are performed comparing the vote share for the main political forces at the 1999 European election. In the Table are reported the number of observations and the mean of both out-of-sample and in-sample municipalities and the difference in means, the standard error, the value of the t-statistic and the correlated p-value. Two autonomous regions (Trentino-Alto Adige and Valle d'Aosta) are excluded from out-of-sample municipalities.

Table A5: 2004 European election: t-tests

VARIABLES	Obs. out-of-sample	Obs. in-sample	Mean out-of-sample	Mean in-sample	Difference in means	St. Error	t-value	p-value
UNITI NELL'ULIVO	6935	752	0.267	0.339	-0.072	0.004	-20.8	0
FORZA ITALIA	6935	752	0.217	0.205	0.013	0.003	4.55	0
ALLEANZA NAZIONALE	6935	752	0.111	0.101	0.011	0.002	4.6	0
RIFONDAZIONE COMUNISTA	6935	752	0.056	0.067	-0.011	0.001	-9.15	0
LEGA NORD	6935	752	0.080	0.064	0.016	0.004	4.65	0
UNIONE DI CENTRO	6935	752	0.075	0.05	0.026	0.003	10.25	0
COMUNISTI ITALIANI	6935	752	0.022	0.028	-0.005	0.001	-8.9	0
FEDERAZIONE DEI VERDI	6935	752	0.019	0.021	-0.002	0.001	-2.25	0.026
LISTA EMMA BONINO	6935	752	0.019	0.02	-0.002	0.001	-3	0.003
SOCIALISTI UNITI	6935	752	0.024	0.021	0.003	0.001	2.2	0.028
DIPIETRO OCCHETTO	6935	752	0.019	0.018	0.002	0.001	2.7	0.007

Notes. The Table presents the results of a series of t-tests on the equality of means. They are performed comparing the vote share for the main political forces at the 2004 European election. In the Table are reported the number of observations and the mean of both out-of-sample and in-sample municipalities and the difference in means, the standard error, the value of the t-statistic and the correlated p-value. Two autonomous regions (Trentino-Alto Adige and Valle d'Aosta) are excluded from out-of-sample municipalities.

Table A6: 2009 European election: t-tests

VARIABLES	Obs. out-of-sample	Obs. in-sample	Mean out-of-sample	Mean in-sample	Difference in means	St. Error	t-value	p-value
IL POPOLO DELLA LIBERTA'	6935	752	0.352	0.331	0.021	0.004	5.9	0
PARTITO DEMOCRATICO	6935	752	0.231	0.289	-0.059	0.004	-15.8	0
LEGA NORD	6935	752	0.139	0.124	0.015	0.005	2.85	0.005
DI PIETRO ITALIA DEI VALORI	6935	752	0.072	0.071	0.002	0.002	0.85	0.407
UNIONE DI CENTRO	6935	752	0.074	0.059	0.015	0.002	7.65	0
RIFONDAZIONE COMUNISTA	6935	752	0.035	0.039	-0.004	0.001	-3.8	0
SINISTRA E LIBERTA'	6935	752	0.028	0.028	0	0.001	0.05	0.979
LISTA PANNELLA - BONINO	6935	752	0.018	0.021	-0.002	0.001	-5.05	0

Notes. The Table presents the results of a series of t-tests on the equality of means. They are performed comparing the vote share for the main political forces at the 2009 European election. In the Table are reported the number of observations and the mean of both out-of-sample and in-sample municipalities and the difference in means, the standard error, the value of the t-statistic and the correlated p-value. Two autonomous regions (Trentino-Alto Adige and Valle d'Aosta) are excluded from out-of-sample municipalities.

Table A7: 2014 European election: t-tests

VARIABLES	Obs. out-of-sample	Obs. in-sample	Mean out-of-sample	Mean in-sample	Difference in means	St. Error	t-value	p-value
PARTITO DEMOCRATICO	6898	752	0.381	0.434	-0.053	0.004	-15.35	0
MOVIMENTO 5 STELLE	6898	752	0.199	0.197	0.003	0.003	1	0.31
FORZA ITALIA	6898	752	0.187	0.16	0.028	0.003	10.2	0
LEGA NORD	6898	752	0.084	0.075	0.009	0.004	2.6	0.009
L'ALTRA EUROPA CON TSIPRAS	6898	752	0.032	0.035	-0.004	0.001	-3.6	0.001
FRATELLI D'ITALIA	6898	752	0.039	0.037	0.002	0.001	1.45	0.147
NUOVO CENTRO DESTRA - UDC	6898	752	0.051	0.036	0.015	0.002	7.7	0
VERDI EUROPEI-GREEN ITALIA	6898	752	0.008	0.009	-0.001	0.001	-4.5	0

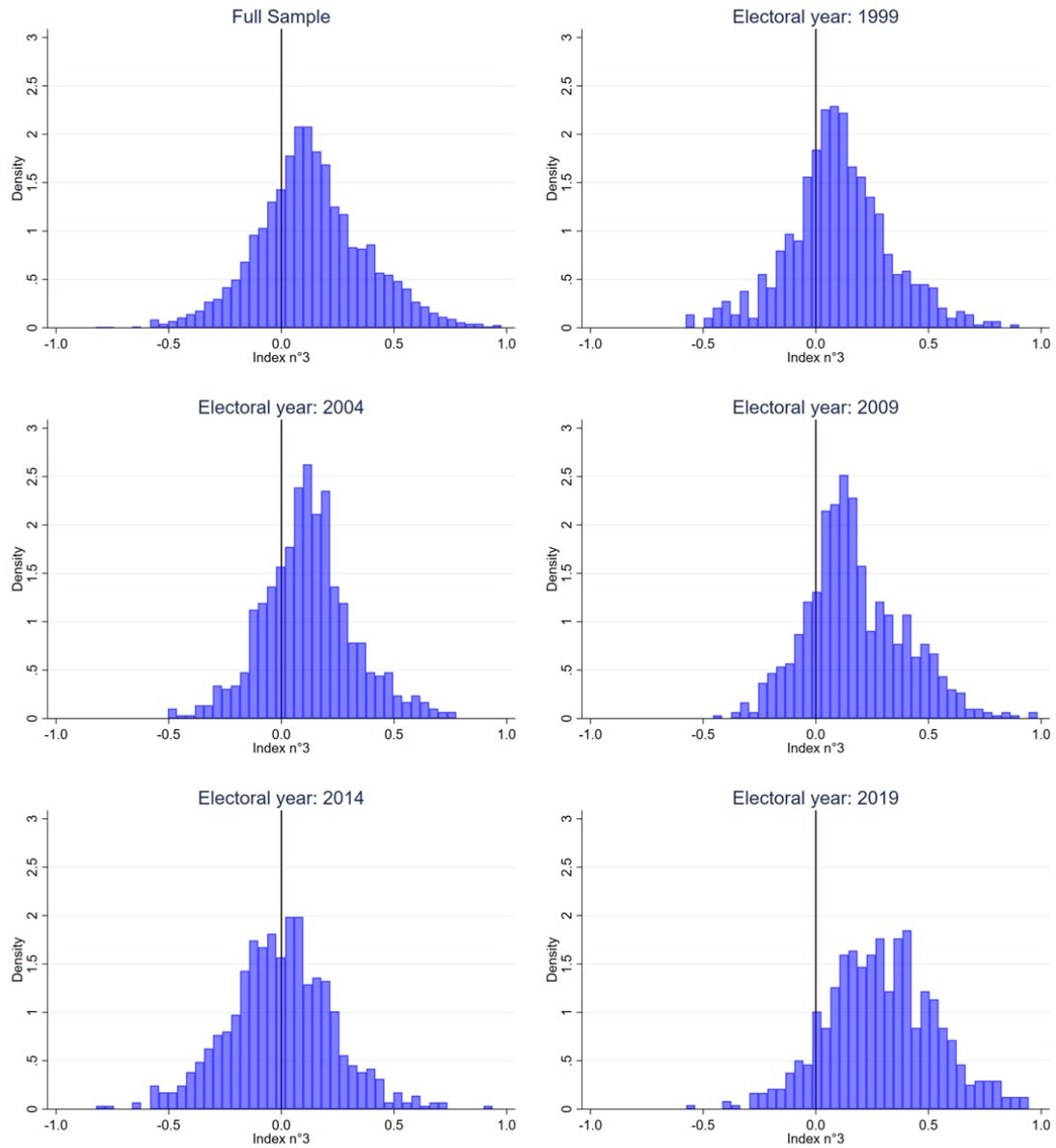
Notes. The Table presents the results of a series of t-tests on the equality of means. They are performed comparing the vote share for the main political forces at the 2014 European election. In the Table are reported the number of observations and the mean of both out-of-sample and in-sample municipalities and the difference in means, the standard error, the value of the t-statistic and the correlated p-value. Two autonomous regions (Trentino-Alto Adige and Valle d'Aosta) are excluded from out-of-sample municipalities.

Table A8: 2019 European election: t-tests

VARIABLES	Obs. out-of-sample	Obs. in-sample	Mean out-of-sample	Mean in-sample	Difference in means	St. Error	t-value	p-value
LEGA SALVINI PREMIER	6808	742	0.395	0.384	0.011	0.005	2	0.048
PARTITO DEMOCRATICO	6808	742	0.185	0.234	-0.049	0.003	-18.45	0
MOVIMENTO 5 STELLE	6808	742	0.163	0.149	0.014	0.004	3.9	0
FORZA ITALIA	6808	742	0.102	0.079	0.022	0.003	9.45	0
FRATELLI D'ITALIA	6808	742	0.069	0.057	0.011	0.002	7.25	0
PIU' EUROPA	6808	742	0.022	0.025	-0.002	0.001	-2.35	0.018
EUROPA VERDE	6808	742	0.018	0.02	-0.003	0.001	-5.85	0
LA SINISTRA	6808	742	0.014	0.016	-0.002	0.001	-4.05	0

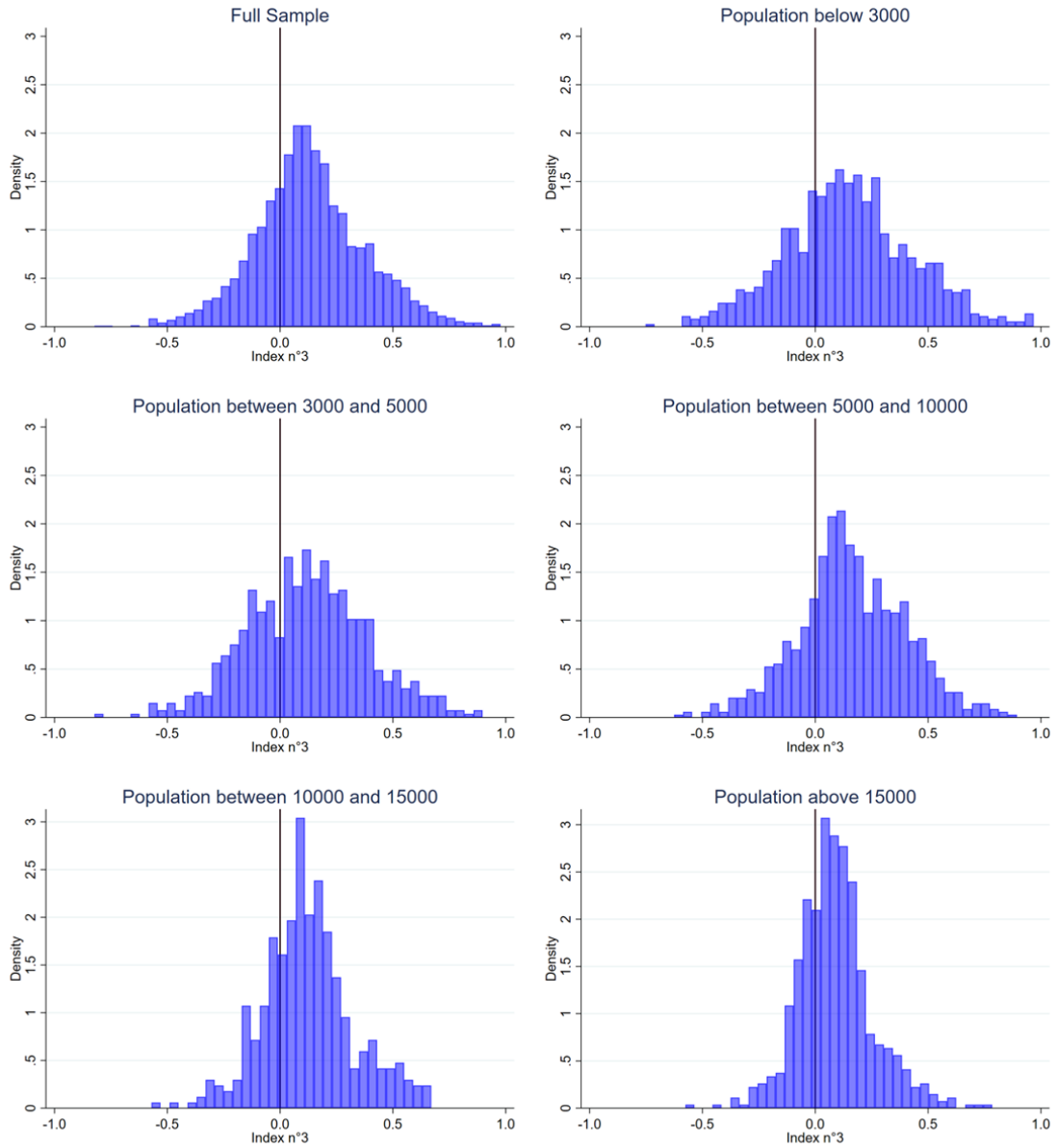
Notes. The Table presents the results of a series of t-tests on the equality of means. They are performed comparing the vote share for the main political forces at the 2019 European election. In the Table are reported the number of observations and the mean of both out-of-sample and in-sample municipalities and the difference in means, the standard error, the value of the t-statistic and the correlated p-value. Two autonomous regions (Trentino-Alto Adige and Valle d'Aosta) are excluded from out-of-sample municipalities. The number of in-sample municipalities is 742 as 10 sampled municipalities were meanwhile suppressed.

Figure A4: Index n°3 by electoral year



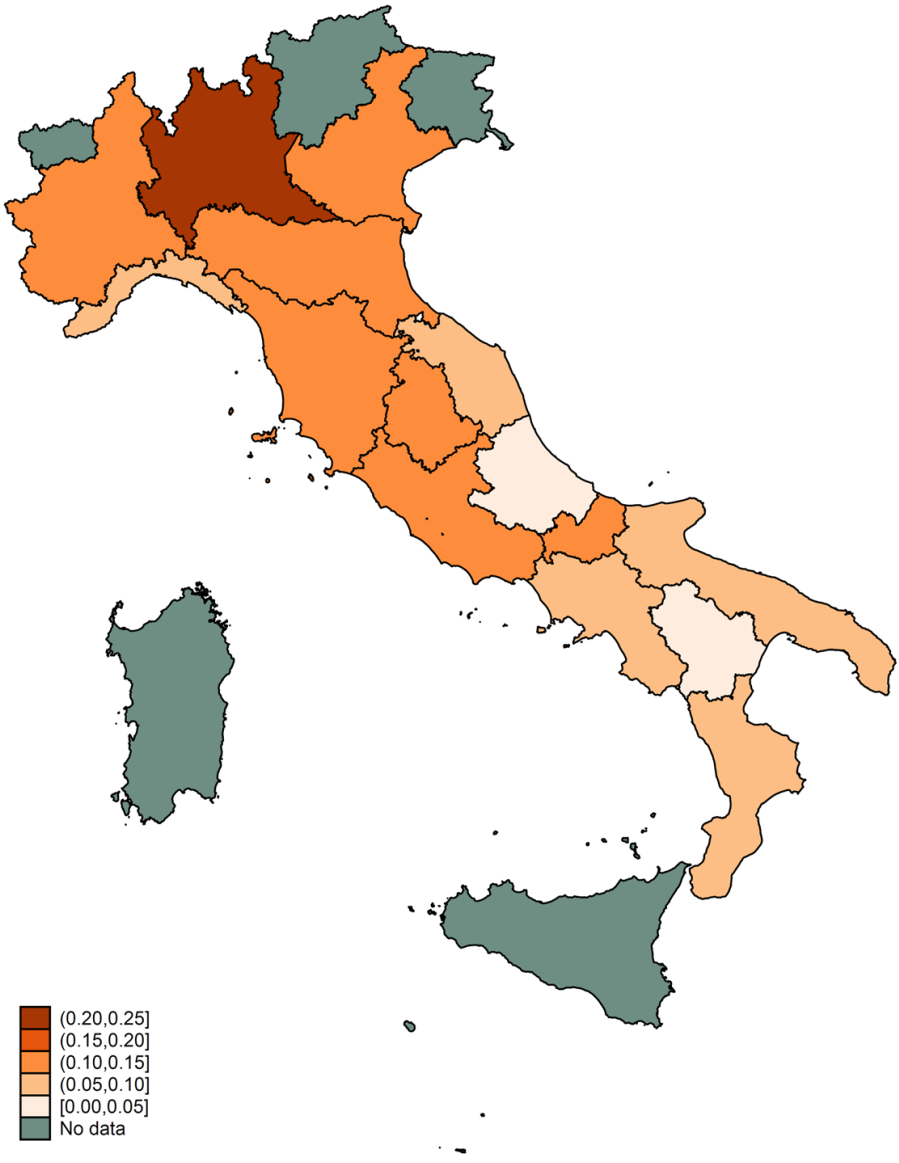
Notes. The Figure shows the frequency density of Index n°3 respectively for the full sample and for each electoral year.

Figure A5: Index n°3 by population brackets



Notes. The Figure shows the frequency density of Index n°3 respectively for the full sample and for some population brackets (based on 2011 Census).

Figure A6: Index n°3 by regions



Notes. The Figure shows for each Italian region the average value of Index n°3.

CHAPTER III

Explaining split-ticket voting in concurrent European and local elections in Italy

Federico Franzoni*

Abstract

The aim of this paper is understanding the reasons driving the outcomes presented in the previous chapter: an evidence of vertical split-ticket voting in favour of the center-left parties in municipality elections with respect to European elections. To do so - using the data-set elaborated in Chapter II - I explore several potential mechanisms that may generate such phenomenon. First through a correlation analysis I investigate persistent historical reasons; then, with a difference-in-differences approach citizens' taxation and redistribution preferences; finally, thanks to a "difference-in-discontinuities" design the selection and handover of the local political class. The last hypothesis appears to be the more convincing to explain the split-ticket behaviour.

Keywords: Split-ticket voting, Italian elections, Party affiliation, Local public finance.

JEL Codes: D72, D78, H71, H72

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1 Introduction

Split-ticket voting - that is voting for party a in contest X while voting for party b in some other contest Y - is a recurring electoral behaviour of citizens of modern democracies where multiple elections - for national, super-national and sub-national offices - are periodically held.

Scholars have been extensively discussed and analyzed the purposes behind such discordant voting decision in numerous works, providing various justificatory explanations. In particular, the literature refers to two main comprehensive theories which start from the assumption that the outcome of a specific election should not be interpreted as independent, since it results also from what is currently going on in the political sphere at large and from what happened in previous rounds of voting, thus being different from what would occur in a completely isolated context.

The first comprehensive theory - the “Divided Government” theory - argues that voters opt for a strategic balancing voting (e.g., Fiorina, 1992; Alesina and Rosenthal, 1995; Galderisi et al., 1996; Lohmann et al., 1997; Erikson and Filippov, 2001; Kedar, 2005, 2006). They argue that “middle-of-the-road” voters favour forms of power sharing rather than consigning the control of the government entirely to a single faction, in order to obtain policy moderation, because of the resulting bargaining process between different political forces. To secure this condition the centrist electorate is incentivized to support opposing coalitions in different races: both horizontally for elections at same governmental level (president, lower chamber and upper chamber) and vertically for competitions at distinct ranks of the administration (super-national, national and sub-national).

The other theory - the “Second Order Election” theory, originally formulated by Reif and Schmitt (1980) and then confirmed in several applications (e.g., Marsh, 1998; Heath et al., 1999; Freire, 2004; Schmitt, 2005) - states that elections are divided in two main categories, based on what is at stake: the most important competitions – first order elections – decide who is going to lead the national executive office while second order elections – like European,

regional or local – assign less decision power to the winner. The direct implication of this hierarchy is that the voting behaviour in the second order elections is strongly influenced by “the political situation of the first-order arena at the moment when the second-order election is being held” (Reif and Schmitt, 1980). Specifically, voters should use these less important elections (at least partly) to give a signal of approval or disapproval to the national government or national parties.

One of the consequences that one should then expect from these theories, if they are correct, is a regular (or at least very frequent) occurrence: a better performance at local elections of parties in the parliamentary minority and an under-performance of the parties at the time in charge of the national government. However, these outcomes do not correspond to the Italian situation; rather, this has been characterized by the systematic stronger achievement of one faction – political parties and candidates belonging to the centre-left – at the municipality elections, regardless of the coalition leading the national government: an evidence confirmed also in the last 2022 round of mayoral elections.

This tendency is vividly confirmed by descriptive evidence presented in the previous Chapter II. Indeed, the peculiar results of such research indicate a systematic pattern, which is consistent over time and across the country, in the electoral behaviour: citizens support more the center-left parties and less the the center-right parties at the local elections compared to the European elections. Accordingly, the objective of this study is trying to comprehend the motivations that might drive such asymmetric response of the electorate, through an empirical verification of different plausible arguments.

A first possibility considers that the results are driven by an historical inheritance still acting today; more precisely, I purpose to investigate the weight of history, given by the current influence of the “territorial political subculture” (Trigilia, 1986) – that is a local polity denoted by an entrenched organization and a prolonged predominance of a single movement – which marked indeed various parts of the country during the second post-war period. One of the major maker of such peculiar political system was the Italian Communist

Party (P.C.I.) which, although excluded for a long time from the national government as a direct implication of the Cold War, guided – in an uninterrupted and uncontested manner – lots of local administrations. Since electoral behavior can show distinctive and long-lasting geographical features, as documented in several works (e.g., [Agnew, 1996](#); [Guiso et al., 2016](#); [Fontana et al., 2018](#); [Costalli and Ruggeri, 2019](#); [Acemoglu et al., 2022](#)), I am interested in assessing “the weight of the history”, that is if the cultural and social inheritance of the P.C.I. in the second half of the last century generates prolonged and persistent effects, which still counts nowadays in determining – by inertia – the electoral choices: not in terms of a simple persistence of the outcomes, but as a trigger of the current gap between local and European elections. I explore this first hypothesis in section [3](#) through a correlation analysis, not finding any convincing evidence.

A second potential explanation regards the eventuality that the electorate – in this case the rightist – entrusts a “strategic delegation” ([Besley and Coate, 2003](#)) to the left mayoral nominees in the local elections. The main idea behind such hypothesis is the following: at local level, citizens consciously opt for parties more inclined to impose higher taxation, because they expect to receive back their contributions in the form of a higher quality of public services. On the other hand, when asked to vote for upper government levels, voters prefer to support coalitions that promise lower taxation, since they mistrust revenue’s allocation because of incompetence and mismanagement of national politicians or simply because they believe that the contributions they pay will be spent in other territories. I explore this second hypothesis in section [4](#) with a difference-in-differences approach, not discovering, even in this case, any plausible explanation.

Finally, the third and final hypothesis origins from an observed different modality of selection and handover of the local ruling class between center-left and center-right. On one hand, an higher probability of choosing someone already involved in the local government for the center-left; on the other hand, a more frequent decision to appoint someone without any administrative experience for the center-right. In light of this context, I investigate whether

those differences have a consequence on the way on which public finances are governed in local administrations, which in turn may generate an effect in terms of of electoral preferences. I explore this third hypothesis in section 5 thanks to a “difference-in-discontinuities” design, finally uncovering the more persuasive motivation.

2 Data

As ideal prosecution of the previous Chapter II, this paper is based on the same data-set, integrated with different source of municipality-based data, which allow to perform, for each of the following sections, the corresponding empirical analysis.

For what concerns section 3, the data-set is combined with Italian electoral data, taken from the Historical archive of Italian elections.¹ They refer to the vote share obtained by the Italian Communist Party (P.C.I.) in various electoral rounds during the second post-war period, namely the elections for the Chamber of Deputies in the following years: 1948, 1972, 1976, 1979, 1983, 1987.

Then, the analysis presented in section 4 includes also details regarding the features of municipal surtax on the personal income tax, retrieved from the website of the Italian Public Finance Department.² They provide information on whether or not a municipality introduced this type of taxation; when, in the case, it was introduced, modified or cancelled and what tax rate was adopted.

Finally, in both section 4 and section 5 are employed Italian municipal budget data, obtained from AIDA PA, a database of financial data of local public authorities in Italy realized by the Bureau van Dijk S.p.A.³ More precisely, I collect data corresponding to the period covered by the primary data-set, then ranging from 2000 to 2019. In terms of electoral mandates, the twenty years covered are connected with four legislatures: the period 2000-2004 is linked to the legislature 1999-2004; the period 2005-2009 is linked to the legislature 2004-2009; the

¹See: <https://elezionistorico.interno.gov.it/>

²See: <https://www.finanze.gov.it/it/fiscalita-regionale-e-locale/addizionale-comunale-allirpef/>

³See <https://www.bvdinfo.com/en-gb/>

period 2010-2015 is linked to the legislature 2009-2014; the period 2015-2019 is linked to the legislature 2014-2019. Then, the data-set is composed by an observation for each year and consequently five observation for each legislature.

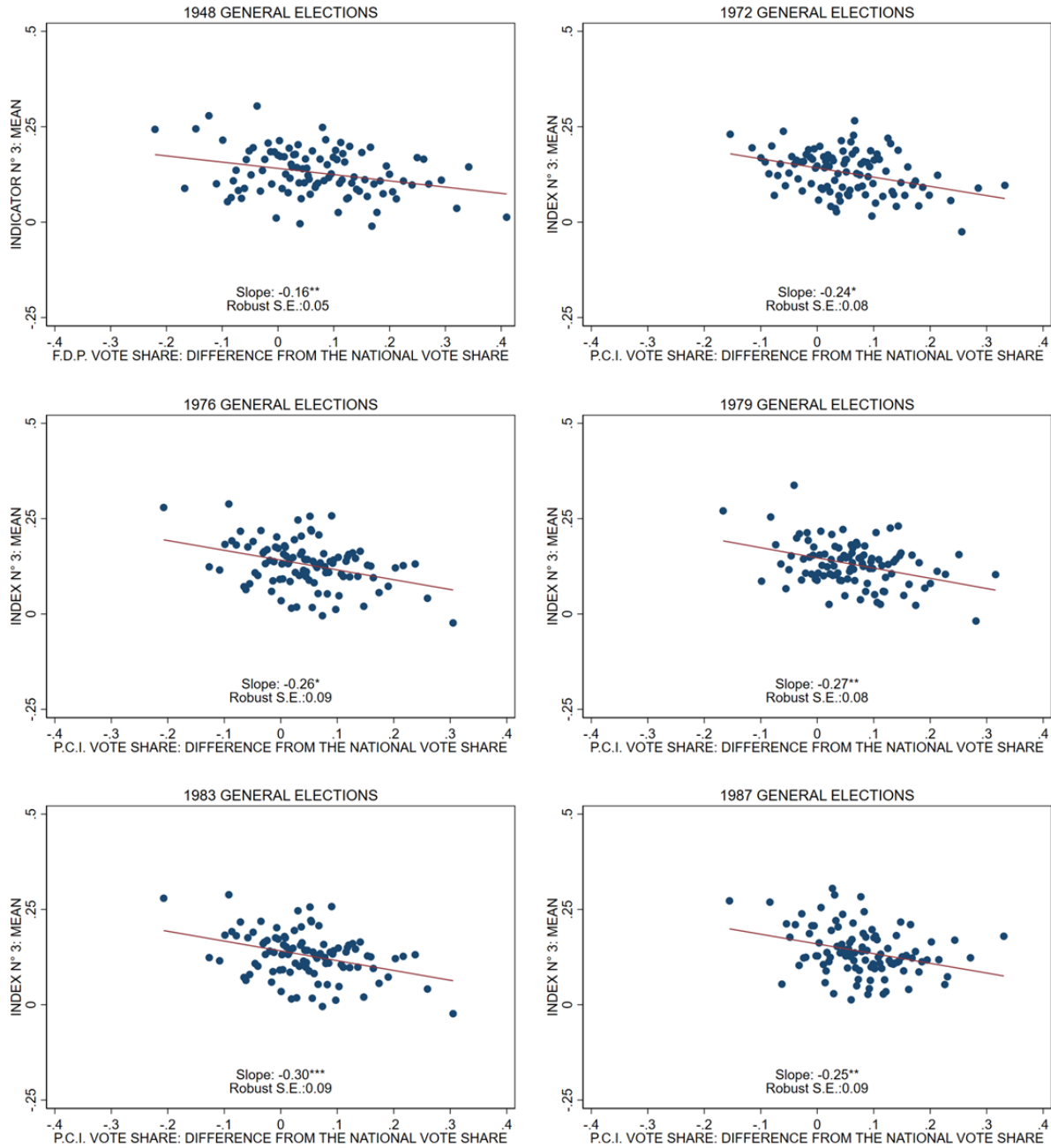
3 Territorial political persistence

The first exploratory hypothesis involves the role of a faraway political-electoral history in determining more recent voting results, arguing that the over-performance of the center-left at the local elections - with respect to the European elections - is the consequence of the strength and the predominance of that coalition during the second postwar period. In other words, it postulates the presence of a long-term tendency in the electoral behaviour - that is a persistence in the voting choices in support to the party/coalition which has been traditionally hegemonic in that place - which generates an extra advantage in its favour at the local elections.

To prove this hypothesis, I construct six scatter plots - each corresponding to a different general election - which show the (potential) correlation between the following variables: on the vertical axis the mean (over the five elector years) of the Index n°3 presented in Chapter II and on the horizontal axis the difference of the vote share to the principal Italian leftist party from its national vote share.

More specifically, in graphs - collected in Figure [1](#) - the vote shares refer to the Italian Communist Party (P.C.I.), the most important left-wing party in Italy after the WWII, for the 1972, 1976, 1979, 1983 and 1987 general elections, while for the 1948 general election it refers to the Popular and Democratic Front (F.D.P.), the name of the joint list between communists and socialists which in that occasion ran together.

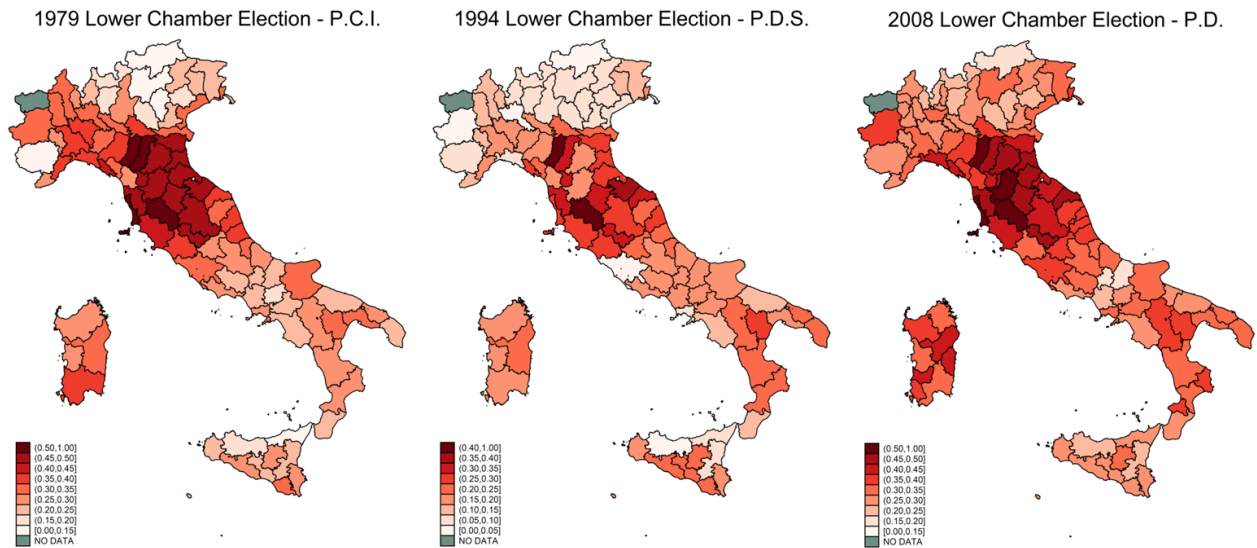
Figure 1: The weight of history



Notes. The Figure shows six correlation graphs, comparing the following variables for each municipality: on the vertical axis the mean (over the five elector years) of the Index n°3 presented in Chapter II and on the horizontal axis the difference of the vote share to the principal Italian leftist party from its national vote share. The graphs are repeated over six rounds of Italian general elections: 1948, 1972, 1976, 1979, 1983, 1987. The principal Italian leftist party considered is the Italian Communist Party (P.C.I.) for the elections from 1972 to 1987, while for the 1948 elections the analysis is focused on the Popular and Democratic Front (F.D.P.), which represented the common list between communists and socialists for that elections. The graphs are binned scatterplots, realized with the following features: 100 equal-sized bins, absorbing provincial fixed effects and controlling for municipality-based covariates (population, unemployment rate, per capita taxable income, area and height). Each graph contains also the value of the slope of the linear fit line with its standard error, obtained absorbing provincial fixed effects, clustering standard errors at the provincial level and controlling for municipality-based covariates (population, unemployment rate, per capita taxable income, area and height). Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

As shown in all the six graphs assembled in Figure 1, there is no evidence of any positive correlation between the two compared quantities; on the contrary, the downward-sloping fitted lines indicate the presence of a negative correlation. However, we should not make the mistake to interpret these results as the absence of any correlation between past and present electoral outcomes. Indeed, Figure 2 clearly shows a long-term geographical persistence of the vote shares to the (at the time) most important left-wing party, over three round of general elections.

Figure 2: Electoral Results in Lower Chamber Elections



Notes. The Figure shows the share of votes - grouped in different brackets with different color intensity and for three different rounds of general elections - for at the time most important left-wing party. From the left to the right: the Italian Communist Party in the 1979 Lower Chamber Election, held the 3rd and 4th of June; the Democratic Party in the Left for the 1994 Lower Chamber Election, held the 27th and 28th of March; the Democratic Party in the 2008 Lower Chamber Election, held the 13th and 14th of April. Data retrieved from the Historical archive of Italian elections published by Italy's Ministry of Interior.

Thus, the outcomes of Figure 1 solely mean that a preponderant electoral support for a political side in a distant past is not able to justify its over-performance at the local elections in more recent years. Then, based on the provided evidence, this first possible justification can be excluded.

4 Strategic delegation

The second investigation starts from the assumption that center-left and center-right have alternative political priorities and then implement different policies (e.g., [Pettersson-Lidbom, 2008](#); [Fiva et al., 2018](#)). More precisely, the center-left is traditionally more prone to raise the taxation in order to increase the provision of public goods and services, while the center-right is more inclined to reduce both the taxation and the public spending. On the basis of these considerations, the theory that I test is the following: people are more willing to vote for the center-left at the local level since they expect an higher level of public goods and services, even at the cost of paying more taxes, as they can see the materialization of that taxes. On the other hand, they are less willing to vote for the center-left for upper level of government as they are not sure where their money are going to finish. In order to verify this thesis, I perform an empirical experiment exploiting two amendments to the legislation on local taxation: an empirical strategy already explored in the literature ([Rubolino, 2020](#)).

4.1 Italian municipal public finance

As stated in the article 118 of the Constitution, municipalities - together with provinces, regions and the national government - are in charge of part the administrative functions of the State. Although not preponderant, they still play a remarkable role in the Italian institutional framework since they directly manage more than 7% of the total public expenditure, that is about €65 billions.⁴ More precisely, municipalities have a full or partial control of several administrative functions, grouped three broad sectors⁵: economic development and productive activities; territory, environment and infrastructures; services to individuals and to the community. For what concerns the first sector (economic development and productive activities) the functions devoted to municipalities are the following: retail sales (regulation and control of shops and markets); business (authorization for the realization

⁴Data retrieved from the 2019 ISTAT national accounts.

⁵See the Legislative Decree n°112/1998.

and the modification of production plants); tourism (complementary services for tourism activity promotion); agriculture (nature protection). Then, the duties of the second sector (territory, environment and infrastructures) involve: urban planning (adoption of the master plan and the building regulation and supervision and issuance of building permits); environment (waste disposal and control on air and noise pollution); road networks, aqueducts and public works (arrangement and maintenance of public works and public utilities); transport and road traffic (regulation through the urban traffic plan); public transport service; civil protection (approval of the emergency plan); cadaster (update of real estate registry data). Finally, the third sector (services to individuals and to the community) regards responsibilities on: social services; education (nursery schools and maintenance of lower grades school buildings); local police (surveillance on commerce, traffic, construction industry and environment); cultural heritage and cultural activities (protection and promotion); sport (promotion and plant management).

In order to provide such administrative functions, municipalities - as declared in the article 119 of the Constitution - have a degree of financial autonomy both on the expenditure side and on the revenue side. For what concerns the revenues on which a municipality can rely on, the main source of funding is represented by tax revenues, such as the real estate tax, the garbage tax, the municipal surtax on the personal income tax, the municipal tax on advertising, the tax on public land use and the tourist tax. Then, extra-tax revenues consist in tariffs and fees from usage of public good and services, in fines and penalties from illegal activities control and repression, and in interest incomes from securities and loans. Finally, a municipality can count on transfers (state transfers, regional transfers and European funds) and loans (mortgages, bonds, financial leasing).

4.2 The municipal surtax on the personal income tax

Within this framework, Italian municipalities - since the 1998 tax reform⁶ - can impose a surtax on the personal income tax (IRPEF), in addition to the tax rates defined nationally.⁷ Initially, the degree of municipal autonomy in designing the surtax was very limited: the maximum tax rate was fixed to 0.5 percentage points, any tax rate increase had to be not larger than 0.2 percentage points and the tax rate had to be the same across all income brackets. More room for manoeuvre was then accorded to local authorities: i) from 2007 they were allowed to increase the tax rate up to a maximum of 0.8 percent points and to introduce an exemption threshold from the payment of the surtax⁸; ii) from 2011 they were also allowed to introduce different but increasing tax rates for each of the income brackets determined nationally.⁹

Using a difference-in-differences methodology, I exploit these two changes in order to test whether an increase in the local taxation generates an alteration in the consensus towards the center-right and the center-left. More precisely, I consider the choice to adopt one of the two modifications as a proxy variable for an overall increase in the municipal taxation. Thus, those municipalities in which one of the two modifications were implemented - namely the surtax was set higher than 0.5 percentage points or the tax rate was differentiated across income brackets - represent the “treated group” with whom comparing the “controlled group” of municipalities which have not adopted any of the dispositions. The frequency of the “treated” municipalities is summarised in Figure 3.

From this analysis - based on the assumptions made above about the political orientations of parties/coalitions - I expect an increase in popularity, or at least not a punishment, for the center-left in case of increase in the local taxation; on the contrary, I expect a punishment, or at least not a appreciation, for the center-right.

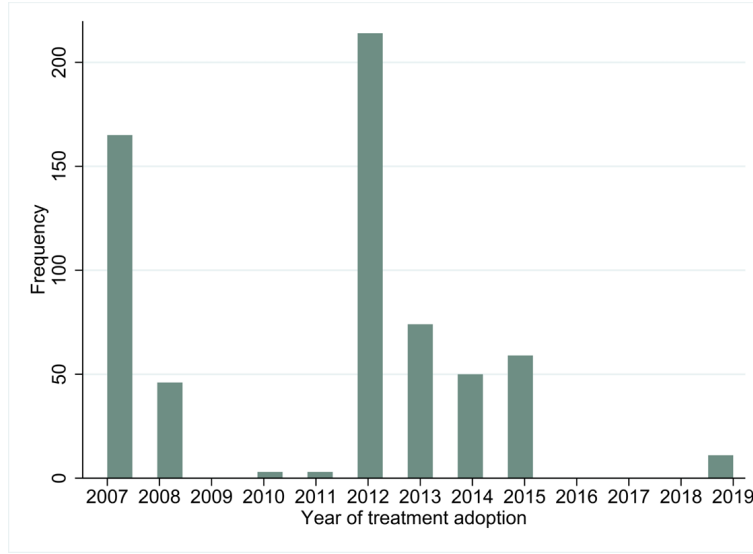
⁶For further details see Francesco Tesaro, *Istituzioni di diritto tributario*, Utet Giuridica, 2010.

⁷See the Legislative Decree n°360/1998.

⁸See Article n°142 of the Law n°296/2006.

⁹See the Law n°148/2011.

Figure 3: “Treated” municipalities



Notes. The Figure displays the yearly frequency of the municipalities in which one of the two modifications were implemented.

4.3 Empirical strategy

The empirical design follows a staggered difference-in-differences methodology, specified as a two-way fixed effect model:

$$Y_{i,t} = \beta_1 \cdot increased\ surtax_{i,t} + \delta_i + \lambda_t + \xi_{i,t} \quad (1)$$

In equation [1](#) the dependent variable $Y_{i,t}$ captures two electoral outcomes measured in municipality i and during the electoral year t , with $t \in [1999, 2004, 2009, 2014, 2019]$. More specifically, the two electoral outcomes which have the role of dependent variables are the Index n°3 presented in Chapter II and the probability of re-electing a mayor with the same political affiliation of the incumbent. The reason why I consider the re-election probability of a mayor of the same political coalition is because in this context the interest is not focused on a single mayor but more on its political affiliation; in other words, it is a boarder way to measure a simple re-election probability. The variable $increased\ surtax_{i,t}$ represents instead the treatment dummy variable, which is equal to 1 in municipality i from the first electoral year t onward after the decision to adopt of one of the two amendments illustrated in sub-

section 4.2. The coefficient of interest is β_1 , which estimates whether a modification of the municipal surtax implicates a variation in the support in favour of the center-right or the center-left. Finally, the year of election F.E. λ_t control for temporal shocks that affect all the municipalities at the same time while the municipal F.E. δ_i captures all the time-invariant municipal characteristics.

The central assumption of the difference-in-differences approach is the following: municipalities which have adopted one of the two modifications to the surtax and those which have not should have followed parallel trends before such adoption. To test this assumption I interact a treatment dummy variable - equal to 1 for each municipality i which eventually adopted one of the two amendments regarding the surtax - with several time dummy variables which are equal to one respectively: i) in the first electoral year after the adoption of one of the two amendments regarding the surtax (t); ii) two electoral years before the adoption of one of the two amendments regarding the surtax ($t - 2$); iii) three electoral years before the adoption of one of the two amendments regarding the surtax ($t - 3$); iv) two electoral years after the adoption of one of the two amendments regarding the surtax ($t + 1$); v) three electoral years after the adoption of one of the two amendments regarding the surtax ($t + 2$). Then, substituting these variables in equation 1 in place of *increased surtax* $_{i,t}$ it is possible to empirically check for the absence of differential pre-treatment trends in electoral outcomes across municipalities affected differently by the modifications to the municipal surtax legislation.

4.4 Results

From the results reported in Table 1 it does not emerge any significant evidence: the decision to modify the municipal surtax structure does not implicate any effect neither on the Index n°3 nor the re-election probability.

This is true also considering different compositions of the sample: in columns 1 and 4 employing the entirety of the municipalities and in columns 2, 3, 5 and 6, splitting the sample

Table 1: Municipal surtax on the personal income tax

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent var.	Index n°3			Re-election probability		
Sample	Full	C/Left	C/Right	Full	C/Left	C/Right
Municipal FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
<i>increased surtax</i>	-0.011 (0.015)	-0.004 (0.017)	-0.007 (0.034)	-0.028 (0.033)	-0.017 (0.036)	-0.061 (0.079)
Observations	3,512	2,700	746	2,915	2,231	632
R-squared	0.577	0.571	0.551	0.330	0.343	0.244

Notes. Difference-in-differences estimates. The dependent variable in columns from (1) to (3) is the Index n°3 while in columns from (4) to (6) is the probability of re-electing a mayor with the same political affiliation of the incumbent. The treatment variable is equal to 1 in municipality i from the first electoral year t onward, after the adoption of one of the two amendments regarding the surtax. The estimated coefficients indicate the effect of implementing a modification in the local taxation on the Index n°3, from columns (1)-(3), and on probability of re-electing a mayor with the same political affiliation of the incumbent, from columns (4)-(6). The sample is composed in columns (1) and (4) of all municipalities which are part of the analysis; in columns (2) and (5) of municipalities with an elected leftist major in 2004; in columns (3) and (6) of municipalities with an elected rightist major in 2004. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

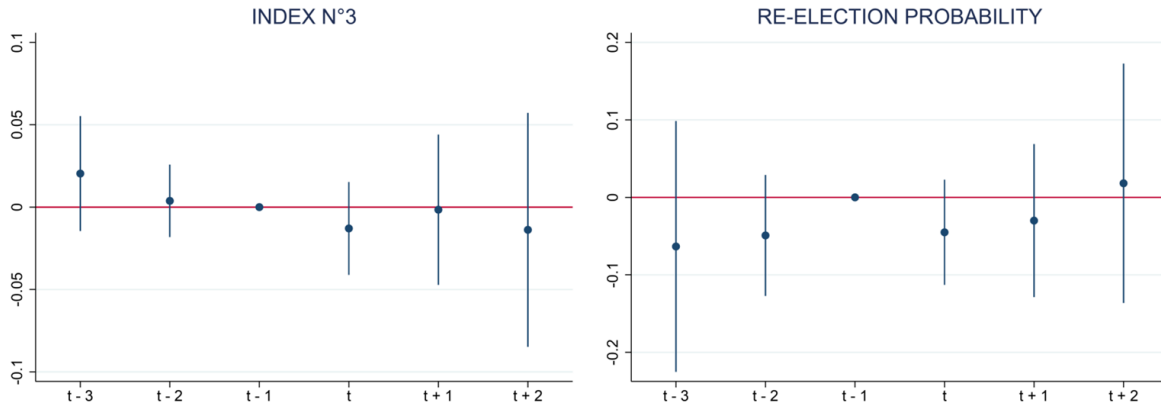
between center-right and center-left mayors. The subdivision of the sample in columns 2, 3, 5 and 6 was made on the basis of the political affiliation of the mayors running in the 2004 elections: municipalities with an elected leftist mayor in 2004 are reported in columns 2 and 5 while those with an elected rightist mayor in 2004 are reported in columns 3 and 6. Of course this distinction is not perfectly correspondent with the reality since the winning party/coalition is not necessarily persistent over time, but remains a simple and valid way to split the sample without incurring in endogeneity problems.

Finally, for what concerns the presence of pre-treatment trends, Figure 4 and Table A1 show that the coefficients of the interaction terms at time $(t - 2)$ and $(t - 3)$ are not statistically different from zero, confirming that the common trends assumption holds and thus ensuring the validity of the key assumption.

4.5 Robustness

Before moving to the conclusions, I need to address a potential problem emerging from the evidence presented in Bordignon et al. (2017). They claim that the municipal surcharge on

Figure 4: Municipal surtax on the personal income tax



Notes. The Figure displays the difference-in-differences estimates of the Index n°3 (on the left) and the probability of re-electing a mayor with the same political affiliation of the incumbent (on the right). All regressions include municipality and year fixed effects. Robust standard errors are clustered at the municipality level.

the personal income tax is a fiscal tool less transparent than the real estate property tax, since it is unclear which level of government is in charge to levy the former while it is not for the latter. Starting from the assumption that politicians with stronger re-electoral incentives would raise more tax revenues and use more a less transparent tax tool to enhance their probability of re-election, the paper shows that mayors who could be reelected (first term mayors) increased total tax revenues more and used more the less transparent tax (the income tax surcharge) to reduce the more transparent tax (the property tax) than second term mayors. Thus, it may occur a substitution of tax revenues from the more salient tax tool (the real estate property tax) to the less transparent tax tool (the municipal surtax on the personal income tax). As such occurrence may undermine the above analysis, I perform a robustness exercise to verify whether the adoption one of the two modifications effectively increased the tax revenues, then to exclude the possibility of (at least full) replacement between revenues from the municipal surtax on the P.I.T. and other types of tax revenues. Following the same empirical strategy described in section [4.3](#), I estimate - results are reported in Table [2](#) - the effect of introducing one of the two amendments on the tax revenues from the municipal surtax on the personal income tax (in column 1), on the tax revenues excluded the municipal surtax on the personal income tax (in column 2) and on the whole tax revenues (in column

3). The dependent variables in Table 2 are in units of €1000 and not in per capita units, as in the following section 5, because the resident population may be affected by the treatment as well. Rubolino (2020) finds, indeed, that local income tax (i.e. the municipal surtax on the personal income tax) changes affects the location of the tax base and the probability of changing tax residence.

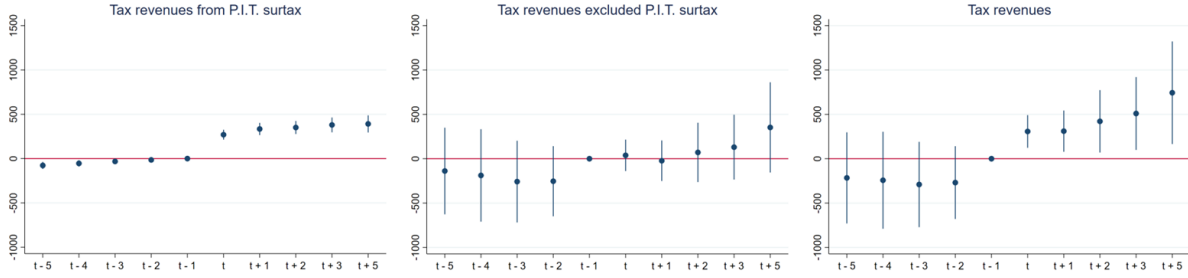
Table 2: Tax revenues

	(1)	(2)	(3)
Dependent var.	Tax rev. from P.I.T surtax	Tax rev. excluded P.I.T surtax	Tax revenues
Municipal FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
<i>increased surtax</i>	374.937*** (39.053)	612.209** (283.938)	237.546 (262.100)
Observations	14,973	14,970	14,970
R-squared	0.833	0.918	0.921

Notes. Difference-in-differences estimates. The dependent variable in column (1) is the amount of tax revenues from the municipal surtax on the personal income tax; in column (2) is the amount of tax revenues excluded the municipal surtax on the personal income tax; in column (3) is the total amount of tax revenues. The dependent variables are in units of 1000 €. The treatment variable is equal to 1 in municipality i from the first year t onward, with $t \in [2000, 2019]$, after the adoption of one of the two amendments regarding the surtax. The estimated coefficients indicate the effect of implementing a modification in the local taxation on the tax revenues from the municipal surtax on the personal income tax in column (1); on the tax revenues excluded the municipal surtax on the personal income tax in column (2); on the whole tax revenues in column (3). The sample is composed of all municipalities which are part of the analysis. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

The outcomes confirm that the whole amount of tax revenues increases after the adoption one of the two modifications of the municipal surtax on the P.I.T. and that such increase derived from higher revenues from the P.I.T. surcharge, indicating the absence of a complete substitution with other types of tax revenues. Using the same procedure as for the Figure 4, I also check for the presence of pre-treatment trends in this exercise as well. As shown by Figure 5 the coefficients of the interaction terms of the periods before the treatment are not statistically different from zero, confirming the validity of the common trends assumption. Finally, a second potential problem need to be addressed as well. A recent literature has warned that difference-in-differences empirical analysis based on two-way fixed effects models - as equation 1 - may lead to biased estimates of the average treatment effect on the treated in case of a staggered treatment of the units (e.g., Callaway and Sant'Anna, 2021; De Chaisemartin and D'Haultfoeuille, 2020; Goodman-Bacon, 2021). The be sure of the

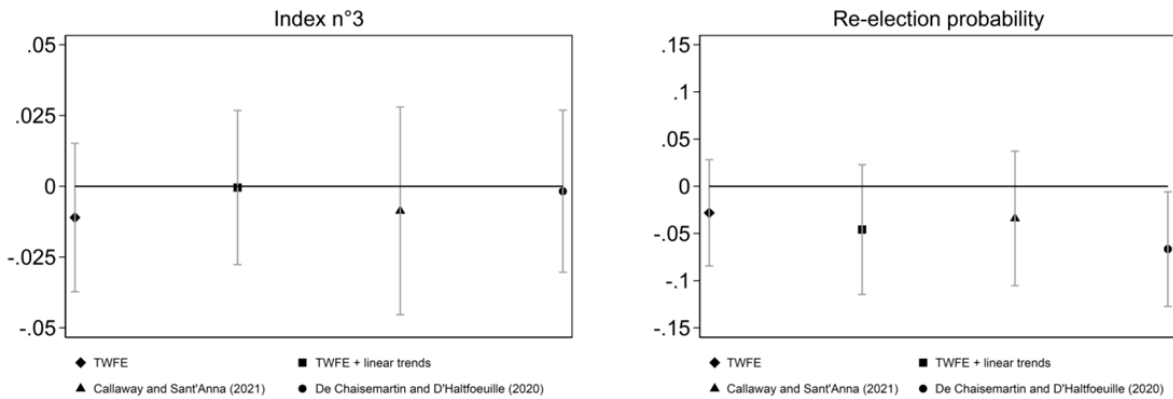
Figure 5: Tax revenues



Notes. The Figure displays the difference-in-differences estimates of the tax revenues from the municipal surtax on the personal income tax (on the left); on the tax revenues excluded the municipal surtax on the personal income tax (in the middle); on the whole tax revenues (on the right). The dependent variables are in units of 1000 €. All regressions include municipality and year fixed effects. Robust standard errors are clustered at the municipality level.

robustness of the above-presented results, I also replicate the regressions presented in Table 1 - more precisely those in columns 1 and 4 - using the estimators proposed by Callaway and Sant'Anna (2021), Sant'Anna and Zhao (2020) and De Chaisemartin and D'Haultfoeille (2020). The results of the alternative estimators are presented in Figure 6 and confirm - a part from the De Chaisemartin and D'Haultfoeille estimator, which estimates a negative effect on re-election probability - the overall goodness of the previous estimates, given that they confirm the same outcome.

Figure 6: Alternative estimators



Notes. The Figure reports the estimated coefficients of equation 1 using as a dependent variable, in the panel on the left, the Index n°3 while, in the panel on the right, the probability of re-electing a mayor with the same political affiliation of the incumbent. The sample is composed of all municipalities which are part of the analysis. The estimators are those proposed by Callaway and Sant'Anna (2021), Sant'Anna and Zhao (2020) and De Chaisemartin and D'Haultfoeille (2020). 95% confidence intervals are based on robust standard errors clustered at the municipality level.

4.6 Final remarks

To conclude, even this second exploratory hypothesis - as shown by the results of Table 1 - does not seem to provide a justification to the evidence illustrated in Chapter II. The decision to increase the local taxation - defined as the adoption of one of the two amendments to the legislation regarding the municipal surtax on the personal income tax - has no implication on the consensus towards center-right and center-left. In fact, it is not able to explain neither the over-performance of the center-left at the local elections with respect to the European elections summarized in the Index n°3, nor the probability of re-election of a mayor with the same political affiliation of the incumbent.

5 “Safe hands” and political dynasties

The third and last hypothesis explored involves the manner through which the local government is led: a phenomenon not merely correlated with skills and competences of the local political class but more generally correlated with an overall *modus operandi*, or better “*modus gubernandi*”.

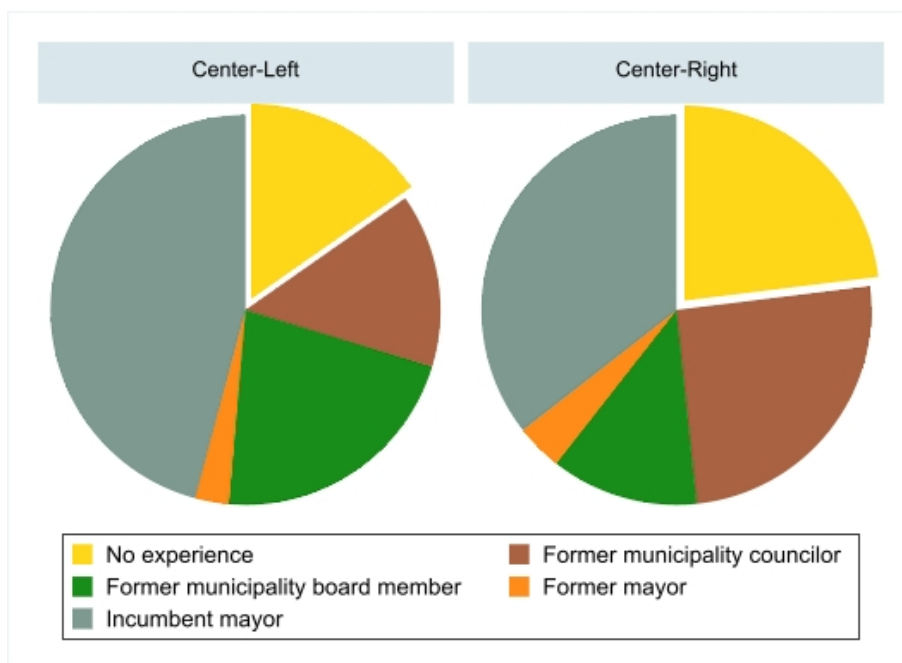
5.1 Genesis

The origin of this supposition arises observing the descriptive evidence reported in Figure 7 regarding the experience - in terms of local government expertise - of the elected mayors.

From Figure 7 emerges a clear different pattern between center-right and center-left in the selection and the turnover of the local political personnel: on one side, for the center-left is more probable to pass the baton to someone already part of the administration; on the other side, a more frequent turnover of the center-right, especially highlighted by the higher share of “freshmen” - namely people without any previous administrative experience - which served as a mayor.

This tendency is coherent with the types of professions of the mayors, whose descriptive

Figure 7: Mayors' administrative experience



Notes. The figure shows the different level of administrative experience for the elected mayors, distinguishing between those belonging to the center-left and those to the center-right.

statistics distinguished by the political affiliation are reported in Table [A2](#). The Table indicates that center-right mayors are more frequently occupied as self-employed, which likely implicates an higher cost to leave the profession, compared to employees, and so a lower probability of spending a long period in a local government administration; vice-versa, center-left mayors are more frequently occupied as employees, which likely implicates a lower cost to leave the profession, compared to self-employed, and so a higher probability of spending a long period in a local government administration.

Given these considerations, a logically consequent question is the following: Does such pattern influence the manner on how a local administration is governed? To answer to this question, I exploit the two-consecutive-term limit rule which applies for the Italian mayors. The existing literature on term limits in holding public offices states we should expect different behaviour between politicians serving during their last term and those eligible for re-election. A key contribution in this field of research is the theoretical framework presented in [Besley and Case \(1995a\)](#). They elaborate a political agency model – in a world

with imperfect information and where both votes and politicians behave rationally - that prescribes that a binding term limit should indeed imply different policy choices. More precisely, comparing incumbent officials with a one-period term limit and a two-period term limit, the model predicts that during the mandate the latter would exert more effort and would preserve his/her reputation due to re-eligibility chance. In other words, elections and voting represent a mechanism to discipline two-period term limit politicians during their first mandate. A prediction confirmed in several applications: in [Besley and Case \(1995a\)](#) itself and (e.g., [Besley and Case, 1995b, 2003](#); [Dalle Nogare and Ricciuti, 2011](#); [Johnson and Crain, 2004](#)).¹⁰

However, more than looking for a the different behaviour between a first-mandate and a second-mandate mayor in itself, the above-described evidence would suggest to focus on a potential different behaviour between center-right and center-left mayors during their second term. In light of different way on how the two coalitions select and replace the political class at the local level, I should expect heterogeneous differences between first-term and a second-term mayor, depending on the political membership. On one hand, I should expect a lower difference for center-left mayors, given that is more likely for them to work with someone who could be in his/her job position in the future, and thus they should account for a longer optimization horizon in their actions. On the other hand, I should expect an higher difference for center-right mayors, due to a lower probability of working with a potential future mayor, and thus a more likely selfish behaviour during the second term.

To this regards, [Besley and Case \(1995a\)](#) also consider the role of being member of a party, which has an interest in preserving the reputation of the party itself. They indeed argue «in the extreme, one could move to a model where the incumbent is completely subservient to the party so that a binding term limit does not affect the time horizon of a political agent».

¹⁰For completeness, the political economy literature not always consider elections as a disciplinary instrument; on the contrary, a strand of research argues that the rules of a representative democracy may generates distortions in the policy choices, as politicians can pander their electorate, deciding to follow the popular opinion despite what they believe is optimal for the community ([Canes-Wrone et al., 2001](#); [Maskin and Tirolé, 2004](#)).

In this context, for center-left mayors the disciplining effect of elections on its behaviour should then function independently from the number of the mandate.

In conclusion, I am interested in performing a comparison on how the local public administration is managed between center-left mayors vs. center-right mayors in the first term with respect to center-left mayors vs. center-right mayors in the second term. More precisely, the study is based on the comparison of some entries of the municipality budget (tax revenues, capital revenues, current expenditure and capital expenditure) all of them calculated as per capita quantities, that is divided by the level of resident population.¹¹

5.2 Empirical strategy

As introduced before, this last investigation relies on two elements of the electoral context. On one hand, a characteristic of the political system: the contrast between center-right and center-left; on the other hand, an institutional constraint: the presence of a two-term limit for the mayors. Given such institutional framework, the most appropriate empirical strategy is implementing a “difference-in-discontinuities” design (Gagliarducci and Nannicini, 2013; Grembi et al., 2016; Eggers et al., 2018; Cipullo, 2021).

It allows to compare the behaviour of a center-left mayor (with respect to a center-right mayor) during his/her first mandate with respect a center-left mayor (with respect to a center-right mayor) during his/her second mandate. Thus, this empirical design allows to integrate into a regression discontinuity design (RDD), which has been widely adopted to investigate the party effect on policy outcomes (e.g., Lee et al., 2004; Pettersson-Lidbom, 2008; Ferreira and Gyourko, 2009; Folke, 2014; Fiva et al., 2018), the peculiar features given by the mayoral term-limit constraint.

¹¹These entries represent - as reported in Table A3 - the broader categories on which the municipal budget is classified. The subdivision still follows the previous legislation (Legislative Decree n°267/2000) and thus is different from the in force legislation (Legislative Decree n°42/2011). However, the analysis is performed harmonizing the two piece of legislation, following, for example, this guide: https://www.fondazioneifel.it/contabilita/item/download/1444_a4d1fd88f0e38b598046aba2fa08fa0f

Formally, I estimate the following model:

$$\begin{aligned}
Y_{i,t} = & \varphi_0 + \varphi_1 \cdot CenterLeft_{i,t} + \varphi_2 \cdot CenterLeft_{i,t} \cdot Incumbent_{i,t} \\
& + \varphi_3 \cdot Incumbent_{i,t} + \varphi_4 \cdot Margin_{i,t} + \varphi_5 \cdot Margin_{i,t} \cdot Incumbent_{i,t} \\
& + \varphi_6 \cdot Margin_{i,t} \cdot CenterLeft_{i,t} \\
& + \varphi_7 \cdot Margin_{i,t} \cdot CenterLeft_{i,t} \cdot Incumbent_{i,t} + \lambda_t + \mu_{i,t}
\end{aligned} \tag{2}$$

The dependent variable $Y_{i,t}$ represents - in municipality i and in year t , with $t \in [2000, 2019]$ - the four variables already mentioned (tax revenues, capital revenues, current expenditure and capital expenditure), calculated over the resident population. The variable $Margin_{i,t}$ represents the assignment variable and measures the margin of victory between the first classified center-left mayoral candidate and the first center-right mayor candidate. The dummy variable $CenterLeft_{i,t}$ is equal to 1 when the variable $Margin_{i,t}$ is above the zero threshold, then when the margin of victory for the center-left is positive. The dummy variable $Incumbent_{i,t}$ is equal to 1 when the elected mayor is incumbent, that is serving in the second mandate. The coefficient of interest for the analysis is φ_2 which measures the differential effect between a center-left mayor and a center-right mayor operating during a first term with respect to operating during a second term. Finally, λ_t represent the year fixed effect, with $t \in [2000, 2019]$.

In light of the described regression model, it is worth to mention that the motivation behind the adoption of a “difference-in-discontinuities” design in this paper differs from one referred in other applications (e.g., [Grembi et al., 2016](#)). In that case the implementation of this empirical design was motivated by the presence of a confounding policy across the threshold of the assignment variable, preventing then to confer a causal interpretation to the RDD coefficient. Differently, such decision in this context is motivated by the desire to estimate the party effect on policy outcomes distinguishing between mayors serving during the first and the second mandate, so an empirical strategy more similar to the one exploited in [Cipullo \(2021\)](#). Thus, the underlying assumptions vary from those stated in [Grembi et al. \(2016\)](#)

while are in line with those exposed in [Cipullo \(2021\)](#).

Consequently, to provide a formal definition of the coefficient of interest φ_2 , following the specification of [Cipullo \(2021\)](#), if in a small neighbourhood of $h_i = 0$ the error components in equation [2](#) are such that

$$\lim_{h_i \rightarrow 0^+} \mathbb{E}(\mu_i \mid Incumbent_i, CenterLeft_i = 1) = \lim_{h_i \rightarrow 0^-} \mathbb{E}(\mu_i \mid Incumbent_i, CenterLeft_i = 0),$$

then

$$\begin{aligned} \varphi_2 = & \lim_{h_i \rightarrow 0^+} [\mathbb{E}(Y_i \mid Incumbent_i = 1, CenterLeft_i = 1) - \mathbb{E}(Y_i \mid Incumbent_i = 0, CenterLeft_i = 1)] \\ & - \lim_{h_i \rightarrow 0^-} [\mathbb{E}(Y_i \mid Incumbent_i = 1, CenterLeft_i = 0) - \mathbb{E}(Y_i \mid Incumbent_i = 0, CenterLeft_i = 0)] \end{aligned}$$

Thus, φ_2 is the difference in discontinuities estimator, as it is the result of a combination between a difference-in-differences strategy and a regression discontinuity design, which provides the causal effect of being a first term and left-wing mayor (vs. a right wing mayor) vs. a second term and left-wing mayor (vs. a right wing mayor).

To be reliable, this empirical strategy need to satisfy a couple of conditions. The first assumption regards the absence of any manipulation at the cutoff of the margin of victory, which can be checked through a formal McCrary test, following [McCrary \(2008\)](#); the second assumption requires a balance check to probe that covariates do not jump at the threshold. More in detail, this last validation is computed running the following model:

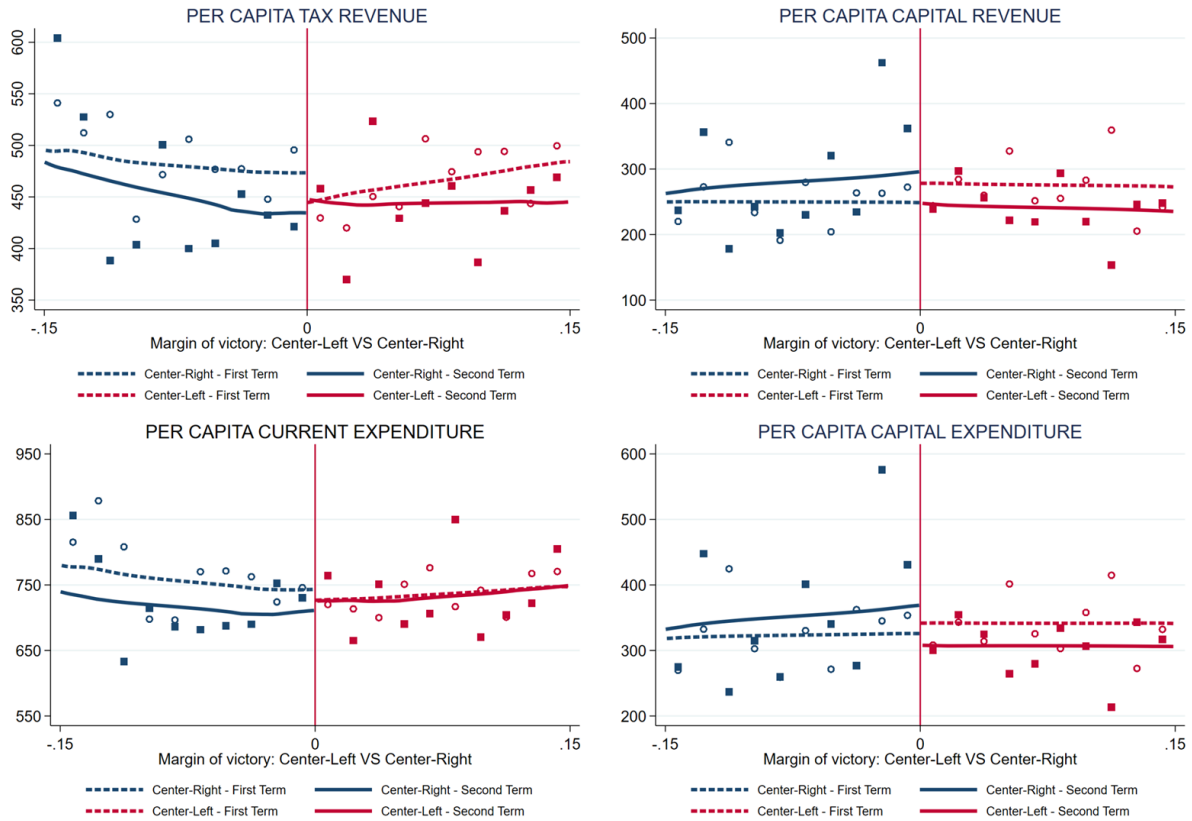
$$\begin{aligned} M_{i,t} = & \delta_0 + \delta_1 \cdot CenterLeft_{i,t} + \delta_2 \cdot CenterLeft_{i,t} \cdot Incumbent_{i,t} \\ & + \delta_3 \cdot Incumbent_{i,t} + \delta_4 \cdot Margin_{i,t} + \delta_5 \cdot Margin_{i,t} \cdot Incumbent_{i,t} \quad (3) \\ & + \delta_6 \cdot Margin_{i,t} \cdot CenterLeft_{i,t} + \delta_7 \cdot Margin_{i,t} \cdot CenterLeft \cdot Incumbent_{i,t} + \alpha_t + \psi_{i,t} \end{aligned}$$

where, in this case, the dependent variable $M_{i,t}$ represents a set of covariates regarding municipal characteristics.

5.3 Results

In all regression tables presented in this section I run local-linear regressions - as argued by (Gelman and Imbens, 2019) - within an optimal bandwidth defined following Calonico et al. (2014) and with robust standard errors clustered at municipality level. Results are reported both in form of regression outputs in Table 3 and graphically in Figure 8¹².

Figure 8: Political affiliation, incumbency and public local accounting



Notes. Starting from the top-left graph, the dependent variables are: the tax revenue, the capital revenue, the current expenditure and the capital expenditure, all of the calculate over the resident population. In each of the four graphs the lines (solid or dashed) represent non-parametric smoothers of the margin of victory, separately estimated on either side of the victory threshold and for both incumbent and newly elected mayors. Blue lines represent center-right mayors while red lines represent center-left mayors. Solid lines represent incumbent mayors while dashed lines represent newly elected mayors. Markers represent sample averages within bins of the running variable $Margin_{i,t}$ equal to 0.015, illustrated as follows: blue lines represent center-right mayors while red lines represent center-left mayors; circles (blue for center-right and red for center-left) represent incumbent mayors while squares (blue for center-right and red for center-left) represent newly elected mayors.

¹²The results do not include mayors re-elected for a third consecutive term. This occurrence was by the Law 7 April 2014, n° 56 for the municipalities with a population below 3000 inhabitants.

Table 3: Political affiliation, incumbency and public local accounting

PANEL A: REVENUES

	(1)	(2)	(3)	(4)
Dependent var.	Tax revenue over resident pop.		Capital revenue over resident pop.	
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	-28.271 (22.738)	-54.720** (27.801)	11.104 (35.005)	34.635 (32.117)
<i>CenterLeft·Incumbent</i>		111.172** (50.196)		-114.507 (98.260)
<i>Incumbent</i>		-60.114 (40.126)		92.634 (87.093)
Observations	4,544	4,544	6,113	6,113
R-squared	0.260	0.268	0.019	0.022
Bandwidth	0.123	0.123	0.175	0.175

PANEL B: EXPENDITURES

	(1)	(2)	(3)	(4)
Dependent var.	Current expend. over resident pop.		Capital expend. over resident pop.	
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	-0.574 (34.095)	-11.193 (38.995)	-13.425 (38.508)	19.869 (36.611)
<i>CenterLeft·Incumbent</i>		48.935 (63.454)		-149.395 (111.288)
<i>Incumbent</i>		-20.161 (51.240)		106.310 (99.824)
Observations	5,191	5,191	5,814	5,814
R-squared	0.030	0.033	0.041	0.043
Bandwidth	0.142	0.142	0.164	0.164

Notes. Local-linear regressions as in equation 2 with uniform kernel and Calonico et al. (2014) optimal bandwidth. In panel A the dependent variable in columns (1) and (2) is the tax revenue over the resident population while in columns (3) and (4) is the capital revenue over the resident population. In panel B the dependent variable in columns (1) and (2) is the current expenditure over the resident population while in columns (3) and (4) is the capital expenditure over the resident population. In both panels columns (2) and (4) report the estimate results of equation 2 while columns (1) and (3) report the estimate results of equation 2 without any reference to the *Incumbent* the considering *CenterLeft* as a unique element of distinction. All specifications contains year election fixed effects. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

The first salient evidence highlighted in Table 3 is the absence of any difference - as reported in columns 1 and 3 of both panels - between center-right and center-left mayors when they are serving their first mandate. On outcome in line with the above-discussed expectations: as they can run for a second mandate, they share the same incentive to be re-elected.

The second and most prominent content pointed out in Table 3 and Figure 8 regards a divergence between center-right and center-left mayors when they are serving their second mandate. Specifically, it emerges a different tendency in per capita tax revenues. In a municipality governed by a second term and center-left mayor the level of tax revenues over the resident population is higher than in a municipality governed by a second term and center-right mayor, all that compared with the same two categories governing at the first term.

Such evidence can be interpreted as the signal of an higher interest for the municipality's spending capacity or, in broader terms, for the solidity of the local public finances from center-left mayors; or, from an other point of view, a greater consideration in favour to those who will be in charge of governing the municipality in the near future. An explanation which is indeed coherent with the above-commented pattern - initially described in Figure 7 - regarding a different degree of continuity of the local ruling class. Overall, an evidence which conveys the idea of political dynasty¹³ for the center-left mayors.

Then, following this interpretation, a possible answer to the results illustrated in Chapter II is a reward toward those people (mayors) and that coalition (center-left) which are more prone to ensure a greater and enduring stability of the local government.

Furthermore, such evidence is also in line with the findings of Gagliarducci and Nannicini (2013), which undermine the importance of re-election as a unique discipline instrument for the incumbents: while they attribute also an important role to the skills of the mayors, this paper argues that the political membership is fundamental aspect as well.

¹³Political dynasty in terms of political membership; not to confuse with the acceptance of a political dynasty in terms of familiar political dynasty (Geys, 2017; Daniele et al., 2021)

5.4 Assumptions' verification and robustness checks

As specified in section 5.2, the empirical strategy on which this analysis is based requires to satisfy some assumptions. The fulfillment of the first condition is demonstrated with a set of McCrary tests (McCrary, 2008), which are reported in Figure A1, Figure A2 and Figure A3. They show the absence of any manipulation at the cutoff of the margin of victory, respectively for the whole sample in Figure A1, when $Incumbent_{i,t} = 0$ in Figure A2 and when $Incumbent_{i,t} = 1$ in Figure A3.

The same results are confirmed also implementing a manipulation test using local polynomial density estimators, as proposed in Cattaneo et al. (2020). The outcomes are reported for the whole sample in Figure A4, when $Incumbent_{i,t} = 0$ in Figure A5 and when $Incumbent_{i,t} = 1$ in Figure A6.

The second and last condition requires a balance check to probe that covariates do not jump at the threshold. To do so, I estimate the model described in equation 3, where the dependent variable $M_{i,t}$ represents a set of covariate regarding municipal characteristics, which are balanced at the cutoff if the coefficient δ_1 is equal to zero. Estimates results - reported in Table A4 - ensure such condition.

In the rest of the section, I present a sequence of robustness checks that reinforce the main results.

In previous section 5.3 I presented all the outcomes resulting from local-linear regressions, following the prescriptions of Gelman and Imbens (2019), within an optimal bandwidth employing the criteria defined in Calonico et al. (2014). However, with such procedure it could be possible not to compare the same municipalities across the dimension defined by the variable $Incumbent_{i,t}$ - that is the distinction between a municipality led by a first term mayor or second term mayor - if in one of the two corresponding elections results out of the optimal bandwidth. To overcome this problem, I repeat the same exercise, this time not using any optimal bandwidth - that is including all municipalities in the sample - and with

a quadratic specification; thus, the model I intend to estimate is as follows:

$$\begin{aligned}
Y_{i,t} = & \kappa_0 + \kappa_1 \cdot CenterLeft_{i,t} + \kappa_2 \cdot CenterLeft_{i,t} \cdot Incumbent_{i,t} \\
& + \kappa_3 \cdot Incumbent_{i,t} + \kappa_4 \cdot Margin_{i,t} + \kappa_5 \cdot (Margin_{i,t})^2 \\
& + \kappa_6 \cdot Margin_{i,t} \cdot CenterLeft_{i,t} + \kappa_7 \cdot (Margin_{i,t})^2 \cdot CenterLeft_{i,t} \\
& + \kappa_8 \cdot Margin_{i,t} \cdot Incumbent_{i,t} + \kappa_9 \cdot (Margin_{i,t})^2 \cdot Incumbent_{i,t} \\
& + \kappa_{10} \cdot Margin_{i,t} \cdot CenterLeft_{i,t} \cdot Incumbent_{i,t} \\
& + \kappa_{11} \cdot (Margin_{i,t})^2 \cdot CenterLeft_{i,t} \cdot Incumbent_{i,t} + \theta_t + \omega_{i,t}
\end{aligned} \tag{4}$$

Results - reported in Table [A5](#) - present, although without any causal interpretation, the same evidence as above.

The second alternative specification is aimed at controlling for the political business cycle ([Nordhaus, 1975](#)) or political budget cycle ([Rogoff, 1990](#)), that is to verify if decisions on public spending or taxation are different closer to an electoral appointment, as documented by many scholars (e.g., [Brender and Drazen, 2005](#); [Shi and Svensson, 2006](#); [Alesina and Paradisi, 2014](#); [Klein and Sakurai, 2015](#)). To face this issue, I replicate the main results splitting the legislature between the first two year and the second two years, in order to check whether the evidence emerged in Table [3](#) is constant or not over the entire legislature. This additional evidence is reported in Table [A6](#), which shows a pattern consistent over the entire mandate.

Then, to further validate the evidence presented in Table [3](#) I make an additional robustness check - presented in Figure [A7](#) - based on the replication of the main results using several bandwidths to fit local-linear regressions.

Finally, the last probe regards the following issue: in municipality above 15.000 inhabitants have a dual ballot system as electoral law; this fact implies that candidates winning the first round are not necessarily those who will be mayor, as they indeed need to win the second round as well. Thus, in the specification presented in equation [2](#) the variable $CenterLeft_{i,t}$

may be 1, even though is serving a center-right mayor, if the first round was won by a center-left mayor. The opposite situation may occur as well: the variable $CenterLeft_{i,t}$ may be 0, even though is serving a center-left mayor, if the first round was won by a center-right mayor. Again, this problem may arise only in municipality above the 15.000 population threshold. Although winning the first round - that is obtaining the relative majority of the votes - increase the probability of winning the second and decisive round (Dano et al., 2022; Pons et al., 2019), and so the variable $CenterLeft_{i,t}$ still remains a good approximation of the real electoral outcomes, I anyhow replicate the analysis presented in Table 3 including only municipalities below the 15.000 population threshold - such as those with single ballot electoral system - in order to be sure of the value of the variable $CenterLeft_{i,t}$. Results - reported in Table A7 - confirm the evidence of the complete specification.

6 Conclusion

This paper is motivated by the descriptive evidence presented in Chapter II, which illustrates - based on Italian municipal data - a systematic pattern in the electoral behaviour: citizens support more the center-left coalition - and specularly less the the center-right coalition - at the local elections compared to the European elections. Given that such peculiar evidence may be difficulty explained through the two principal theories about voting behaviour - the “Second Order Election” theory by Reif and Schmitt (1980) and the “Divided Government” theory by Alesina and Rosenthal (1995) - I formulate and test a series of alternative hypothesis to understand - thanks to a set of empirical analysis - possible motivations of such voting behaviour. The first hypothesis argues the presence of a long-term tendency in the electoral behaviour; the second hypothesis concerns the entrust of a “strategic delegation” in favour of center-left mayors and the third hypothesis is related to the modalities of selection and turnover of the local ruling class and thus on how the local government and its accounts are led. The latter hypothesis emerges as the more convincing explanation.

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Appendix: additional Tables and Figures

Table A1: Municipal surtax on the personal income tax - Pre-trends control

	(1)	(2)
Dependent var.	Indicator n°3	Re-election probability
Sample	Full	Full
Municipal FE	Yes	Yes
Year FE	Yes	Yes
<i>increased surtax</i> ($t - 3$)	0.020 (0.018)	-0.063 (0.082)
<i>increased surtax</i> ($t - 2$)	0.004 (0.011)	-0.049 (0.040)
<i>increased surtax</i> (t)	-0.013 (0.014)	-0.045 (0.035)
<i>increased surtax</i> ($t + 1$)	-0.002 (0.023)	-0.030 (0.050)
<i>increased surtax</i> ($t + 2$)	-0.014 (0.036)	0.018 (0.079)
Observations	3,512	2,915
R-squared	0.578	0.332

Notes. Difference-in-differences estimates. The dependent variable in column (1) is the indicator n°3 while in column (2) is the probability of re-electing a mayor with the same political affiliation of the incumbent. The treatment variable at time (t) is equal to 1 in municipality i in the first electoral year t after the adoption of one of the two amendments regarding the surtax. The treatment variable at time ($t - 2$) is equal to 1 in municipality i two electoral years before the adoption of one of the two amendments regarding the surtax. The treatment variable at time ($t - 3$) is equal to 1 in municipality i three electoral years before the adoption of one of the two amendments regarding the surtax. The treatment variable at time ($t + 1$) is equal to 1 in municipality i two electoral years after the adoption of one of the two amendments regarding the surtax. The treatment variable at time ($t + 2$) is equal to 1 in municipality i three electoral years after the adoption of one of the two amendments regarding the surtax. The estimated coefficients indicate the effect of implementing a modification in the local taxation on the indicator n°3 in column (1), and on probability of re-electing a mayor with the same political affiliation of the incumbent in columns (2). The sample is composed in columns (1) and (2) of all municipalities which are part of the analysis. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A2: Mayors' professions

PROFESSION	CENTER-LEFT			CENTER-RIGHT		
	Freq.	Mean	S.D.	Freq.	Mean	S.D.
DOCTOR, VETERINARIAN, PHARMACIST AND DENTIST	119	0.047	0.212	97	0.099	0.299
ECONOMIC, FINANCIAL AND INSURANCE PROFESSIONS	81	0.032	0.176	55	0.056	0.230
ENGINEER AND ARCHITECT	105	0.042	0.200	61	0.062	0.242
ENTREPRENEUR, DIRECTOR AND MANAGER	116	0.046	0.210	90	0.092	0.289
LEGAL PROFESSIONS	148	0.059	0.235	93	0.095	0.293
RETAILER AND MERCHANT	65	0.026	0.159	27	0.028	0.164
SURVEYOR	74	0.029	0.169	36	0.037	0.188
SELF-EMPLOYED	708	0.281	0.449	459	0.467	0.499
CULTURE AND ART PROFESSIONS	31	0.012	0.110	4	0.004	0.064
MIDDLE MANAGER	411	0.163	0.369	106	0.108	0.311
PRIVATE EMPLOYEE	217	0.086	0.280	51	0.052	0.222
PUBLIC ADMINISTRATION MANAGER	73	0.029	0.168	14	0.014	0.119
PUBLIC EMPLOYEES	46	0.018	0.134	11	0.011	0.105
SPECIALIZED WORKER	91	0.036	0.187	24	0.024	0.155
TEACHER	221	0.088	0.283	38	0.039	0.193
WORKER	33	0.013	0.114	15	0.015	0.123
EMPLOYEE	1123	0.445	0.497	263	0.268	0.443
ARMED FORCES MEMBER	10	0.004	0.063	13	0.013	0.114
FARMER AND BREEDER	32	0.013	0.112	20	0.020	0.141
RETIRED	258	0.155	0.362	150	0.153	0.360
OTHER	392	0.102	0.303	77	0.078	0.269
TOTAL	2523	1.000		982	1.000	

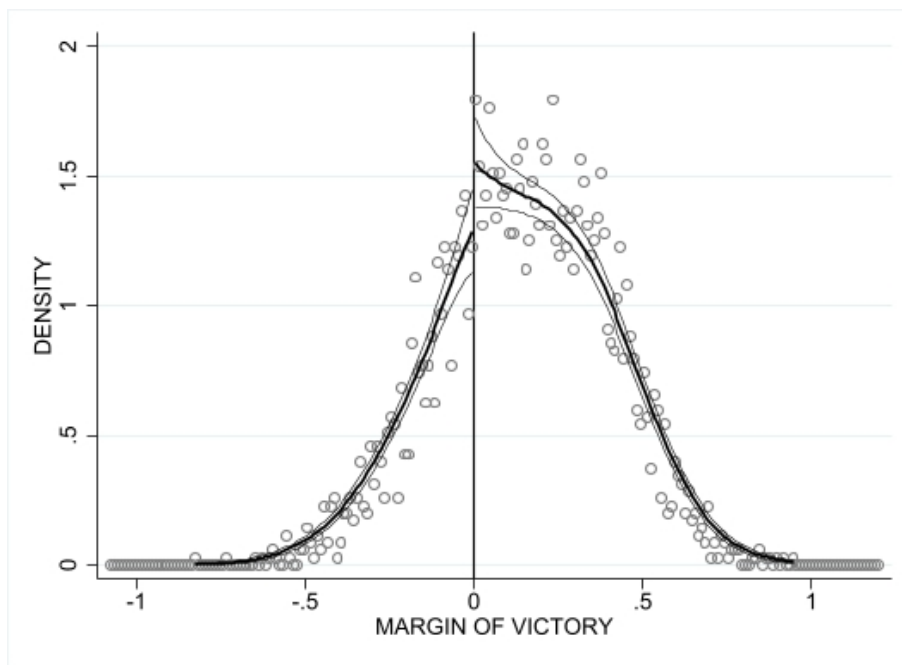
Notes. The Table shows the list of professions practiced by the elected majors, distinguishing between those belonging to the center-left and those to the center-right.

Table A3: Macro-structure of the municipal budget

REVENUES	EXPENDITURE
TITLE 1: TAX REVENUES	TITLE 1: CURRENT EXPENDITURES
TITLE 2: TRANSFERS	TITLE 2: CAPITAL EXPENDITURES
TITLE 3: REVENUES FROM FEES	TITLE 3: REIMBURSE EXPENDITURES
TITLE 4: CAPITAL REVENUES	TITLE 4: FOR THIRD PARTIES EXPENDITURES
TITLE 5: LOANS	
TITLE 6: FOR THIRD PARTIES REVENUES	

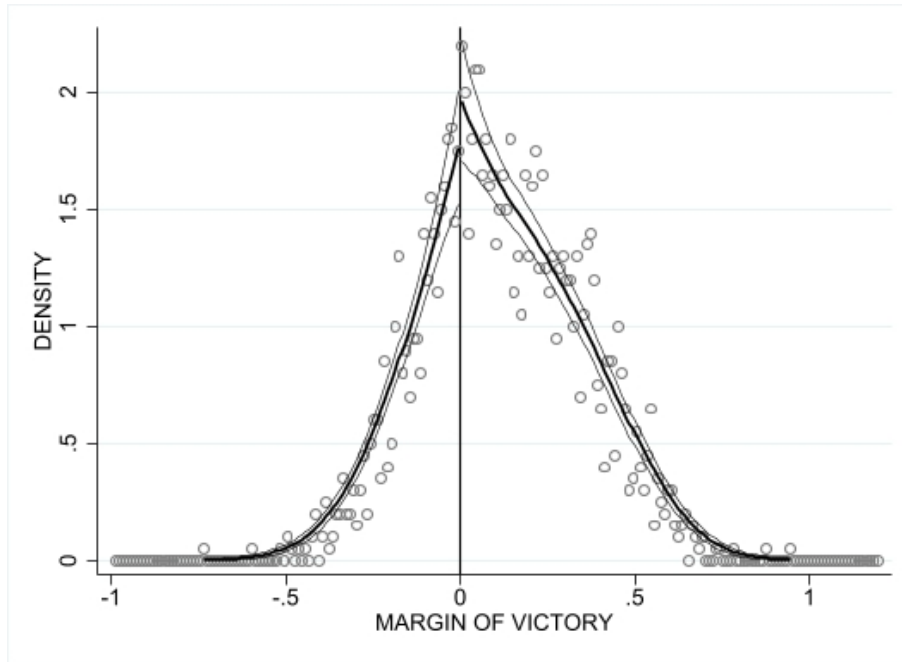
Notes. The Table shows the macro-structure of the Italian municipal budget, distinguishing between revenues and expenditure. The subdivision still follows the previous legislation (Legislative Decree n°267/2000) and thus is different from the in force legislation (Legislative Decree n°42/2011). However, I harmonized the two piece of legislation in order to properly match the entries.

Figure A1: McCrary Test I



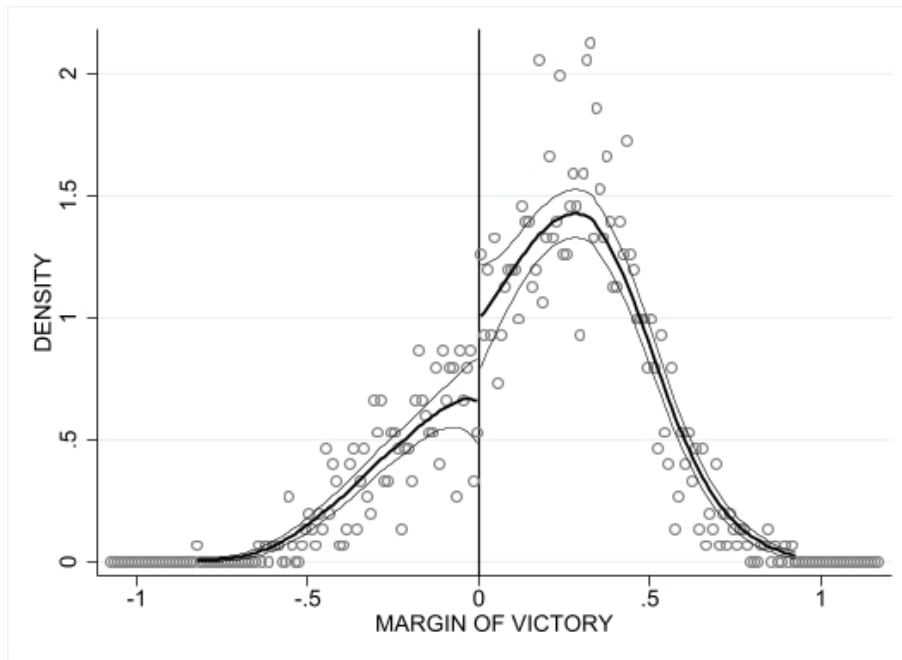
Notes. The Figure plots the log-density computing a formal McCrary test (McCrary 2008) with bandwidth equal to 0.25; markers represent sample averages within bins of the running variable equal to 0.01. The discontinuity estimate is 0.1769 and the standard error is 0.8778.

Figure A2: McCrary Test II



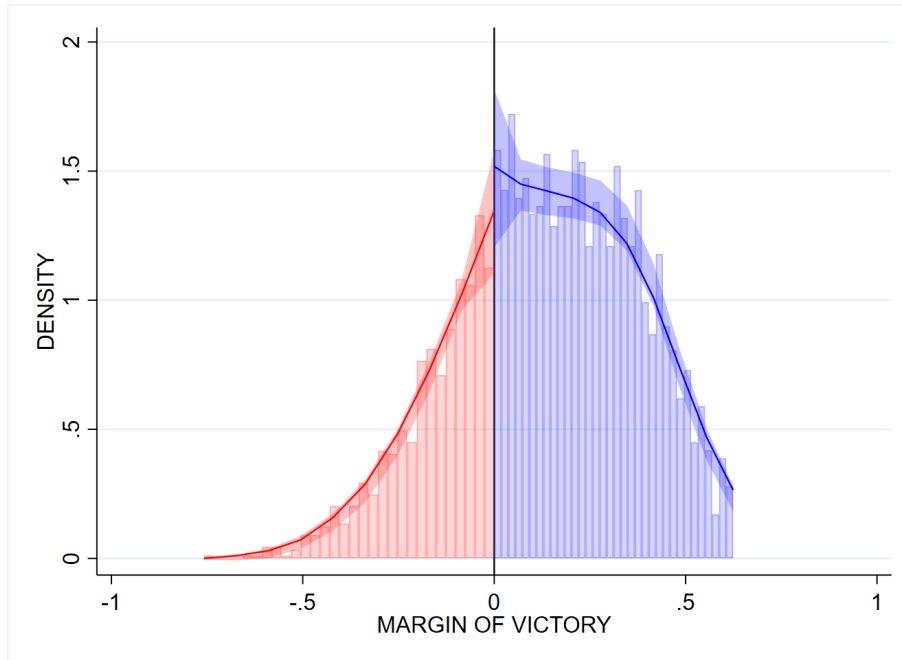
Notes. The Figure plots the log-density computing a formal McCrary test (McCrary, 2008) with bandwidth equal to 0.25 and the variable $Incumbent_{i,t} = 0$; markers represent sample averages within bins of the running variable equal to 0.01. The discontinuity estimate is 0.0996 and the standard error is 0.1010.

Figure A3: McCrary Test III



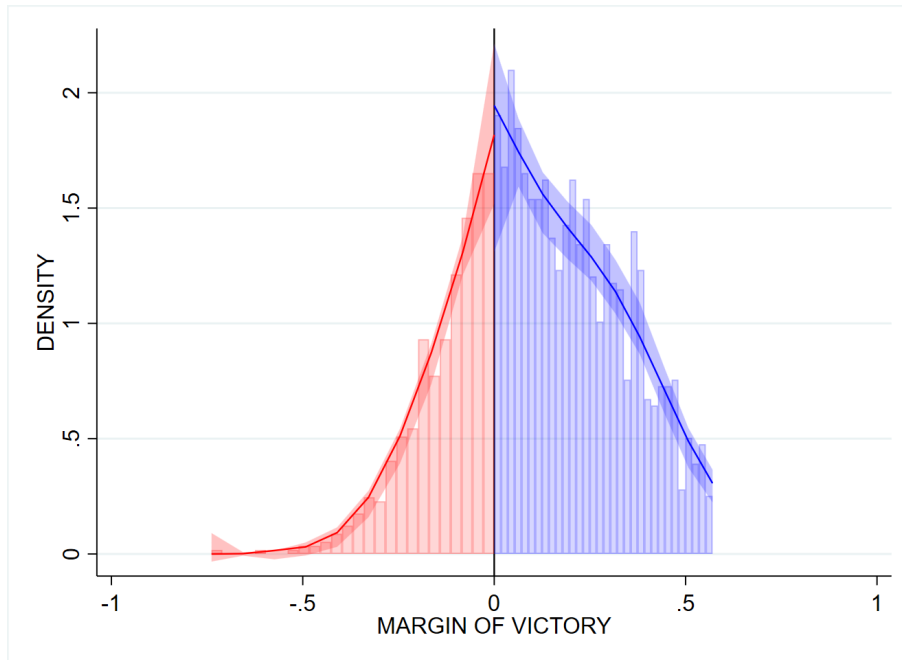
Notes. The Figure plots the log-density computing a formal McCrary test (McCrary, 2008) with bandwidth equal to 0.25 and the variable $Incumbent_{i,t} = 1$; markers represent sample averages within bins of the running variable equal to 0.01. The discontinuity estimate is 0.4149 and the standard error is 0.1792.

Figure A4: Manipulation Test I



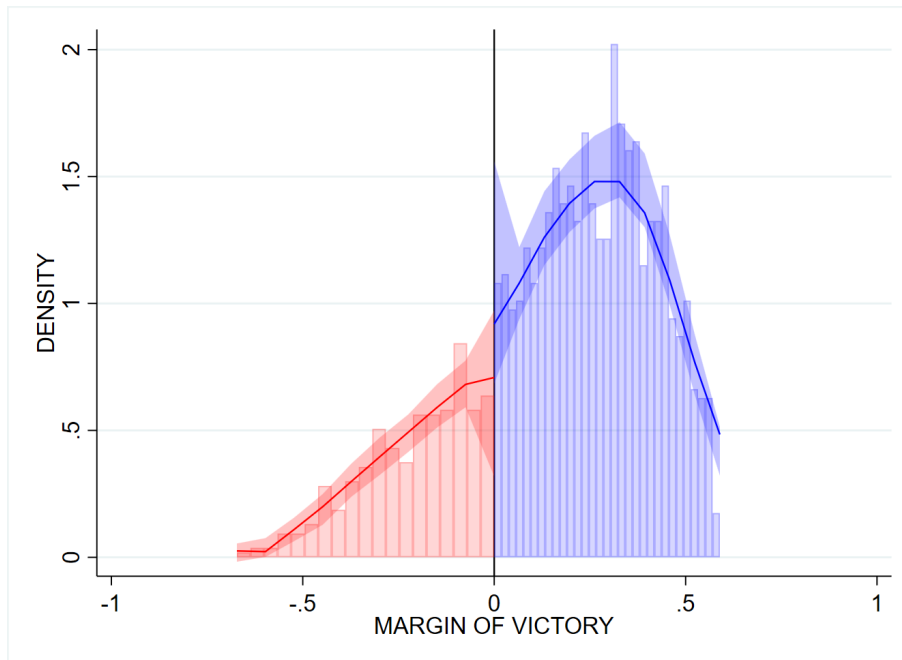
Notes. The Figure plots the density estimates and confidence intervals around the cutoff of a manipulation test using the local polynomial density estimators proposed in Cattaneo et al. (2020). The final manipulation test is 0.7577, with a p-value of 0.4487. Therefore, in this application, there is no statistical evidence of systematic manipulation of the running variable.

Figure A5: Manipulation Test II



Notes. The Figure plots the density estimates and confidence intervals around the cutoff of a manipulation test using the local polynomial density estimators proposed in Cattaneo et al. (2020). The final manipulation test is 0.3819, with a p-value of 0.7025. Therefore, in this application, there is no statistical evidence of systematic manipulation of the running variable.

Figure A6: Manipulation Test III



Notes. The Figure plots the density estimates and confidence intervals around the cutoff of a manipulation test using the local polynomial density estimators proposed in Cattaneo et al. (2020). The final manipulation test is 1.6118, with a p-value of 0.1070. Therefore, in this application, there is no statistical evidence of systematic manipulation of the running variable.

Table A4: Test for comparability of units around the cut-off

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent var.	Unempl. rate	Empl. rate	Height	Area	Density	Population	% graduated
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Center-Left</i>	0.001 (0.007)	0.003 (0.010)	37.189 (27.733)	1.226 (5.638)	-94.339 (115.788)	-201.380 (2,396.034)	-0.002 (0.003)
Observations	1,000	945	1,240	1,118	1,197	1,325	1,177
R-squared	0.025	0.037	0.030	0.015	0.004	0.012	0.008

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Dependent var.	% upper intermediate	% middle	% elementary	% pop. 0-14	% pop. 15-64	% pop. over 65	Per capita income
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Center-Left</i>	-0.006 (0.004)	-0.001 (0.004)	0.007 (0.004)	24.399 (321.675)	-295.577 (1,693.754)	-357.931 (645.368)	-345.208 (413.460)
Observations	1,371	1,209	1,127	1,324	1,289	1,240	989
R-squared	0.011	0.009	0.014	0.013	0.012	0.013	0.034

Notes. Local-linear regressions as in equation 3 with uniform kernel and Calonico et al. (2014) optimal bandwidth. The dependent variables are: the unemployment rate, the employment rate, the height, the area, the density, the population, the share of graduated population, the share population with high school diploma, the share population with high school diploma, the share population with elementary school diploma, the share population aged between 0 and 14, the share population aged between 15 and 64, the share population aged over 65, the per capita taxable income. All specifications contains year election fixed effects. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A5: Political affiliation, incumbency and public local accounting - Robustness I

PANEL A: REVENUES

	(1)	(2)	(3)	(4)
Dependent var.	Tax revenue over resident pop.		Capital revenue over resident pop.	
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	-22.200 (15.876)	-49.484** (20.197)	16.905 (30.675)	56.035* (31.063)
<i>CenterLeft·Incumbent</i>		91.288** (35.422)		-144.288** (69.684)
<i>Incumbent</i>		-62.710** (29.221)		84.657 (60.957)
Observations	14,390	14,390	14,390	14,390
R-squared	0.296	0.299	0.024	0.026

PANEL B: EXPENDITURES

	(1)	(2)	(3)	(4)
Dependent var.	Current expend. over resident pop.		Capital expend. over resident pop.	
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	-1.624 (22.861)	-12.673 (29.208)	11.120 (33.295)	44.476 (33.844)
<i>CenterLeft·Incumbent</i>		55.225 (50.607)		-137.866* (75.246)
<i>Incumbent</i>		-39.139 (40.389)		77.318 (66.300)
Observations	14,390	14,390	14,390	14,390
R-squared	0.039	0.041	0.048	0.049

Notes. Quadratic regressions following equation 4. In panel A the dependent variable in columns (1) and (2) is the tax revenue over the resident population while in columns (3) and (4) is the capital revenue over the resident population. In panel B the dependent variable in columns (1) and (2) is the current expenditure over the resident population while in columns (3) and (4) is the capital expenditure over the resident population. In both panels columns (2) and (4) report the estimate results of equation 4 while columns (1) and (3) report the estimate results of equation 4 without any reference to the *Incumbent* then considering *CenterLeft* as a unique element of distinction. All specifications contains year election fixed effects. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A6: Political affiliation, incumbency and public local accounting - Robustness II

PANEL A: REVENUES

	(1)	(2)	(3)	(4)
Dependent var.	Tax revenue over resident pop.		Capital revenue over resident pop.	
Period	I & II	III & IV	I & II	III & IV
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	-50.783 (30.975)	-57.876** (27.186)	4.882 (48.821)	46.734 (37.086)
<i>CenterLeft·Incumbent</i>	105.982* (54.090)	135.170*** (51.796)	-130.690 (95.206)	-156.987 (165.145)
<i>Incumbent</i>	-43.199 (43.755)	-90.767** (42.218)	109.019 (76.439)	134.174 (159.277)
Observations	1,749	1,908	1,791	2,688
R-squared	0.272	0.239	0.022	0.029
Bandwidth	0.118	0.130	0.122	0.195

PANEL B: EXPENDITURES

	(1)	(2)	(3)	(4)
Dependent var.	Current expend. over resident pop.		Capital expend. over resident pop.	
Period	I & II	III & IV	I & II	III & IV
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	-35.043 (35.812)	-16.597 (38.675)	0.387 (54.045)	19.832 (44.980)
<i>CenterLeft·Incumbent</i>	77.573 (65.777)	71.412 (82.219)	-143.180 (100.025)	-209.136 (198.905)
<i>Incumbent</i>	-65.286 (51.297)	-28.861 (59.034)	94.932 (83.797)	189.648 (191.724)
Observations	2,229	2,240	1,735	2,364
R-squared	0.039	0.031	0.044	0.054
Bandwidth	0.156	0.158	0.116	0.168

Notes. Local-linear regressions as in equation 2 with uniform kernel and Calonico et al. (2014) optimal bandwidth. In panel A the dependent variable in columns (1) and (2) is the tax revenue over the resident population while in columns (3) and (4) is the capital revenue over the resident population. In panel B the dependent variable in columns (1) and (2) is the current expenditure over the resident population while in columns (3) and (4) is the capital expenditure over the resident population. In both panels, columns (1) and (3) report the estimate results for the first two year of the legislature while columns (2) and (4) report the estimate results for the last two year of the legislature. All specifications contains year election fixed effects. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A7: Political affiliation, incumbency and public local accounting - Robustness III

PANEL A: REVENUES

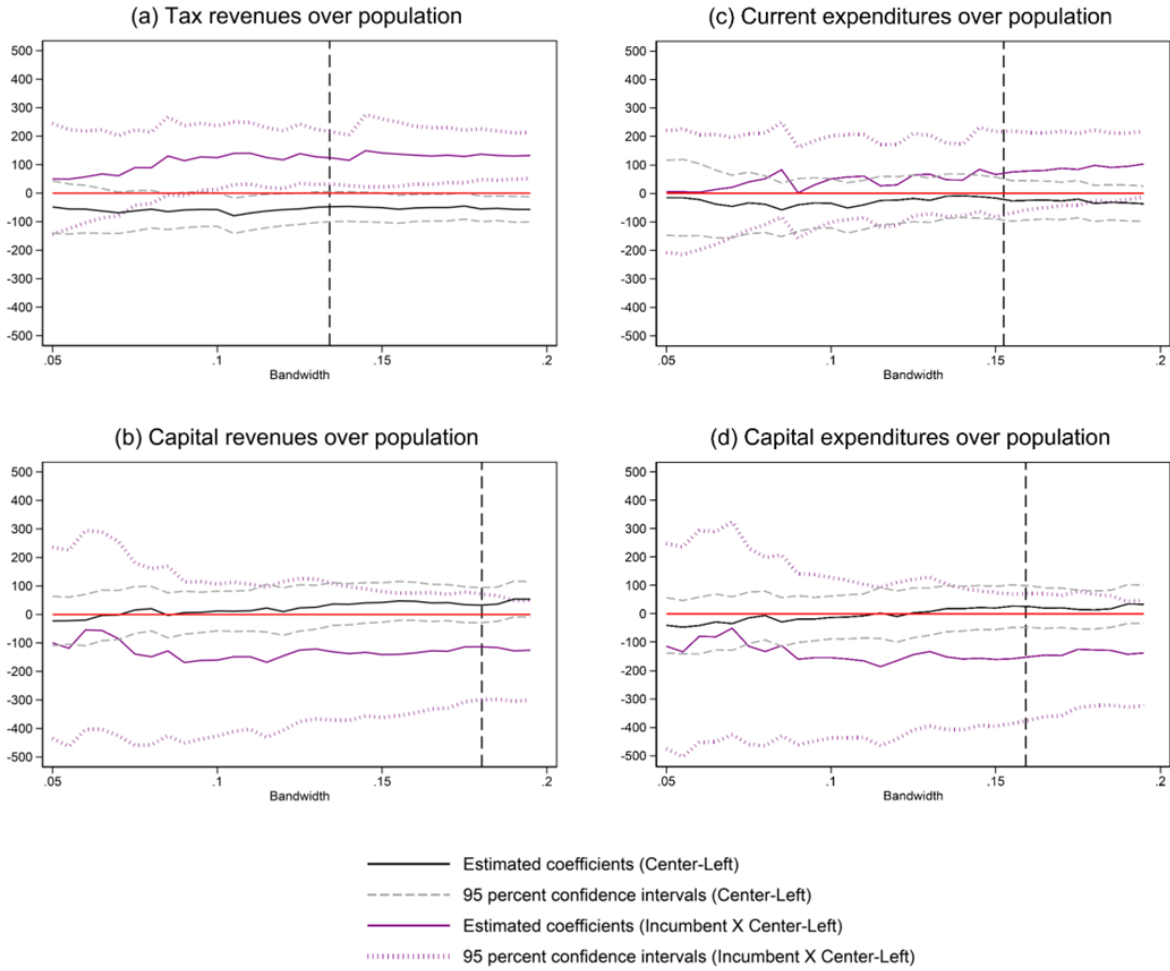
	(1)	(2)	(3)	(4)
Dependent var.	Tax revenue over resident pop.		Capital revenue over resident pop.	
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	-23.322 (24.272)	-55.541* (29.775)	10.398 (39.724)	47.652 (36.182)
<i>CenterLeft·Incumbent</i>		123.843** (53.039)		-166.731 (114.753)
<i>Incumbent</i>		-55.358 (43.279)		131.943 (103.184)
Observations	3,892	3,892	5,247	5,247
R-squared	0.283	0.293	0.020	0.023
Bandwidth	0.122	0.122	0.173	0.173

PANEL B: EXPENDITURES

	(1)	(2)	(3)	(4)
Dependent var.	Current expend. over resident pop.		Capital expend. over resident pop.	
Year FE	Yes	Yes	Yes	Yes
<i>CenterLeft</i>	9.846 (38.033)	0.314 (42.499)	-16.423 (43.106)	27.192 (40.664)
<i>CenterLeft·Incumbent</i>		37.396 (71.292)		-192.116 (127.774)
<i>Incumbent</i>		-0.577 (59.360)		143.404 (116.324)
Observations	4,459	4,459	5,127	5,127
R-squared	0.034	0.037	0.039	0.042
Bandwidth	0.140	0.140	0.167	0.167

Notes. Local-linear regressions as in equation 2 with uniform kernel and Calonico et al. (2014) optimal bandwidth. In panel A the dependent variable in columns (1) and (2) is the tax revenue over the resident population while in columns (3) and (4) is the capital revenue over the resident population. In panel B the dependent variable in columns (1) and (2) is the current expenditure over the resident population while in columns (3) and (4) is the capital expenditure over the resident population. In both panels columns (2) and (4) report the estimate results of equation 2 while columns (1) and (3) report the estimate results of equation 2 without any reference to the *Incumbent* the considering *CenterLeft* as a unique element of distinction. The sample is composed only with municipalities below the 15.000 population threshold. All specifications contains year election fixed effects. Robust standard errors clustered at the municipality level are in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Figure A7: Bandwidth sensitivity



Notes. In all figures the horizontal axis represents the bandwidths - ranging from $h_{i,t} = 0.05$ to $h_{i,t} = 0.20$ - used to estimate the model represented in equation 2 with a local linear regression with uniform kernel. In figure (a) the dependent variable is the tax revenue over the resident population; in figure (b) the dependent variable is the capital revenue over the resident population; in figure (c) the dependent variable is the current expenditure over the resident population; in figure (d) the dependent variable is the capital expenditure over the resident population. The purple solid line represents the estimated coefficients for φ_2 as a function of the chosen bandwidth, while the black solid line represents the estimated coefficients for φ_1 as a function of the chosen bandwidth. Dashed lines represent the 95 percent confidence intervals of each coefficient. The vertical line represents the Calonico et al. (2014) optimal bandwidth. All specifications include year fixed effects. Each estimation concerns a variation of bandwidth equal to 0.005. 95% confidence intervals are based on standard errors robust to clustering at the municipal.