Working Paper Series

THE SACRED AND THE PROFANE OF BUDGET CYCLES: EVIDENCE FROM ITALIAN MUNICIPALITIES

FEDERICO REVELLI AND ROBERTO ZOTTI

UNIVERSITÀ DEGLI STUDI DI TORINO

The Sacred and the Profane of Budget Cycles: Evidence from Italian Municipalities

Federico Revelli[*], Roberto Zotti[*]

Abstract

This paper investigates the influence of the staggered schedule of Italian mayoral elections and of the calendar of traditional religious celebrations (Patron Saint days) on the timing of local tax setting decisions and on the selection process of mayoral candidates. As for the impact of the electoral schedule on fiscal policy-making, we find evidence of a political budget cycle on yearly panel data from over 8,000 municipal authorities, with budgets deteriorating as elections approach and improving thereafter. When analyzing the specific timing of annual local tax rate decisions within election years, and using localities not holding elections in those same years as controls, we find that incumbents are more likely to schedule the crucial decisions about the local income tax rate during the months following the date of the elections. As for the effect of Patron Saint day celebrations, we find that fiscal decisions are less likely to be scheduled around those dates, compatibly with the hypothesis that those events constitute temporary shocks to the social capital of local communities, inducing incumbent governments to abstain from making potentially disruptive fiscal decisions under those sensitive circumstances. Finally, we find that when local elections happen to take place in the proximity of a locality's traditional celebrations, the elected mayors tend to exhibit milder ideology and higher indicators of valence, reinforcing the hypothesis that local folklore contributes to common value thinking, social capital building, and sense of community.

[*]Department of Economics and Statistics "Cognetti de Martiis", University of Turin, Campus Luigi Einaudi, Lungo Dora Siena 100A, 10153 Turin, Italy. federico.revelli@unito.it; roberto.zotti@unito.it

1. Introduction

The idea that incumbent governments might choose the timing of policy-making according to the calendar of elections in order to minimize the political cost of those decisions and boost their own re-election chances has been an influential one in the political economy literature of the past decades (Drazen, 2001). While the original idea was that politicians would try to exploit short-term macroeconomic trade-offs and voter myopia to create favorable economic conditions before the elections (Nordhaus, 1975; Lindbeck, 1976), more recent contributions (Rogoff and Sibert, 1988; Rogoff, 1990) introduced the concept of a 'political budget cycle'. Within the context of a transitory information asymmetry between incumbents and their electorates, the former would have an incentive to bias pre-election fiscal policy toward easily observed current public expenditures and low tax burdens to signal their competence.

Indeed, the incentives for politicians to behave opportunistically during the various phases of their fixed term of office and the actual consequences of fiscal policy decisions on their chances of re-election depend on circumstances (Shi and Svensson, 2006). In particular, recent literature suggests that social capital plays an important role in improving the quality of public policies through active participation, information gathering, and monitoring, strengthens the accountability of elected officials, and possibly weakens the incentives of election-driven budget manipulation (Boix and Posner, 1998; Knack, 2002; Atkinson and Fowler, 2014; Repetto, 2018).

This paper aims at studying, within a unitary framework, the consequences of the arrangement of the fundamental institutions of representative democracy (local elections) as well as of the calendar of social-capital-boosting recurrent events (annual traditional religious celebrations) on incumbents' scheduling of key municipal fiscal decisions. In order to assess the impact of those potential shocks on the political cost of raising taxes, this paper uses a rich panel dataset of over 8,000 Italian municipalities during the years 2007-2015 containing detailed information on the timing of fundamental fiscal policy decisions by incumbent mayors.

We first exploit the fact that Italian municipalities do not all vote in the same years due to a structure of staggered elections. This allows us to use yearly panel data to separately identify the effects of common trends in budget-making behavior and of the timing of elections on the trajectory of a number of locally controlled fiscal aggregates. Second, since we know the exact day of the year when municipalities make their annual decisions on the local income tax rate – one of their main sources of revenues – we are able to verify if the timing of that crucial decision is affected by the exogenously set date of the election. Third, we study the role of social

capital in fiscal policy-making by exploiting the annual recurrence of traditional religious events (Patron Saint days). In particular, we investigate whether the timing of those celebrations, that can be interpreted as temporary boosts to the citizenry's perception of the common values of the polity, has an influence on the timing of municipal fiscal decisions. Finally, we investigate whether the quasi-random concurrence of elections and Patron Saint day celebrations affects the process of selection of mayoral candidates. More specifically, the final contribution of the paper is to test the hypothesis that the increased sense of community that is observed in the proximity of local traditional celebrations spills over onto concomitant mayoral elections, lowering the ideological content of mayoral races and inducing the electorate to switch from private value to common value voting based on candidates' valence. In the presence of higher sense of common values, voters would be more likely to cross ideological party lines and converge towards the candidates with higher indicators of competence.

Our results can be briefly summarized as follows. First, we provide evidence of a political budget cycle characterized by pre-electoral fiscal expansion. Using a large panel dataset of yearly budget variables, we find that the indicators of fiscal effort fall before the elections and increase after them, while municipal budgets deteriorate before the elections to improve thereafter. Second, when using the precise dates of annual income surcharge rate-setting decisions, we find that the probability that the local council schedules a change in the tax rate is significantly higher during post-electoral months. As regards the effect of Patron Saints' days, it turns out that local income tax-setting decisions are more likely to be scheduled far from celebration periods. This is compatible with the idea that those events provide temporary but sizeable shocks to the interaction, connectedness, participation, and trust within a community, inducing incumbents to prudentially schedule potentially disruptive fiscal decisions to less sensitive times. Finally, when local elections happen to occur concomitantly with a locality's traditional religious celebrations, the elected mayors of those localities tend to be characterized by milder ideological affiliation and higher indicators of valence. This result reinforces the hypothesis of a positive albeit temporary impact on the cohesion and common-value thinking of a community of the concurrence of sacred (Patron Saint day) and profane (election day) events.

The rest of the paper is organized as follows. Section **2** presents a literature review and discusses the possible mechanisms at work. Section **3** illustrates the institutional background of municipal government in Italy. Sections **4** studies the impact of the calendars of mayoral elections and of Patron Saint day's celebrations on the timing of local fiscal

decisions, while Section **5** examines their combined influence on the selection of mayors, and Section **6** concludes.

2. Existing empirical evidence on political budget cycleas

Most of the early empirical research on political budget cycles has made use of national or state/regional level data. Evidence of political budget cycles in the aggregate balance has been found in OECD economies (Alesina et al. 1997), in larger samples including both developed and developing countries (Persson and Tabellini, 2002; Shi and Svensson, 2006), as well as in new democracies (Brender and Drazen, 2008). Khemani (2004) provides evidence that Indian states spend more on public investment before elections while they cut current spending, leaving the overall balance unchanged. Using monthly regional fiscal instruments and regional governor elections in Russia, Akhmedov and Zhuravskaya (2004) find evidence of a significant budget cycle in public spending and its composition, and of the cycle decreasing with the level of democracy, transparency and media freedom. Kneebone and McKenzie (2001) use data on elections in Canadian provinces, and find that spending in highly visible areas (schools, roads and hockey rinks) tends to increase in election years. Galli and Rossi (2002) provide support of political cycles in health care, education and road construction spending in election years using German state data.

Due to the long-standing difficulties in accessing reliable budgetary data at the sub-national level, the empirical literature on the existence of political budget cycle at the municipal level is not very extensive, though it has been growing in the most recent years. Early work by Veiga and Veiga (2007) offered consistent evidence of a local political budget cycles in Portuguese municipalities. Foucault et al. (2008) show evidence of opportunistic behavior of local French municipalities, which increase all categories of public spending before the elections take place. Drazen and Eslava (2010) found evidence of a change in the composition of expenditures towards the most visible to voters before the election using data on Colombian municipalities. Dahlberg and Mork (2011) analyze municipalities in Sweden and Finland and find election year effects in local public employment, in the sense that municipalities hire more full time employees in election years. Sakurai and Menezes-Filho (2011) use Brazilian municipal data to show evidence of an increase in total and current expenditures and a decrease in Brazilian municipal investments, local tax revenues, and budget surplus in election years. More recently, Foremny and Riedel (2014) use data on German municipalities and examine whether the timing of election affects tax policy choices, finding evidence of a political cycle in terms of a cut of the local business tax rate prior to elections. Interestingly, Aidt and Mooney (2014) provide evidence

that political budget cycles did not start in modern times using data on different suffrage regimes in London metropolitan boroughs before the Second World War. They find tax cuts and savings on administration costs in election years under a taxpayer suffrage regime, and an increase in capital spending under a universal suffrage regime. Finally, as far as Italian municipalities are concerned, Alesina and Paradiso (2017) show that incumbent mayors set lower real estate tax rates when close to elections, and Repetto (2018) reports evidence that the introduction of an obligation to disseminate financial information by Italian municipalities had the effect of smoothing the electoral cycles in municipal investment spending.

3. Institutional background

The municipal level of government in Italy includes over 8,000 authorities. The average population size is of around 7,000 inhabitants, and the number of cities above 100,000 inhabitants is only around 40, just two of them exceeding one million residents, with more than half localities having less than 3,000 residents. Elections for municipal governments (local council and mayor) take place every five years, with direct election of the mayor in a single or dual ballot depending on resident population size. Localities with more than 15,000 inhabitants have a runoff stage among the two most voted candidates if none gets more than 50% of the votes in the first stage. Voters can express a vote for a mayor candidate as well as for a councilor candidate. Two thirds of the council seats are assigned to the councilor candidates that are typically grouped in a list supporting the mayor that is elected. Voting is formally mandatory for all aged above 18, though no sanctions exist for abstainers. The electoral schedule across the country is staggered, meaning that several elections occurred in each of the years that we consider here, as shown in Table 1.

[Table 1 around here]

Municipal governments are in charge of a number of services including urban public transport, road maintenance and cleaning, waste collection and management, water and sewer services, environmental monitoring and protection, planning and zoning. Their own revenues are mainly constituted by a local property tax and a surcharge on the national personal income tax. The local property tax was introduced in 1993 (*Imposta Comunale sugli Immobili*). At the time of its introduction, municipal governments could set a flat tax rate (between 0.4% and 0.7%) on the cadastral values of all properties situated within the municipal boundaries (domestic, commercial, industrial). The local government had the chance of granting partial tax base exemptions and rate reductions for

properties devoted to particular uses (main residence or religious destinations).

The municipal income surcharge was subsequently introduced nationwide in 1999 as a further step in the direction of granting local governments a wider degree of own fiscal autonomy and to reinforce the process of fiscal decentralization that started in 1993 with the introduction of the local property tax. The municipal income surcharge has since represented an important source of revenue for municipal governments, amounting to around 20-25% of total own tax revenues. Since the tax base is computed according to a comprehensive net ability to pay principle that includes income from all types of labor (employees, pensioners, self-employed, and non-incorporated business alike) and capital (real and financial assets), the tax is due by the vast majority of residents and is therefore highly visible and salient.

At the time of its introduction, the municipal income surcharge was restricted to be a flat rate on an identical tax base as the national personal income tax, with no low-income exemptions. The tax rate had to be set with a maximum of 0.5%, with year-to-year changes not exceeding 0.2%. Starting from 2006, the upper tax limit was lifted to 0.8% to allow local governments extra sources of autonomous revenue raising capacity during a period of state retrenchment and falling grants. Finally, in 2011 the national government made the local income surcharge more flexible by allowing municipalities to establish progressive local income surcharge schedules with rising income tax rates in accordance with nationally set income brackets. An increasing fraction of municipalities exploited this larger autonomy and moved from a proportional to a progressive local surcharge schedule over time, from around 14% in 2011 to 35% of them in 2015.

We collected data on municipal elections held from 2007 to 2015 from the Italian Ministry of Interior that manages and keeps detailed records of all municipal elections in general law Italian regions, or around 90% of all local elections. Data on budget indicators of municipalities are from the national statistical office (ISTAT). Municipal local income surcharge data as well as the dates when municipalities deliberate the surcharge are available from the Department of Finance of the Italian Ministry of Economy and Finance (http://www1.finanze.gov.it). Finally, to complete the dataset, we have collected information on the municipality Patron Saints Days from the Italian Municipality database (https://www.databasecomuni.it/).

4. Empirical analysis

4.1 Budget cycles

First, we explore whether the exogenously fixed calendar of mayoral elections occurring every fifth year according to a staggered electoral schedule across the about 8,000 Italian municipalities has an influence on the trajectory of annual municipal budget data during the years 2007 to 2015. We analyze a number of municipal budget variables (see Table 2 for descriptive statistics) that might be manoeuvred strategically by incumbents:

1) *Degree of financial autonomy*, defined as the ratio of revenues from taxes, fees and charges over total revenues;
2) *Degree of taxation autonomy*, defined as the ratio of tax revenues over total revenues;
3) *Budget surplus* as a percentage of total revenues;
4) *Local income surcharge rate.*

[Table 2 around here]

To recover the effects of the timing of mayoral elections on the trajectory of these municipal budget indicators, we estimate by OLS the following panel data equation after taking deviations from municipal means:

$$Y_{i,t} = \gamma_i + \delta_t + \sum_d \beta_d E_{i,t+d} + \varepsilon_{i,t} \tag{1}$$

where $Y_{i,t}$ is the budget indicator in municipality i and time t, γ_i is a time-invariant municipality-specific effect reflecting the social and economic environment (e.g., the quality of institutions) in which elections take place and is removed by de-meaning, δ_t is a year effect that is common to all localities, and $\varepsilon_{i,t}$ is an i.i.d. error term. $E_{i,t+d}$ is a dummy variable that equals 1 if an election is scheduled in municipality i at time $t+d$, with $d = \{-2, -1, +1, +2\}$. The vector of coefficients of interest from equation (1) is β_d measuring the impact of the distance in years of a given year t from the year of the election (from two years before the election to two years after the election) on the budget variable Y.

Table 3 reports the estimated β_d coefficients from equation (1) for the four budget indicators discussed above. The same coefficients are drawn in Graphs 1 to 4 along with their 95% confidence intervals. First, Table 3 shows that the β_d coefficients are almost always estimated to be significantly different from zero, pointing to an impact of the timing of

elections on budgetary indicators on top of the common macroeconomic effects that the empirical model controls for through the year dummies δ_t.

[Table 3 around here]

In addition, the graphs are generally compatible with the hypothesis of opportunistic incumbents' behavior leading to an election-driven budget cycle.

[Figures 1-4 around here]

The indices of revenue-raising effort of municipal governments such as financial autonomy (Figure 1) and taxation autonomy (Figure 2) fall before the elections and rise after the elections, peaking around the second year after the elections and declining thereafter. The budget surplus (Figure 3) improves after the elections and in the subsequent three periods, and deteriorates when the next election approaches. Finally, the average local surcharge on the income tax (Figure 4) tends to slow down in the year before the election and to increase again after the election.

4.2 The timing of local income surcharge rate decisions
While the evidence emerging from the previous section is suggestive of the existence of an election-driven budget cycle, the fact that municipal elections are usually held in late Spring or early Summer coupled with the use of annual budgetary data might mask the most interesting phenomena of opportunistic policy manipulation that take place *within* an election year.

Ideally, one would like to observe how incumbent governments behave during the months, weeks, or maybe even the days immediately preceding and following an election. This is not possible in general due to the fact that budgets are made for the entire financial year that coincides with a calendar year. However, we are able to investigate this issue further because we know the exact day of the year when each local government calls a council meeting to make its annual decision about the local income tax. Every year, each government has to decide whether to make no changes with respect to the previous year's tax rate, whether to introduce a positive income surcharge rate if they have never done so in the past, or whether to make changes to the existing rate. During the period we observe, most of the instances of changes to the local tax rates were tax increases in response to state retrenchment and reductions in grants as well as to raising spending needs. In principle, each municipality can make its decision on the tax rate any time of the year. The fact that the decision about the local tax rate must be made every single year while

elections take place only once every five years makes it possible to identify the impact of the timing of the elections (that is a decision of the Ministry of the Interior) by using municipalities in non-election years as controls.

Consider first the distribution over the 365 days of a calendar year of the occurrences of the municipal decisions on the income tax rate for all those authorities that faced an election during that year. Figure 5 reports the distribution of the timing of the municipal council meeting making a decision on the income tax rate with respect to the distance (in days) from the day when the mayoral election within the same year took place. Positive figures on the horizontal axis correspond to tax rate decisions made *after* the election day, negative figures correspond to fiscal decisions made *before* the day of the election, and zero corresponds to the instances where the decision on the local income tax was made the very *same* day of the mayoral election.

[Figure 5 around here]

First, Figure 5 clearly shows that tax rate decisions tend to be clustered after the date of the election (to the right of zero). Tax rate decisions are virtually absent in the couple of weeks immediately following the electoral week due to a physiological technical lag between the election and the official settlement of the new mayor and council. The peak of fiscal decisions tends to occur during the subsequent weeks. Finally, there are few sparse tax rate change decisions during the weeks leading to the vote, but most authorities appear in general to procrastinate to the months following the election, with a second peak of fiscal decisions occurring around three to four months after the elections.

To exclude that the pattern emerging from Figure 5 is due to the combination of the facts that most authorities vote in late Spring/early Summer and of a physiological behavior of municipalities due to 'seasonal' reasons (holidays in mid-summer, state-set end-of-the-year deadlines, etcetera), Figure 6 shows instead the distribution of the timing of tax rate change decisions during the 365 days of the calendar year for municipalities not having election in that year (left figure) and for those having an election (right figure).

[Figure 6 around here]

While Figure 6 points to some seasonality that is common to all authorities (virtually no fiscal decisions being made in January, February, August and October in either of the graphs), the difference between the patterns of behavior of authorities having or not having elections is impressive. In most cases, the latter make their fiscal decisions in the first

half of the year, with peaks in late March and June, before the summer break. On the other hand, most authorities facing elections in that year – with elections typically occurring in late Spring/early Summer – postpone the fiscal decision to 'safer' times, towards late July or even Fall (mostly towards the end of September).

We can use the above information to estimate whether the probability of scheduling a municipal fiscal decision at a certain time of the year is affected by the exogenously determined date of the mayoral election. We estimate the following equation, where for tractability we take the time-unit of observation to be the week of the year when the fiscal decision in a given municipality is made:[1]

$$D_{i,w,t} = \gamma_i + \tau_w + \delta_t + \theta Z_{i,w,t} + \varepsilon_{i,t}$$

(2)

where $D_{i,w,t}$ is a binary variable taking the value 1 in week $w = 1,...,52$ if the municipal council of locality i makes its decision about the local income surcharge rate in that week of year t, and 0 otherwise. As before, γ_i is a time-invariant municipality-specific effect, while τ_w and δ_t are week and year effects, and Z is a 'before-the-election' dummy. In particular, to test if the proximity of an election makes the fiscal decision more or less likely, we start by letting Z equal 1 in all calendar weeks that precede the day elections are held in a municipality, and subsequently experiment with shorter time spans (12, 8, and 4 weeks preceding the election week). Clearly, the binary indicator Z takes on value zero in all the weeks of the years where no election is scheduled.

The estimation results of equation (2) are reported in Table 4. The left panel of the table considers all municipal decisions alike, while the right panel restricts the analysis to the instances where the municipal council actually made a decision to change the income tax rate. The estimation results in Table 4 are from Probit and Logit models in Columns A-E and B-F respectively, while the estimation results of a linear probability model (LPM) are reported in Columns C and G. Finally, Columns D and H report estimates of the LPM after taking deviations from municipality means.

[Table 4 around here]

In all instances, the empirical evidence suggests that the timing of the elections plays a significant role in the scheduling of the tax rate-

---

[1] Using daily data would imply managing a sparse dataset with over 25 million observations.

setting decision by incumbent mayors. Both tax rate decisions in general and tax rate changes in particular are significantly more likely to be made after than before the elections, with the effect being stronger and more precisely estimated in the latter case. The results are robust to the choice of the width of the before-the-election window, though the estimated coefficient appears to be increasing in absolute value with respect to the length of the before-election period that is considered. In terms of magnitude, the results suggest that the probability of making a decision (or a change) about the local income tax rate during the weeks preceding the election is lower by 0.1-0.2 (0.7-0.8) percentage points relative to far-from-election weeks.

4.3. Patron Saint days

We turn now to testing the role of social capital in the timing of fiscal policy-making. In particular, we aim at ascertaining if the decisions about the local income tax rate are more or less likely to be slated in the proximity of events – like traditional celebrations of Patron Saints – that can be believed to increase the degree of social participation, cohesion and connectedness of the polity. In fact, given that these widespread annual celebrations bring members of a community together by praying, singing, dancing, cooking, and possibly discussing communal issues, they might have the effect of reinforcing peoples' sense of community.

In terms of the impact of the timing of these celebrations on local fiscal policy-making, one could expect, on the one hand, that any tax hike that is decided by the incumbent government under those circumstances will tend to have an amplified echo and could possibly generate a stronger than usual opposition. As a result, incumbents would program potentially disruptive local tax decisions to a different time of the year. On the other hand, it could be argued that citizens may have less time to monitor what local governments are actually doing because they are too involved in the preparation of the celebrations. In other words, there might be a '*panem et circenses*' effect, with incumbents possibly trying to take advantage of the electorate's distraction to enact the potentially most unpopular fiscal determinations around those times (Atkinson and Fowler, 2014).

In order to explore this issue in further depth, we exploit the fact that Roman Catholic churches are widespread in Italy, and bear long-standing and deeply rooted traditions of veneration of thaumaturgic figures that are believed to protect local communities. Typically, each church, or even parish, has its own Patron Saint day, ususally corresponding to the day of the year the saint died, often several centuries earlier. This implies that the particular time of the year local celebrations take place in a given community is virtually random, thus constituting the

ideal circumstances of a natural experiment generating a temporary shock to a community's social capital.

Figure 7 shows the distribution of Patron saint days across the over 8,000 Italian municipalities. Despite some clustering during the Summer, Patron Saint days are observed throughout the year.

[Figure 7 around here]

Figure 8 reports instead the frequency of municipal decisions on the local income tax rate in terms of the distance of the day the fiscal decision is made by the local council relative to the Patron Saint day. Clearly, 0 on the horizontal axis in Figure 8 corresponds to the circumstance where the decision on the local income tax rate exactly coincides with the day of the Patron saint day in that locality, while positive (negative) figures correspond to fiscal decisions made after (before) the Patron Saint day.

[Figure 8 around here]

No clear-cut pattern emerges from Figure 8, with tax rate changes being observed in large numbers both during the months preceding and following the Patron Saint day. To shed more light on this issue, we estimate equation (3) below to find out if the probability of having a fiscal decision in a given week of the year is affected by the distance of that week from the Patron Saint celebration's week:[2]

$$D_{i,w,t} = \gamma_i + \tau_w + \delta_t + \lambda S_{i,w,t} + \varepsilon_{i,t}$$

(3)

where $D_{i,w,t}$ is a binary variable taking the value 1 if the municipal council i makes its decision on the local income surcharge rate in week w=1,…,52 of year t. As before, γ_i is a time-invariant municipality-specific effect, while τ_w and δ_t are week and year effects, and S is a 'before-the-Patron-Saint-day' dummy. In particular, we start by letting S equal 1 in all calendar weeks that precede the day the Patron Saint celebrations are held in a municipality (from the first week of January to the week just preceding the Patron saint day's week), and subsequently experiment with shorter time spans (12, 8, and 4 weeks preceding the Patron Saint day celebrations).

The estimation results of equation (3) are reported in Table 5. As in Table 4, the left panel considers the timing of all municipal fiscal

---

[2] Again, for tractability, the time-unit of analysis is the week of the year the Patron Saint day in a given locality happens to fall into.

decisions, irrespective of whether the council decided to change the tax rate or not, while the right panel focuses on the less frequent instances where the municipal council actually decided to change the income tax rate. Columns A-E and B-F report the estimation results of Probit and Logit models respectively, while Columns C-G and D-H show the estimation results of LPM with random or fixed effects.

The empirical evidence suggests that the decisions on the local income tax rate are more likely to be scheduled after the local Patron Saint celebrations, thus running against the hypothesis that politicians might try to take advantage of the distraction caused by the community celebrations. The result holds in particular as far as tax rate changes are concerned, irrespectively of the time window that is considered, though the coefficient increases as the time window narrows.

[Table 5 around here]

For robustness, Tables 6 and 7 show the results when allowing the probability of having a fiscal decision in a certain week of the year to be affected both by the distance from the election and from the Patron Saint day.

[Tables 6 and 7 around here]

Tables 6 and 7 report estimation results of an equation that has a binary indicator equaling 1 in week w of the year if a fiscal decision is made exactly in that week as dependent variable, and dummy variables indicating the distance from both election days and Patron Saint days. Tables 6 and 7 confirm the results obtained above, namely that tax rate changes are less likely to be observed either in the proximity of an elections or in concomitance with local traditional celebrations. In general, the effect of the timing of mayoral elections is estimated to be larger and more ubiquitous than the effect of the timing of the Patron Saint celebrations, that appears to be limited to tax rate changes taking place in the immediate vicinity of the feast.

5. Timing of elections, social capital and the selection of candidates

The last part of the analysis turns to the investigation of whether the interaction of the calendars of mayoral elections and of Patron Saint day celebrations – calendars over which local authorities have no control – has an influence on the selection of mayors. Indeed, it can happen by pure chance that the date set for municipal elections by the Ministry of the Interior in a given year overlaps with the spell of religious celebrations for the local Saint in a number of municipalities. Patron Saint celebrations

might increase the sense of community for several days or even weeks before and after the Patron Saint day.[3] Neighborhood committees are involved in the organization, and public gatherings can be the occasion of discussing political and municipal administration issues. If traditional celebrations raise the popular sense of community, cohesion and responsibility for the public good, one could expect that holding mayoral elections in proximity of the Patron Saint day celebrations might lead to the selection of mayors that are significantly different from those that would be elected if the elections had been held at other times.

In fact, religious celebrations might influence the selection process of mayors by affecting both how people vote and whether they turn out to vote. Deeper sense of community may lead to higher voter turnout if the utility that citizens receive from performing their civic duties, especially if in accordance with a social norm, is taken into account when making the decision to participate. Social pressure might play an important role as a voter mobiliser being an incentive to political participation (Gerber et al. 2008; Nickerson, 2008). Social capital may reduce information costs about politics (Fiorina, 1990) as well as make people more careful about benefit to others (Fowler, 2006) increasing the likelihood to vote. On the other hand, a negative effect of social capital on turnout could be due to the fact that voters derive satisfaction from the act of voting (Riker and Ordeshook, 1968), and a stronger sense of identity provides an alternative way of personal satisfaction to citizens. Community activities also tend to be highly time consuming (Rupasingha et al. 2006). As a consequence, rational individuals will have less time to form an opinion about the elections and to visit the polling places, thus reducing political participation (Atkinson and Fowler, 2014).

In order to clarify the mechanism by which the timing of sacred events can transmit to the process of political selection, we briefly sketch here a theoretical model of expressive voting that relies on Lo Prete and Revelli (2017), and easily lends itself to the analysis of the impact of a temporary boost to social capital on the democratic process. The model has two candidates (labelled by l and r) running for mayoral office in city n ($n = 1, ..., N$) in a '*winner-takes-all*' race, where the winner sets the ideological policy π^x, with $x \epsilon \{l, r\}$. Voting is driven by the position issue motive π^x – with x-type voters liking the policy of candidate x – and by a common value motive given by the valence of candidates in terms of imperfectly observed competence or probity. In particular, each voter j has a set of beliefs $\{\iota_j, \kappa_j\}$, with $\iota_j \epsilon \{l, r\}$ being the ideological attachment to

---

[3] Religious activities sometimes go along with folkloric representations and art and music performances for weeks, and often require a long preparation. Those events can involve carrying a statue of the saint in procession, historical reenactments, dancing, flag waving, singing and concluding with firework display.

either of the candidates' policies, and $\kappa_j \in \{l, r\}$ being voter j's belief about candidates' valence. Assume that voter j receives a signal κ_j before the election about the valence of candidates, and that the signal may or may not match a voter's ideology ι_j. If the expressive benefit of voting by ideology is larger than the expressive benefit of voting by valence, a voter votes according to ι_j. If the expressive benefit of voting by valence is larger than the expressive benefit of voting by ideology, he votes according to κ_j, thus accepting to 'cross party lines' and vote for the candidate that the signal suggests to be the most valent.

Based on the comparison between the benefits and the costs of voting, the net benefit of turning out to vote (e_j) is:

$$e_j = \begin{cases} [i_j + v_j] - c_j & if \quad \iota_j = \kappa_j \\ \max\{i_j, v_j\} - c_j & if \quad \iota_j \neq \kappa_j \end{cases} \tag{4}$$

where i is the expressive benefit of voting by ideology, v is the expressive benefit of voting for the candidate that is believed to be valent, and c is the cost of voting. A voter turns out to vote ($t_j = 1$) if the net benefit is positive:

$$t_j = 1(e_j > 0) \tag{5}$$

Clearly, voters are more likely to turn out if the valence signals match their ideological views ($\iota_j = \kappa_j$). Let us assume that $v_j = V$, with V a positive parameter, and that i is independently and uniformly distributed on $[0, I]$, with $I > V$, and cumulative distribution function $\Phi = \frac{i}{I}$.

Figure 9 offers a graphical representation of the forces determining how people vote, and whether they turn out to vote. Voters are first ordered according to the relevance of the private value issue i to them, with Φ on the horizontal axis indexing voters' cumulative distribution function. The fraction of voters $\Phi = \frac{V}{I}$ in Figure 9 has $i_j < V$ and votes according to the valence signal they receive, while the fraction $1 - \frac{V}{I}$ has $i_j > V$, and votes ideologically. As for the turnout decision, voters for whom the valence signal matches their ideological views have total benefits from turning out to vote as given by the solid straight line **m** (i+v) in Figure 9, while voters for whom valence signals clash with ideological views have benefits described by the solid piecewise linear curve **nm** ($\max\{i, v\}$). If the cost of voting is homogeneous across voters at $c_j = c > 0$, all voters for whom the benefits from voting (**m** or **nm**) exceed c will turn out, while the others will abstain.

[Figure 9 around here]

Consider now what are the consequences of holding the elections in circumstances (like Patron Saint day celebrations) that raise the expressive benefit of voting based on the valence of candidate (*V*). First, equations (4) and (5) and Figure 9 suggest that, holding everything else constant, an exogenous increase in *V* raises the rate of turnout. In particular, if the cost of voting *c* exceeds *V*, a marginal increase in *V* raises the turnout rate of voters for whom the valence signal matches their ideological views, leaving the turnout rate of voters for whom the valence signal clashes with their ideology unchanged.[4] Second, Figure 9 makes it clear that an exogenous increase in *V* raises the share of individuals that vote according to the valence of candidates (that is, it shifts the *V/I* threshold to the right), thus raising the chances that a valent candidate is elected. Consequently, both effects work in the direction of tilting the selection mechanism in favor of the most valent candidates.

We estimate the effect of concurrence of election dates and Patron Saint day celebrations on voter turnout and on the characteristics of elected mayors through the following equation:

$$v_{i,t} = \gamma_i + \delta_t + \varphi Z_{i,t} + \varepsilon_{i,t}$$

(6)

where $v_{i,t}$ is either the voter turnout or the valence indicator of the mayor of municipality i elected at time t. γ_i is a time-invariant municipality-specific effect, δ_t is a year effect, and $Z_{i,t}$ is a dummy variable taking value 1 if a locality's Patron Saint celebrations are held within two weeks before or after the date of the mayoral election. By doing so, we assume an increase in social capital at the municipality level in case the celebrations lie within a four week window around the election date (for a similar approach, see Atkinson and Fowler, 2014). Depending on the continuous or binary nature of the dependent variable, we estimate Equation (6) either using a standard linear panel data model or using a Probit regression approach that controls for random effects.

5.1. Social capital and voter turnout

We first explore whether the temporary shock to social capital due to the local celebrations affects voter turnout. To investigate whether political participation is affected by the concurrence of election and Patron Saint days, we use turnout rates at municipal levels as a measure of political

---

[4] Clearly, no effect on turnout should be expected if *V* already exceeds the cost of voting *c*.

participation using data recorded by the Italian Ministry of Interior (http://elezionistorico.interno.it). Voter turnout is defined as the ratio of votes cast to eligible voters, being bounded by definition between 0 and 100%. Table 8 reports the average turnout rate.

[Table 8 around here]

The results summarized in Table 9, Column A, do not show any statistically significant effect of holding the election within a 4 weeks windows from Patron Saint days on the rate of voter turnout.[5] This suggests that, if any, the impact of the concurrence of elections and local religious celebrations on the characteristics of elected mayors cannot be attributed to such concurrence bringing to the polls additional voters that would in ordinary circumstances have abstained. Admittedly, though, lacking information on the characteristics of the people that actually cast their votes in municipal elections, we cannot exclude that the concurrence of elections and local religious celebrations alters the composition of the electorate that actually turns out to vote relative to the circumstances where the two events happen to be far apart.

5.2. Valence
As suggested by the model, conditional on turning out to vote, an increase in social capital exogenously determined by the concurrence of elections and religious events might cause a move from private value (ideological) voting to common value (valence) voting. The temporary boost in voters' perception of the common good that is observed during elections that take place concurrently as local traditional celebrations might convince voters to forego their ideological affiliation and accept to cross party lines to converge towards higher valence candidates.[6]

To proxy valence, we employ a number of characteristics of elected mayors that we can take as proxies of their 'competence' (Italian Ministry of Interior, http://dait.interno.gov.it/).[7] Average scores of elected mayors in the following individual characteristics: 1) age at appointment; 2) gender; 3) education; 4) distinguished professional status (architects, engineers, physicians, accountants, lawyers and academics) are reported in Table 8.

---

[5] Similar results emerge when using alternative time windows.

[6] Indeed, while we know the number of candidates and the rate of voter turnout for all elections, we can only observe a number of personal characteristics for those candidates who manage to become mayors. Therefore, we cannot answer the potentially interesting question of how concomitance of elections and traditional celebrations affects the characteristics of the pool of mayoral candidates.

[7] Episodes of corruption or other criminal records of candidates are not available.

In particular, we first use the available information on mayors' education, under the common assumption that holding a college degree tends to be viewed by voters as a signal of competence. We build a dummy variable (*Education*) taking the value of 1 in case the elected mayor has a bachelor or further degree, and 0 otherwise. Similarly to Galasso and Nannicini (2011), who use years of schooling in order to measure the valence of candidates, the variable *Education* captures the acquisition of formal human capital and skills by the elected candidate.

Furthermore, we use professional experience to build a measure of valence related to occupational status of the mayor. Indeed, professional records can provide useful information being a proxy of the level of knowledge required to perform specific tasks such as leading and managing public activities. Following the existing literature (Bordignon et al. 2013; Revelli, 2016; Lo Prete and Revelli, 2017), we use the profession of the mayor before entering politics as a proxy for her administrative skills. More specifically, we build a dummy variable (*High professional status*) taking the value 1 in case the elected mayor was employed in a distinguished profession (architects, engineers, physicians, accountants, lawyers and academics).[8]

[Table 9 around here]

Table 9, Columns B and C, shows that holding the elections within two weeks before or after the Patron Saint celebrations has a positive and statistically significant effect on the probability that highly educated and distinguished professional status candidates are elected. This result is compatible with the hypothesis that where social capital is higher due to municipality social activities related to traditional celebrations, it is more likely to elect a competent candidate.[9]

Given the difficulty of defining and measuring candidate valence by means of objective direct indicators, Table 9, Column D, shows the results of estimating the effect of holding the election within a 4 weeks windows from Patron Saint days on mayors' win margins. The idea is that a higher win margin can be taken as an indirect piece of evidence of voters'

---

[8] We follow a classification by the Italian National Institute of Statistics (ISTAT) which identifies the level of competence needed to implement strategies at policy and institutional level such as those acquired by those working in the judicial system, universities, management of public and private companies.

[9] We also experimented with other mayor characteristics such as age and gender, none of which though turn out to be significantly affected by the concurrence of the elections and Patron Saint celebration. The results show a higher likelihood of electing a male mayor in those municipalities holding the election within a 4 weeks windows from Patron Saint days, but the result is only marginally significant (see Table 9, Column E and F).

convergence towards valent candidates irrespective of ideological considerations (Revelli, 2016; Lo Prete and Revelli, 2017). The win margin is expressed as the logarithmic transformation of the absolute difference in votes between the top two candidates. The results show that the win margin increases (although the effect is only marginally statistically significant) in those municipalities where elections are held in proximity of Patron Saint celebrations, confirming the convergence of voting towards one of the candidate in favor of the common value voting hypothesis[10].

Overall, both direct (mayors' valence proxies) and indirect (voter convergence) indicators lead to the conclusion that Patron Saints' celebrations provide temporary but large shocks to the connectedness and trust within a community, pointing to a positive impact on the professional dimension of mayors' valence indicators and suggesting a beneficial effect in terms of candidate selection.

6. Conclusions

Based on a rich panel dataset of Italian local elections, this paper has studied the influence of the exogenously fixed calendar of Italian mayoral elections as well as of the timing of local Patron Saint day celebrations on the trajectory of a number of key municipal budget variables, on the timing of local income tax rate setting decisions and on the selection process of mayoral candidates. We take advantage of the fact that, due to a structure of staggered election, not all municipalities vote in the same year, in order to separate common shocks to all municipalities from potential effects related to the electoral cycle; moreover, the use of within-country municipal level data makes it possible to keep cultural, institutional and economic aspects constant.

The empirical evidence first points to the presence of political budget cycles, with the revenue raising effort of municipal governments falling before the elections and rising thereafter. Second, when examining the specific timing of local income surcharge rate decisions, we find that the time of elections plays an important role: potentially costly tax rate setting decisions are more likely to be taken after the election. Moreover, we find that those crucial tax rate decisions are more likely to be made far

---

[10] We also explored the possibility that the concurrence of administrative elections and patron Saint day celebrations might affect political competition by broadening the number of candidates running for office. The number of mayoral candidates in municipal elections held in the 2007-2015 time span varies from a minimum of 1 to a maximum of 19 candidates. Races with two-digit candidates are very rare and usually occur only in very large cities. For instance, over the 9 years of the analysis, Rome had a record of 16 mayoral candidates, Milan 9 and Naples 10. The estimation results do not show any significant effect of concomitance of electoral and religious events on the degree of competition for office, though. Results are available on request.

from the period when the Patron Saint Day celebrations are held. Finally, we find evidence that the concurrence of mayoral elections and Patron Saint Day celebrations affects the selection of mayor candidates too. More specifically, the results are compatible with the hypothesis that the increased sense of community, participation and social capital that accompanies traditional Patron Saint celebrations tend to lower the ideological stakes of local elections, leading rational voters to cross ideological party lines and converge towards the candidates that are characterized by higher indicators of valence.

References

Aidt, T.S. and Mooney, G. (2014). Voting suffrage and the political budget cycle: evidence from the London metropolitan boroughs 1902–1937. *Journal of Public Economics,* 112, 53–71.

Akhmedov, A., and Zhuravskaya, E. (2004). Opportunistic political cycles: Test in a young democracy setting. *Quarterly Journal of Economics*, 119, 1301–1338.

Alesina, A. and Paradiso, M. (2017). Political budget cycles: Evidence from Italian cities. *Economics and Politics*, 29, 157–177.

Alesina, A., Cohen, G., and Roubini, N. (1997). Political cycles and the macroeconomy. Cambridge, MA: MIT Press.

Atkinson, M.D. and Fowler, A. (2014). Social capital and voter turnout: Evidence from Saint's day fiestas in Mexico. *British Journal of Political Science*, 44, 41–59.

Boix, C. and Posner, D. N. (1998). Social capital: Explaining its origins and effects on government performance. *British Journal of Political Science*, 28, 686–693.

Bordignon, M., Gamalerio, M, and Turati, G. (2013). Decentralization, vertical fiscal imbalance, and political selection. CESifo, WP. N. 4459.

Brender, A., and Drazen, A. (2008) How do budget deficits and economic growth affect reelection prospects? Evidence from a large panel of countries. *American Economic Review*, 98(5), 2203–2220.

Dahlberg, M. and Mork, E. (2011). Is there an election cycle in public employment? Separating time effects from election year effects. *CESifo Economic Studies,* 57(3), 480–498.

Drazen, A., The political business cycle after 25 years, in: B. Bernanke and K. Rogoff (Eds.) NBER Macroeconomics Annual 2000, MIT Press (2001) pp. 75-138.

Drazen, A., and Eslava, M. (2010) Electoral manipulation via expenditure composition: Theory and evidence. *Journal of Development Economics*, 92, 39–52.

Fiorina, M. (1990). Information and rationality in elections. Information and Democratic Processes (Champaign: University of Illinois Press).

Foremny, D., and Riedel, N. (2014). Business taxes and the electoral cycle. *Journal of Public Economics*, 115, 48–61.

Foucault, M., Madies, T. and Paty, S. (2008). Public spending interactions and local politics: empirical evidence from French municipalities. *Public Choice* 137, 57–80.

Fowler, J. (2006). Altruism and turnout. *Journal of Politics*, 68, 674–83.

Galasso, V. and Nannicini, T. (2011). Competing on good politicians. *American Political Science Review,* 105, 79-99.

Galli, E., Rossi, S.P.S. (2002). Political budget cycles: the case of the Western German Länder. *Public Choice*, 110, 283–303.

Gerber, A., Green, D. and Larimer, C. (2008). Social pressure and voter turnout: evidence from a large-scale field experiment. *American Political Science Review*, 102, 33–48.

Khemani, S. (2004). Political cycles in a developing economy: Effect of elections in the Indian states. *Journal of Development Economics*, 73, 125–154.

Knack, S. (2002). Social capital and the quality of government: Evidence from the States. *American Journal of Political Science*, 46, 772–785.

Kneebone, R., and McKenzie, K. (2001). Electoral and partisan cycles in fiscal policy: An examination of Canadian provinces. *International Tax and Public Finance*, 8, 753–774.

Lindbeck, A. (1976). Stabilization policy in open economies with endogenous politicians. *American Economic Review*, 66, 1–19.

Lo Prete, A. and Revelli, F. (2017). Costly voting, turnout, and candidate valence. *Economics Letters*, 158, 10-13.

Nickerson, D. (2008). Is voting contagious? Evidence from two field experiments. *American Political Science Review*, 102, 49–57.

Nordhaus, W.D. (1975). The political business cycle. *The Review of Economic Studies,* 42, 169–190.

Persson, T., and Tabellini, G. (2002). Political economics: Explaining economic policy. Cambridge, MA: MIT Press.

Repetto, L. (2018) Political budget cycles with informed voters: Evidence from Italy, *Economic Journal,* in press.

Revelli, F. (2016). Tax limits and local elections. *Public Choice*, 166, 53-68.

Riker, W. and Ordeshook, P. (1968). A theory of the calculus of voting. *American Political Science Review*, 68, 25–42.

Rogoff, K. (1990). Equilibrium political budget cycles. *American Economic Review*, 80, 21–36.

Rogoff, K., and Sibert, A. (1988). Elections and macroeconomic policy cycles. *Review of Economic Studies*, 55(1),1–16.

Rupasingha, A., Goetz, S. and Freshwater, D. (2006). The production of social capital in US counties. *Journal of Socio-Economics*, 35, 83–101.

Sakurai, S., Menezes-Filho, N. (2011). Opportunistic and partisan election cycles in Brazil: new evidence at the municipal level. *Public Choice,* 148, 233–247.

Shi, M., and Svensson, J. (2006). Political budget cycles: Do they differ across countries and why? *Journal of Public Economics*, 90, 1367–1389.

Veiga, L. and Veiga, F. (2007). Political business cycles at the municipal level. *Public Choice,* 131, 45–64.

TABLES

Table 1 – Voter turnout rates

Year	Turnout	
	%	Obs
2007	73.57	833
2008	78.88	455
2009	76.94	4020
2010	73.00	631
2011	66.99	1259
2012	62.70	836
2013	67.54	524
2014	71.31	3874
2015	65.52	675

Turnout rate: votes/electorate; includes all municipalities for which information on at least two elections is available. Source: Ministero dell'Interno, Municipal election data.

Table 2 – Descriptive Statistics of municipal budget indicators (Mean Values)

Year	Degree of Financial Autonomy	Degree of Taxation Autonomy	Budget Surplus	Local income surcharge rate[1]
2007	0.390	0.407	0.161	0.405
2008	0.368	0.368	0.150	0.474
2009	0.378	0.371	0.150	0.456
2010	0.382	0.376	0.150	0.425
2011	0.552	0.588	0.152	0.470
2012	0.596	0.620	0.151	0.539
2013	0.557	0.594	0.178	0.572
2014	0.606	0.649	0.251	0.562
2015	0.548	0.642	0.373	0.555

Source: Italian National Institute of Statistics (ISTAT)
[1] Mean of positive rates

Table 3 - Estimated Coefficients on Distance from election Dummies: Municipal Budget Indicators

	Fiscal Autonomy	Taxation autonomy	Budget surplus	Local Income Surcharge Rate Change
2 years before elections	0.005*** (0.001)	0.016*** (0.001)	0.004* (0.002)	0.024*** (0.005)
1 year before elections	-0.001 (0.001)	-0.0005 (0.001)	-0.009*** (0.002)	0.012** (0.006)
1 year after elections	-0.011*** (0.001)	-0.008*** (0.001)	0.005** (0.002)	0.018*** (0.005)
2 years after elections	0.009*** (0.001)	0.018*** (0.001)	0.004* (0.002)	-0.002 (0.005)
Obs	37543	37543	37543	37248

Notes: Annual municipal-level data, 2007-2015. Estimated β_d coefficients from equation (1). Standard errors in parentheses. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 4 - Elections & timing of local income surcharge rate determination

	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	FE (Fixed effects)
	Local Income Surcharge Rate Decision				Local Income Surcharge Rate Change			
	A	B	C	D	E	F	G	H
	Model 1							
Before election	-0.001***	-0.001***	-0.001***	-0.001***	-0.008***	-0.008***	-0.008***	-0.009***
	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.001)	(0.001)	(0.001)	(0.001)
	Model 2							
3 months before election	-0.001***	-0.001***	-0.002***	-0.002***	-0.007***	-0.007***	-0.008***	-0.009***
	(0.0002)	(0.0002)	(0.0004)	(0.0004)	(0.001)	(0.001)	(0.001)	(0.001)
	Model 3							
2 months before election	-0.001***	-0.001***	-0.003***	-0.003***	-0.005***	-0.005***	-0.007***	-0.008***
	(0.0002)	(0.0003)	(0.0005)	(0.0005)	(0.001)	(0.001)	(0.001)	(0.001)
	Model 4							
1 month before election	-0.001***	-0.001***	-0.002***	-0.002***	-0.005***	-0.005***	-0.006***	-0.006***
	(0.0005)	(0.0005)	(0.0006)	(0.0006)	(0.001)	(0.001)	(0.002)	(0.002)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES	YES	YES	YES	YES
Obs	2975076	2975076	2975076	2975076	393796	393796	393796	393796

Notes: **Weekly** municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,...,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before elections: dummy variable=1 in all calendar weeks before the week municipal elections are held. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 5 – Patron saint days & timing of local income surcharge rate determination

	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)
	Local Income Surcharge Rate Decision				Local Income Surcharge Rate Change			
	A	B	C	D	E	F	G	H
				Model 1				
Before patron saint day	-0.0002	-0.0001	-0.0002	-0.0004	-0.0004	-0.0003	-0.0006	-0.001
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0004)	(0.0004)	(0.0006)	(0.0008)
				Model 2				
3 months before patron saint day	-0.0003**	-0.0003**	-0.0004**	-0.0004**	-0.001***	-0.0001***	-0.001***	-0.001***
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0004)	(0.0003)	(0.0005)	(0.0005)
				Model 3				
2 months before patron saint day	-0.0004**	-0.0004**	-0.0005**	-0.00005**	-0.001**	-0.001**	-0.001***	-0.001***
	(0.0002)	(0.0001)	(0.0002)	(0.0002)	(0.0005)	(0.0004)	(0.0006)	(0.0006)
				Model 4				
1 month before patron saint day	-0.0002	-0.0002	-0.0002	-0.0002	-0.002***	-0.001***	-0.002***	-0.002***
	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.0006)	(0.0006)	(0.0008)	(0.0008)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES	YES	YES	YES	YES
Obs	2803788	2803788	2803788	2803788	372840	372840	372840	372840

Notes: **Weekly** municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,...,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before Patron Saint day: dummy variable=1 in all calendar weeks before the Patron Saint Day. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 6 – Elections, Patron saint days & timing of local income surcharge rate determination

	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)
	Local Income Surcharge Rate Decision				Local Income Surcharge Rate Change			
	A	B	C	D	E	F	G	H
	Model 1							
Before election day	-0.001*** (0.0002)	-0.001*** (0.0002)	-0.001*** (0.0003)	-0.001*** (0.0003)	-0.008*** (0.001)	-0.008*** (0.001)	-0.008*** (0.001)	-0.009*** (0.001)
Before patron saint day	-0.0002 (0.0001)	-0.0001 (0.0001)	-0.0002 (0.0002)	-0.0004 (0.0002)	-0.0004 (0.0004)	-0.0003 (0.0004)	-0.0006 (0.0006)	-0.001 (0.0008)
	Model 2							
3 months before election day	-0.001*** (0.0003)	-0.001*** (0.0002)	-0.002*** (0.0004)	-0.002*** (0.0004)	-0.007*** (0.001)	-0.007*** (0.001)	-0.008*** (0.001)	-0.009*** (0.001)
3 months before patron saint day	-0.001** (0.0003)	-0.001** (0.0002)	-0.0004** (0.0002)	-0.0004** (0.0002)	-0.001*** (0.0004)	-0.001*** (0.0003)	-0.001*** (0.0005)	-0.001*** (0.0005)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES	YES	YES	YES	YES
Obs	2975076	2975076	2975076	2975076	393796	393796	393796	393796

Notes: **Weekly** municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,...,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before elections: dummy variable=1 in all calendar weeks before the week municipal elections are held. All observations included. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 7 – Elections, Patron saint days & timing of local income surcharge rate determination

	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)
	Local Income Surcharge Rate Decision				Local Income Surcharge Rate Change			
	A	B	C	D	E	F	G	H
				Model 3				
2 months before election day	-0.002*** (0.0003)	-0.001*** (0.0003)	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.005*** (0.001)	-0.005*** (0.001)	-0.007*** (0.001)	-0.008*** (0.001)
2 months before patron saint day	-0.0004** (0.0002)	-0.0004** (0.0001)	-0.0005** (0.0002)	-0.00005** (0.0002)	-0.001** (0.0005)	-0.001** (0.0004)	-0.001*** (0.0006)	-0.001*** (0.0006)
				Model 4				
1 month before election day	-0.002*** (0.0005)	-0.001*** (0.0005)	-0.002*** (0.0007)	-0.002*** (0.0007)	-0.005*** (0.001)	-0.005*** (0.001)	-0.006*** (0.002)	-0.007*** (0.002)
1 month before patron saint day	-0.0002 (0.0002)	-0.0002 (0.0002)	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.002*** (0.0006)	-0.001*** (0.0006)	-0.002*** (0.0008)	-0.002*** (0.0008)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES	YES	YES	YES	YES
Obs	2975076	2975076	2975076	2975076	393796	393796	393796	393796

Notes: **Weekly** municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,…,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before elections: dummy variable=1 in all calendar weeks before the week municipal elections are held. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 8 – Turnout and mayors' characteristics 2007-2015

Variables	Mean	Std Dev	Min	Max	Obs
Turnout	73.176	9.631	17.694	100	12852
Education (Degree)	0.444	0.496	0	1	12852
High professional status	0.219	0.413	0	1	12852
Win margin	807.579	3074.957	0	148383	12852
Age	51.198	10.342	19	86	12852
Gender (Female)	0.127	0.334	0	1	12852

Source: Anagrafe Amministratori Locali.

Table 9 – Panel data estimation results on time of election, number of candidates, mayors' characteristics and turnout

	Turnout	Education (dF/dx)	High Prof. Status (dF/dx)	Win margin	Age	Gender (dF/dx)
	A	B	C	D	E	F
Patron Saint Day	0.003 (0.003)	0.056** (0.027)	0.040*** (0.014)	0.098* (0.053)	-0.008 (0.392)	-0.016* (0.009)
Candidates	0.008*** (0.0006)					
Win margin	-0.00171*** (0.000412)					
Electorate (th)	-0.000042 (0.000053)	0.000865* (0.000216)	0.000108 (0.000124)	0.00935*** (0.000425)	0.00282 (0.00295)	- 0.000339** (0.000188)
Age 25-24 (%)	0.139** (0.062)	-0.006 (0.527)	0.628** (0.291)	-5.408*** (0.987)	-7.737 (7.264)	0.213 (0.194)
Age 35-44 (%)	0.259*** (0.057)	-2.990*** (0.436)	-1.858*** (0.240)	-2.290*** (0.824)	5.841 (5.974)	1.174*** (0.181)
Age 45-54 (%)	-0.068 (0.058)	-3.187*** (0.469)	-1.342*** (0.259)	-11.128*** (0.870)	19.699*** (6.400)	0.474*** (0.181)
Age 55-64 (%)	-0.015 (0.050)	-2.727*** (0.386)	-1.424*** (0.217)	-9.512*** (0.728)	19.324*** (5.330)	0.430*** (0.148)
Age > 65 (%)	-0.212*** (0.032)	-1.666*** (0.222)	-0.630*** (0.117)	-6.739*** (0.422)	7.660** (3.049)	0.226*** (0.087)
Year & Municipality effects	Yes	Yes	Yes	Yes	Yes	Yes
Obs	11701	11706	11083	11689	11706	11706

Notes: Annual municipal-level data, 2007-2015. Standard errors in parentheses. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

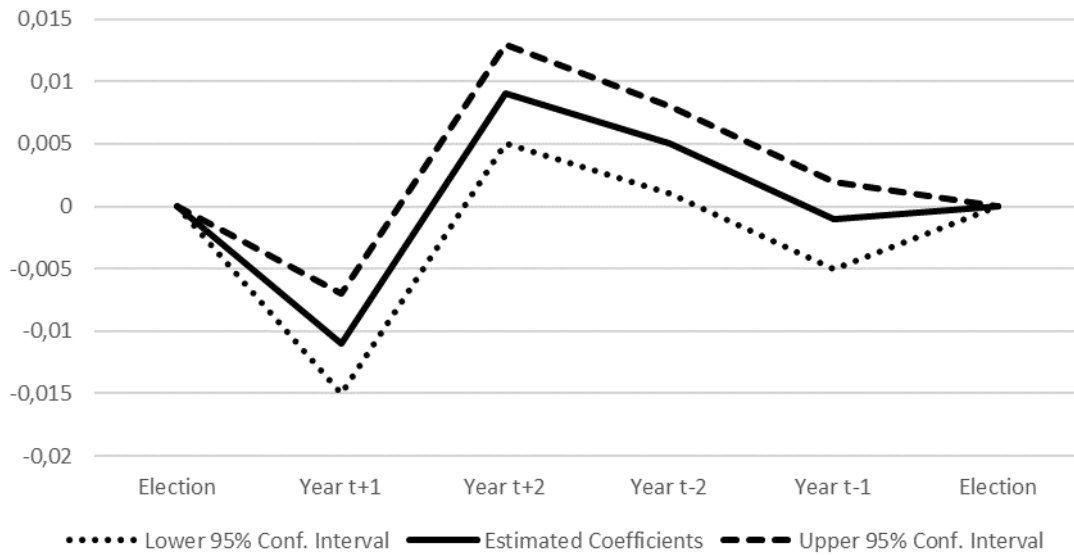Figure 1 – Degree of Financial Autonomy (Estimated β_d coefficients from equation 1)

Figure 2 – Degree of Taxation Autonomy (Estimated β_d coefficients from equation 1)
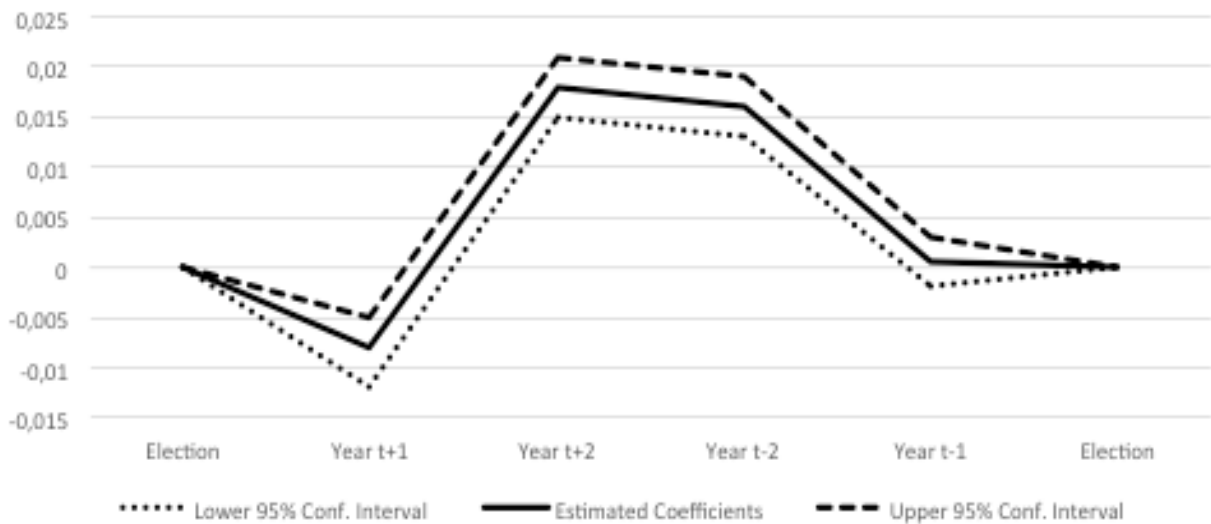
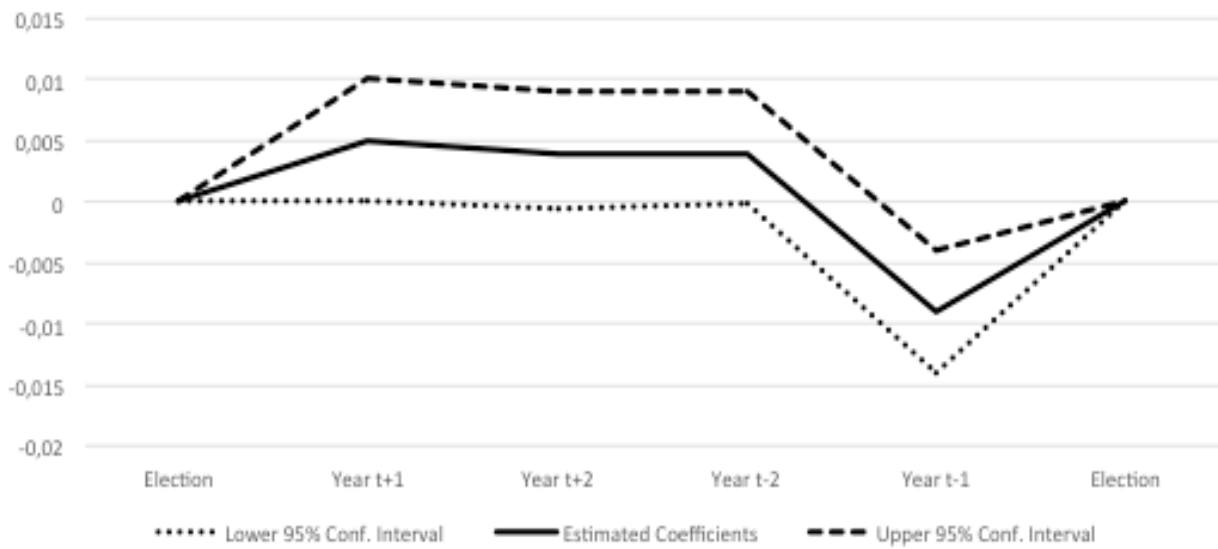Figure 3 – Budget Surplus (Estimated β_d coefficients from equation 1)

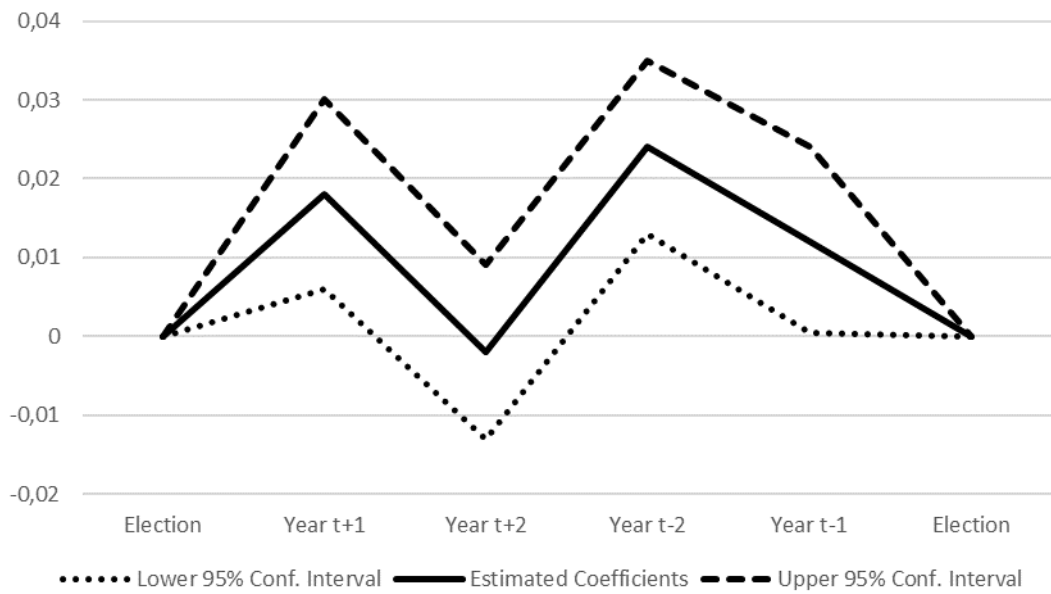Figure 4 – Local Income Surcharge Rate (Estimated β_d coefficients from equation 1)

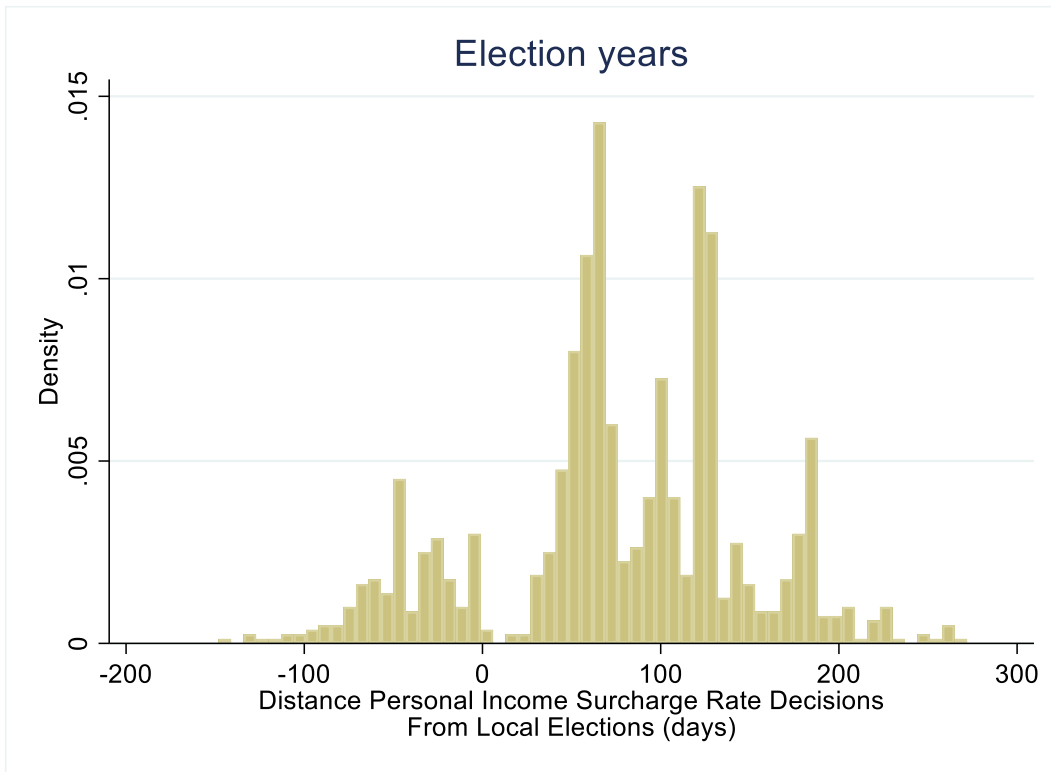Figure 5 – Distribution of Local Income Surcharge Rate Changes Decisions with Respect to the Dates of the Elections

Figure 6 – Distribution of Local Income Surcharge Rate Decisions and Local Elections – Surcharge rate Changes
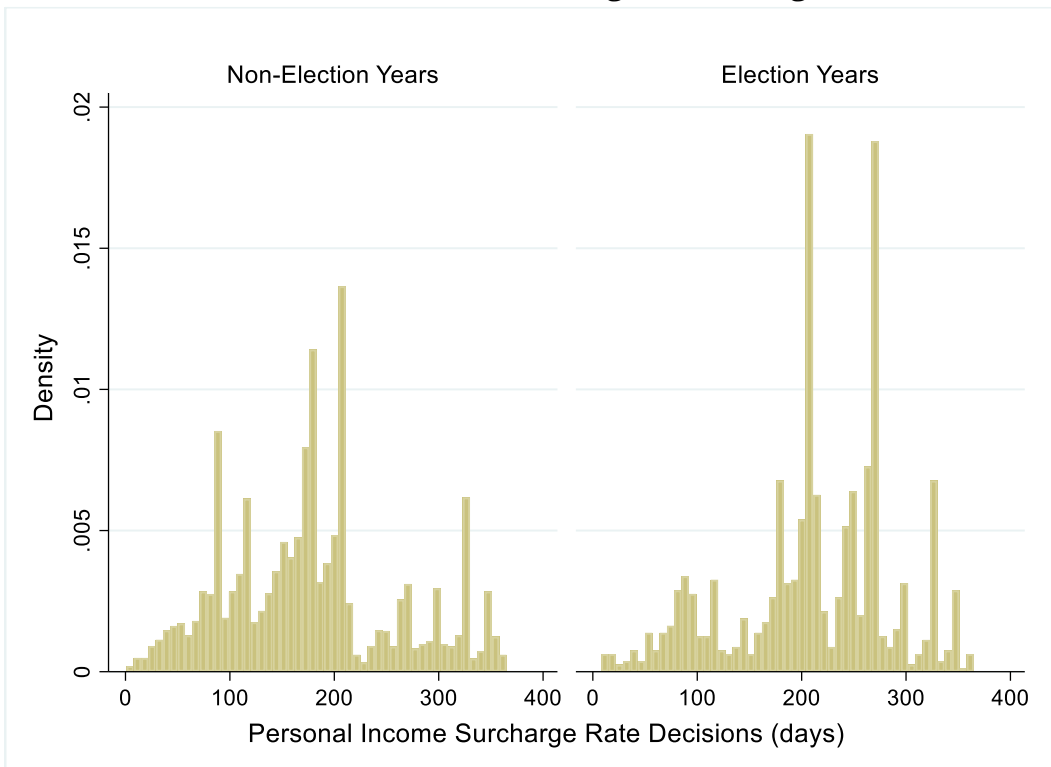
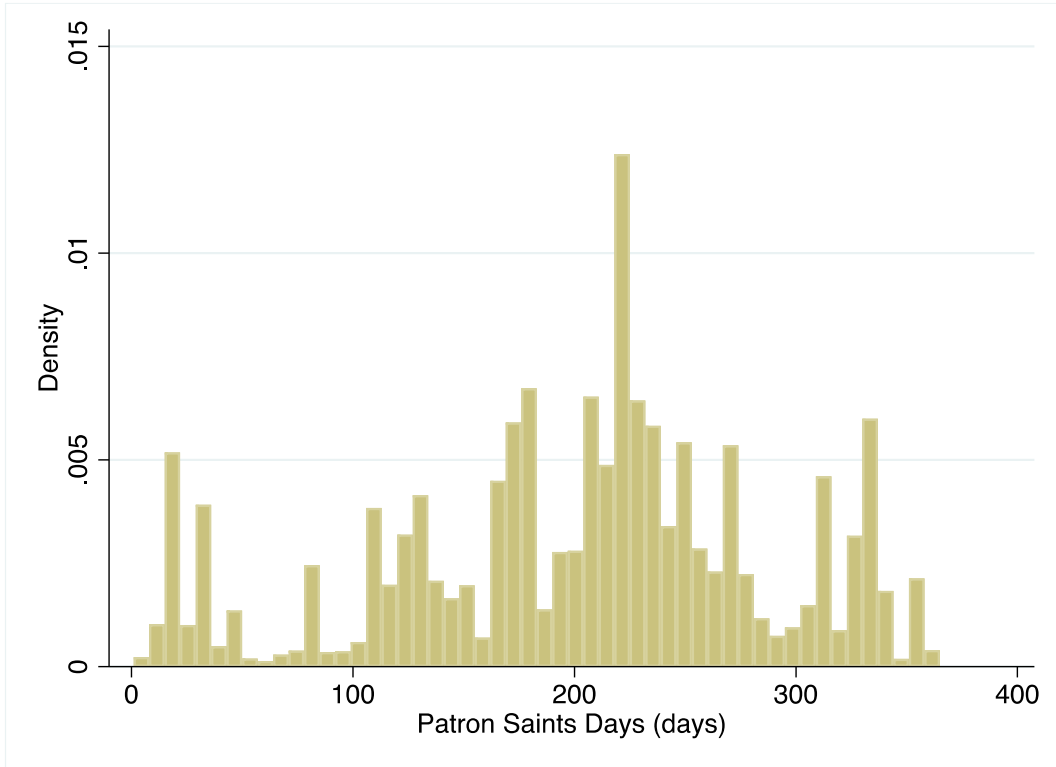Figure 7 – Distribution of Patron Saints Days

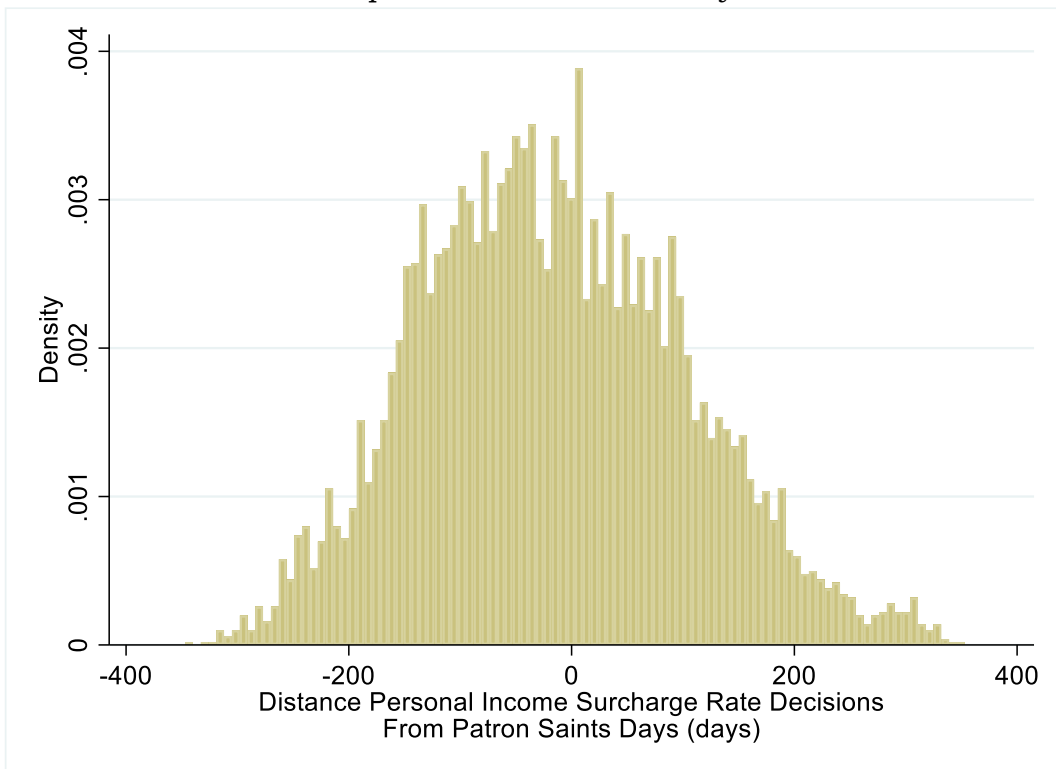Figure 8 – Distribution of Local Surcharge Income Rate Change Decisions with Respect to Patron Saints Days

Figure 9 – Ideology and valence in voting