Local Government Fiscal Policy, Social Capital and Electoral Payoff: Evidence across Italian Municipalities*

This Version: April 2019
Manuscript prepared for publication at "Kyklos"

Alberto Batinti† Luca Andriani‡ Andrea Filippetti§

Abstract

Citizens' attitudes and reactions to policymakers' decisions depend on several factors, including informal institutions. The novelty of this paper is to use social capital as a moderator factor to shed light on the relationship between fiscal policies and electoral outcomes. We investigate this relationship using a sample of 6,000 Italian municipalities over the period 2003-2012 and use a Conditional Logit Matching model comparing incumbents to challengers' characteristics within each election. We find that social capital increases the odds of the re-election of incumbent mayors who adopted a local fiscal policy more oriented towards capital investment (versus current expenditure) and towards property tax (versus income surcharge). This suggests that social capital encourages governmental functions and public policies improving long-term economic commitments, institutional transparency, and accountability. It also shows that decentralization works relatively better with social capital.

JEL: H7, H71, H72, Z13

KEYWORDS: Social Capital, Municipal Elections, Local Government Fiscal Policies

---

* Previous working paper versions of this article appeared under the title '*Budgetary Decisions, Social Capital and Mayor Re-elections: Evidence across Italian Municipalities*' and '*Social Capital and Government Performance. The Role of Local Re-elections across Italian Municipalities*'. For their very useful comments and suggestions, we thank: the Editor of this Journal and two anonymous referees; Keith Dowding, Justin Ross, and Andrew B. Whitford; participants at the EPSA 2015 in Vienna; at the SIEP Conference 2016 in Lecce; at the Social Capital Panel of the 2016 IIPPE Annual Conference: Political Economy, International Trends and National Differences (Lisbon, Portugal, September 7-9); at the 2017 Quality Of Government Institute Workshop: Public Management and Institutional Quality (Gothenburg, Sweden, June 6-8. We are also indebted with *OpenPolis,* with Annamaria Nifo and Gaetano Vecchione for allowing us access to the data on municipalities budget and social capital respectively.

† Corresponding author. International Business School in Suzhou - Xi'an Jiaotong Liverpool University. Contact information: albertobatinti@yahoo.com.

‡ School of Economics Business and Informatics, Birkbeck University of London. Contact information: luca.andriani@bbk.ac.uk.

§ Institute for the Study of Regionalism, Federalism and Self-Government - National Research Council of Italy (CNR) and Department of Geography and Environment - London School of Economics and Political Science, United Kingdom. Contact information: andrea.filippetti@cnr.it

I. Introduction

The new institutional economics literature has been stressing the role of informal institutions in affecting citizens' preferences and shaping their attitudes and reaction to policymakers' decisions (Chong and Gradstein, 2006; Alesina and Fuchs-Schündeln, 2007; Sabatini, 2008; Guven, 2011). Inspired by this research perspective, and to the best of our knowledge, we are the first to analyze the role of social capital in moderating the relational dynamics occurring between local government's fiscal decisions and subsequent electoral outcomes. Social capital commonly refers to elements of cooperation, reciprocity and mutual trust regulating the relations among the members of a community and of a social network (Christoforou 2010). This enables citizens to cooperate for the mutual benefit, reduces asymmetric information problems, and contributes to solving collective actions dilemmas (Putnam 1993). In democratic contexts, local governments act under the electoral mandate and on the interests of the voters (Jones and McDermott, 2004). If local institutional performance matches citizens' demand and expectation, the elected local government may be rewarded through electoral support. Alternatively, voters may well call for a new administration in subsequent elections (James, 2010).

Fiscal policies adopted by municipalities represent an indication of a local government's priorities and affect the economic performance of the constituency (Jones et al., 2009; Li et al., 2017). Those that are more capital-investment and property-tax oriented tend to be also associated with long-run socio-economic sustainability and with institutional transparency (Witko and Newmark, 2009). In contexts with more social capital, governmental orientations are more likely to be embraced by the citizens, who reward mayors with electoral support in subsequent elections. This is because individuals holding social capital tend to prefer planning capacity and decision-making based on forward-looking approaches (Anand and Poggi, 2018). This means that, within polities with high social capital, voters prefer social exchanges, and seek longer-term and more sustainable community benefits against short-term strategies (Christoforou, 2012). Citizens are also more aware of the community needs, and can better assess and recognize underperforming institutions by punishing mayors in the following electoral race (Boix and Posner, 1998).

Following Uphoff (2000), we consider the structural dimension of social capital as one referring to the individual's involvement in associational activities and social networks.[1] The choice of these components lies in the notion that citizens more involved in the

[1] Cognitive social capital refers to elements of trust, values and beliefs contributing to cooperation and promoting pro-sociality among the individuals of a community.

"community affair" are civically more engaged, hence, more knowledgeable and informed about the community's need, aware of local politicians' conducts, and better judges of the quality of political decision-making (Putnam 1993; Boix and Posner 1998[2]; Scheufele et al., 2004).[3] We thus test whether an incumbent mayor who, during her mandate, adopted fiscal policies that are more capital investment oriented (rather than current expenditures) and more property tax oriented (rather than surcharge income tax), is more likely to be re-elected in contexts with a higher level of social capital. Hence, we address the moderating effect of social capital between fiscal policy and electoral payoff.

Previous studies associate the structural dimension of social capital to different measures of socio-economic and institutional performance (Sabatini, 2008; Christoforou, 2010). Less attention, however, has been devoted to the municipal dimension. In this respect, social capital has been found to be positively associated with local government financial surplus and expenditures per capita (Coffé and Geys, 2005; Menahem et al., 2011), public service performance and efficiency (Tavits, 2006; Andrews, 2007) and citizens' attitude towards government performance (Cusack, 1999; Rice, 2001). Furthermore, empirical evidence in the literature has reported a positive role of informal institutions and interpersonal trust among officials concerning public management resources, fiscal performance monitoring, and institutional transparency (Lundin, 2007; De Renzio and Masud, 2011; Camussi et al., 2018). Yet, little consideration has been given to the role of informal institutions on the relationship between citizens' voting decisions and local fiscal policy. Shedding light on the relational dynamics between informal institutions and their constraining effect on government decisions does contribute to the current academic and policy debate regarding the role of informal institutions on fiscal policy (Calcagno and López, 2017).

Given its profound economic and regional disparities (Ichino and Maggi, 2000; Nannicini et al., 2013) and its highly unequal distribution of social capital (Putnam, 1993), Italy represents an ideal context of analysis. Constituencies are subject to a common regulatory framework, characterized by the homogeneity of formal institutions and policy instruments, but without loss in cross-sectional and time variability regarding the variables of

[2] Boix and Posner (1998) point out that this mechanism works if there is homogeneity of interests in the community. The presence of too fragmented interests this mechanism might lead to a gridlock and hence to inefficiencies in the institutional performance.

[3] While social capital is a necessary condition, it might not be a sufficient one. Lowndes et al (2006), V., Pratchett, L., & Stoker, G. (2006) propose an interesting case study, showing that the coexistence of specific 'rules of use' within a given stock of social capital are important factors conducive for political participation as well.

interest (Chiades et al. 2015, p.8). Since the late 1990s, Italy has implemented two significant reforms aiming at bringing local public institutions closer to the citizens' needs and preferences: an electoral reform to appoint local governments and mayors, and a fiscal reform towards a more federalist system. These changes have been pursued by economically wealthy regions seeking greater autonomy, but were also advocated as remedies to stimulate those administrations in regions less developed and efficient.

Our identification strategy is based on an individual-level dataset which includes all candidates in mayoral elections and merges it with administrative budgetary and electoral data for about 6,000 Italian municipalities over the period 2003-2012. Our empirical approach presents several advantages. First, by controlling for electoral fixed effects, it allows matching winners with challengers' data within the same election reducing concerns for omitted variables bias which may derive from not observing election-level characteristics. Second, being elections nested within municipalities and provinces, we also indirectly control for municipal and provincial fixed effects. Third, our dataset includes both incumbents rerunning for office as well as candidates that have never been elected before. This allows the inclusion of an important subset of candidates to be used as a counterfactual group, and whose omission could be itself at the root of biased estimates. Fourth, we control for candidates' characteristics heterogeneity within a given election. Thus, another advantage of the within election matching estimator is that we can compare individual characteristics of incumbents with those of their direct challengers. Given our assumption that common election factors are the ones more likely to cause biased estimates, our results can be interpreted as causal.

The remainder of this article is structured as follows: Section 2 presents the contextual framework, Section 3 discusses the theoretical underpinnings and the hypotheses; Section 4 presents the data and the empirical strategy; Section 5 reports the results; Section 6 presents additional robustness analysis and Section 7 concludes.

II. Italian Municipalities: Mayors and Fiscal Policy

Two significant reforms were passed in Italy in 1993 and 1999 to increase both the political power of the mayors and the fiscal autonomy attributed to the municipalities.

The 1993 reform introduced the direct election of the mayors and considerably straightened their power by giving them the right to appoint and dismiss the executive officers at will, and, more generally, to shape all local policies. The local administration is

composed of a mayor (*Sindaco*) who leads an executive committee (*Giunta*) and an elected City Council (*Consiglio Comunale*). The mayor is responsible for proposing the annual fiscal budget that the *Consiglio Comunale* must endorse, and he/she can propose changes in the fiscal policy including adjustment in the tax rate. Mayors are directly elected through a dual ballot when the municipality counts more than 15,000 citizens, and are subject to a two-term limit; after the mayor is elected so is the Council. Voters can vote for the individual candidate and local political parties/lists. Candidates obtaining an absolute majority consisting of 50% of the votes become mayors. Otherwise, the first and second will compete in a second round, and possibly with the endorsement of the political parties whose candidates have been eliminated. More than one party/list can support the candidate mayor. However, voters can vote for a specific candidate and, simultaneously, for a list associated with another candidate (disjoint voting). If the political parties supporting the mayor receive between 50% and 60% of the votes, they receive 60% of the seats. Otherwise, the criterion of proportionality applies (Barone and De Blasio, 2013).[4] The second reform was passed in 1999 and strengthened the fiscal autonomy of the municipalities. Following a general trend of decentralization in Italy, the Italian municipalities were also provided with a surcharge on their residents' income tax base. Along with the income tax, since 1993, the municipalities also had the traditional property tax.

Both reforms were implemented to establish a closer relationship between public policy and the citizens at the local level, where several essential services were supplied. Today, Italian municipalities are responsible for the provision of several services including local transports, municipal police, waste management, water supply, nurseries, schools, culture, and recreation. In particular, the municipalities play a substantial role in term of their contribution to the overall level of investment in Italy. Over the 2000s, nearly half of the overall level of public investment in Italy has been made by municipalities.

The municipalities can finance their investment expenditure by means of a) transfers from the Central government and the regional government (which include European funds) and incomes stemming from the sale of real estate; b) the surplus of the previous year; c) indebtedness - municipalities can raise new debts only for investment expenditure, and not for current expenditure. For municipalities with less than 5,000 inhabitants, transfers from the regional governments represent the most relevant source of funding for investment (from 38% in 2004 to 34% in 2012), while indebtedness is equal to 15% in both years. By contrast, in

[4] The elections usually take place between May and mostly June – in our sample this is the case for 93.4% of the elections. We are analyzing 4 main periods of elections, for a total of 19,174 single elections.

large municipalities (>5,000 inhabitants) the most relevant source was debt in 2004, 31%, and a budget surplus of 28% in 2012 (Chiades and Mengotto, 2013).

In setting the level of current expenditure and investment expenditures, the municipalities need to comply with the Domestic Stability Pact (DSP). The DPS is an instrument of budget constraint introduced in 1999 under the law 448/1998, aiming to control the local government budget balance (Bartolini and Santolini, 2009; Grembi et al., 2012). The DSP is applied only to the municipalities with more than 5,000 inhabitants. This means some 2,251 municipalities, equal to 30 percent of the total when including those *a Statuto Speciale*, and thus covering about 74 percent of the overall investment expenditure (Chiades and Mengotto, 2013).

Following the introduction of the DPS, the municipal governments were constrained to keep the growth of their fiscal gap—defined as the deficit, net of transfers and debt service—under tight control (i.e., zero growth after 2003). Debt service and transfers were excluded from the DSP, since mayors are not considered responsible for interests expenditure (often depending from previous management) and from transfers; however, avoiding excessive debt was the indirect objective of the DSP. From 2006 the DSP has been revised identifying the change of overall expenditure – both current and capital - as the only constraint.

Investment, i.e., capital expenditure, accounts on average for 14% of the total budget. By contrast, current expenditure – including salaries for the personnel, purchases of goods and services, and other expenditures - is the most significant component of expenditures of the municipalities, averaging some 50% of the total budget in the considered period. The remaining portion includes the debt service and outsourced services. Over the considered years, on average the level of current expenditure has risen, while that of capital expenditure has reduced, in line with a general trend in Italy (Chiades and Mengotto, 2013; IRES, 2013).

As far as the municipal revenues are concerned, the most relevant component is represented by taxes and revenues (around 36%), followed by transfers, other tariffs and fees, and loans. Over the years the 2000s, the composition of the revenues has significantly modified, in the direction of substituting fiscal transfer with municipal taxation, consistently with the spirit of the reforms about increasing the responsibility of mayors also by providing them greater fiscal autonomy. In particular, the transfers from the Central government have been substantially reduced, while those from the Regional governments have remained stable, since most of them are composed of grants from the European Cohesion Policy.

The most relevant taxes for the Italian municipalities are the property tax (Imposta Comunale Sugli Immobili, ICI, and later on IMU) and the surcharge on the personal income tax (Imposta sul Reddito delle Persone Fisiche, IRPEF). The revenue from IRPEF is, on average, 10% of municipal tax revenues, while that from IMU is, on average, 50% of municipal tax revenues (Grembi et al. 2012). The remaining share of tax revenues included the tax for garbage and that for other public services, followed by other minor taxes and fees.

The tax rate of the IRPEF, in terms of the tax base and tax brackets, is defined by the central government while the municipal governments can only marginally raise a surcharge on the taxable income base, usually between 0 and 0.5%.

The property tax, instead, is directly attributed to the fiscal policy of the local municipality and is, on average, 50% of municipal tax revenues (Grembi et al. 2012). The mayor has the authority to vary the property tax within a bracket from 0.4 to 0.7% of the legal home value[5]. The property tax is by far the principal source of revenue for the municipalities; it represents a more salient and a more efficient fiscal instrument than the surcharge income tax for two main reasons. Firstly, the property tax creates stronger incentives for private investment and savings, because it is more stable than the income tax since less affected by economic conditions and business cycle fluctuations. This makes the property tax more efficient than the surcharge income tax given a more sustainable and long-run socio-economic growth (Oates, 2001; Liberati and Sacchi, 2013; Martinez-Vazquez et al., 2016). Secondly, the property tax is a more transparent source of revenue than the surcharge income tax, since it can be unambiguously attributed to the municipal budgetary decision (Liberati, 2011).

III. Social Capital, Municipal Fiscal Policy and Electoral Payoff: Two Research Hypotheses

Communities affluent in social capital tend to prefer long to short-run political-economic strategies, and by doing so seeking a broader and more sustainable community benefit (Andriani and Christoforou 2016; Christoforou 2012). Recent research also demonstrates that

[5] The property tax has to be paid by owners (and landlord) of properties, land and built areas for use as property, usufruct, housing or land rights; the tax base is the legal value of the property. By 2009 the main residence (first home) has been excluded from property tax (it accounts on average to 25% of the total tax), unless it falls into the "deluxe" category. It is important to highlight that according to the law (DPR 22, Dec. 1986 n.917) mayors cannot determine or update the legal home values. Hence, mayors cannot manipulate the legal home values for public revenues purposes.

social capital is a valuable resource that helps explain individuals' attitudes towards planning capacity and forward-looking decision making. By using a set of frontier models Anand and Poggi (2018) finds that individuals holding social capital tend to prefer decisions forward-looking oriented.

Public administrations aiming at long-run and sustainable socio-economic development adopt fiscal policies oriented towards public investments (Witko and Newmark, 2009). Within the context of the municipality, empirical evidence associates social capital with public investment for the implementation of socio-economic and sustainable forward-looking public policies in favor of public safety, public health, public education, and environmental protection (Schneider, 1987; Pierce et al., 2016). In 2009, the governor of the State of New York announced the use of public investments and other local government resources to implement a long-run socioeconomic and environmentally sustainable program. Similarly, at the beginning of 2000, New Mexico's public administration announced a program investing in clean energy development in order to foster economic growth and environmental improvements. In this respect, the local Department of Finance and Administration ensures to invest public funding on renewable transportation fuels, the purchase of renewable electricity, the construction of "green" buildings, and renovation of state buildings as an opportunity to achieve sustainability goals for water and electricity, and improve the health in the workplace (Contrell 2009). Thus, compared to current expenditure, public investment in fixed-capital yields returns in the long run and positively affects the productivity of the local economy by providing, for instance, adequate infrastructures and more efficient transport systems to the community (Jones, 1990). By analyzing the factors influencing local government's sustainability efforts adopted across U.S cities, Saha (2009) argues that pressures and expectations from the local community are among the main reasons driving the mayors to use the public investment for implementing public policies in favor of socioeconomic and environmental sustainability. This is more likely to occur in contexts with more social capital, since it facilitates the collaboration among individuals in collective activities through which citizens express preferences and exercise demand on government via civic engagement (Skocpol and Fiorina, 1999, p. 13). In such contexts, individuals are better informed about public policy plans and the related instruments required for the achievement of the community needs (Boix and Posner, 1998; Scheufele et al., 2004; Pierce et al., 2016).

We posit that public investment is more likely to be rewarded in communities rich in social capital in that it shapes their preferences towards forward-looking socio-economic outcomes. Furthermore, citizens civically engaged can better monitor the actions of the

municipal governments and better assess the credibility of their commitments (Boix and Posner 1998; Putnam 1993). Hence, citizens tend to reward municipal governments that show credible commitments in taking good care of public resources and in acting efficiently and fairly (Feld and Frey, 2002). For instance, Barone and Mocetti (2011) detect better citizens' attitude towards tax compliance in Italian municipalities where resources are spent more efficiently. This leads us to state the first hypothesis:

H1: Greater shares of capital investment vs. current spending lead to a higher probability of incumbent mayor reelection as social capital increases

From the revenue perspective the property tax is more efficient than the income surcharge tax in that it has advantages for economic development. It also has desirable properties in terms of transparency and accountability (particularly in the case of Italy), since citizens can unambiguously attribute the decisions concerning the property tax to the municipal government and the mayor charge. This is not the case for the surcharge income tax, as this is collected together with other local and national surcharges (Bordignon et al., 2017). Since social capital makes citizens less tolerant towards the moral hazard of their political representatives, more informed and engaged citizens reward more salient taxing activities and punish attempts of creating fiscal illusions (Pommerehne and Schneider, 1978; Nannicini et al., 2013). Further, property tax encourages citizens to keep politicians in check, since they have more knowledge of the amount of the tax revenue and of the fact that this will be used to pursue local policies in the place they live (Presbitero et al., 2014). Cabral and Hoxby (2012) show that the transparency and accountability of the fiscal budget can be undermined by opportunistic local policymakers who manipulate the composition of revenues substituting the more salient property tax with the less salient income one. This is supported by empirical studies about Italy suggesting that mayors shift from property to income taxes to hide the tax burden to citizens (Bordignon et al., 2017), and mainly when the electoral competition is sharp (Bracco et al., 2013)**.** From here our second hypothesis:

H2: Greater shares of property tax vs. income surcharge lead to a higher probability of incumbent mayor reelection as social capital increases.

IV. Data and Empirical Strategy

Data were collected from several sources (Table 1). Information on elections and demographic characteristics of candidates were provided by the Italian Ministry of Internal Affairs (*Ministero dell'Interno*). The dataset includes the full universe of candidates for the municipalities under scrutiny. The dependent variable is th dummy ELECTED, equal to 1 if the candidate wins the election and 0 otherwise. The control variable INCUMBENT[6] is a second dummy indicating whether the candidate is an incumbent running to be re-elected. A series of additional controls for candidates are: (i) the dummy GENDER, 0 if male to 1 if female; (ii) EDUCATION, a categorical variable indicating the educational level of the candidate; (iii) AGE expressed in years; (iv) categorical variable JOB, whose categories are codified in 3 groups (Dependent, Skilled, and Manager), and used each as a distinct dummy control.

The Variable Social Capital

Our measure of social capital derives from the item "Voice and Accountability" of the Institutional Quality Index (IQI). This is a composite indicator aiming to measure the quality of formal and informal institutions from years 2004 to 2012, and developed by Nifo and Vecchione (2014). This indicator is constructed at the provincial level, and captures the critical structural dimensions of social capital, including the participation rate in public elections; the number of associations; the number of social cooperatives, and finally, the cultural liveliness measured in terms of books published and purchased in book shops. The data used for the construction of the IQI items are derived from using different institutional sources, research institutes and professional registers, and the computation mechanism to build up the index is the same for every year available, ideal for panel analysis purposes. Following Nifo and Vecchione (2014), the index is normalized to vary from 0 to 1, and each variable is entered with a proper weight normalizing for the resident population in the province[7]. This gives the possibility to rank and compare local realities in terms of social capital endowment using the same indicator over the entire period of analysis and across different Italian provinces. This indicator has been adopted in several empirical, institutional

[6] We built this variable in two diverse ways. (1) If the candidate is running right after the accomplishment of her first term as mayor, or (2) looking at the history and attributing the value one to this dummy also if the candidate is rerunning after skipping some electoral races. Estimates do not change relevantly so we report the results obtained by using definition (2). The reason is that the clear majority of incumbents in the sample decided to rerun in the electoral race right after the ending of their first mandate. Results are available under request.

[7] For further details, see Nifo and Vecchione (2014: pp. 1634-1636)

studies relating the quality of the formal and informal institutions to human capital (Nifo and Vecchione, 2014; Buch et al., 2017; Nifo et al., 2017), and public sector performance (Agovino et al., 2017). We take the period average of the index, which is used to proxy also for the social capital index in 2003, because the longitudinal variability is minimal and to convey synthetic information of the social capital experienced by the province in the period of our sample. Then we log-transform this indicator to make its distribution closer to normal.[8]

Variables of Fiscal Instruments: Expenditures and Revenues

Data on municipal expenditures and revenues span from the fiscal years 2003 to 2012 and are from OPEN POLIS, an Italian open-data independent association.[9] We use this data to construct our fiscal instruments of interest, which are the share of capital expenditures over total expenditures (CAPITAL RATIO) and the share of property tax over total tax (PROPERTY RATIO):

$$\text{CAPITAL RATIO} = \textit{CapitalExp.} / (\textit{CapitalExp.} + \textit{CurrentExp.});$$
$$0 < \text{CAPITAL RATIO} < 1$$

$$\text{PROPERTY RATIO} = \textit{Prop. Tax Rev.} / (\textit{Prop. Tax Rev.} + \textit{Inc. Tax Rev.});$$
$$0 < \text{PROPERTY RATIO} < 1$$

Both indexes are constructed so to have the support (0,1). Because these indexes vary from year to year, to match them with candidates in elections, we took averages from the election year *t* to *t-y,* being *t* the election year, and *y* the year after the previous election. Since *y* is not constant, it is indexed on a case by case through careful coding to match precisely with the previous election year. For clarity, as the usual time span is five years, *y* is supposed to be equal to four in every case, according to the Italian Electoral Law. However, *y* takes values smaller than four in the case of anticipated elections. This might have occurred for several reasons; political and personal issues involving the governing mayor, Councils' demises for budgetary defaults, corruption, and this only to cite the most usual. Finally, being

[8] In any case, additional estimates show that our results would not change when using the yearly value of the social capital index.
[9] English version of the site: http://www.openpolis.it/eng/.

both indexes highly skewed, and as customary with micro-data, we used *logit* transformations of the indexes.[10]

The Empirical Strategy: within-election matching estimator

The resulting dataset contains candidate level information grouped within elections and municipalities for each election for the 15 *Regioni a Stauto Ordinario*[11] out of the 20 Italian Regions. Our unit of observation is the electoral candidates in each municipal level election (see Table E in the online Appendix for details on these data). Our data match individual characteristics of candidates as electoral success, job type, education level, with budget indicators at the municipal level, and social capital at the provincial one. This allows running a *within election matching estimator*, and compare individual characteristics of incumbents with those of their challengers in each election. Table 1 also shows the descriptive statistics of the variables used in the regressions.[12]

[Table 1 about here]

Our models' illustrations are reported below. First, we report the baseline specifications for each fiscal indicator without social capital as the Conditional Logit version of Eq.1, reported as linear regression for clarity. We then test our hypotheses by including the social capital variable as in Eq.2. Eq.1 below shows the specification's detail:

$$ELECTED_{ij} = b_0 + b_1 INCUMBENT_{ij} + b_2\, INCUMBENT_{ij} \times (CAPITAL\ RATIO \text{ or } PROPERTY\ RATIO)_k + v_j + JOB_i + \mathbf{c'X} + e_{ij} \qquad (Eq.1)$$

[10] Details on the transformation of the indexes available upon request.

[11] Italian municipalities are a bit more than 8,000. However, our data do not cover three Regions with special statute (*Regioni a Statuto Speciale*), as Trentino-Alto Adige, Friuli Venezia Giulia, and Val d'Aosta, and show limited information about the two other regions with special statute, Sicily and Sardinia. For this reason, we omit them from our analysis. This reflects also on the subset of candidates that we use.

[12] Note that the fiscal indexes vary mostly because there are very small municipalities with almost no income tax and capital spending in some cases and almost no property and current spending in others. Regarding social capital this is instead a structural feature of the Italian regions, being the European country in which within variation is larger.

Here, *i* refers to candidates and *j* to the election. b_0 is a common intercept, b_1 is the coefficient measuring how the status of being incumbent contributes to the likelihood of being re-elected. b_2 is the coefficient estimating the effect of the interaction terms between being incumbent and two budget composition indexes to an incumbent's re-election chance. The variables of fiscal instruments are indexed by *k*, which indicates the specific municipality. Note that, since the *k* values of the local fiscal indexes do not vary within election *j,* the indexes variables can enter our specification only through its interaction with the indicator of incumbent status. This is because we control for elections' fixed effects, as captured by the term v_j. The use of elections' fixed-effects allows comparing winner and losers within the same election, and so it can also be interpreted as matching candidates within the same election. Therefore, using v_j allows interpreting the equation as a matching estimator comparing the individual characteristics of the winner with an average of of her competitors within the same election, and not across the whole sample. Note that elections fixed effects absorb the municipalities fixed effects – i.e., municipal and year level variables do not change across candidates within the same election. They also have the identification power of controlling for unobserved election characteristics, like weather, sudden changes in public opinion or, for example, sudden unexpected changes in the median voter's position.

Finally, we include the job-type dummy (JOB_i) and the vector **c'X** including coefficients for each candidate's characteristic (EDUCATION, GENDER, and AGE).

Summing up, our identification strategy, controls for individual characteristics and matches the same characteristics by comparing candidates running in the same election. Finally, the matching ensures a consistent reduction in omitted variable bias, as it controls for a series of environmental characteristics common to candidates within the same election. For these reasons, our results can be interpreted as causal.

Eq.2 shows the extended model specification when we add SOCIAL CAPITAL interacting with the dummy for incumbent status and with the fiscal variables CAPITAL $RATIO_k$ and PROPERTY $RATIO_k$. The regressions are running on the expenditures and revenues sides, and the index measuring social capital, as follows:

$$ELECTED_{ij} = b_0 + b_1\, INCUMBENT_{ij} + [b_2\, INCUMBENT_{ij} * (Capital\ Ratio\ or\ Property\ Ratio)_k] + b_3\, [INCUMBENT_{ij} * SOCIAL\ CAPITAL_w] + [b_4\, INCUMBENT_{ij} \times (Capital\ Ratio\ or\ Property\ Ratio)_k \times SOCIAL\ CAPITAL_w] + v_j + JOB_i + \mathbf{c'X} + e_{ij} \quad \textit{(Eq.2)}$$

In Eq.2 b_4 is the coefficient of interest, the one testing our hypotheses, according to which it is expected to be positive.[13] For social capital, we introduced the notation "w" to indicate the province to which the municipality and election belong.[14] Note that since social capital is measured at the provincial level, the within variation is captured from the incumbent interaction terms.

Since our dependent variable is a dummy, we use conditional logit (CLOGIT) estimation.[15] Moreover, for ease of interpretation, we report the odds-ratio result, which means we expect the estimates of b_2 in Eq.1 and b_4 in Eq.2 to be larger than one for a positive association, between the triple interaction and the probability of winning the elections.[16]

V. Results

Table 2 reports our estimation results and tests our two hypotheses.

[Table 2 about here]

Column 1 and Column 2 report the estimation results of Eq.1 (model with double interactions) about the fiscal variable for CAPITAL RATIO and PROPERTY RATIO respectively. In both cases, as expected, the probability of being re-elected increases among incumbent candidates (INCUMBENT), with the levels of education (EDUCATION), among male candidates (GENDER = 0), with highly-skilled types of job (JOB) and reduces with age (AGE). Since our dataset includes all candidates in an election, and not only the most competitive one,

[13] Note that the constitutive terms of the fiscal variables and social capital (and their joint coefficient) cannot be estimated because they are absorbed by the electoral fixed effect.

[14] Note that technically, we should indicate $ELECTED_{ijkw}$ to indicate candidate "i" running in election "j" of municipality "k" and province "w". We avoid doing it to not complicate the notation. Note also that election "j" is nested in municipality "k" which is nested in province "w".

[15] With our structure a LOGIT model with elections' fixed effects would encounter the incidental parameter model, i.e., it would be biased because the number of parameters to estimate would be very large in relation to the observations available (depending on the specification, we count up to 13 thousand elections for a bit more than 35 thousand candidates). See Allison (2009) for an example. Being able to control also for common municipal characteristics is important for three main reasons: *i.* municipalities in some areas of the country can have already a large stock of capital investment, thus reducing the scope for new ones; *ii.* municipalities in the Southern regions can get additional investment funding from national and communitarian policies; *iii.* Some municipalities can require larger investments due to specific conditions, such as for instance the morphological characteristics.

[16] In all regressions we follow Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, 50(2), 317-372, and estimated robust standard errors clustered at the Italian regional level, the largest geographical level available in the multilevel data structure at hand.

the electoral advantage of the incumbent is against the average challenger rather than her most competitive one. Estimations in column 1 indicate that CAPITAL RATIO increases the probability of re-election of incumbents; it also shows a positive interaction between INCUMBENT and CAPITAL RATIO, which amounts to a 20% increase in the odds ratio of the chances of being ELECTED for those incumbents who maintained a fiscal spending structure more lenient towards capital spending. This is not the case when we consider PROPERTY RATIO in column 2 where the joint effect of being incumbent and having a high property tax/income tax ratio is not associated to re-election, the coefficient is close to one and not statistically significant.

Columns 3 and 4 report the estimations of Eq.2 and test our two hypotheses with triple interactions. Estimations in column 3 confirm our first hypothesis. The coefficient of the triple interaction variable between INCUMBENT, BUDGET IND., and SOCIAL CAPITAL suggests that a fiscal spending agenda more oriented towards capital spending increases the probability for an incumbent mayor to be re-elected in contexts with more social capital. Likewise, column 4 confirms our second hypothesis suggesting that fiscal agenda characterized by a high ratio of property tax increase the likelihood of re-election for incumbents re-running for their office in contexts with more social capital.[17] This is captured by the statistically significant coefficient of the interaction variable between INCUMBENT BUDGET IND., and SOCIAL CAPITAL.[18] These results differ from previous works that do not include informal institutions and that show that to win re-election mayors shift from property to income tax to hide the tax burden (e.g., Bordignon et al., 2017). When informal institutions are included in the model social capital can provide an incentive towards fiscal transparency in budget decisions.

Our results are also robust to a change in sample size. The sample size in the case of PROPERTY RATIO is smaller than in the case of CAPITAL RATIO due to missing values. However, our results for CAPITAL RATIO do not change even we re-estimate the matching mode using the same sample used for PROPERTY RATIO[19].

Focusing on the expenditures side, Table 3 provides a more intuitive reading of our results, which outlay average estimated probabilities of elections for subsets of the population in the sample both for the incumbent and challenger states.

[17] Table A, in the online Appendix, reports the estimates for each single pillar of our measure of social capital. We show that the aggregate index better explains a concept of social capital that interacts with cultural awareness and social aggregation to be effective.
[18] It should be noted that several times the central government has frozen local surcharge rates; this makes our result more dependent on the level property tax, rather than to changes in the local income surcharge.
[19] See Table B in the online Appendix.

[Table 3 about here]

The subsets are created by combining quartiles of SOCIAL CAPITAL with quartiles of CAPITAL RATIO. It is divided in two panels presenting the percentage difference within candidates' states and concerning the baseline probability (chosen to be the one for the 1st quartiles of SOCIAL CAPITAL and CAPITAL RATIO, and called Q11), and the differences between candidates' states both in absolute average probability values and percentages values. We find that (panel A) the average probabilities of reelection by shifting from Q11 to Q44 are 15.3% larger for an incumbent. We also find that (panel B) the incumbent advantage, being about 57.2% larger in the Q11 case, increase to 120.1% in Q44, suggesting that the joint contribution from shifting from smallest to largest quartiles of SOCIAL CAPITAL and CAPITAL RATIO doubles the incumbent's advantage on challengers.[20]

VI. Robustness Analysis

Table 4 presents three different robustness tests.

[Table 4 about here]

Columns (1) and (2) of Table 5 show the same triple-interaction regressions in the baselines respectively for municipalities with more than 5,000 residents, which are also bound by the Domestic Stability Pact, and those with less than 5,000 which are not. The estimates are larger than the baselines', at 1% significant for those municipalities bounded in their levels of spending by the Stability Pact. Some preliminary studies have found that the DSP has constraint investment more than current expenditure, in that the former is a more flexible dimension of the budget. Our result can depend on the fact that when the DSP is not in force, the choice between investment and current expenditure is less stringent; by contrast, in the presence of a constraint, the composition of expenditures becomes more salient and determinant for their re-election. Overall this result is in line with recent research confirming the effectiveness and binding power of the Pact in Italy as in (Grembi et al., 2016).

[20] As said above, social capital is a composite indicator including different dimensions. Running the same model for each of the dimension, we find that the number of associations has the larger effect (significant at the 10% level), while the dimension capturing reading are smaller in size but significant at 1%. This seems to suggest a concept of social capital that interacts with cultural awareness (books) and social aggregation to be effective.

Column (3) includes trends of provincial employment to account for local economic conditions as possible factors for electing politicians. We find, however, that this indicator does not play a role in determining the re-election of the incumbent politician. This might be because in Italy the responsibility of economic conditions tends to be attributed to politicians appointed at the national level and to the policies enacted by the national government rather than the local ones.[21]

Table 5 presents a second battery of additional robustness tests which aim at controlling for the political, budgetary cycle effect, in which we split our sample into two averages of the CAPITAL RATIO indicator. One is taking into account only the election year and the previous one. The other, when possible, all the other years of the electoral cycle. The first indicator should capture more precisely an electoral cycle effect than the second. Table 6 first presents the 2-way and 3-way interactions results obtained by running regressions with the CAPITAL RATIO indicators constructed to take into account the electoral cycle (columns 1 and 2, where Cycle (C=1) is equal to 1) and those who should be less able to capture it (columns 3 and 4, where Cycle (C=0)). As expected, the coefficients on the double interactions variable INCUMBENT × CAPITAL RATIO are more significant when C=1 both in the 2-way and 3-way interaction models. In the 2-way interaction model the odds-ratio coefficient when C=1 is in fact 1.181 in column (1) and higher than the twin coefficient 1.098 in column (3) when C=0, and with both coefficient significant at the 1% levels. A similar pattern is shown by looking at columns (2) and (4), where the odds ratio of 1.350 (C=1) is larger than 1.253 (C=0), with both coefficients significant at the 1% level again.

[Table 5 about here]

Our results suggest the presence of an opportunistic electoral cycle using capital expenditure (Benito et al., 2013; see for instance Veiga and Veiga, 2007). However, the triple interaction term, involving the contribution of social capital (INCUMBENT × CAPITAL RATIO × SOCIAL CAPITAL) does not seem to capture any differential effect when shifting from C1 to C0. The odd-ration coefficients are in fact very similar: 1.145 (C=1) and 1.148 (C=0). This suggests that: *i.* our main results do not depend on the presence of opportunistic electoral cycle; *ii.* high social capital also prevents incumbents' opportunistic behavior, for

[21] Starting from 2013 the Local Stability Pact was extended to the municipalities with a population between 1,000 and 5,000 residents; for this reasons we have also run our baseline estimates dropping from the sample the years 2013-2014. The results are basically unchanged and not reported here, but available upon request.

instance by increasing political accountability as already discussed above (Nannicini et al., 2013; Bordignon et al., 2017).[22]

VII. Conclusions

Public spending and raising revenue through fiscal policies are essential functions for local governments. While, in principle, only fiscal decisions matching citizens' demand and expectations should be rewarded with electoral support, the reality has proved much more complicated than that. We analyze this relational mechanism by considering the role of informal institutions embedded in social capital as a moderator factor between fiscal policy and the response of citizens at the ballot. As such, we contribute to a better understanding of the mechanisms through which social capital affects local fiscal policy.

We show that the presence of social capital provides a prize for fiscal policies characterized by long-term expenditure and a more efficient revenue structure. In this regard, one can speculate that social capital may favor the reallocation of the municipal fiscal budget towards public investment vis-à-vis current expenditures and towards property tax vis-à-vis surcharge income tax, thus enhancing the efficiency and transparency of local public policy.[23]

Our evidence also speaks to the overarching rationale behind the two major reforms passed in Italy in the 1990s aiming at moving the government closer to the citizens, by introducing the direct election of mayors and making them more responsible by strengthening fiscal autonomy. A major claim of fiscal federalism theory (Oates, 1999) is that decentralization improves the ability of local institutions to tailor specific policies to better meet citizens' demands (e.g., Diaz-Serrano and Rodríguez-Pose, 2015). This gets reflected in the citizens' satisfaction (e.g. Espasa et al., 2017; Filippetti and Sacchi, 2016). This paper qualifies these results showing that decentralization works relatively well in the presence of high levels of social capital. In social contexts where individuals value forward-looking and transparent fiscal policies, decentralization promotes better public policies. In line with some recent literature (Tantardini et al., 2017), this suggests that a higher stock of social capital in the local community benefits the local public sector financial performance.

[22] In the online Appendix, Table D, we report estimates splitting the sample between high and low contestability in the elections. We find that our results hold for low contestability elections.

[23] Regarding the latter in particular we need to say that evidence is, overall, less convincing. This could be for the smaller sample or also because transparency might be not covered by social capital's structural dimensions as for expenditures. This could also be a reason for the weaker results when looking at the indicator based on the revenues' structure. We thank one of the referees for rising this point.

In terms of policy recommendations, decentralization policies should be coupled with initiatives to improve the capacity of the local institutions to stimulate the accumulation of social capital, exploiting the circumstance in which decentralization itself tends to encourage citizens' knowledge and information about local fiscal policies (De Mello, 2011). This could be pursued by employing programs that favor the capacity-building of civic associations, including organizations for environmental, human, democratic rights, and that enable their participation to the local governance. Indeed, social capital in a community is greatly enhanced when civic associations, community groups, local NGOs and local government agencies come together to work on issues of importance to the community that requires broad cooperation to accomplish (Pierce et al., 2002). In this respect, decentralized geopolitical contexts might represent a more suitable institutional environment for providing to the local associations more formal and informal avenues for participation, engagement and closer monitoring towards local public decision-making process (Maloney et al., 2000).

References

Agovino, M., Garofalo, A., Marchesano, K., 2017. Do institutions affect the matching process of disabled people? The Italian case. *Quality & Quantity* forthcoming, 1–23.

Alesina, A., Fuchs-Schündeln, N., 2007. Goodbye Lenin (or not?): The effect of communism on people's preferences. *American Economic Review* 97, 1507–1528.

Allison, P. D. (2009). *Fixed effects regression models* (Vol. 160). SAGE

Anand, P., Poggi, A., 2018. Do Social Resources Matter? Social Capital, Personality Traits, and the Ability to Plan Ahead. *Kyklos* 71, 343–373.

Andrews, R., 2007. Civic culture and public service failure: an empirical exploration. *Urban Studies* 44, 845–863.

Andriani, L., Christoforou, A., 2016. Social Capital. A Road Map of Theoretical Frameworks and Empirical Limitations. *Journal of Economic Issues* 50(1), 4-22

Barone, G., De Blasio, G., 2013. Electoral rules and voter turnout. *International Review of Law and Economics* 36, 25–35.

Barone, G., Mocetti, S., 2011. Tax morale and public spending inefficiency. Int *Tax Public Finance* 18, 724–749. https://doi.org/10.1007/s10797-011-9174-z

Bartolini, D., Santolini, R., 2009. *Fiscal rules and the opportunistic behaviour of the incumbent politician: evidence from Italian municipalities.* CESifo Working Paper Series No. 2605.

Benito, B., Bastida, F., Vicente, C., 2013. Creating Room for Manoeuvre: a Strategy to Generate Political Budget Cycles under Fiscal Rules. *Kyklos* 66, 467–496. https://doi.org/10.1111/kykl.12032

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

Bordignon, M., Grembi, V., Piazza, S., 2017. Who do you blame in local finance? An analysis of municipal financing in Italy. *European Journal of Political Economy* 49, 146–163.

Bracco, E., Porcelli, F., Redoano, M., 2013. *Political competition, tax salience and accountability: Theory and some evidence from Italy*. CESifo Working Paper No. 4167.

Buch, T., Hamann, S., Niebuhr, A., Rossen, A., 2017. How to woo the smart ones? Evaluating the determinants that particularly attract highly qualified people to cities. *Journal of Urban Affairs* 1–19.

Cabral, M., Hoxby, C., 2012. *The Hated Property Tax: Salience, Tax Rates, and Tax Revolts.* NBER Working Paper No. 18514 Issued in November 2012, Revised in February 2015.

Calcagno, P.T., López, E.J., 2017. Informal norms trump formal constraints: the evolution of fiscal policy institutions in the United States. *Journal of Institutional Economics* 13, 211–242.

Cameron, A.C., Miller, D.L., 2015. A practitioner's guide to cluster-robust inference. *Journal of Human Resources* 50, 317–372.

Camussi, S., Mancini, A.L., Tommasino, P., 2018. Does Trust Influence Social Expenditures? Evidence from Local Governments. *Kyklos* 71, 59–85. https://doi.org/10.1111/kykl.12162

Chiades, P., Mengotto, V., 2013. *Il calo degli investimenti nei comuni tra Patto di stabilita' interno e carenza di risorse.* Bank of Itay Occasional Paper no. 210. (in italian)

Chong, A., Gradstein, M., 2006. Imposed Institutions and Preferences for Redistribution. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=954156

Christoforou, A., 2012. On the identity of social capital and the social capital of identity. Cambridge J Econ 37, 719–736. https://doi.org/10.1093/cje/bes059

Christoforou, A., 2010. Social capital and human development: an empirical investigation across European countries. *Journal of Institutional Economics* 6, 191–214.

Coffé, H., Geys, B., 2005. Institutional performance and social capital: An application to the local government level. *Journal of Urban Affairs* 27, 485–501.

Cusack, T.R., 1999. Social capital, institutional structures, and democratic performance: A comparative study of German local governments. *European Journal of Political Research* 35, 1–34.

De Mello, L., 2011. Does fiscal decentralisation strengthen social capital? Cross-country evidence and the experiences of Brazil and Indonesia. Environment and Planning C: *Government and Policy* 29, 281–296.

De Renzio, P., Masud, H., 2011. Measuring and promoting budget transparency: The open budget index as a research and advocacy tool. *Governance* 24, 607–616.

Diaz-Serrano, L., Rodríguez-Pose, A., 2015. Decentralization and the welfare state: What do citizens perceive? *Social Indicators Research* 120, 411–435.

Espasa, M., Esteller-Moré, A., Mora, T., 2017. Is Decentralization Really Welfare Enhancing? Empirical Evidence from Survey Data (1994-2011). *Kyklos* 70, 189–219. https://doi.org/10.1111/kykl.12135

Feld, L.P., Frey, B.S., 2002. Trust breeds trust: How taxpayers are treated. *Economics of Governance* 3, 87–99.

Filippetti, A. Sacchi, A. 2018 Decentralization and Economic Growth Reconsidered: The Role of Regional Authority. *Environment and Planning C: Government and Policy*, 34, 1793–1824.

Grembi, V., Nannicini, T., Troiano, U., 2016. Do fiscal rules matter? *American Economic Journal*: *Applied Economics* 8, 1–30.

Grembi, V., Nannicini, T., Troiano, U., 2012. *Policy responses to fiscal restraints: A difference-in-discontinuities* design IZA Discussion Paper No. 6952.

Guven, C., 2011. Are Happier People Better Citizens? *Kyklos* 64, 178–192. https://doi.org/10.1111/j.1467-6435.2011.00501.x

Ichino, A., Maggi, G., 2000. Work Environment and Individual Background: Explaining Regional Shirking Differentials in a Large Italian Firm. *Q J Econ* 115, 1057–1090. https://doi.org/10.1162/003355300554890

IRES, 2013. *La Finanza Territoriale in Italia.* Rapporto 2012, FrancoAngeli. ed. Milan.

James, O., 2010. Performance measures and democracy: Information effects on citizens in field and laboratory experiments. *Journal of Public Administration Research and Theory* 21, 399–418.

Jones, B.D., 1990. Public policies and economic growth in the American states. *The Journal of Politics* 52, 219–233.

Jones, B.D., Baumgartner, F.R., Breunig, C., Wlezien, C., Soroka, S., Foucault, M., François, A., Green-Pedersen, C., Koski, C., John, P., others, 2009. A general empirical law of public budgets: A comparative analysis. *American Journal of Political Science* 53, 855–873.

Jones, D.R., McDermott, M.L., 2004. The responsible party government model in House and Senate elections. *American Journal of Political Science* 48, 1–12.

Li, H., Wang, Q., Zheng, C., 2017. Interjurisdictional Competition and Intracity Fiscal Disparity across Chinese Prefectural Cities. *Governance* 30, 365–385. https://doi.org/10.1111/gove.12222

Liberati, P., 2011. "Which Tax" or "Which Tax for What?": Tax Assignment in the Theory of Fiscal Federalism. *Public Finance Review* 39, 365–392.

Liberati, P., Sacchi, A., 2013. Tax decentralization and local government size. *Public Choice* 157, 183–205.

Lowndes, V., Pratchett, L., Stoker, G., 2006. Local Political Participation: The Impact of Rules-in-Use. *Public administration* 84, 539–561.

Lundin, M., 2007. Explaining cooperation: How resource interdependence, goal congruence, and trust affect joint actions in policy implementation. *Journal of Public Administration Research and Theory* 17, 651–672.

Maloney, W., Smith, G., Stoker, G., 2000. Social capital and urban governance: adding a more contextualized "top-down"perspective. *Political studies* 48, 802–820.

Martinez-Vazquez, J., Lago-Peñas, S., Sacchi, A., 2016. The Impact of Fiscal Decentralization: A Survey. *Journal of Economic Surveys* 31, 1095–1129. https://doi.org/10.1111/joes.12182

Menahem, G., Doron, G., Itzhak Haim, D., 2011. Bonding and Bridging Associational Social Capital and the Financial Performance of Local Authorities in Israel. *Public Management Review* 13, 659–681.

Nannicini, T., Stella, A., Tabellini, G., Troiano, U., 2013. Social capital and political accountability. *American Economic Journal: Economic Policy* 5, 222–250.

Nifo, A., Scalera, D., Vecchione, G., 2017. The rule of law and educational choices: evidence from Italian regions. *Regional Studies* 51, 1048–1062. https://doi.org/10.1080/00343404.2016.1262945

Nifo, A., Vecchione, G., 2014. Do institutions play a role in skilled migration? The case of Italy. *Regional Studies* 48, 1628–1649.

Oates, W.E., 2001. *Property taxation and local government finance*. Lincoln Inst of Land Policy.

Oates, W.E., 1999. An Essay on Fiscal Federalism. *Journal of Economic Literature* 37, 1120–1149.

Pierce, J.C., Lovrich, N.P., Budd, W.W., 2016. Social capital, institutional performance, and sustainability in Italy's regions: Still evidence of enduring historical effects? T*he Social Science Journal* 53, 271–281.

Pierce, J.C., Lovrich Jr, N.P., Moon Jr, C.D., 2002. Social capital and government performance: An analysis of 20 American cities. *Public Performance & Management Review* 25, 381–397.

Pommerehne, W.W., Schneider, F., 1978. Fiscal Illusion, Political Institutions, and Local Public Spending. *Kyklos* 31, 381–408. https://doi.org/10.1111/j.1467-6435.1978.tb00648.x

Presbitero, A.F., Sacchi, A., Zazzaro, A., 2014. Property tax and fiscal discipline in OECD countries. *Economics Letters* 124, 428–433.

Putnam, R.D., 1993. *Making democracy work: civic traditions in modern Italy*. Princeton University Press, Princeton.

Rice, T.W., 2001. Social capital and government performance in Iowa communities. *Journal of Urban Affairs* 23, 375–389.

Sabatini, F., 2008. Social capital and the quality of economic development. *Kyklos* 61, 466–499.

Saha, D., 2009. Factors influencing local government sustainability efforts. *State and Local Government Review* 41, 39–48.

Scheufele, D.A., Nisbet, M.C., Brossard, D., Nisbet, E.C., 2004. Social structure and citizenship: Examining the impacts of social setting, network heterogeneity, and informational variables on political participation. *Political Communication* 21, 315–338.

Schneider, A.L., 1987. Coproduction of Public and Private Safety: An Analysis of Bystander Intervention,'Protective Neighboring,'and Personal Protection. *Western Political Quarterly* 40, 611–630.

Skocpol, T., Fiorina, M.P., 1999. Making sense of the civic engagement debate. *Civic engagement in American democracy* 1–26.

Tantardini, M., Guo, H., Ganapati, N., 2017. Social Capital and Public Financial Performance: Lessons from Florida. *Public Performance & Management Review* 40, 480–503.

Uphoff, N., 2000. *Understanding social capital: learning from the analysis and experience of participation*, in: Social Capital. Oxford University Press, Oxford, pp. 215–249.

Veiga, L.G., Veiga, F.J., 2007. Does opportunism pay off? Economics Letters 96, 177–182. https://doi.org/10.1016/j.econlet.2006.12.026

Witko, C., Newmark, A.J., 2009. The Strange Disappearance of Investment in Human and Physical Capital in the United States. *Journal of Public Administration Research and Theory* 20, 215–232.

1

TABLES AND FIGURES FOR THE TEXT

TABLE 1 DATA: DESCRIPTIVE STATISTICS SOURCES AND DEFINITIONS

Variable	N	Mean	SD	Min	Max	Description and Source
Elected	39,351	0.428	0.495	0	1	Dummy = 1 if the candidate is elected mayor *Source: Italian Ministry of Interior (biographical plus electoral data)*
Revenues Indicator (PROPERTY RATIO)	16,352	0.900	0.103	0.004	0.99	Revenues (PROPERTY RATIO): Ratio property on the sum of property plus income taxes. Logit transforms used in regressions. *Source: Budget Data from OPEN polis*
Expenditures Indicator (CAPITAL RATIO)	38,327	0.096	0.090	0.001	0.91	Expenditures (CAPITAL RATIO): ratio of capital on the sum of capital plus current expenditures. Log and Logit transforms used in regressions *Source: Budget Data from OPEN polis*
Incumbent (INCUMBENT)	39,351	0.228	0.420	0	1	Dummy = 1 if the candidate is the incumbent mayor rerunning for office *Sources: Italian Ministry of Interior (biographical plus electoral data)*
Social Capital (SOCIAL CAPITAL)	38,980	0.436	0.170	0.012	0.99	Log of the average "Voice" index, from 0 to 1, averaged for the period 2004-2012 *Source: IQI: https://sites.google.com/site/institutionalqualityindex/home; See A. Nifo and G. Vecchione (2014)*
EDUCATION: *1 = Below High School;* *2 = High School Diploma;* *3 = College degree and above*	39,351	2.304	0.685	1	3	Categorical variable measuring the education level attained by the candidate. *Sources: Italian Ministry of Interior (biographical plus electoral data)*
AGE (log of years)	39,046	3.886	0.228	2.9	4.5	Log of age in years *Sources: Italian Ministry of Interior (biographical plus electoral data)*
GENDER (0=male)	39,351	0.130	0.336	0	1	Dummy 0 if male *Sources: Italian Ministry of Interior (biographical plus electoral data)*
JOB CODES: *1 = baseline pool of job types;* *2= dependent labor;* *3 = manager professional or self-employed;* *4= skilled labor.*	39,351	2.292	0.868	1	4	Categorical variable measuring the job type of the candidate (4 categories total). *Sources: Italian Ministry of Interior (biographical plus electoral data)*

TABLE 2 – EXPENDITURES, SOCIAL CAPITAL AND RE-ELECTION

CONDLOGIT - MATCHING ESTIMATOR EXPENDITURES, DEPENDENT VARIABLE IS DUMMY ELECTED

ODDS RATIOS REPORTED IN ALL REGRESSIONS	Index of Budget Composition : CAPITAL RATIO (*Log Transform*)	PROPERTY TAX	CAPITAL RATIO	PROPERTY TAX
	(1)	(2)	(3)	(4)
INCUMBENT (RERUNNING CANDIDATE)	5.906***	3.860***	12.982***	4.752***
	(11.064)	(13.431)	(7.812)	(6.444)
INCUMBENT × BUDGET INDICATOR	1.192***	0.968	1.392***	1.042
	(5.072)	(-1.201)	(4.063)	(0.667)
INCUMBENT × SOCIAL CAPITAL			2.315***	1.219
			(3.939)	(1.306)
INCUMBENT × SOCIAL CAPITAL × BUDGET INDICATOR			1.178***	1.097**
			(2.760)	(2.030)
EDUCATION				
1 = Below High School				
2 = High School Diploma	1.174***	1.174***	1.176***	1.175***
3 = College degree and above				
	(4.990)	(3.236)	(5.028)	(3.244)
AGE	0.620***	0.615***	0.620***	0.617***
	(-8.753)	(-4.610)	(-8.710)	(-4.562)
GENDER (0=MALE)	0.803***	0.755***	0.802***	0.753***
	(-3.614)	(-4.149)	(-3.642)	(-4.192)
Baseline Job: Other Labor (e.g. Army)				
JOB: DEPENDENT LABOR	1.048	1.036	1.050	1.035
	(1.031)	(0.580)	(1.059)	(0.559)
JOB: MANAGER	1.084**	1.085**	1.085**	1.086**
	(2.108)	(2.361)	(2.110)	(2.411)
JOB: SKILLED LABOR	0.881**	0.861	0.881**	0.855
	(-2.259)	(-1.398)	(-2.292)	(-1.471)
Election fixed effects	Included	Included	Included	Included
OBSERVATIONS	32,253	14,033	32,253	14,033
MATCHING GROUPS	12,979	5,564	12,979	5,564
MUNICIPALITIES	6,132	4,542	6,132	4,542

Notes: Robust and Region-Clustered Standard Errors. ***p<0.01; **p<005; t-stat reported together with Odd-Ratios. Observations from 15 "*Regioni a Statuto Ordinario*" RSO. If ballot, only ballot's results in sample. Matching Group: Elections. Budget Indicator: Log transform of the index obtained dividing capital expenditures by the sum of capital plus current expenditures in columns (1) and (2).

TABLE 3 – JOINT DISTRIBUTION OF ESTIMATED PROBABILITIES

CONDLOGIT - MATCHING ESTIMATOR EXPENDITURES, DEPENDENT VARIABLE IS DUMMY ELECTED

(A) Percentage Changes from Baseline (1Q Social Capital, 1Q Capital Ratio)

CAPITAL RATIO Quartiles. Incumbents.

		1Q	2Q	3Q	4Q
Social Capital quartiles	1Q	0.0%	3.7%	7.4%	8.8%
	2Q	0.4%	3.6%	7.4%	14.7%
	3Q	1.9%	6.2%	11.6%	14.8%
	4Q	-1.2%	5.4%	8.3%	15.3%

CAPITAL RATIO Quartiles. Challengers.

		1Q	2Q	3Q	4Q
Social Capital quartiles	1Q	0%	-1%	5%	7%
	2Q	-12%	-11%	-8%	-3%
	3Q	-16%	-15%	-12%	-8%
	4Q	-23%	-23%	-22%	-18%

(B) Incumbent - Challengers (Differences)

Incumbent - Challengers Probability Difference

CAPITAL RATIO Quartiles

		1Q	2Q	3Q	4Q
Social Capital quartiles	1Q	0.25	0.28	0.27	0.27
	2Q	0.30	0.32	0.33	0.36
	3Q	0.33	0.35	0.38	0.38
	4Q	0.34	0.38	0.40	0.43

Incumbent - Challengers Probability (% Difference)

CAPITAL RATIO Quartiles

		1Q	2Q	3Q	4Q
Social Capital quartiles	1Q	57.2%	64.7%	60.6%	59.3%
	2Q	79.4%	82.7%	83.4%	86.4%
	3Q	90.8%	96.2%	99.4%	95.5%
	4Q	101.9%	113.9%	119.0%	120.1%

Notes: Robust and Region-Clustered Standard Errors. ***p<0.01; **p<005; t-stat reported together with Odd-Ratios.

TABLE 4 – ROBUSTNESS TESTS 1

CONDLOGIT - MATCHING ESTIMATOR EXPENDITURES, DEPENDENT VARIABLE IS DUMMY ELECTED

ODDS RATIOS REPORTED IN ALL REGRESSIONS	(1)	(2)	(3)
TYPE OF ROB CHECK >	POP ⩾ 5K	POP < 5K	EMPLOYMENT
INCUMBENT × CAPITAL RATIO × SOCIAL CAPITAL	1.327***	1.166*	1.161***
	(2.796)	(1.954)	(2.810)
INCUMBENT × CAPITAL RATIO	1.545***	1.355***	1.348***
	(4.401)	(2.578)	(3.826)
INCUMBENT (RERUNNING)	24.162***	9.341***	19.348**
	(7.831)	(5.834)	(2.105)
INCUMBENT × SOCIAL CAPITAL	4.362***	1.841**	2.191***
	(3.893)	(2.569)	(3.769)
INCUMBENT × EMPLOYMENT			0.991
			(-0.422)
Election fixed effects	Included	Included	Included
OBSERVATIONS	11,714	20,541	32,255
MATCHING GROUPS	✓	✓	✓
CONTROLS	✓	✓	✓

Notes: Robust and Region-Clustered Standard Errors. ***p<0.01; **p<005; t-stat reported together with Odd-Ratios.

TABLE 5 – ROBUSTNESS TESTS 2: CONTROLLING FOR THE ELECTORAL POLITICAL CYCLE
CONDLOGIT - MATCHING ESTIMATOR EXPENDITURES, DEPENDENT VARIABLE IS DUMMY ELECTED

ODDS RATIOS REPORTED IN ALL REGRESSIONS	(1)	(2)	(3)	(4)
		EXP INDICATOR LOG TRANSFORM		
TYPE OF ROB. CHECK >	EXP-2INT C=1	EXP-3INT-C=1	EXP-2INT-C=0	EXP-3INT C=0
INCUMBENT	5.798***	12.205***	4.516***	9.196***
	(9.886)	(6.670)	(10.488)	(6.676)
INCUMBENT × CAPITAL RATIO	1.181***	1.350***	1.098***	1.253***
	(3.952)	(3.733)	(2.851)	(2.700)
INCUMBENT × SOCIAL CAPITAL		2.162***		2.120***
		(3.307)		(3.389)
INCUMBENT × SOCIAL CAPITAL × CAPITAL RATIO		1.145***		1.148***
		(2.846)		(2.582)
Election fixed effects	Included	Included	Included	Included
MATCHING GROUPS	✓	✓	✓	✓
CONTROLS	✓	✓	✓	✓

Notes: C = 1 means that average has been computed only taking into account the election and the year before the election. C = 0 is a complementary to C = 1, and considers only indicators' average that use all the other years available, with the exception of the election year and the year before. Robust and Region-Clustered Standard Errors. ***p<0.01; **p<005; t-stat reported together with Odd-Ratios.

"Local Government Fiscal Policy, Social Capital and Electoral Payoff: Evidence across Italian Municipalities"

Alberto Batinti — IBSS - XJTLU

Luca Andriani — Birkbeck University

Andrea Filippetti — National Research Council

This Version: April 2019

Prepared for publication at "Kyklos."

SUPPLEMENT FOR ON-LINE APPENDIX
ADDITIONAL TABLES AND FIGURES

This appendix presents figures and tables including an additional battery of robustness tests.

Figure A1
IQI Voice Index - Provincial Distribution

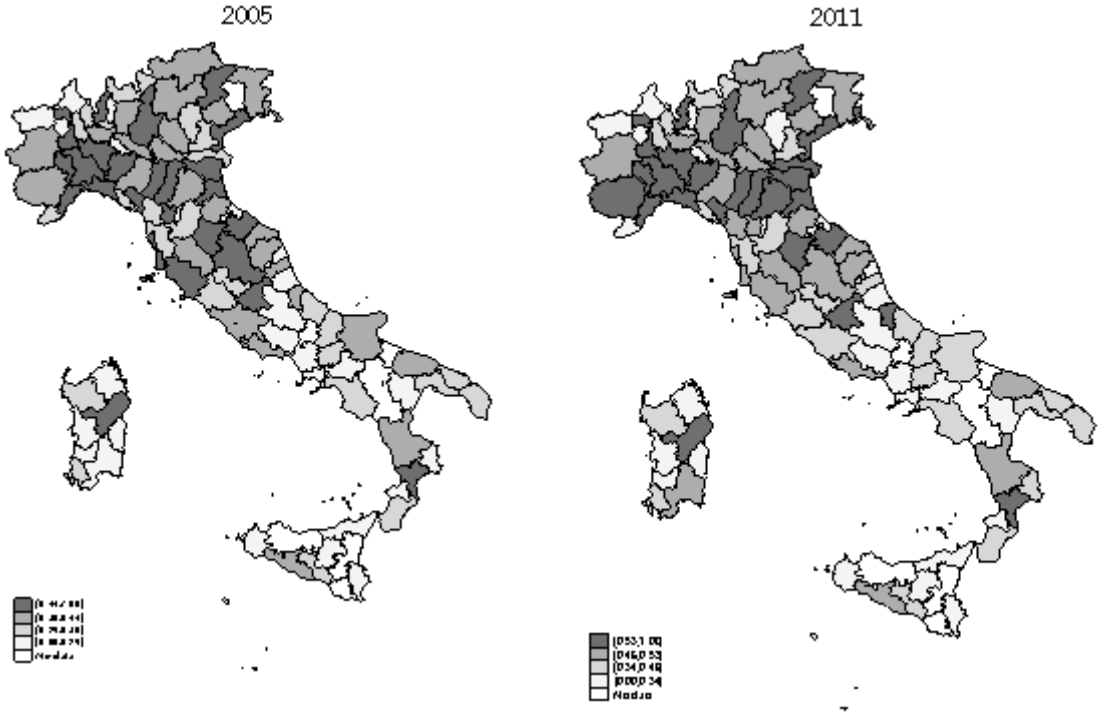

Figure 2
Fiscal indicators – Municipal Distribution

Ratio Capital to Current Expenditures (Logs)
Average 2003-2012

Ratio Property to Income Tax Revenues (Logs)
Average 2003-2012

Tables

Table A Regressions with subdimensions of the 'Voice' index of the IQI data

As can be inferred from the regressions reported in Table A below, The 'voice' index utilized in the main text seems to combine the size effect of associations (still significant at the 10% level), and the more precise, but smaller in size, coefficients from 'books.' This means that the aggregate index better explains the concept of social capital that interacts with cultural awareness (books) and social aggregation to be effective. By contrast, the results about social cooperatives can reflect a top-down process created by national-level organizations that operate in the territory and hardly fit at least with the idea of social capital that we propose in this paper.

TABLE A - WITH DETAILED "VOICE" COMPONENTS FOR CAPITAL RATIO

CONDLOGIT - MATCHING ESTIMATOR EXPENDITURES, DEPENDENT VARIABLE IS DUMMY ELECTED

ODDS RATIOS REPORTED IN ALL REGRESSIONS

SOCIAL CAPITAL IS>>>	(1) Book Intensity	(2) Book Purchase	(3) Social Cooperatives	(4) Voluntary Associations	(5) Political Participation
INC × SOCIAL × CAPITAL	1.031***	1.080***	0.976	1.147*	1.180
	(4.228)	(2.946)	(-0.505)	(1.942)	(0.912)
INC× CAPITAL	1.423***	1.345***	1.117	1.571***	1.242*
	(6.354)	(4.265)	(1.307)	(2.886)	(1.932)
INC × SOCIAL	1.128***	1.477***	0.995	1.835**	3.071
	(3.489)	(4.493)	(-0.021)	(2.246)	(1.537)
INC	11.717***	10.978***	5.360***	20.092***	8.702***
	(8.210)	(8.909)	(4.668)	(4.736)	(4.690)
EDUCATION	1.174***	1.176***	1.174***	1.176***	1.176***
	(4.975)	(5.022)	(4.991)	(5.000)	(4.980)
1 = Below High School					
2 = High School Diploma					
3 = College degree and above					
AGE	0.619***	0.620***	0.620***	0.621***	0.620***
	(-8.857)	(-8.737)	(-8.693)	(-8.847)	(-8.687)
GENDER (MALE = 0)	0.802***	0.801***	0.803***	0.803***	0.803***
	(-3.646)	(-3.668)	(-3.622)	(-3.639)	(-3.611)
JOB: DEPENDENT LABOR	1.050	1.052	1.048	1.043	1.050
	(1.022)	(1.094)	(1.027)	(0.981)	(1.059)
JOB: MANAGER	1.084**	1.085**	1.084**	1.080**	1.085**
	(2.053)	(2.083)	(2.113)	(2.011)	(2.116)
JOB: SKILLED LABOR	0.880**	0.882**	0.881**	0.879**	0.880**
	(-2.308)	(-2.308)	(-2.258)	(-2.279)	(-2.282)
Election fixed effects	Included	Included	Included	Included	Included
Observations	32,255	32,255	32,255	32,255	32,255
Matching Groups	12,979	12,979	12,979	12,979	12,979
Municipalities	6,132	6,132	6,132	6,132	6,132
Controls	✓	✓	✓	✓	✓

Notes: Robust z-statistics in parentheses. Robust and Region-Clustered Standard Errors. ***p<0.01; **p<005; t-stat reported together with Odd-Ratios. Observations from 15 "*Regioni a Statuto Ordinario*" RSO. If ballot, only ballot's results in the sample. Matching Group: Elections. Budget Indicator: Log transform of the index obtained dividing capital expenditures by the sum of capital plus current expenditures in columns (1) and (2).

Table B. Validation test.

As there is a significant difference between the revenues and expenditures samples due to missing data, we rerun the expenditures (larger) sample by restricting the observations to only those nonmissing in the revenues sample. Also, in this case, the results are very similar than those obtained when using the full sample.

TABLE B –RESULTS WITH THE SAME REVENUES AND EXPENDITURES USING COMPARABLE SAMPLES

CONDLOGIT - MATCHING ESTIMATOR EXPENDITURES, DEPENDENT VARIABLE IS DUMMY ELECTED
ODDS RATIOS REPORTED IN ALL REGRESSIONS

	(1)	(2)	(3)	(4)
	Property Tax	Capital Exp	Property Tax	Capital Exp
INCUMBENT	3.860***	5.698***	4.752***	14.677***
	(13.431)	(9.449)	(6.444)	(6.485)
INCUMBENT × FISCAL INDICATOR	0.968	1.205***	1.042	1.498***
	(-1.201)	(3.892)	(0.667)	(4.039)
INCUMBENT × SOCIAL CAPITAL			1.219	2.821***
			(1.306)	(3.276)
INCUMBENT × FISCAL INDICATOR × SOCIAL CAPITAL			1.097**	1.267***
			(2.030)	(3.040)
EDUCATION	1.174***	1.178***	1.175***	1.178***
	(3.236)	(3.286)	(3.244)	(3.270)
1 = Below High School				
2 = High School Diploma				
3 = College degree and above				
AGE	0.615***	0.622***	0.617***	0.622***
	(-4.610)	(-4.510)	(-4.562)	(-4.533)
GENDER (MALE = 0)	0.755***	0.755***	0.753***	0.753***
	(-4.149)	(-4.130)	(-4.192)	(-4.181)
JOB: DEPENDENT LABOR	1.036	1.039	1.035	1.039
	(0.580)	(0.612)	(0.559)	(0.608)
JOB: MANAGER	1.085**	1.087**	1.086**	1.087**
	(2.361)	(2.365)	(2.411)	(2.366)
JOB: SKILLED LABOR	0.861	0.868	0.855	0.862
	(-1.398)	(-1.322)	(-1.471)	(-1.396)
Election fixed effects	Included	Included	Included	Included
OBSERVATIONS	14,033	14,023	14,033	14,023
MATCHING GROUPS	5,564	5,564	5,564	5,564
MUNICIPALITIES	4,542	4,542	4,542	4,542

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table C. Trying the linear probability model (LPM)

In table C below, we show the results obtained when using the Linear Probability Model (LPM). In our case, the LPM does not produce significant estimates. LPM - with our data - is a poor specification, as we wrestle with highly skewed data. Our exercise of re-estimating with LPM shows in fact that, for expenditures, 40 and more percent of the estimated probabilities fall outside the (0,1) natural range of a probability measure. This test ensures us that the Conditional Logit proposed is the best specification.

TABLE C – LINEAR PROBABILITY MODEL. OLS REGRESSION

	EXPENDITURES		REVENUES	
	(1)	(2)	(3)	(4)
INCUMBENT	0.674***	0.904***	0.506***	0.581***
	(10.416)	(6.727)	(0.045)	(0.107)
INCUMBENT X FISCAL INDICATOR	0.066***	0.112**	-0.012	0.006
	(4.516)	(2.951)	(0.013)	(0.020)
INCUMBENT X SOCIAL CAPITAL (VOICE)		0.251**		0.073
		(2.580)		(0.069)
INCUMBENT X FISCAL INDICATOR X SOCIAL CAPITAL (VOICE)		0.050		0.024*
		(1.558)		(0.012)
EDUCATION				
	0.050***	0.050***	0.049**	0.049**
	(3.940)	(3.968)	(0.021)	(0.021)
1 = Below High School				
2 = High School Diploma				
3 = College degree and above				
AGE	-0.161***	-0.161***	-0.162***	-0.160***
	(-7.313)	(-7.305)	(0.043)	(0.043)
GENDER	-0.069**	-0.069**	-0.085***	-0.086***
	(-2.591)	(-2.621)	(0.027)	(0.027)
JOB: DEPENDENT LABOR	0.014	0.014	0.008	0.007
	(0.691)	(0.700)	(0.027)	(0.026)
JOB: MANAGER	0.026	0.027	0.025	0.025
	(1.429)	(1.431)	(0.016)	(0.016)
JOB: SKILLED LABOR	-0.041*	-0.041*	-0.051	-0.052
	(-1.872)	(-1.909)	(0.041)	(0.041)
Election fixed effects	Included	Included	Included	Included
OBSERVATIONS	36,545	36,545	15,675	15,675
R-SQUARED	0.273	0.274	0.256	0.258
PREDICTION % OUT OF SAMPLE	8.76%	40.77%	0.00%	1.28%
ELECTION FIXED EFFECTS (MATCHING GROUPS)	✓	✓	✓	✓

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table D. High vs. low contestability

We split groups between those elections above and below the median of the contestability measure. Contestability is measured as the percentage points difference between the winner and best challenger. We find that our results hold for low contestability elections. This seems to be in line with those studies that find that stronger government have more room for maneuvering their budget. Though not directly related to our research question, there is some endogeneity; future research should explore more in depth the role of close or highly contestable electoral competitions on fiscal policies and mediating effect of social capital.

TABLE D – DIVIDING BETWEEN LOW AND HIGH CONTESTABILITY ELECTIONS

	EXPENDITURES		REVENUES	
CONTESTABILITY	Low	High	Low	High
	(1)	(2)	(3)	(4)
INCUMBENT	56.286***	2.039**	13.491***	2.049***
	(15.387)	(2.330)	(7.824)	(2.791)
INCUMBENT × FISCAL INDICATOR	1.655***	1.007	1.135	0.989
	(6.131)	(0.063)	(1.046)	(-0.175)
INCUMBENT × SOCIAL CAPITAL	3.331***	1.120	1.281	0.986
	(5.198)	(0.468)	(1.080)	(-0.080)
INCUMBENT × FISCAL INDICATOR × SOCIAL CAPITAL	1.254***	1.009	1.255**	1.051
	(4.436)	(0.095)	(2.098)	(1.200)
EDUCATION	1.232***	1.129***	1.174**	1.161***
	(3.503)	(4.779)	(2.053)	(3.075)
1 = Below High School *2 = High School Diploma* *3 = College degree and above*				
LOG_AGE	0.539***	0.741***	0.500***	0.794**
	(-7.094)	(-5.288)	(-4.510)	(-2.030)
GENDER (MALE = 0)	0.785***	0.837***	0.718***	0.791***
	(-3.312)	(-3.191)	(-3.344)	(-3.822)
JOB: DEPENDENT LABOR	1.164*	0.955	1.152	0.943
	(1.807)	(-1.301)	(1.168)	(-0.588)
JOB: MANAGER	1.161**	1.004	1.182*	1.001
	(2.316)	(0.116)	(1.706)	(0.027)
JOB: SKILLED LABOR	0.842*	0.931	0.632***	1.040
	(-1.819)	(-0.780)	(-3.596)	(0.263)
ELECTION FIXED EFFECTS	Included	Included	Included	Included
OBSERVATIONS	15,783	16,472	6,722	7,311

Notes: We split groups between those elections above and below the median of the contestability measure. Contestability is measured as the percentage points difference between the winner and best challenger. Robust z-statistics in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table E. Additional statistics with years' breakdowns

As rightly suggested by the referee, we also provide information about the total number of elections analyzed and the election periods. This is provided in Section 2 footnote 4. Additionally, we have included Table E in the Appendix for further details about the statistics about the election periods, total number of elections, number of candidates, number of incumbents rerunning for Office, and % of incumbents

TABLE E – ADDITIONAL STATISTICS WITH YEAR BREAKDOWN

ELECTION YEARS	NUMBER OF ELECTIONS	NUMBER OF CANDIDATES	INCUMBENTS RERUNNING FOR OFFICE	% INCUMBENTS
2003	474	1,280	211	16.48%
2004	4,329	10,884	1,508	13.86%
2005	545	1,444	241	16.69%
2006	1,258	3,222	774	24.02%
2007	835	2,393	258	10.78%
2008	456	1,311	285	21.74%
2009	4,082	10,421	2,760	26.48%
2010	633	1,660	372	22.41%
2011	1,269	3,513	753	21.43%
2012	839	2,533	478	18.87%
2013	559	1,664	344	20.67%
2014	3,895	9,660	2,507	25.95%
TOTALS	19,174	49,985	10,491	

Table F. Substituting the 0-1 dummy if winning or not with the percentage votes obtained by the candidate.

TABLE F - OLS – RESULTS. USING PERCENTAGE VOTES (0 TO 100)

	(1)	(2)	(3)	(4)
VARIABLES	% Point received by the candidate			
	CAPITAL RATIO		PROPERTY RATIO	
INCUMBENT	36.430***	36.430***	23.588***	23.588***
	(6.469)	(6.469)	(6.013)	(6.013)
INCUMBENT X FISCAL RATIO	4.511***	4.511***	0.285	0.285
	(3.521)	(3.521)	(0.409)	(0.409)
INCUMBENT X SOCIAL CAPITAL	11.133***	11.133***	5.059	5.059
	(3.118)	(3.118)	(1.649)	(1.649)
INCUMBENT X FISCAL RATIO X SOCIAL CAPITAL	1.930**	1.930**	0.513	0.513
	(2.331)	(2.331)	(0.980)	(0.980)
EDUCATION	2.832***	2.832***	2.506***	2.506***
	(5.083)	(5.083)	(3.365)	(3.365)
1 = Below High School *2 = High School Diploma* *3 = College degree and above*				
AGE	-3.281**	-3.281**	-3.690**	-3.690**
	(-2.627)	(-2.627)	(-2.379)	(-2.379)
GENDER (MALE = 0)	-2.380**	-2.380**	-2.874***	-2.874***
	(-2.709)	(-2.709)	(-3.729)	(-3.729)
JOB: DEPENDENT LABOR	1.609	1.609	1.414	1.414
	(1.571)	(1.571)	(1.098)	(1.098)
JOB: MANAGER	1.993**	1.993**	2.004**	2.004**
	(2.573)	(2.573)	(2.774)	(2.774)
JOB: SKILLED LABOR	-1.637	-1.637	-2.367	-2.367
	(-1.398)	(-1.398)	(-1.567)	(-1.567)
ELECTION FIXED EFFECTS	Included	Included	Included	Included
OBSERVATIONS	36,545	36,545	15,675	15,675
R-SQUARED	0.615	0.615	0.587	0.587
MATCHING GROUPS	6,984	6,984	6,984	6,984

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1