

Political Turnover and the Performance of Local Public Enterprises

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Abstract

We study how political party turnover at the municipal level affects the economic performance of Italian Local Public Enterprises. To this end, we match data on municipal elections in Italy to the budget data of firms whose shares are owned by Italian municipalities. As political turnover and performance are likely to be jointly endogenous, we exploit the quasi-experimental nature of close electoral races to estimate the causal treatment effect. We find evidence that municipal party turnover disrupts investment and slows down productivity growth. At the same time, the probability of observing financial distress is larger. No significant effect can be established, on the other hand, in terms of profitability and employment growth. We link the effect of municipal party turnover to three mechanisms: first, the nature of close electoral races alters the incumbent party's incentives to invest; second, turnover makes the appointment of new, less-experienced, board directors more likely; third, the new political leadership directly reduces the amount of resources transferred in order to signal its commitment to curb wasteful municipal expenditure. We finally set up a survival analysis, whose results show that municipal party turnover is associated to an increase in the likelihood to observe bankruptcy.

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1 Introduction

Political alternation is one of the fundamental pillars of any democratic institution, yet no consensus on its economic effects has been reached in the literature. Costs and benefits crucially depend on the institutional and economic context analysed, as well as on the level at which political turnover is assessed. While country-level instability is generally deemed to harm growth through the disruption of investment and labour relations (Barro, 1991; Alesina et Al., 1996), some notable exceptions (Olson, 1982) claim that turnover is necessary to contrast “*institutional sclerosis*”, as stability allows ruling interest groups to organise and extract rents more effectively. Micro-level evidence is even more controversial, as political turnover potentially affects outcomes through heterogeneous channels. Shorter tenure in office is beneficial in instances where local politicians take time to build collusive relations with economic actors (Coviello and Gagliarducci, 2016). At the same time, municipal party turnover may worsen economic and social outcomes when followed by bureaucratic turnover, especially if a long learning process is required for a task to be efficiently mastered (Akhtari et Al., 2017). In addition, while turnover has been shown to break connections between political powers and corporations, its welfare effects are *a priori* ambiguous and case-specific¹ (Earle and Gehlbach, 2014; Heng et Al., 2016).

In this paper, we investigate the effects of municipal party turnover, defined as a shift in the party in charge of the city government, on investment, productivity and employment growth, profitability, and financial stability, of Local Public Enterprises (hereinafter, LPEs), companies whose shares are held, either totally or partially, by one or more municipalities. To this purpose, we match data on municipal elections and LPEs’ financial statements from 1993 to 2016. As shareholders, municipalities have the right to appoint directors and to approve the company’s financial statement. Moreover, the city government takes part in the design of investment plans, while setting the amount of resources transferred to LPEs in order to cover their operating costs. As many of them are entrusted with the provision of a public service, LPEs play a crucial role in citizens’ life as well as in the local economy. At the same time, there exists extensive anecdotal and

¹According to the *greasing wheel* hypothesis (Kaufmann and Wei, 1999), connections reduce bureaucratic burdens, increasing efficiency. The *grabbing-hand* hypothesis (Shleifer and Vishny, 2002) claims, on the other hand, that connections are a rent-seeking activity that creates deadweight losses.

judicial evidence suggesting that these companies are not only run inefficiently, but used as a tool to build political consensus, for instance through the incumbent’s commitment to hire supporting voters in case of re-election². These peculiarities make the analysis of Italian LPEs particularly relevant, even more so if one considers their pervasiveness in the Italian context. The Ministry of Finance (hereinafter, *MoF*) reports, in fact, the existence of more than 8,000 LPEs (eight times their number in France) employing approximately 285,000 people, and often not large enough to achieve economies of scale.

The crucial assumption for the identification of the causal effect of municipal party turnover requires assignment to treatment be exogenous. We argue that this condition is likely to be violated, and OLS estimates downward biased. Endogeneity may come from several sources. For instance, municipal party turnover may be itself a consequence of bad LPE’s economic performance, making a reverse causality issue arise. Moreover, incumbent parties may enhance their re-election prospects through unobserved rent-seeking activities, such as vote buying. This motivates the implementation of a Regression Discontinuity (RD) design in which LPEs owned by municipalities where an incumbent party was re-elected by a small margin are the counterfactual for those whose shareholder is a municipality in which the incumbent party barely lost. The unbiased estimation of the causal treatment effect requires that, as elections become tight, LPEs differ only as far as their treatment status is concerned. We check the validity of this hypothesis by comparing a wide range of observable LPE, municipal, and mayor characteristics, finding no evidence of substantial *ex-ante* differences between treated and untreated units.

Our results, robust to different model specifications, show that municipal party turnover disrupts investment, productivity growth, and financial stability. On the other hand, treatment does not affect profitability and employment growth. Moreover, though weak evidence of lower leverage emerges, we relate this to reduced investment rather than to improved financial stability. At the same time, the probability of observing financial distress is larger by 4.6%. We also employ a survival analysis to show that bankruptcy or wind-up procedures are more likely for treated LPEs. These findings support the view

²For instance, criminal judgement n. 18619/16 about crony hiring in the City of Rome’s local public transport companies, states that these hirings “are not only illegitimate, but illegal” and “performed according to mere patronage logics and in breach of law, without any assessment of the minimal professional requirements needed for any job position”.

that winning challengers tend to dismiss particularly inefficient LPEs. The absence of any effects on profitability can be interpreted in two ways: first, as evidence that LPEs are over-capitalised (Curci et Al., 2017), implying that lower investment does not translate in reduced profits; second, that LPEs' investment decisions are driven by service requirements rather than profit maximisation. As far as employment growth is concerned, finally, the fact that treatment affects the composition of the workforce, rather than its level, set aside the potential unreliability of the data, may explain our results. The discrepancy between OLS and RD coefficients suggests that individuals take LPEs' performance into account when casting their vote. This joint endogeneity issue, however, disappears as we focus on close elections, supporting the validity of our RD design.

We link our findings to three mechanisms through which municipal party turnover may affect LPEs. First, we claim that the uncertain nature of close elections alters the incumbent party's incentives, leading it to use investment in LPEs as an electoral tool, in particular in public service providers, whose activities are more visible to voters. A heterogeneity analysis confirms our claim, as the interplay between municipal party turnover and investment is significant only in first part of the term and stronger for entrusted firms. Second, we suggest that treatment may disrupt LPEs outcomes through the appointment of new, less-experienced board directors (Akhtari et Al., 2017). While the unavailability of data on directors' experience makes it impossible to test this hypothesis directly, we establish a causal relation between municipal party turnover and both the probability of observing an appointment and the number of appointments. Third, we look at a direct channel through which municipalities influence LPEs, i.e. operating grants. Elected challenger parties may be, in fact, willing to signal their competence and commitment by reducing transfers to wasteful LPEs. Though we find a significant negative effect of treatment on operating grants, this measure does not encompass all the resources transferred by municipalities to LPEs, and represent only a negligible amount of total revenues.

The rest of the paper is structured as follows. In Section 2, we review the political turnover and LPE's performance literatures. In Section 3, we outline the Italian institutional background. In Section 4, we describe the data. In Section 5, we detail our empirical strategy. In Section 6, we present estimates, discussed in Section 7. In Section 8, we show the results of the survival analysis. Conclusions are in Section 9.

2 Related Literature

Our paper is related to two strands of literature concerning: (i) the effect of political turnover on outcomes subject to political influence, and (ii) the performance of LPEs.

Political Turnover. There exists a growing literature devoted to the investigation of the economic and social effects of political turnover. The contributions in this field can be grouped in two broad categories: those focusing on the macroeconomic effects of political instability, where the linkages between governmental changes and country-level performance are analysed; those investigating the microeconomic consequences of turnover, whenever outcomes are subject to political influence. As far as the first category is concerned, the seminal papers by Barro (1991) and Alesina et Al. (1996) are worth mentioning, where the authors use cross-country data to show that political instability³ negatively affects both investment and GDP growth, especially in countries where institutions are weak. Alesina and Rodrick (1994) and Alesina and Perotti (1996), moreover, provide respectively a theoretical framework and empirical evidence of a link between growth and income inequality, *via* political instability. More recently, Grechyna (2016) theoretically demonstrates that political uncertainty shortens the ruling party's horizon, leading it to increase spending in order to carry out rent-seeking activities that are visible to voters. As our focus is on the effects of turnover rather than on the ones of its country-level frequency, however, we refer to this category mainly for the interpretation of our findings. More recent works can be generally included, on the other hand, in the second group, where the effect of either country or local political turnover on microeconomic outcomes is investigated. Papers in this stream of literature identify two main mechanisms through which political change affects performance, namely connections and patronage (Weber, 1922). The theory related to connections postulates that turnover breaks the existing ties between the political power and bureaucracy. Patronage, on the other hand, focuses on the appointment of politically-affiliated bureaucrats by newly-elected politicians. The two mechanisms appear to be closely related, yet they are somehow different. First, while broken connections can be seen as a consequence of political turnover independent from the elected party's behaviour, patronage reflects the

³The latter is defined either as the frequency of government collapses (through democratic elections or *coup d'états*) and as an index of social unrest that encompasses violence and riot indicators.

latter’s will to control the bureaucracy in order to extract rents. Moreover, while the connection theory is equally applicable to bureaucratic offices and private firms, patronage requires political control. In the first group we find Earle and Gehlbach (2014), who study the consequences of the 2004 “*Orange Revolution*” in Ukraine on the productivity of manufacturing firms, establishing a positive effect for firms located in regions that supported the political turnaround. The authors link this effect to the introduction of particularistic policies by the new central government in favour of supportive regions, where connections were not broken as a consequence of political change⁴. Heng et al. (2016), moreover, focus on the effect of political turnover on LPEs’ performance in the specific Chinese political framework⁵. The authors employ OLS to show that municipal political turnover in China lowers investment, in particular for publicly-owned firms, as the latter are more connected.⁶ The decline in investment is significantly linked to profitability, on the other hand, only as far as private firms are concerned. The authors link this finding to the latter’s higher investment efficiency, that translates missed investment opportunities into lower profits⁷. Quite differently from this literature, the focus of our paper is on the effect of municipal party turnover in a representative-democracy framework rather than imposed or exogenous turnover. Among the papers focusing on patronage, Akhtari et Al. (2017) is the most closely related to ours in terms of methodology and mechanisms. The authors employ an RD design to show that municipal party turnover worsens standardised student test scores in Brazilian municipal schools. This effect is driven by the appointment of politically-affiliated⁸, less experienced headmasters in municipal schools where turnover occurs⁹. We find that a similar mechanism is at work in the case of LPEs, as municipal party turnover is connected with a higher replacement

⁴Privately-owned firms, government suppliers, and large enterprises look particularly affected, as these categories of companies are more likely to be connected with political power.

⁵Local administrators are appointed by either the central or local branches of the Communist Party. The internal promotion structure, based on the economic performance achieved, is likely to affect the appointees’ incentives, pushing them to signal their competence.

⁶In a similar fashion, the drop in investment is more pronounced for capital-intensive firms, as the latter are usually bigger and thus key for the internal promotion of Chinese politicians.

⁷Opposite results are obtained in Cao et al (2016), where the authors show that newly-appointed mayors in China boost State-owned enterprise investment, especially in the first year after appointment.

⁸Akhtari et Al. (2017) mention two other costs of political control over bureaucracy, i.e. short-horizon electoral incentives leading politicians to allocate resources sub-optimally to activities fostering their re-election prospects (Rauch, 1995), and the reduction in the bureaucracy’s autonomy, identified in Rasul and Rogger (2016) as a factor worsening the completion rate of public projects in Nigeria.

⁹No effect is found in non-municipal schools, that are not subject to political influence.

rate of board directors¹⁰. Finally, a positive link between local political and bureaucratic turnovers in India is established in Iyer and Mani (2012), even if this could not be associated to changes in the outcomes of a set of development local policies.

LPEs' Performance Contributions analysing LPEs focus mainly on the effects on performance of different ownership structures and the related level of exposure to competition. From a theoretical viewpoint, the seminal paper by Laffont and Tirole (1991) compare public and private organisations in a common agency framework. The authors argue that the absence of clear incentives to managers (agents) in public organisations, whose aim is to maximise social performance rather than profits, makes them less inclined to seek efficiency. The effects of privatising the provision of public services is the focus of Hart et Al. (1997), where an incomplete contract framework is used to show that contracting provision out reduces costs, but erodes service quality if the latter is non-contractible. Since the LPEs' phenomenon, referred to as "*municipal capitalism*" (Bianchi et Al., 2009), is more pervasive in Italy than in other countries, it is not surprising that many empirical papers analyse the Italian scenario. Boggio (2012), for instance, investigates the determinants of the choice to adopt a given ownership structure (public or mixed, fragmented or concentrated) and its effects on LPEs' performance, finding that mixed ownership is preferred by municipalities that are more conservative and have higher levels of debt. As far as performance is concerned, while mixed ownership positively affects operating efficiency, it worsens profitability and employment. A similar result is obtained in Monteduro (2014), where the author analyses a sample of Italian local utilities. Interestingly, private majority does not emerge as a necessary condition for improved performance. As a further example, Curci et al. (2017) analyse heterogeneity in performance due to differences in both ownership and market structures, finding that LPEs are generally less profitable than privately-owned firms. This effect, however, fades away in more competitive sectors and/or when the private share in mixed ownership is prevailing. As far as the descriptive literature is concerned, yearly monitoring reports issued by the Ministry of Finance (hereinafter *MoF*) from 2011 extensively comment

¹⁰Differently from Akhtari et Al. (2017), however, we cannot rely on standardised outcome, as LPEs operate in several economic sectors characterised, in principle, by different performance standards.

LPEs' aggregate economic performance¹¹. Other sources of descriptive information are the reports provided by Cerved Group (2014) and by the Italian Spending-review Commission (Cottarelli, 2014).¹²

Our contribution to the aforementioned literature is threefold. First, we are not aware of any paper relating municipal party turnover and outcomes subject to political influence in the Italian context. Second, while the performance of Italian LPEs has been largely analysed, and in spite of their economic relevance and anecdotal evidence of political influence, the links between political and LPE's outcomes have not been assessed yet. Finally, the use of a quasi-experimental design allows us to overcome endogeneity issues and estimate the unbiased causal effect of political turnover on LPEs' performance.

3 The Institutional Framework

3.1 Municipalities

There were 7,982 municipalities (*Comuni*) in 2017 in Italy, ranging from 34 to more than 2 million inhabitants. Municipalities are in charge of the provision of local public services, such as utilities (energy, gas, waste collection and management, water supply, transportation), contract for public works, and offer local welfare and social programs to their resident population. In virtue of the principle of financial autonomy, municipalities retain the power to set and collect taxes on property and waste management. The substantial weight of municipal spending (amounting to roughly 10% of total public expenditure) led to the adoption, in 1997, of the Domestic Stability Pact (*DSP*)¹³, which introduced a set of rules bounding deficits' accumulation to time-varying quantitative thresholds¹⁴. Municipalities have their own administration, composed by a mayor (*Sindaco*), who is the head of an executive committee (*Giunta*); its legislative proposals are examined and either approved or rejected by a council (*Consiglio Comunale*), whose

¹¹These reports follow the obligation for municipalities to transmit shareholding information (together with some budgetary data) laid down in Law 191/2009.

¹²The latter provides guidelines aimed at increasing efficiency and transparency in LPEs.

¹³The introduction of the DSP has created incentives for municipalities to set up LPEs, in order to circumvent the deficit ceiling, as the latter are not subject to the rules of the pact (Cottarelli, 2014).

¹⁴For an extensive description of the DSP refer to Grembi et al. (2015).

seats are allocated on the basis of the results of elections normally held every five years¹⁵. Electoral rules were drastically reformed by Law 81/1993 which introduced, among the others, the direct election of mayors and a two-term limit for those elected after its introduction¹⁶. Each candidate is supported by one or more electoral lists, which can either take the name of a national party or be a civil list (*Lista Civica*). The structure of the majority premium, that assigns the absolute majority of seats to the coalition of parties supporting the winning candidate, allows us to consider mayoral votes as the relevant ones when setting up our RD design, as mayor turnover is a necessary condition for party turnover. Since term-limit has been shown to affect mayors' incentive structure, and since we do not observe a sufficient number of non-term-limited second-termed mayors in our sample, focusing on parties makes it possible to get rid of this confounding factor¹⁷.

3.2 Local Public Enterprises

LPEs are companies whose shares are held by a peripheral administration (region, province, or municipality). Service provision characterises many of these firms, yet entrustment is not a necessary condition to identify LPEs. The roots of municipal intervention in service provision are to be traced in Law 103/1903, which allowed municipalities to set up “*aziende speciali*”, firms carrying out activities instrumental to the municipality itself. The transition to the modern concept of LPE is due to Law 142/1990, which granted them legal personality and allowed municipalities to set up limited companies (*in house*) and public-private joint ventures (*Società miste*)¹⁸. The duty to “formally” privatise LPEs was introduced by Law 448/2001, as a consequence of which these companies became subject to private law. Decree Law 296/2003¹⁹ made it compulsory for local administrations

¹⁵Term length was four years before the introduction of Law 120/1999.

¹⁶ This law set up different electoral rules for municipalities above and below 15,000 inhabitants encompassing majority premia, run-off elections, the use of a proportional or majoritarian system, and the possibility to cast two separated votes, one for the mayor and one for an electoral list (*Voto disgiunto*). The possibility to run for an additional term has been reintroduced by Law 56/2014 (*Legge Delrio*) for municipalities with population lower than 3,000 inhabitants.

¹⁷See Besley and Case (1995), Ferraz and Finan (2011), and Coviello and Gagliarducci (2016).

¹⁸This profound transformation was deemed necessary in order to reduce issues related to political influence and the absence of incentives to an efficient management of these firms.

¹⁹This norm was introduced to abide the European Union jurisprudence aimed at reducing distortions of competition stemming from the direct award of local public services (EU Court of Justice, C-107/98).

to tender out service entrustment unless the conditions for “in house” provision are met²⁰. Law 244/2007, introduced to limit LPEs’ proliferation (especially after the adoption of the DSP), forced municipalities to sell LPEs not carrying out a necessary activity for the achievement of their institutional purposes²¹. More recently, Decree Law 78/2010 has forbidden municipalities below 30,000 inhabitants to create new LPEs, while forcing them to dismiss any share owned in already existing ones²².

The phenomenon of LPEs turns out to be pervasive: according to Cerved (2014), 97% of Italian municipalities own at least a share in a company. Moreover, the *MoF* reports the existence of 8,922 firms in which local administrations hold 55,902 shares. As far as municipalities are concerned, the report identifies 6,572 firms and 46,105 shares, of which 32,937 are direct²³. It is worth noticing that more than 80% of these shares are lower than 5%, and just roughly 5% of them are majority shares. This should not lead us to underestimate the importance of micro-shares, as it is common practice for several municipalities to hold shares in the same firm that, taken together, ensure control²⁴. According to Cottarelli (2014), LPEs operate in four main categories of activity, i.e. services that are instrumental to the municipality (12.8%), public services with no economic relevance (42.5%), network local public services (23.3%) and a residual, very heterogeneous, category (21.4%). This distinction is useful since these activities are subject to different levels of competition from private operators and benefit from different levels of public financing. The unprofitability of some of the businesses carried out by LPEs, together with the alleged inefficiency of their management, led to considerable losses, which amounted to 1,200 million Euro in 2012. Municipal LPEs are relevant also from an occupational perspective as, according to Cerved (2014), they employ approximately 285,000 workers. From a geographic viewpoint, LPEs are mostly concentrated in the centre-north of Italy

²⁰These conditions require the administration to retain the control share, appoint the majority of board directors, and exert an “analogous control” to the one it has over its own branches. Moreover, the company’s turnover must derive mainly from the contracts awarded by the administration itself.

²¹The possibility to classify the activity of an LPE as necessary with a “motivated deliberation” by the municipal administration considerably jeopardised the achievement of its objectives.

²²After several years, however, only a negligible part of the firms falling under the scope of these laws have been actually dismissed. According to Cerved (2014), in fact 1,472 firms fell under the scope of Decree Law 78/2010, yet only one out of five had been liquidated, as of 2014.

²³Since 7% of municipalities have not disclosed information in 2015, the actual magnitude of the phenomenon is likely to be underestimated to some extent.

²⁴This is very common in the case of small municipalities holding shares in firms providing “network service” such as energy, gas, water, and local public transport.

and rarer in the south where, however, the percentage of firms carrying out activities other than the traditional provision of local public services is relatively higher.

4 Data Description

4.1 Data Construction

We draw information from several sources to build our electoral dataset. We get yearly data on all the politicians in charge from 1985 to 2015 from the Registry of Local Politicians (hereinafter, RLP), provided by the Ministry of Interior (*MoI*). This includes detailed information on all members of the Council and the Executive Committee, such as identity, gender, date and place of birth, previous employment, education attainment, political affiliation, office held, appointment and termination dates, and any reasons for early term conclusion. We match the RLP with electoral data (henceforth, ED), available from the *MoI*, containing candidate identity, supporting political lists, both mayor and party votes (in each election round) and seats awarded in the council for the years 1993-2015. Due to the presence of regions keeping their own election archives on the basis of their political autonomy (*Regioni a Statuto Speciale*), and since both RLP and ED often keep names of civil lists unspecified, we integrate these datasets with information from regional electoral websites, as well as other on-line archives. As far as supporting parties are concerned, we rely primarily on ED, using RLP and the other sources in case of missing or unspecified political affiliation. In the resulting dataset we cannot identify the supporting party in 32% of cases, 96% of which in municipalities with less than 15,000 inhabitants. Since LPEs are more likely to be present in larger cities, this missing data problem is less severe than one could expect. In our analysis we consider run-off election as the relevant ballot, as it is the decisive one for determining turnover. The algorithm employed to detect political continuity is extensively explained in the Appendix. Finally, municipal demographic information is retrieved from the Italian Statistical Office (*Istat*). Table 16 shows summary statistics concerning municipalities and elections in our sample.

Firm-level data are taken from two main sources, namely Cerved and Aida²⁵. Both

²⁵Cerved is the largest Italian firm-level database, and contains more than 18 million balance sheets. Aida is the Italian branch of Bureau Van Dijk, and it contains data for about a million firms.

provide comprehensive information regarding Italian companies, including financial statement, average yearly number of employees, sector of activity (six-digit ATECO code as of 2007), the firm’s incorporation date, as well as other productivity, profitability, and financial stability indices²⁶. Cerved data spans from 1993 to 2015, while Aida makes data available only for the last ten years; this makes Cerved our main reference²⁷. All nominal variables are deflated with the GDP deflator using 2010 as base year. We present data on the universe of Italian LPEs at the bottom of Table 16.

Summary statistics for our final dataset are reported in Table 1. It consists of 25,408 statistical units, defined as firm-year pairs, spread over 1,363 municipalities and 3,046 terms. Of these, 32% parties are at their first term, 33% at the second, and 35% at the third or more. Left-wing parties ruled in 39% of the cases, while right-wing in 31%. On the LPEs’ side, we observe 3,510 companies, of which 18% operate in the water provision, sewerage services, and waste collection, 12% in the provision of electricity and gas, 11% in transportation and storage, and 11% in wholesale and retail trade. As far as the ownership structure is concerned, 24% of LPEs in our sample are fully owned and 51% are controlled by one municipality; the latter owns less than 1/4 of shares in 28% of cases. Considering also LPEs owned by more than one local administration, control lies in public hands in 66% of instances. Private parties, consequently, control the remainder, which tends not to be entrusted with public service provision. A non-negligible share of firms, 15%, has been subject to an insolvency procedure for at least one year. The LPE’s geographic distribution looks uneven: 60% in the North, 22% in the Centre, and the remaining 18% in the South and Islands. 34% LPEs are located in cities with less than 15,000 inhabitants, with an average of 1.4 LPEs per municipality. The latter increases, as expected, to 4.5 in larger cities. Noticeably, we observe that 23% statistical units in our sample have no employees. While this could lead us to think that those LPEs are not active, it appears that just 9% have also zero revenues, suggesting that most of these companies partially outsource their productive process. The unbalanced time distribution of observations (77% of them is concentrated in the last ten years) is affected by three factors. First, the larger presence of undefined civil lists before 2007 makes the detection

²⁶Missing information is retrieved from optical budgets, when available.

²⁷As these two sources are not completely equivalent in terms of the evaluation and classification of some balance sheet items, we ensure that no significant discrepancies exist in the resulting dataset.

of incumbency less likely, especially in small municipalities. Secondly, old financial statements come exclusively from one source, namely Cerved. Third, as the *MoF* reports are published since 2011, we cannot observe any LPE whose activity ceased before this date.

4.2 LPEs' Outcomes

We investigate the effects of municipal party turnover using outcomes that are representative of LPEs' performance in five main areas:

- i. Investment, obtained as the year-by-year difference between the sum of tangible and intangible fixed assets, net of amortisation. Tangibles include land, buildings, plants, machineries, industrial and commercial equipment, etc. Intangibles encompass goodwill, patents, intellectual property rights, R&D, and start-up costs;
- ii. Productivity, as measured by TFP, defined in two different ways. We first estimate productivity as the residuals \hat{u}_{it} from a regression of log net revenues on a Cobb-Douglas including labour costs and assets. More formally:

$$\log Y_{it} = \alpha \log L_{it} + \beta \log K_{it} + \gamma X_m + \delta X_i + u_{it}, \quad (1)$$

where X_m and X_i are vectors of municipality and firm characteristics. As OLS estimates may be endogenous, however, we also resort to a more complex definition of TFP, following the methodology suggested by Levinson and Petrin (2003) and Petrin et Al. (2004). This entails the inclusion in the Cobb-Douglas of an intermediate input (log investment) to proxy for the unobservable productivity term that makes the regressor endogenous. More precisely, we estimate $\hat{\omega}_{it}$ from:

$$\log Y_{it} = \alpha \log LC_{it} + \beta \log K_{it} + \lambda \log INV_{it} + \gamma X_m + \delta X_i + \omega_{it} + \eta_{it}, \quad (2)$$

where the error has two components, namely ω_{it} , the transmitted productivity, and η_{it} , which is an error term assumed to be uncorrelated with input choices. Under some technical conditions, detailed in Levinson and Petrin (2003), the estimated TFP is unbiased. We finally compute yearly growth rates for both measures;

- iii. Profitability, evaluated using return on assets (ROA). The latter, defined as the ratio of EBIT and assets, measures the efficiency in using assets to generate profits²⁸;
- iv. Employment, measured by the yearly employees' growth rate;
- v. Financial stability, proxied by leverage, defined as the ratio of total assets and equity²⁹. We further specify a dummy variable that equals 1 if the either (i) the LPE undergoes bankruptcy or wind-up procedures or (ii) the balance sheet reports negative equity in the corresponding year. The inclusion of (ii) makes it possible, in principle, to detect instances of financial distress in the first years of our sample, not available in the *MoF* data. It is worth stressing that, in fact, not all procedures lead to a company's exit from the market, while an instance of negative equity is traditionally associated with a situation of firm difficulty³⁰

5 Identification Strategy

5.1 OLS Modelling

In order to estimate the effect of political turnover on LPE's outcomes, we assume that firm i 's outcome at time $t + j$ is related to the treatment in municipality m as follows:

$$y_{i,t+j} = \alpha + \beta T_{mt} + \gamma X_{m,t+j} + \delta X_{i,t+j} + \epsilon_{i,t+j}, \quad \forall j = 1, \dots, 4 \quad (3)$$

where $y_{i,t+j}$ is the LPE's outcome j years after the election, held at time t ; our treatment, labelled as T_{mt} , is a dummy variable equal to 1 if the incumbent party loses at time t in municipality m and 0 otherwise; X_m and X_i are vectors of respectively municipal/mayor/term and firm characteristics; finally, $\epsilon_{i,t+j}$ is a random disturbance clustered at the municipality level to allow for autocorrelation of firms located in the same city³¹.

²⁸As we focus on investments, a better indicator of firm profitability is return on investment. However, the latter's unavailability in Cerved, together with the difficulties inherent in its calculation, prevent us to use it.

²⁹We leave this value as missing if equity is negative.

³⁰Negative equity is a situation in which accumulated losses are larger than the sum of share capital and reserves. The correlation of bankruptcy and negative equity is very large (more than 40%).

³¹Given the nested nature of our dataset, we follow the conservative approach suggested in Cameron et Al. (2006), thus clustering standard errors at the higher level of analysis.

We are interested in estimating β , the coefficient on T_{mt} . It should be noticed that election years are excluded from our analysis. The reason for this choice is the ambiguous assignment of budget years to the current or previous term, as elections are usually scheduled in May or June. We point out that terms lasting more than 5 years are an exception (0.19%), while roughly 14% of the terms ended before the canonical electoral schedule. X_m includes: (i) city characteristics, to control for geographical and municipal factors that could affect firm performance, i.e. resident population in the municipality at the beginning of the term to account for market size, altitude above sea level and city area in squared kilometres to control for economies of scale in public service provision and cost-effectiveness, the share of graduate, below-twenty-five-year-old, and above-sixty-five-year-old inhabitants to encompass differential needs to be satisfied by the LPE, the number of firms registered in the municipal territory, to account for competition and the level of economic activity; (ii) mayor characteristics, including age and a set of dummies, i.e. gender, being born in the same province and having previous experience in the city council and/or executive committee, whether the mayor is retired/graduated, to account for any differences in LPE's performance driven by the mayor's skills and experience; (iii) term and electoral characteristics, i.e. two dummies to control for the mayor's political affiliation (left-wing or right-wing), a dummy for the term being ended before the next scheduled election; a full set of 110 province dummies is further added to account for time invariant geographical characteristics. X_i include firm characteristics to control for the specificity of the activity carried out by the LPE, i.e. a set of 288 sectoral dummies (6-digit ATECO code as of 2007), firm dimension, proxied by both firm assets and five employment dummies that we define on the basis of employees according to ISTAT criteria³², a dummy for the LPE being in liquidation, a dummy for the company being entrusted with the provision of a public service by the reference shareholder, and the company's age in years; a set of 23 year dummies to control for unobserved time trends.

The unbiasedness of OLS estimates, however, rely on the crucial exogeneity assumption requiring treatment be orthogonal to the regression residual, i.e. that no unobserved factors are correlated with both the outcome and political turnover. This assumption seems very unlikely to be met in the analysis at stake, for a number of reasons. First, using

³²ISTAT classifies employment levels in 5 groups, respectively 0-9, 10-19, 20-49, 50-249, ≥ 250 .

an inverse causality argument, negative firm performance may foster political turnover. Secondly, political continuity may be fostered if LPEs are used to achieve electoral objectives, for example through vote-buying, which we do not observe. The direction of the bias is discussed in paragraph 6.1, where we report OLS estimates.

5.2 RD Design

In order to tackle the endogeneity issue discussed above, we employ a sharp regression discontinuity (RD) design that takes advantage of close electoral races to replicate a quasi-experimental environment. This identification strategy requires the treatment be deterministically assigned on the basis of a continuous variable, known as “running” or “forcing”. More precisely, individuals receive treatment only if this variable exceeds a known threshold. According to theory, treatment is as good as randomly assigned if, at this cut-off: (i) individuals cannot self-select above or below the threshold³³; (ii) are identical under all perspectives but the treatment; and (iii) the forcing variable is continuous in the treatment. If these conditions are met, then the estimated coefficient, which is nothing but the “jump” in the analysed outcome at the threshold, is the average treatment effect (*ATE*). Since this design exploits observations that are close to the threshold, it is characterised by very strong internal, but may suffer from weak external validity³⁴. Provided that conditions (i) and (ii) above are satisfied, political turnover represents an ideal framework for the application of an RD design. Assignment to treatment is, in this case, a deterministic function of margin of victory (MV_{mt}), defined as the difference between the incumbent’s and the challenger’s vote shares in the decisive round, with a sharp discontinuity at $MV_{mt} = 0$ ³⁵. More specifically, we observe political turnover when $MV_{mt} < 0$ and continuity when $MV_{mt} > 0$ ³⁶. As MV_{mt} could be endogenously deter-

³³Despite the plausibility of this assumption in close elections context, some papers have argued that, at least for the US House elections, winners and losers differ in a systematic fashion. Evidence of this would be that the expenditure by incumbents in close US elections tends to be larger (Caughey and Sekhon, 2011), and that incumbent parties hold an advantage due to their control over state offices (Grimmer et al, 2012). Eggers et al. (2015), however, do not find similar patterns for close elections in other countries, such as France, UK, and Germany, and even for US elections other than House ones.

³⁴An overview of RD design can be found in Imbens and Lemieux (2008), and Lee and Lemieux (2010).

³⁵Assumption (iii), which requires continuity of the running variable, is easily satisfied.

³⁶We stress again that, since mayor turnover is a necessary condition for party turnover, we can confidently use the candidate’s vote share to compute MV_{mt} . For readability’s sake, in our figures we display margin of victory as $-MV_{mt}$.

mined by the LPEs' performance, we follow Lee (2008), and focus on closely contested electoral races, where the treatment status is as good as randomly assigned and depends on factors that are not under candidates' control, such as weather shocks or unexpected news. The argument borrows credibility from the fact that municipalities where the incumbent barely won and lose the election are comparable, and differ only inasmuch treatment is concerned. In the framework of our study, this translates in the comparison of LPEs controlled by municipalities where the incumbent party won or lost by a small margin³⁷. Formally, the RD design implies that the outcome of interest is related to the treatment according to the following cubic-interaction parametric specification:

$$y_{i,t+j} = \alpha + \beta T_{mt} + f(MV_{mt}) + f(MV_{mt}) \times T_{mt} + \gamma X_{m,t-1} + \delta X_{i,t-1} + \epsilon_{i,t+j}, \quad (4)$$

$\forall j = 1, \dots, 4$. Differently from equation (1), the outcome of interest $y_{i,t+j}$ is assumed to depend also on a third-order polynomial function in the margin of victory, $f(MV_{mt})$, estimated separately on either side of the cut-off. The inclusion of a cubic interaction allows for a differential effect of the treatment not only on the regression line's intercept, but also on its slope³⁸. The robustness of our RD estimates is further investigated through the application of a local linear regression (*LLR*) model. Differently from the previous specification, this method exploits only the observations falling within an optimal bandwidth defining a local compact support $MV_{mt} \in [-h, +h]$; as the literature provides several ways through which this is computed, we restrict our attention to the MSE-optimal bandwidth proposed by Calonico et al. (2017) and to the cross-validation method suggested by Imbens and Kalyanaraman (2013)³⁹. More formally, we estimate:

$$y_{i,t+j} = \alpha + \beta T_{mt} + \phi MV_{mt} + \lambda T_{mt} \times MV_{mt} + \gamma X_{m,t-1} + \delta X_{i,t-1} + \epsilon_{i,t+j}, \quad (5)$$

³⁷Our electoral dataset includes 3,826 elections where a margin of victory smaller than 10% is observed, amounting to almost 27% of all elections. Of these, half of them were decided by a 5% margin.

³⁸As explained in Jacob and Zhu (2012), this feature is particularly helpful in cases in which either data very far from the cut-off point are used in the analysis, or there is a non-linear relation between the outcome and the running variable. We cannot *a priori* exclude any of these possibilities.

³⁹To this purpose, we employ the STATA packages `rdrobust` and `rd`. An extensive discussion of their methodologies can be found respectively in Calonico et Al. (2016) and Nichols (2016).

This method relies exclusively on observations close to the cut-off, where treatment is more likely to be as good as randomly assigned. The results of LLR are presented in the Appendix as a robustness check. We take a number of steps to assess the validity of our RD design. First, we include in the model the same set of covariates used in equation (3), computed in $t - 1$, with the addition of a variable capturing the incumbent party's tenure in office. The rationale for this is that, if assignment to treatment is random, the coefficient β should not be heavily affected by their inclusion. Furthermore, covariates in $t - 1$ are used as outcomes of a simplified version of (4) (which includes only the polynomial in MV_{mt} , T_{mt} , and their interaction) to assess whether statistical units are balanced on either side of the cut-off. Any systematic difference in pre-determined characteristics would, in fact, suggest that LPEs are not comparable in close electoral races. Finally, the evidence of any manipulation of the margin of victory around the cut-off, detected by the presence of discontinuities in its density at the threshold, is also ascertained employing the formal test provided by McCrary (2008).

6 Empirical Evidence

6.1 OLS Estimates

The preliminary OLS estimates obtained from fitting equation (3) to LPEs' outcomes are presented in Tables 2 through 4. For each table, industry characteristics are included in columns 1, 3, and 5; the whole set of covariates discussed in section 6.1 are added in columns 2, 4, and 6. Overall, our preliminary findings point to a disruptive effect of political turnover on the selected outcomes, even if a significant correlation cannot be established for all the variables under analysis. Table 2 presents point estimates of the effect of turnover on LPEs' investment, both as a whole and in its main components, i.e. tangibles and intangibles. Preliminary results do not show any clear-cut correlation as far as investment is concerned. In Table 3, we report estimates of the effect of political turnover on productivity and employment, as measured respectively by TFP growth (computed according to the procedures detailed in Section 5), and employment growth. As far as productivity is concerned, the estimates exhibit that, irrespective of

the definition used, municipal party turnover is significantly associated with a slowdown in TFP growth. This result is corroborated by the inclusion of our full set of covariates, as the latter do not quantitatively affect the estimated coefficients. All in all, a change in the ruling party is associated with a reduction of productivity growth by more than 13 points, providing evidence in favour of disruption. The estimates do not show a significant correlation as far as employment growth is concerned. We provide two possible reasons for this result. First, political turnover may affect the composition of the workforce rather than its level, i.e. patronage could involve employees as well as directors. Moreover, the effects of exchange vote may not emerge, as our employment variable does not encompass temporary contracts, which are most likely used in order to gain political favour⁴⁰. Table 4 reports the effect of political change on profitability and financial stability, measured respectively by ROA, leverage, and bankruptcy. Point estimates are significant and negative, also after the inclusion of our full set of covariates, as far as ROA is concerned⁴¹. Moreover, treatment looks to significantly increase the probability of observing financial distress by 3 %⁴². In our view, this evidence is compatible with the will of newly-elected politicians to disband firms connected with the old executive power, especially if particularly inefficient⁴³. Finally, LPEs located in municipalities where the incumbent party is defeated are significantly less leveraged than their counterparts. In Section 6.2 we argue, however, that this effect is mainly driven by lower investment.

As anticipated in paragraph 5.1, however, there are a number of reasons suggesting that OLS do not provide unbiased estimates for the treatment effect in our setting. For example, LPEs' outcomes may affect the re-election probability, making a reverse causality issue arise. In particular, we would expect positive LPE's performance in terms of profitability and job creation to foster political continuity, especially if voters are able to observe and evaluate competence on the basis of direct and indirect outcomes related to these companies. In a similar fashion, any additional resources created by the profitable management of these firms may be devoted to rent-seeking activities that are more visible

⁴⁰The unreliability of employment data provided by Cerved is stressed by Akcigit et Al. (2018).

⁴¹Turnover, which reduces ROA by 0.8, is not economically negligible if we compare the estimated coefficient with the average value in our sample (1.01).

⁴²The coefficient is estimated using a linear probability model. The corresponding marginal effect is 2.6% when estimating a probit model.

⁴³In Section 7 we suggest that this effect is significant only for LPEs that are not entrusted with the provision of a public service.

to voters, e.g. to relieve municipal finances, to affect taxes as well as expenditure prior to elections. In addition, we would expect municipalities in which LPEs are used for electoral objectives, e.g. where vote buying in exchange for jobs or other favours is practiced, to be less prone to political turnover. Ruling parties may have, in fact, an electoral advantage deriving exactly from their control over LPEs. Furthermore, the existence of patronage dynamics is likely to entail the appointment of directors not on the basis of their management ability or the results achieved, but rather on their political affiliation. Appointees may rationally base their hiring and procurement decisions to foster party tenure, as to secure their position in the LPE's board. As a consequence of patronage, finally, a political cycle approach would suggest that local politicians may have an incentive to affect the amount of transfers by municipalities to LPEs right before elections, as an increase in the quality of the service in this period is observable to voters, and is likely to be used to signal competence and improve re-election prospects. These arguments suggest that OLS estimates suffer from bias. We expect, for instance, unobserved vote buying to be negatively correlated to political turnover, thus yielding an underestimation of the treatment coefficient. This downward bias may be exacerbated when we consider reverse causality. Suppose, for instance, that the error in equation (3) may be decomposed in a white noise component ϵ and a part that is affected by the outcome itself. The resulting bias of the OLS estimate, $E(X'u)$, may then be written as follows: $E(X'(\alpha Y + \epsilon))$ and the direction of the bias will, in turn, depend on the relationship between regressor X and regressand Y , which is captured by α . As far as investments are concerned, we would expect that firms characterised by large investment rates are also the ones that provide higher employment opportunities. The likelihood of a political change may then suffer from the presence of highly-investing LPEs. In such a framework, we would then expect α to have a negative sign, i.e. coefficient of endogenous regressors to be negatively-biased. All these considerations, taken together, motivate the adoption of the RD setting described in paragraph 5.2.

6.2 RD Results

We now turn to the presentation of the results obtained by implementing the RD design described by equation (4). As explained in Section 5.2, we focus on close electoral races by

making the outcomes a smooth function of MV_{mt} ⁴⁴. This section is organised as follows: after a preliminary graphical analysis, we move to the discussion of the point estimates. We finally provide evidence in support of the validity of our RD design using the formal tests employed in the literature.

Graphical Analysis We first inspect the relationship between MV_{mt} and our outcomes of interest in a graphical way. To this purpose, we fit a third-order polynomial (solid line) and a running-line least squares smoothing (dashed line) in the margin of victory, estimated on each side of the cut-off. Party turnover occurs for positive values of MV_{mt} (red lines), while the incumbent party is re-elected to the left of the threshold (blue lines). The RD coefficient is the jump of the outcome at the $MV_{mt} = 0$. Figure 1 shows graphical evidence of visible negative jumps in both overall investment and its tangible component, while no discontinuity appears in intangibles and ROA. The fitted lines in Figure 2 suggest that treatment disrupts both productivity growth measures; leverage shows, on the other hand, a negative jump, implying that treated LPEs are less exposed to risk⁴⁵. The lines for employment growth do not show any evidence of discontinuity, confirming the OLS estimates. Finally, Figure 3 presents graphical evidence of a jump in the probability of observing a firm in financial distress. For all variables but the latter, we can interestingly see that observations far from the cut-off tend to display similar levels, suggesting that systematic differences appear only as electoral races become tight. This is possibly a consequence of the specific nature of elections decided by small margins, which may affect the elected party’s behaviour, as we detail in paragraph 7.1.

RD Estimates Tables 5 through 7 report RD estimates obtained from fitting equation (4) to the selected outcomes. We include the set of covariates discussed in section 6, computed in period $t - 1$, in columns 2, 4, and 6. Table 5 presents the estimated turnover coefficient for investment and its components. Results, consistently with those obtained by visual inspection, show that treatment significantly disrupts investment. The inclusion of covariates considerably improves estimate efficiency, while making the coefficients smaller but qualitatively equivalent. The magnitude of the effect is large, as political

⁴⁴Any of the results presented in this section are not sensitive to the exclusion of “closed elections” in which the incumbent run with no opponents. These occurrences are very rare, and amount to 2.7% of all elections and 1.4% of observations.

⁴⁵Results are equivalent if we make use of debt to equity ratio, which we do not include as it would be redundant.

turnover reduces investment by approximately 1,500 thousand Euro⁴⁶. Looking at the coefficients on tangibles and intangibles, it appears that political turnover affects investment exclusively through the former. This asymmetry may be due to the peculiarities of the two components, which translate into different adjustment rates. We would expect intangibles to vary much less over time, as confirmed in the data⁴⁷. Intangibles, moreover, encompass a wide range of items, including property rights, licenses, R&D, patents, and ICT, that may be considered key to the production process and thus less likely to be affected by turnover⁴⁸. The most relevant result is the discrepancy between OLS and RD coefficients, as the latter are considerably larger and significantly different from zero. This is consistent with the downward-bias argument provided in paragraph 8.1. Table 6 shows RD estimates on productivity and employment growth. Results show TFP growth to be significantly slower, by respectively 31.24 and 31.64, for LPEs in treated municipalities. The validity of the RD design, once again, finds preliminary evidence in the fact that results are not qualitatively affected by the exclusion of covariates. This result may be linked with the one presented in Table 5, as lower investment is likely to translate into reduced future production efficiency and capabilities. This link is made explicit in Section 7.1, where we show that, while the drop in investment happens already at the beginning of the term, TFP growth slows down only in its second part. Treatment does not have any effect on employment growth in our sample, as the estimated coefficient is not significant at any conventional level, confirming the OLS estimates and the arguments provided in the corresponding section. Table 7 reports RD estimates for profitability and financial stability. Interestingly, though the effect on ROA is still negative, the coefficient is not significant anymore. While RD estimates are larger in magnitude, Figure 2 suggests that ROA levels tend to equalise around the cut-off, thus explaining the difference with OLS

⁴⁶This effect is robust to different definitions of investment, i.e. (i) scaling down this variable by the employment level, (ii) excluding divestiture (negative investment), (iii) considering the over-term sum of investment. It is worth noticing that (i) may depend on the variation of employees rather than investments, (ii) does not account for any substitution between tangibles and intangibles. The two components, moreover, are negatively correlated in our sample. Not considering this feature would lead to an overestimation of investment.

⁴⁷By-firm standard deviation in tangible investment is almost twice as the one for intangibles. Moreover, zero intangible investment is much more likely to be observed (33% of observations) than for tangibles (18%).

⁴⁸Cerved data do not provide disaggregated amounts for R&D expenditure, which would have been interesting to analyse. Feng and Johansson (2017), for instance, find a negative link between political instability and R&D investment, especially for privately-owned firms.

estimates. As far as financial stability is concerned, the effect of turnover is confirmed to positively affect the probability of observing financial distress, which increases by roughly 4.6%, while reducing LPE’s exposure to risk, as measured by leverage, which drops by 6.2⁴⁹. This drop, however, is to be interpreted in light of the reduction in assets brought by lower investment, rather than by an improvement of the financial situation, as explained in the previous section.

Validity Tests We perform two formal tests to check whether the key RD identification assumptions discussed in Section 6.2 are satisfied in our setting. Assumptions (i) and (ii) require respectively pre-treatment variables to show no discontinuity at the threshold, in order to ensure the comparability of treated and untreated units, and no discontinuity in the density of the margin of victory be present at the cut-off, to rule out self-selection. If these tests are satisfied, we can credibly claim that the coefficients estimated in the previous section are the causal effect of political turnover. We further check for the robustness of our main estimates using alternative specifications of our RD design as well as LLR specified in (5). Finally, we carry out placebo tests to ensure that treatment affects our outcomes at no threshold other than $MV_{mt} = 0$.

Assumption (i) is tested by fitting equation (4), with the exclusion of covariates, using our set of pre-treatment controls as outcomes. Table 8 reports the estimated coefficients for a wide range of observable municipal, mayoral, party, and firm characteristics. Results show that pre-determined observables are substantially balanced at the cut-off. In particular, no systematic difference emerges from the comparison of treated and untreated mayors, municipalities, and parties, apart from turnover being less likely in the South and Islands. As far as LPEs’ are concerned, moreover, all observable characteristics look balanced, even if the employment level is slightly significant (at 10% confidence level) and smaller in treated LPEs. These results are further confirmed by visual inspection of Figures 4 to 8, where we fit a third-order polynomial (solid line) and a running-line least squares smoothing (dashed line) in the margin of victory, estimated on each side of the cut-off. Taken together, these pieces of evidence suggest that, as electoral races become tight, characteristics tend to equalise, supporting our claim that assignment to treatment is randomised around the threshold. The results of the balancing test suggest that voters

⁴⁹LPEs in our sample are, on average, very leveraged, with a mean value of 17.

are indifferent between turnover and continuity when electoral races are particularly contested, even though the comparison of OLS and RD estimates corroborates our reverse causality argument. In principle, while good LPE's performance may foster re-election prospects, making a potential selection issue arise, we do not find evidence of similar dynamics at the cut-off. Coviello and Gagliarducci (2016) provide three arguments for this result, which apply also to our setting. First, voters may be irrational and do not account for LPEs performance when casting vote. This is ruled out, however, by the abovementioned discrepancy between OLS and RD estimates. Second, we do not share the same set of information as the one driving voters' choice, which depends on an overall evaluation of the ruling party's performance. This is very likely in our case, as we do not observe all municipal policy dimensions. Third, risk-averse voters can be shown to be indifferent between turnover and continuity, even though the incumbent's inefficiency is greater than the challenger's expected one.

Assumption (ii) relates to the concern that incumbent parties may be able to manipulate electoral outcomes in order to self-select above the cut-off. This may be a consequence, for instance, of larger campaign funds available to ruling parties (Caughey and Sekhon, 2011), or the result of the control they may exert over bureaucracy, which may enhance their re-election prospects (Grimmer et Al., 2012). Though this condition requires incumbents not to have the precise ability to systematically sort above the threshold, as explained in Imbens and Lemieux (2008), a preliminary inspection of Figure 9 shows that the density of the margin of victory is fairly smooth. We additionally carry out the formal test provided in McCrary (2008) to check for the continuity in the density of the running variable around the cut-off. The latter, presented in Figure 10, displays municipalities where the incumbent lost to the right of the threshold, while the density of MV_{mt} is measured on the y-axis. Given the estimated discontinuity coefficient at $MV_{mt} = 0$ (0.008, with a standard error of 0.101), the formal test fails to reject the null hypothesis that the running variable is continuous at the cut-off.

Robustness Checks and Placebo In order to check the robustness of our results, we move away from the baseline RD specification employed in the previous sections, and implement a number of alternative models. The latter include LLR, with bandwidth selected according to the two different procedures discussed in Section 5, and the speci-

fication of $f(\cdot)$ as second and fourth-order polynomials in the margin of victory. Despite the desirable properties of LLR described in Imbens and Kalyanaraman (2009), these estimates crucially depend on the selected bandwidth, which may affect the estimation sample, and thus the comparability of the results, presented in Table 9. It appears that the coefficients are sufficiently robust to different model specifications, while their magnitude varies to a certain extent⁵⁰. The placebo exercise, shown in Table 10, entails the estimation of the ATE , using a third-order polynomial spline in the margin of victory, at two simulated thresholds set at the median of the two sub-samples at each side of the cut-off. The estimated coefficients reassure us that the treatment effect is significant only when the threshold is set at $MV_{mt} = 0$, even if this evidence is less solid as far as productivity and employment growths are concerned.

7 Discussion and Mechanisms

The evidence presented in the previous section suggests that political turnover disrupts LPEs' investment and productivity growth, while increasing the probability of observing financial distress. In the next paragraphs, we consider three different explanations, supported by empirical evidence, for these results. In particular, we suggest that the disruptive effect may be a consequence of (i) uncertainty concerning electoral outcomes; (ii) the appointment of politically-affiliated board directors; (iii) the reduction of the contributions given to LPEs by municipalities in order to signal competence.

7.1 Electoral Uncertainty

A comparison of the estimated OLS and RD coefficients for political party turnover makes it clear that investment is significantly affected only in municipality where electoral races are closely contested. This is confirmed by a visual inspection of Figure 1, where investment levels look fairly similar as we move away from the cut-off. The interesting question is then what makes close elections different. A possible explanation may be found

⁵⁰It is worth noticing that the two selection methodologies lead to considerably different optimal bandwidths. As larger bandwidths entail the use of observations that are far away from the cut-off, where assignment to treatment is assumed to be quasi-random, some of these estimates are not very informative or reliable.

in the high level of political uncertainty that these elections entail. When the incumbent party expects an electoral race to be particularly tough, it may have an incentive to try and influence its re-election prospects. In the particular case of LPEs, this might encompass the announcement of investment plans, especially for companies providing a public service or whose activity is particularly relevant and visible to voters. The execution of these plans may, in principle, be started either after or before the election. In the first case, the incumbent party commits to carry out investments in the next term, bounding its realisation to re-election. In the second, it starts an investment cycle right before election, in order to signal accountability and competence. We do not find any evidence of such an anticipating behaviour in our sample, as shown in Table 8, where investment levels in period $t - 1$ are not systematically different for treated and untreated units. When incumbent parties are faced with elections whose outcome is particularly uncertain, they react dynamically by adopting investment plans whose execution is, however, postponed to the next term. This delay may be justified if we consider that incumbent parties are not willing to favour their challengers when they are uncertain about electoral results⁵¹. The similarity of investment levels far from the cut-off may be justified under this perspective as well, as incumbent parties that expect to be defeated have no incentive to start investments whose potential benefits will be used as an electoral tool by their challenger in the following election. This is in line with the literature on political-business cycle, according to which incumbents that are uncertain about their re-election have an incentive to adopt sub-optimal policies in order to harm their challenger's economic performance (Alesina and Tabellini, 1990). In a similar fashion, incumbents that are confident to be re-elected have lower or no incentives to influence their odds. Our argument is further supported by Figure 1, where the jump at the cut-off looks mainly driven by the larger investment in terms characterised by political continuity, rather than its reduction by the challenger.

If our argument is valid, we would expect the negative effect on investments to be stronger in the first half of the term, when the winning incumbent is supposed to fulfil its electoral commitment. Conversely, an elected challenger would abandon its opponent's

⁵¹A similar argument is used in Riem (2016), where the author uses a panel of German manufacturing firms to show that investment decreases in election years, as firms do not will to commit to costly investment before the uncertainty is realised.

investment plan as it enters in office, while the design of a new plan is likely to take some time. In order to gain additional insights concerning these dynamics, Table 11 shows marginal effects of political turnover on LPEs outcomes in the first and second part of the term, estimated employing the following model:

$$y_{i,t+j} = \alpha + \beta_1 T_{mt} + f(MV_{mt}) + T_{mt} \times f(MV_{mt}) + \beta_2 First + \beta_3 T_{mt} \times First + f(MV_{mt}) \times First + \beta_4 T_{mt} \times First \times MV_{mt} + \gamma X_{m,t-1} + \delta X_{i,t-1} + \epsilon_{i,t+j}, \quad (6)$$

where *First* is dummy variable that equals 1 when we are in the first or second year of the term, while all the other variables are the same as in (4). The marginal effects computed in a neighbourhood of the cut-off show that the impact is significant only the first two years of the term. While this does not represent compelling evidence in favour of the mechanism presented above, it supports the idea that incumbent parties dynamically adjust their LPE's policy platform according to expectations on electoral outcomes. Table 11 also reports the marginal effects of municipal party turnover on TFP growth in the first and second part of the term. Interestingly, we do not find any significant effect in the first half, suggesting that the drop in investment may subsequently lead to a productivity slowdown⁵². An OLS regression of TFP growth on investment, using the same set of covariates as in equation (3), shows that these two variables are positively and significantly correlated (at 5% confidence level).

If the incumbent wants to influence its re-election prospects through commitment to invest, moreover, we would expect this behaviour to be more evident for LPEs carrying out a public service, as the latter impact voters' life more directly. Employing a modified version of (6), we thus check whether investment is differentially affected when the LPE provides a public service. Our interaction variable in this case is a dummy that equals 1 if at least one public shareholder entrusts the company with the provision of a public service. The estimated marginal effects, reported in Table 11, confirm that investment dynamics are relatively stronger when the LPE is entrusted. This suggests that, even if

⁵²There are a few papers investigating the effects of investment on productivity growth. Among these, Issler and Ferreira (1996), show that public investment precedes an increase in productivity, while the opposite is not true. This is hardly conclusive evidence, however, as the authors establish simple Granger-causality. Zhang and Fan (2004), investigate the relationship between public infrastructure investment and productivity growth in rural India, finding a positive effect.

the incumbent party has an interest in committing to invest in both categories, the effect is considerably larger for companies whose outcomes are more visible to voters.

7.2 Appointments and Political Instability

The second argument we bring forward to support our findings, similar the one proposed in Akhtari et Al. (2017), is related to both patronage and political instability. In the LPE's case, we suspect the existence of interplay between the appointment of less experienced, politically-affiliated board directors and the worsening of LPE's outcomes. We expect this effect to be particularly evident if the activities carried out are complex, thus requiring a longer learning process to acquire sector-specific management skills. Differently from Akhtari et Al. (2017), where the school headmaster's task is fairly standardised, the heterogeneity of activities carried out by LPEs and of the variety of markets in which they operate are likely to exacerbate learning issues⁵³. Newly-appointed board directors may decide to suspend or revise investment plans endorsed by their predecessors. As a consequence of this, lower experience would be associated with a slowdown in productivity growth, as pointed out in the previous paragraph. The existence of a causal link between political party turnover and the appointment of new board directors is not as straightforward as it could seem, since the existence of frictions⁵⁴ may make the cost of bureaucratic turnover larger than its benefits for the newly-elected political leadership. We test this hypothesis employing a dataset, whose construction is extensively discussed in Appendix A3, reporting municipal appointments in LPEs for 2014-2015. Out of 2,922 firm-year pairs, we observe 635 appointments in 757 municipalities and 1,912 LPEs. More specifically, we use (4) to check whether party turnover affects (i) the likelihood of observing an appointment in an LPE, and (ii) the total number of appointments carried out by the municipality. A preliminary graphical analysis, presented in Figure 11, shows a positive jump in both (i) and (ii). These results are confirmed by point estimates, reported in Table 12. Municipal party turnover leads to an increase of roughly 16% in the

⁵³Differently from Akhtari et Al. (2017), however, we have no information concerning managerial experience, and we can thus bring no evidence in support of the learning argument.

⁵⁴Frictions may derive, for instance, from the existence of contracts that set the period of appointment. This entails that firing a board director may be costly both in terms of financial resources and of loss of experience, especially in LPEs operating in complex economic sectors.

probability of observing an appointment, while the latter's total number rises by almost one unit. Interestingly, we find that this effect is significant only in the first part of the term, suggesting that frictions do not prevent new ruling parties from replacing board directors as soon as they enter in office. Moreover, the impact is heterogeneous in the ownership structure, as marginal effects show that the increase the probability to observe an appointment rises to 21% in firms whose majority is in public hands. This suggests that LPEs in which private shareholding is prevalent may be less prone to patronage. The main caveat of the analysis is represented by the limited available time span, which makes sample size relatively small and consequently reduces statistical power.

An additional argument to justify the observed gap in investment, especially in the first part of the term, is a consequence of the principal-agent relationship between the municipality and the board of directors. LPEs' directors, in fact, are appointed by municipalities for a period of time that does not necessarily coincide with the end of a mayoral term. This implies that, in principle, a director appointed by the losing incumbent may still be in office for a part of the term in which the challenger rules. This switch in the principal may affect the board's incentives to undertake investments, as its directors are aware that they will be replaced at the expiration of their contract, and will thus not be able to enjoy the future benefits deriving from investment. In a similar fashion, politically-appointed boards may want to signal loyalty to the previous administration by boycotting the LPE's activity, in order to be appointed again if the defeated incumbent is re-elected in the future. As our appointment dataset only covers the years 2014-2015, however, this hypothesis cannot be directly tested.

A closely-related argument to the one discussed in the previous paragraph is that party turnover fosters instability, *via* appointments in LPEs, that ultimately hurts investment. Simply put, principal-agent dynamics may be exacerbated as a consequence of uncertainty. Board directors, who are aware of the consequences of political change on their re-appointment prospects, may find it optimal to adapt behaviours in order to secure their position by signalling competence. They may, for instance, shift resources from investment to activities that are more profitable in the short-term, and thus more visible to political powers. Moreover, instability has been shown to negatively affect investment by decreasing its expected returns, as pointed out in Alesina and Perotti

(1996), though the literature has mostly focused on a country-level concept of instability. To check this, we fit (6), interacting treatment with an index of political uncertainty, defined as the average difference between winner and loser vote shares in a given municipality in the first ballot. Marginal effects at 25th, 50th and 75th percentiles, presented in Table 13, confirm our view that instability is a key factor to understand the mechanisms at work, as treatment effect is monotonically decreasing in the level of uncertainty. To check the robustness of this finding from a slightly different perspective, we alternatively compute the share of turnovers in a given municipality in our electoral dataset⁵⁵. Table 13 shows marginal effects estimated at the cut-off for three different values of the interaction variable, namely 20%, 33%, and 50%. Interestingly, the magnitude of the coefficient is monotonically increasing in the turnover share, thus bringing additional evidence in support of this argument.

7.3 Contributions to LPEs and Signalling

A third argument relates to the will of elected challengers to signal competence to voters through the commitment to curb LPEs' wastes. As the cost of monitoring LPEs' management by individual taxpayers is likely to offset its benefits in terms of tax relief and efficiency (Willner, 2001), the level of waste is normally not observed directly by voters. Nonetheless, there is a widespread, yet very imprecise perception of this phenomenon. Criticising the bad use of public resources represents an electoral opportunity, especially to challengers, who can credibly commit (differently from the incumbent, that voters identify with inefficiency) to fight wastes once they are elected. One channel through which newly-elected politicians can perform this in a visible way is the reduction of transfers to LPEs. As we do not have any precise measure of the amount of municipal resources transferred to these companies, we rely on a proxy, represented by operating grants. The latter are defined as the resources given by shareholders to the firm in order to cover its operating costs. This measure is, of course, imprecise, as it (i) does not include capital increases, shareholder loans, as well as resources that are directly included in net revenues (such as concessions), and (ii) refers to resources granted by all shareholders, and

⁵⁵A similar index is used in Caporale and Leirer (2010), where the authors find a negative effect of political instability on the economic growth of US states.

not only by the reference one⁵⁶. In order to assess this link, we use (3) and (4) to check whether operating grants are affected by party turnover. Results are shown in Figure 12 and Table 14, where the discrepancy between OLS and RD estimates can once again be justified using the bias argument outlined in Section 8, and considering the very specific nature of close elections. All in all, municipal party turnover reduces operating grants by 586 thousand Euro. Challengers who won by a small margin, in fact, have to act more aggressively to show commitment once they enter in office, in order to enhance their re-election prospects. The interesting question then becomes whether lower grants affect investment, productivity growth, or profitability. In order to test this hypothesis, we create a dummy that equals 1 if the LPE has not received any grant in the available time span, and use it as an interaction variable in (6). Results are presented in Table 11, where margins show that political turnover hurts these variables only when LPEs have never received grants. This may be driven by the fact that grants were managed inefficiently to begin with, implying that challengers actually reduce wastes when cutting resources. In this sense, party turnover may be considered beneficial for the municipality. Most likely, however, the absence of any effect may be explained by the amount of resources transferred through operating grants, which is relatively small when compared to net revenues⁵⁷. The increase in the probability of observing an LPE in financial distress may also be interpreted in light of this mechanism, as elected challengers may want to signal competence by dismissing LPEs that are deemed particularly inefficient⁵⁸. Considering that only half of the companies in our sample are entrusted with the provision of a public service, it would be interesting to check whether the effect of turnover on the likelihood to observe a firm in financial distress is heterogeneous in entrustment. The results, reported in Table 11, show that this probability is significantly larger only for non-entrusted LPEs, as turnover causes a more than 9% increase in this likelihood. This suggests that elected challengers are more willing to target LPEs that are not considered essential for the provision of services.

⁵⁶Results are qualitatively similar if we weigh both operative grants and the sum of operative grants and capital increases by the average share for the years 2011-2015.

⁵⁷This view is consistent with the data, since operating grants are more than half of revenues only in 5% of cases, and are zero for most of observations in our sample.

⁵⁸Another explanation, which we cannot test, is that party turnover breaks existing ties between the political power and the LPE. This may be especially true if the LPE is deemed to be particularly linked to the previous ruler.

8 A Survival Analysis Approach to Bankruptcy

Results so far have pointed to a positive effect of party turnover on the likelihood of observing an LPE in financial distress, in particular for companies that are not entrusted with the provision of a public service. In order to get additional insights on this particular aspect of performance, we carry out a survival analysis. The latter is very useful when, as in our case, data are censored, i.e. the time of failure may be out of the analysed period. The framework we implement is as follows: we define the origin, i.e. the moment in time in which the LPE becomes “at risk”, as the first election available in our sample for each company; the timing of the failure event is the procedure’s starting date of a bankruptcy or wind-up procedure⁵⁹. The survival analysis thus investigates whether the probability to enter a procedure at any point from the origin differs substantially among treated and untreated LPEs. As preliminary check, we carry out a non-parametric log-rank test for equality of survival functions among the two groups, which rejects the null hypothesis, providing evidence of a significant (at 1% level) difference⁶⁰. The effect of treatment on the risk of failure is further assessed by visual inspection of Figure 13, panel (a), where we plot Kaplan-Meier curves. The lines, representing the share of surviving LPEs at any point in time in respectively treated (red) and untreated (blue) municipalities, diverge immediately. In other words, untreated LPEs look less subject to the risk of failure along the whole time span. As Kaplan-Meier estimates are non-parametric and unconditioned on continuous covariates that may affect the probability of observing a procedure, we employ a semi-parametric Cox proportional hazard model. The latter allows for the estimation of hazard rates in a multivariate context. Coefficients are reported in Table 15. Column (1) includes no covariates, column (2) controls for firm characteristics, namely company’s age and assets, five size dummies, one dummy for firms operating in the financial sector, a full set of 65 two-digit ATECO fixed effects, one dummy for LPEs providing a public service and three dummies that controls for the

⁵⁹For the purposes of survival analysis, we focus exclusively on bankruptcy (*procedura concorsuali*) and wind-up (*liquidazione coatta amministrativa* and *liquidazione volontaria*). We do this since we want to move away from the broader category of financial distress, as our interest lies in the investigation of formal procedures, that may well be independent from economic circumstances, and derive from regulatory obligations (e.g. Decree Law 78/2010).

⁶⁰Other equality tests (Peto-Peto-Prentice, Wilcoxon-Breslow-Gehan, Tarone-Ware, Cox) yield similar conclusions.

share owned by the municipality. We further include 110 province and 23 year dummies to control for spatial as well as time unobservable characteristics. While estimates in column (1) confirm the validity of the conclusions reached by visual inspection of Kaplan-Meier curves, coefficients in column (2) reassure us that the effect of treatment is robust to the inclusion of controls, and not qualitatively affected by other observable characteristics. In terms of hazard ratios, LPEs located in treated municipalities are significantly riskier, as the hazard rate is 52% higher with respect to their untreated counterparts⁶¹. As the hazard ratio declines by 62% if the firm is entrusted with a public service, we finally plot Kaplan-Meier curves in Figure 13, panel (b), where the survival functions for distinct groups (treated/untreated, entrusted/non-entrusted). As expected, failure is more likely for non-entrusted LPEs that are subject to treatment, confirming our RD results. Since Cox regression crucially relies on the proportionality assumption, we run a test based on Schoenfeld residuals. As the test fails to reject the null hypothesis of zero slope in the log hazard function at any conventional level, we conclude that the hazard ratio is constant over time, thus confirming the validity of the analysis.

9 Conclusions

In this paper, we have shown that municipal party turnover disrupts LPE's outcomes. In particular, LPEs controlled by treated municipalities invest less and have slower TFP growth, while being more likely to suffer from periods of financial distress. We discuss three mechanisms to justify our findings. First, we argue that the specific nature of close elections alters the incumbent party's incentives to invest in order to foster re-election. Second, we establish a positive causal link between treatment and both the likelihood and number of appointments. Even if we do not observe appointees' characteristics, the complexity of the activities carried out by LPEs suggest that the latter may in principle be less experienced than their predecessors. The lack of synchronicity between the beginning of a mayoral term and appointment may, moreover, affect the incentives for previously elected directors to invest. This view is confirmed in the data, as investment

⁶¹In order to check for heterogeneous effects, we interact treatment and a dummy variable for firms entrusted with a public service. As the likelihood-ratio test strongly rejects any evidence of an additional benefit, we omit this result.

is lower exclusively in the first part of the term. Third, party turnover is shown to reduce operating grants to LPEs, suggesting that winning challengers desire to signal competence, by curbing LPEs' wastes. This effect looks significant only for LPEs that are not entrusted with public service provision, as the latter's outcomes are less visible to voters.

From a normative perspective, our empirical findings encourage the adoption of policies that shelter the LPE's management from political influence. While the liberalisation wave occurred in the last two decades opened several markets for public service provision to competition, and recently-adopted norms now compel municipalities to sell their shares in LPEs, these policies do not look sufficiently effective. In most cases, privatisation has been substantially "formal" (Monteduro, 2014) so far, and municipalities still are the reference shareholder. The result is that LPEs are still prone to electoral-cycle dynamics. As complete privatisation is not always a plausible path, however, some form of mixed ownership should be favoured, as the presence of a private shareholder may, in principle, mitigate this issue. Finally, our view is that directors' contracts should be designed as to end in coincidence with mayoral terms, in order to align the incentives of the principal with the agent's ones from the beginning of the term.

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Appendix

In the following subsections we describe extensively the steps followed to construct the final datasets used in our empirical analysis.

A1 Electoral Dataset

We collect data on municipal elections from 1993 to 2015 from the *MoI* as well as from regional electoral websites. More precisely, 4 out of 20 Italian regions (Trentino-Alto Adige, Friuli-Venezia Giulia, Valle d’Aosta, and Sicily) keep their own electoral archives as a consequence of their special status (*regioni a statuto speciale*). This information is integrated by the political affiliation reported in both the RLP and the “*Archivio Elettorale*”⁶². In order to identify political turnover, our first aim is to detect elections in which the incumbent party run for re-election. The algorithm implemented is the following:

1. For each candidate, we create a string variable listing all the supporting parties, ordered by the number of votes received. For instance, if a candidate is supported by parties “A” and “B”, this string will appear as “A | B”. In case of runoff elections, we remove lists that supported the candidate only in that ballot from our analysis;
2. For the elections up to 2007, the ED often contains information concerning the candidate’s ideology without a specific list name, i.e. left-wing and right-wing (*Centro-sinistra* and *Centro-destra*). These instances, together with undefined civil lists and gaps that could not be filled using data from the other sources, are labelled as “*Lista Civica*” and thus excluded from the analysis. These cases amount to 32% of observations, while only 13% of the candidates supported by a civil list were elected as mayors. This happens almost exclusively in cities with less than 15,000 inhabitants (94% of the cases), where the likelihood of finding an LPE is smaller;
3. Provided that party names are not standardised (in some instances a single party

⁶²The archive, provided by Roberto Brocchini, is available at the following website: <http://www.archivioelettorale.it/>

is labelled in more than ten different ways) and may contain misspellings, we separately clean them in order to ensure consistency and then combine them again;

4. There are instances in which a national party endorses local lists without spending its own name. These are described in the dataset as “*Contrassegno Ufficiale*”, and there is an indication of their political ideology (either left-wing or right-wing). Since there exists a clear link between these labels and the corresponding national parties, we replace the string with the latter’s name. These cases amount to approximately 1.4% of the total;
5. Since candidates can be supported by coalitions, we add to the string the name of the parties taking part to the coalition itself. As the latter may change their composition over time, we take the parties that belonged to it at the time of the election. As an example, suppose a candidate is supported by coalition “C” that, in the year of election, was formed by parties “A” and “B”. The resulting string will be: “C | A | B”.

We now turn to the detection of incumbency and political continuity. Our main concern here is to account for the evolution of parties from 1993 to 2015: parties may change their name, converge or split into new political subjects, disappear, join or leave coalitions. The evolution of political parties in Italy is presented in Figure 14. This leads to potential issues in detecting the presence of an incumbent party, which we solve by looking at the history of each of them. More precisely:

1. We create a new variable containing the name of the incumbent party;
2. In cases in which the same party supports two different candidates (this is very common in Trentino-Alto Adige), we choose the incumbent mayor, if present. Otherwise, we take the candidate that received more votes. Moreover, whenever we have the same candidate running in two contiguous elections, and the supporting party is specified only in one case, we extend the name of that party also to the other election. Finally, in the rare instances in which a candidate is explicitly supported by the former mayor (whose name is specified in the string), we consider that candidate as incumbent;

3. If two parties merge, we consider the new-born party to be in continuity with each of its founders. This means that, if “A” and “B” merge to form party “C” and the incumbent is “A”, the resulting string will be “C | A”. When a party splits into different ones, on the other hand, we use the same methodology as in point 2 for multiple incumbents;
4. Coalitions deserve a specific mention. There are cases in which a coalition dissolves, but there is a party which is in a clear continuity with it. “*L’Unione*”, for example, the main left-wing coalition in 2006, disappeared and was de facto replaced by “*Partito Democratico*” (Democratic Party). More generally, if parties “A” and “B” form coalition “C”, we assume continuity if either “A” and “B” form a new political subject “D” or a new coalition “E”, or they run separately in the next election;
5. After these preparation steps, we are now ready to detect incumbency. We do this in the following way: we first split both the party and the incumbent party strings into their components; we then take each of components of the party string and compare it to each of the substring of the incumbent party variable. In other words, we detect incumbency if at least one of the substrings is the same. This occurs, for example, if the party variable contains “A | B | C” and the incumbent party variable “B | D”;
6. Once the incumbent party is identified, we use the votes obtained by the corresponding supported candidate to compute incumbent’s votes share. The latter would be the run-off ones if both there was a second ballot and the incumbent managed to get to this stage. The challenger is defined as the party/coalition that ranked first among the non-incumbents. We compute margin of victory as the difference between the incumbent’s and the challenger’s votes shares.

Our final electoral dataset consists of 14,290 municipality-year of election pairs, after dropping elections where no incumbent could either be identified or did not run for re-election. Descriptive statistics are summarised in Table 16.

A2 LPE's Data

The goal of this subsection is to detail the process through which we identify the relevant LPE's shareholder and consequently select the companies to be included in our analysis. Our main challenge here is to reconcile the time and ownership dimensions. To achieve this objective, we proceed as follows:

1. We first append the five *MoF* datasets (from 2011 to 2015);
2. For each municipality-firm pair, we compute the average total share (direct plus indirect) over the available years. This allows us to deal with the time perspective of the appended dataset;
3. We take the municipality with the largest average share as the reference one. At the same time, we exclude cases in which the resulting majority shareholder is either an administration different from a municipality (e.g. province, region, university) or the relevant municipality's share is below 5%. We consider, in fact, that the municipality's power of influence in micro-participations is likely to be quite negligible. Furthermore, we exclude cases in which the same share is owned by more than one municipality, as this would not lead to a clear identification of the reference shareholder. Our main assumption here rests on the stability of the ownership structure, at least as far as the controlling shareholder is concerned. Data previous to 2011 are, in fact, unavailable. This assumption, which is probably the most restrictive that we make, looks sufficiently reasonable to us for a number of reasons. First of all, virtually all of the companies in our sample are not listed, this making their shares less negotiable. When we exclude micro-shares, moreover, we get rid of companies in which property is very fractioned. In these cases, in fact, even a small change in shares may lead to a change in the reference shareholder, making the assignment to treatment less reliable. Finally, it is worth stressing that the stability of the ownership structure is supported by the data, as 81% of the companies have the same reference shareholders over the 2011-2015 period.

The LPEs dataset consists of 5,306 companies, whose characteristics are summarised in Table 16. As far as the ownership structure is concerned, 63% of them are in public

hands, i.e. the sum of shares amenable to public entities is larger than 50%. We match these LPEs with financial statements obtained from Cerved, as integrated by Aida. Firm data are available for 4,539 firms, corresponding to 86% of all the sampled LPEs. The resulting dataset is finally matched with electoral data and modified as follows:

1. We keep only firm-year pairs corresponding to terms in which an incumbent run for re-election;
2. This allows us to create an ID variable, consisting of firm tax code and year of election, which is assigned to the LPE for all the years of the corresponding term.
3. For each ID, the first observation is the one in which the budget year corresponds to the year of election; we get rid of this observation, as we cannot unambiguously assign it to the previous or the current term.

All in all, we are left with 25,408 firm-year pairs, corresponding to 7,811 IDs and 3,046 mayoral terms. Descriptive statistics for our final dataset are displayed in Table 1.

A3 Appointment Dataset

We now turn to the steps followed to build the appointment dataset used in Paragraph 7.2. Our goal is to identify the LPE's board directors' appointment dates in order to assess whether systematic differences exist in both the likelihood and the number of appointments in treated and untreated municipalities. To this purpose, these steps are followed:

1. We first append the *MoF* appointment datasets for 2014 and 2015;
2. Since we are interested in board directors rather than the whole set of appointments, we keep observations for which the awarded office is executive board director (*Membro del Consiglio di Amministrazione*), CEO (*Amministratore Delegato*), sole director (*Amministratore Unico*), and president or vice-president of the executive board (*Presidente o Vicepresidente del Consiglio di Amministrazione*). We are left with one or more observation per firm, depending on the number of appointments reported in the *MoF* datasets;

3. We drop firms for which no appointment date is present for any of the individuals, as we cannot assign them to any electoral term;
4. We append the *MoF* datasets for the corresponding years, dropping the LPEs that have a different reference shareholder in 2014 and 2015;
5. After these steps are completed, we merge the LPE's and appointment datasets. We divide companies that had appointments from the ones that had none;
6. We merge the resulting dataset and balance-sheet data provided by Cerved, as integrated by AIDA, to retrieve firm-level controls;
7. We combine the dataset obtained in point 6 with our final electoral data, obtained as detailed in Section A1; we keep only the observations for which the appointment corresponds to a term in which incumbency is detected.

Our final appointment dataset includes 2,922 observations, corresponding to 1,912 firms and 770 terms.

Tables and Figures

Table 1a: Descriptive statistics

<i>Firm characteristics</i>							
	Mean	SD	Min	p25	p50	p75	Max
<i>Outcome:</i>							
Assets	39,202.1	240,920.7	0	748.7	3,443.9	15,341.3	8,620,902
Employees	83.61	415.21	0	0	8	42	12,879
Equity	13,874.9	94,509	-101,943	91.18	597.01	3,972.1	3,490,278
Debts	20,634.5	145,897.7	0	341	1,755	7,586	5,054,843
Public Service	0.511	0.5	0	0	1	1	1
Public Service II	0.41	0.492	0	0	0	1	1
Publicly-owned	0.694	0.461	0	0	1	1	1
5-25% Share	0.273	0.445	0	0	0	1	1
25-50% Share	0.222	0.416	0	0	0	0	1
Absolute Majority	0.505	0.5	0	0	1	1	1
Firm's Age	16	19.71	1	6	10	17	161
Financial	0.059	0.236	0	0	0	0	1
<i>City characteristics</i>							
	Mean	SD	Min	p25	p50	p75	Max
<i>Outcome:</i>							
North West	0.31	0.463	0	0	0	1	1
North East	0.278	0.448	0	0	0	1	1
Centre	0.246	0.431	0	0	0	0	1
South	0.116	0.32	0	0	0	0	1
Islands	0.05	0.218	0	0	0	0	1
Population	162,706	409,611	74	13,884	39,093	100,195	2,638,842
Altitude	209.79	290.56	1	20	110	258	1,821
Area	138.12	196.34	0.15	33.79	81.38	181.67	1,287.36
Density	1,147.1	1,564.3	1.27	240.19	544.87	1,472	12,820
Number of Firms	14,568.8	37,014.1	5	994	3,012	8,785	205,938
Young share	0.235	0.045	0.11	0.204	0.227	0.26	0.41
Elderly share	0.199	0.042	0.056	0.167	0.203	0.229	0.408
Graduated share	0.083	0.039	0.005	0.051	0.079	0.108	0.18
Municipal Transfers	3,361.7	22,986.6	0	0	0	334	352,094
Municipal Deficit	-39,152	428,096	-5,487,041	-1,137	680	4,484	189,958
<i>Mayoral and Term characteristics</i>							
	Mean	SD	Min	p25	p50	p75	Max
<i>Outcome:</i>							
Female	0.084	0.278	0	0	0	0	1
Age	50.37	8.93	25	44	50	57	84
Local	0.749	0.434	0	1	1	1	1
College Degree	0.609	0.488	0	0	1	1	1
High Skilled	0.588	0.492	0	0	1	1	1
Retired	0.064	0.244	0	0	0	0	1
Previous Exp.	0.708	0.444	0	0	1	1	1
Early Ending	0.139	0.346	0	0	0	0	1
Left-wing	0.537	0.499	0	0	1	1	1
Right-wing	0.36	0.48	0	0	0	1	1
Party Tenure	2.525	1.453	1	1	2	4	7

Table 1b: Descriptive statistics

	<i>Firm characteristics</i>						
	Mean	SD	Min	p25	p50	p75	Max
<i>Outcome:</i>							
Investments	1,797.4	23,175.2	-1,394,823	1	36	417	961,896
Investments Tang.	1,367.5	22,252.4	-1,331,948	0	18	276	925,329
Investments Intang.	421.11	11,989.8	-440,541	0	1	39	1,558,845
Revenues	16,249.7	100,859	0	244.08	1,580	6,862.2	3,564,306
Value Added	5,076.8	27,544	-486,499	19.59	442.16	2,340.41	612,442
Profits	432.93	12,406.6	-319,110	-10.768	5.882	95.322	1,305,650
ROA	1.006	24.256	-1,866.7	-0.61	1.87	5.31	186
TFP I Growth	14.359	472.26	-1	-0.107	-0.006	0.109	35,425
TFP II Growth	19.73	803.03	-1	-0.081	0	0.075	100,725
Employees Growth	11.773	291.71	-100	-2.71	0	5.26	30,550
Labour Cost	3,451.7	18,183.3	0	17.26	293.84	1,555.1	585,379
Service Cost	5,561.7	30,124	0	122	565	2553	1,042,155
Contributions	368.89	4,656.94	0	0	0	1	349,202
Bankruptcy	0.094	0.292	0	0	0	0	1
Leverage	16.855	120.28	0	1.859	3.522	8.485	10,099
Debt-to-Equity	13.932	106.58	0	0.623	1.905	6.119	8,973

Notes. Values calculated on 7,811 firm-year of election pairs and expressed in 2010 thousand Euros. *Firms characteristics* include: *Public Service* (a dummy for firms delivering a public service); *Public Service II* (a dummy for firms entrusted with a public service by their reference shareholder); *Publicly-owned* (a dummy for firms mostly owned by public administrations, not necessarily municipalities); *Absolute Majority* is a dummy equalling one if the LPE is controlled by its reference shareholders; firm's age in years; one dummy for firms operating in financial sectors. *City characteristics* include: five location dummies; the number of resident inhabitants and the density at the beginning of the term; altitude above sea level in metres; city area in square metres; number of firm established in the municipality (as of 2011); shares of young/elderly/graduated people (as of 2011; source Istat); municipal budget deficit; municipal transfers to LPEs (source: Ministry of Interior). *Mayor and Term characteristics* include gender, age (in years), a set of dummies for college degree, having already served in the council/executive committee, working as high-skilled professional or entrepreneur, being retired and being born in the same province; one dummy for terms ended before than expected; two political collocation dummies and party tenure. *Firms performance* include: TFP Growth, calculated using a Cobb-Douglas production function, and estimated both as Solow residuals and with Levinsohn-Petrin (2003) approach; one dummy for firms undergoing bankruptcy procedures or having negative equity.

Table 2: Municipal Party Turnover and Investments, OLS

<i>Dependent variable:</i>	(1)	(2)	(3)	(4)	(5)	(6)
	Investments	Investments	Invest. Tangibles	Invest. Tangibles	Invest. Intangibles	Invest. Intangibles
Turnover	-410.12 (525.5)	-411.62 (524.23)	-283.1 (452.65)	-445.49 (487.03)	-127.18 (220.95)	34.13 (134.56)
Obs.	23,966	20,585	24,024	20,632	24,318	20,810
R-squared	0.013	0.119	0.010	0.058	0.005	0.072
Mean	1,797.4	1,797.4	1,367.5	1,367.5	421.11	421.11
Industry fixed effects	yes	yes	yes	yes	yes	yes
Firm characteristics	no	yes	no	yes	no	yes
Year dummies	no	yes	no	yes	no	yes
City characteristics	no	yes	no	yes	no	yes
Province fixed effects	no	yes	no	yes	no	yes
Mayor characteristics	no	yes	no	yes	no	yes
Term characteristics	no	yes	no	yes	no	yes

Notes. Estimates on 3,458 firms and 2,977 terms for *Investments*; on 3,459 firms and 2,981 terms for *Investments Tangibles*, on 3,476 firms and 3,004 terms for *Investments Intangibles*. *Turnover* is a dummy variable for whether the incumbent party ran for re-election and lost. Values are expressed in 2010 thousand Euros. *Firm characteristics*: industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets; firm's age in years; one dummy for firms entrusted with a public service by their reference shareholder; one dummy for firms undergoing liquidation procedures. *City characteristics*: resident inhabitants at the beginning of the term; city area; elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres); number of firms in the municipality. *Mayor characteristics*: one dummy for college degree; one dummy for being born in the same province; one gender dummy; one dummy for retirement; one dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics*: two political collocation dummies; one dummy for terms ended before than expected. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 3: Municipal Party Turnover, Productivity and Employment, OLS

<i>Dependent variable:</i>	(1)	(2)	(3)	(4)	(5)	(6)
	TFP I Growth	TFP I Growth	TFP II Growth	TFP II Growth	Employees Growth	Employees Growth
Turnover	-9.217** (3.79)	-12.891** (5.977)	-14.523** (6.699)	-15.622** (6.492)	-1.545 (4.431)	-0.78 (4.483)
Obs.	22,615	19,524	24,195	20,720	16,052	15,231
R-squared	0.008	0.015	0.005	0.014	0.004	0.012
Mean	14.359	14.359	19.73	19.73	11.773	11.773
Industry fixed effects	no	yes	no	yes	no	yes
Firm characteristics	no	yes	no	yes	no	yes
Year dummies	no	yes	no	yes	no	yes
City characteristics	no	yes	no	yes	no	yes
Province fixed effects	no	yes	no	yes	no	yes
Mayor characteristics	no	yes	no	yes	no	yes
Term characteristics	no	yes	no	yes	no	yes

Notes. Estimates on 3,428 firms and 2,940 terms for *TFP I Growth*; on 3,475 firms and 3,002 terms for *TFP II Growth*; on 2,693 firms and 2,317 terms for *Employees Growth*. *Turnover* is a dummy variable for whether the incumbent party ran for re-election and lost. Both productivity indices are computed using a Cobb-Douglas production function. *TFP I Growth* is the residual from an linear regression of revenues on inputs, proxying capital with fixed assets (net of financial participations), labour with labour cost, and including year, industry and province fixed effects. *TFP II Growth* follows Levinsohn-Petrin (2003) approach, using investments as intermediate input. *Firm characteristics*: industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets; firm's age in years; one dummy for firms entrusted with a public service by their reference shareholder; one dummy for firms undergoing liquidation procedures. *City characteristics*: resident inhabitants at the beginning of the term; city area; elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres); number of firms in the municipality. *Mayor characteristics*: one dummy for college degree; one dummy for being born in the same province; one gender dummy; one dummy for retirement; one dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics*: two political collocation dummies; one dummy for terms ended before than expected. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 4: Municipal Party Turnover, Profitability and Financial Stability, OLS

<i>Dependent variable:</i>	(1) ROA	(2) ROA	(3) Leverage	(4) Leverage	(5) Bankruptcy	(6) Bankruptcy
Turnover	-1.525*** (0.562)	-0.809* (0.46)	-2.862 (2.435)	-5.59* (2.962)	0.051*** (0.009)	0.030*** (0.008)
Obs.	24,901	21,239	23,583	20,129	25,408	21,425
R-squared	0.044	0.102	0.056	0.089	0.074	0.179
<i>Mean</i>	1.006	1.006	16.855	16.855	0.094	0.094
Industry fixed effects	yes	yes	yes	yes	yes	yes
Firm characteristics	no	yes	no	yes	no	yes
Year dummies	no	yes	no	yes	no	yes
City characteristics	no	yes	no	yes	no	yes
Province fixed effects	no	yes	no	yes	no	yes
Mayor characteristics	no	yes	no	yes	no	yes
Term characteristics	no	yes	no	yes	no	yes

Notes. Estimates on 3,507 firms and 3,035 terms for *ROA*; on 3,424 firms and 2,964 terms for *Leverage*; on 3,510 firms and 3,046 terms for *Bankruptcy*. *Turnover* is a dummy variable for whether the incumbent party ran for re-election and lost. *Leverage* is the ratio between assets and equity. *Bankruptcy* is a dummy for any insolvency procedure pending during the budget year or instances of negative equity. *Turnover* coefficient at the discontinuity point is estimated with a 3rd-order polynomial spline in the margin of victory. *Firm characteristics*: industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets; firm's age in years; one dummy for firms entrusted with a public service by their reference shareholder; one dummy for firms undergoing liquidation procedures (if *Bankruptcy* is not the dependent variable). *City characteristics*: resident inhabitants at the beginning of the term; city area; elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres); number of firms in the municipality. *Mayor characteristics*: one dummy for college degree; one dummy for being born in the same province; one gender dummy; one dummy for retirement; one dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics*: two political collocation dummies; one dummy for terms ended before than expected. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 5: Municipal Party Turnover and Investments, RD

<i>Dependent variable:</i>	(1)	(2)	(3)	(4)	(5)	(6)
	Investments	Investments	Invest. Tangibles	Invest. Tangibles	Invest. Intangibles	Invest. Intangibles
Turnover	-2,728.5** (1,275.3)	-1,506.4*** (439.16)	-2,238.4** (1,133.5)	-1,505.6*** (436.71)	-470.31 (359.95)	-9.049 (311.19)
Obs.	23,966	20,801	24,024	20,852	24,318	20,970
R-squared	0.001	0.075	0.001	0.037	0.000	0.061
<i>Mean</i>	1,797.4	1,797.4	1,367.5	1,367.5	421.11	421.11
Margin of victory	yes	yes	yes	yes	yes	yes
Industry fixed effects	no	yes	no	yes	no	yes
Firm characteristics	no	yes	no	yes	no	yes
Year dummies	no	yes	no	yes	no	yes
City characteristics	no	yes	no	yes	no	yes
Province fixed effects	no	yes	no	yes	no	yes
Mayor characteristics	no	yes	no	yes	no	yes
Term characteristics	no	yes	no	yes	no	yes

Notes. Estimates on 3,458 firms and 2,977 terms for *Investments*; on 3,459 firms and 2,981 terms for *Investments Tangibles*, on 3,476 firms and 3,004 terms for *Investments Intangibles*. *Turnover* is a dummy variable for whether the incumbent party ran for re-election and lost. Values are expressed in 2010 thousand Euros. *Turnover* coefficient at the discontinuity point is estimated with a 3rd-order polynomial spline in the margin of victory. *Firm characteristics*: industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets; firm's age in years; one dummy for firms entrusted with a public service by their reference shareholder; one dummy for firms undergoing liquidation procedures. *City characteristics*: resident inhabitants at the beginning of the term; city area; elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres); number of firms in the municipality. *Mayor characteristics*: one dummy for college degree; one dummy for being born in the same province; one gender dummy; one dummy for retirement; one dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics*: two political collocation dummies; one dummy for terms ended before than expected; party's tenure in office. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 6: Municipal Party Turnover, Productivity and Employment, RD

<i>Dependent variable:</i>	(1)	(2)	(3)	(4)	(5)	(6)
	TFP I Growth	TFP I Growth	TFP II Growth	TFP II Growth	Employees Growth	Employees Growth
Turnover	-35.45* (21.155)	-31.244** (14.094)	-81.842* (43.956)	-31.643** (13.776)	-4.044 (7.926)	-2.977 (10.415)
Obs.	22,615	19,703	24,195	20,856	16,052	15,230
R-squared	0.000	0.016	0.001	0.015	0.000	0.010
<i>Mean</i>	14.359	14.359	19.73	19.73	11.773	11.773
Margin of victory	yes	yes	yes	yes	yes	yes
Industry fixed effects	yes	yes	yes	yes	yes	yes
Firm characteristics	no	yes	no	yes	no	yes
Year dummies	no	yes	no	yes	no	yes
City characteristics	no	yes	no	yes	no	yes
Province fixed effects	no	yes	no	yes	no	yes
Mayor characteristics	no	yes	no	yes	no	yes
Term characteristics	no	yes	no	yes	no	yes

Notes. Estimates on 3,428 firms and 2,940 terms for *TFP I Growth*; on 3,475 firms and 3,002 terms for *TFP II Growth*; on 2,693 firms and 2,317 terms for *Employees Growth*. *Turnover* is a dummy variable for whether the incumbent party ran for re-election and lost. Both productivity indices are computed using a Cobb-Douglas production function. *TFP I Growth* is the residual from an linear regression of revenues on inputs, proxying capital with fixed assets (net of financial participations), labour with labour cost, and including year, industry and province fixed effects. *TFP II Growth* follows Levinsohn-Petrin (2003) approach, using investments as intermediate input. *Turnover* coefficient at the discontinuity point is estimated with a 3rd-order polynomial spline in the margin of victory. *Firm characteristics*: industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets; firm's age in years; one dummy for firms entrusted with a public service by their reference shareholder; one dummy for firms undergoing liquidation procedures. *City characteristics*: resident inhabitants at the beginning of the term; city area; elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres); number of firms in the municipality. *Mayor characteristics*: one dummy for college degree; one dummy for being born in the same province; one gender dummy; one dummy for retirement; one dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics*: two political collocation dummies; one dummy for terms ended before than expected; party's tenure in office. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 7: Municipal Party Turnover, Profitability and Financial Stability, RD

<i>Dependent variable:</i>	(1)	(2)	(3)	(4)	(5)	(6)
	ROA	ROA	Leverage	Leverage	Bankruptcy	Bankruptcy
Turnover	-0.782 (1.559)	-1.69 (1.246)	-20.113 (13.385)	-6.204* (3.425)	0.047** (0.023)	0.046** (0.021)
Obs.	24,901	21,319	23,583	20,244	25,408	21,696
R-squared	0.002	0.091	0.001	0.077	0.008	0.295
<i>Mean</i>	1.006	1.006	16.855	16.855	0.094	0.094
Margin of victory	yes	yes	yes	yes	yes	yes
Industry fixed effects	no	yes	no	yes	no	yes
Firm characteristics	no	yes	no	yes	no	yes
Year dummies	no	yes	no	yes	no	yes
City characteristics	no	yes	no	yes	no	yes
Province fixed effects	no	yes	no	yes	no	yes
Mayor characteristics	no	yes	no	yes	no	yes
Term characteristics	no	yes	no	yes	no	yes

Notes. Estimates on 3,507 firms and 3,035 terms for *ROA*; on 3,424 firms and 2,964 terms for *Leverage*; on 3,510 firms and 3,046 terms for *Bankruptcy*. *Turnover* is a dummy variable for whether the incumbent party ran for re-election and lost. *Leverage* is the ratio between assets and equity. *Bankruptcy* is a dummy for any insolvency procedure pending during the budget year or instances of negative equity. *Turnover* coefficient at the discontinuity point is estimated with a 3rd-order polynomial spline in the margin of victory. *Firm characteristics*: industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets; firm's age in years; one dummy for firms entrusted with a public service by their reference shareholder; one dummy for firms undergoing liquidation procedures. *City characteristics*: resident inhabitants at the beginning of the term; city area; elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres); number of firms in the municipality. *Mayor characteristics*: one dummy for college degree; one dummy for being born in the same province; one gender dummy; one dummy for retirement; one dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics*: two political collocation dummies; one dummy for terms ended before than expected; party's tenure in office. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 8a: Balancing tests, Firm and City Characteristics, RD

	Coefficient at the discontinuity point
<i>Firm Characteristics:</i>	
Assets	-20,696 (14,971)
Employees	-65.461* (36.22)
Investments	-1,731.6 (1,230)
Revenues	-5,149.5 (8,006.5)
Profits	-34.6 (305.89)
Debts	-8,386.9 (8,315.4)
TFP Growth	-10.423 (21.745)
Liquidation	0.009 (0.012)
Firm's Age	2.111 (1.455)
Financial	0.007 (0.021)
Public Service	0.043 (0.049)
<i>City Characteristics:</i>	
Population	-101,077.3 (69,693.5)
Altitude	-56.366 (43.951)
Area	-56.904 (36.538)
Density	-304.58 (368.75)
Number of Firms	-10,104 (7,955)
Graduated Share	-0.009 (0.008)
Young Share	-0.007 (0.009)
Elderly Share	-0.001 (0.007)
Deficit	64,145 (59,468)
Transfers	1,175.8 (2,173.2)
North West	0.067 (0.095)
North East	-0.018 (0.116)
Centre	0.094 (0.082)
South	-0.099** (0.043)
Islands	-0.043* (0.024)

Table 8b: Balancing tests, Mayor and Term Characteristics, RD

	Coefficient at the discontinuity point
<i>Mayor's Characteristics:</i>	
Female	0.064 (0.042)
Age	-0.769 (1.495)
Previous Experience	0.045 (0.108)
High-skilled Employment	-0.061 (0.077)
Graduated	0.037 (0.079)
Local	-0.058 (0.08)
Retired	0.012 (0.04)
<i>Term Characteristics:</i>	
Early Ending	-0.035 (0.062)
Right-wing	-0.093 (0.11)
Left-wing	-0.088 (0.113)
Tenure	0.295 (0.224)

Notes. Estimates on 7,743 firm-year of election pairs. The model includes 3rd order polynomial in the margin of victory. All *Firm characteristics* are computed at the year before the election; all *Mayor's* and *Term characteristics* are computed with respect to the previous term. Values are expressed in 2010 thousand Euros. *Firm characteristics* include: TFP Growth, calculated using a Cobb-Douglas production function, proxying capital with fixed assets (net of financial participations), labour with labour cost, and including year, industry and province fixed effects; one dummy for firms undergoing liquidation procedures; Firm's age in years; one dummy for firms operating in financial sectors (real estate, intermediaries, etc.); one dummy for firms entrusted with a public service by their reference shareholder. *City characteristics* include: Population (number of resident inhabitants) and density, both computed at the beginning of the term; altitude above sea level in metres; city area in square metres; number of firms based in the municipality (as of 2011); shares of graduated, young (people with less than 25 years), elderly (people with more than 64 years) individuals in the municipality (as of 2011); five location dummies (source: Istat); municipal budget deficit; municipal transfers to LPEs (source: Ministry of Interior). *Mayor's characteristics* include: one gender dummy; age in years; previous experience (dummy for mayors having already served in council/executive committee); local (dummies for being born in the province); one dummy for the mayor working as a high-skilled professional or entrepreneur; one dummy for graduated mayors; one dummy for the mayor being retired. *Term characteristics* encompass: one dummy for terms ended earlier than expected; two political collocation dummies; party tenure. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 9: Robustness checks, RD

<i>Dependent variable:</i>	(1) Investments	(2) Investment Tangibles	(3) Investment Intangibles	(4) TFP I Growth	(5) TFP II Growth
LLR (CCT)	-1,163.9* (622.65)	-1,333.7** (519.99)	-241.32 (251)	-16.024 (11.538)	-35.855** (14.344)
LLR (IK)	-1,553.4*** (592.77)	-1,571.7** (628.65)	-224.97 (212.15)	-31.141** (15.424)	-36.717** (14.547)
2nd order polynomial	-1,260.5** (629.55)	-1,165.9** (551.13)	-100.81 (166.94)	-30.98** (14.003)	-32.206** (14.137)
4th order polynomial	-1,894.9*** (613.8)	-1,770.1*** (678.81)	-121.01 (368.62)	-25.207** (12.761)	-26.911** (12.465)
<i>h</i> (CCT)	0.125	0.151	0.122	0.151	0.244
<i>h</i> (IK)	0.146	0.175	0.142	0.387	0.261
<i>Dependent variable:</i>	(6) Employees Growth	(7) ROA	(8) Leverage	(9) Bankruptcy	
LLR (CCT)	6.014 (8.96)	-1.643 (1.002)	-2.738 (3.002)	0.022 (0.020)	
LLR (IK)	10.388 (9.595)	-0.871 (0.871)	-6.661 (4.167)	0.038*** (0.014)	
2nd order polynomial	-7.724 (12.209)	-0.226 (1.148)	-5.622* (2.871)	0.031** (0.016)	
4th order polynomial	-1.479 (10.098)	-2.971* (1.521)	-7.21* (4.085)	0.043* (0.025)	
<i>h</i> (CCT)	0.120	0.174	0.350	0.177	
<i>h</i> (IK)	0.113	0.246	0.138	0.329	

Notes. Values are expressed in 2010 thousand Euros. Both productivity indices are computed using a Cobb-Douglas production function. *TFP I Growth* is the residual from an linear regression of revenues on inputs, proxying capital with fixed assets (net of financial participations), labour with labour cost, and including year, industry and province fixed effects. *TFP II Growth* follows Levinsohn-Petrin (2003) approach, using investments as intermediate input. *Leverage* is the ratio between assets and equity. *Bankruptcy* is a dummy for any insolvency procedure pending during the budget year or instances of negative equity. *Turnover* coefficient at the discontinuity point has been estimated using the following methods: local linear regression in the bandwidth selected using two different data-driven procedures (the MSE-optimal bandwidth highlighted by Calonico et al. (2016), and the one proposed by Imbens and Kalyanaraman (2009), flagged respectively by *LLR (CCT)* and *LLR (IK)*); 2nd and 4th order polynomial splines in the margin of victory. Bandwidths chosen by *CCT* and *IK* are also reported. All regressions include firm characteristics, industry and province fixed effects, year dummies, city, mayoral and term characteristics. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 10: Placebo tests, RD

	(1)	(2)	(3)	(4)	(5)
<i>Dependent variable:</i>	Investments	Investment Tang.	Investment Intang.	TFP I Growth	TFP II Growth
<i>MV</i> <0	10,090.3 (9,763.5)	5,087.5 (7,395.4)	4,743.7 (2,898.2)	142.8* (73.3)	149.67** (67.68)
<i>MV</i> >0	-1,446.4 (2,710.5)	461.29 (3,111.6)	-1,957.5 (2,499.7)	-59.367 (61.082)	-60.195 (62.632)
	(6)	(7)	(8)	(9)	
<i>Dependent variable:</i>	Employees Growth	ROA	Leverage	Bankruptcy	
<i>MV</i> <0	-26.704 (53.472)	3.923 (6.111)	3.917 (26.898)	-0.029 (0.121)	
<i>MV</i> >0	129.58** (61.42)	1.613 (6.29)	17.271 (23.607)	-0.018 (0.108)	

Notes. Values are expressed in 2010 thousand Euros. *Turnover* coefficients at the discontinuity point is estimated with a 3rd-order polynomial spline in the margin of victory at two simulated thresholds at the median of the subsample. All regressions include: *Firm characteristics* (industry fixed effects, five size dummies based on employment level, firm's assets, firm's age in years, a dummy for firms entrusted with a public service, a dummy for firms undergoing liquidation procedures); *City characteristics* (resident inhabitants at the beginning of the term; city area; number of firms in the municipality; graduated/elderly share of population in the municipality as of 2011; altitude above sea level). *Mayor characteristics* (1 dummy for college degree, 1 dummy for being born in the same province, 1 gender dummy, 1 dummy for retirement, 1 dummy for previous experience in the city council/executive committee; mayor's age in years); *Term characteristics* (2 political collocation dummies, 1 dummy for terms ended before than expected, party's tenure). Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 11: Heterogeneity Analysis, RD

<i>Dependent variable:</i>	(1)	(2)	(3)	(4)	(5)
	Investments	TFP II Growth	Employment Growth	ROA	Bankruptcy
First Part	-1,863.1** (808.8)	9.14 (15.888)	-1.765 (13.95)	-1.461 (1.421)	0.044** (0.022)
Second Part	-990.19 (696.94)	-82.93* (43.23)	-5.553 (13.382)	-1.945 (1.701)	0.048* (0.025)
Entrusted	-2,025.9** (989.8)	12.275 (12.168)	-1.033 (14.167)	0.844 (1.265)	-0.006 (0.021)
Not Entrusted	-1,200.9* (657.6)	-78.374** (32.879)	-6.29 (11.36)	-3.781* (2.253)	0.094*** (0.033)
Contributions	-862.94 (841.05)	0.01 (10.99)	-5.086 (14.675)	1.746 (1.494)	0.011 (0.025)
Without Contributions	-1,986.3** (778.17)	-58.98** (29.232)	0.585 (10.983)	-5.538** (2.484)	0.074** (0.036)
<i>Mean</i>	1,797.4	19.73	11.773	1.006	0.094

Notes. Marginal effects at the discontinuity point, estimated with a 3rd-order polynomial spline in the margin of victory. *First Part* is a dummy for being in the first two years after the election; *Entrusted* is a dummy for firms entrusted with a public service; *Contributions* is a dummy for firms that received operating grants at least once. *TFP II Growth* has been estimated following Levinsohn-Petrin (2003) approach, using investments as intermediate input. *Bankruptcy* is a dummy for any insolvency procedure pending during the budget year or instances of negative equity. All regressions include: *Firm characteristics* (industry fixed effects, five size dummies based on employment level, firm's assets, firm's age in years, a dummy for firms entrusted with a public service, a dummy for firms undergoing liquidation procedures); *City characteristics* (resident inhabitants at the beginning of the term; city area; number of firms in the municipality; graduated/elderly share of population in the municipality as of 2011; altitude above sea level). *Mayor characteristics* (1 dummy for college degree, 1 dummy for being born in the same province, 1 gender dummy, 1 dummy for retirement, 1 dummy for previous experience in the city council/executive committee; mayor's age in years); *Term characteristics* (2 political collocation dummies, 1 dummy for terms ended before than expected, party's tenure). Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 12: Municipal Party Turnover and Appointments in LPEs, RD

<i>Dependent variable:</i>	(1) Appointment	(2) Appointment	(3) Number of Appointments	(4) Number of Appointments
Turnover	0.185*** (0.07)	0.158** (0.079)	0.914** (0.39)	0.83* (0.441)
Obs.	2,922	2,205	2,922	2,205
R-squared	0.006	0.365	0.001	0.308
<i>Mean</i>	0.217	0.217	0.857	0.857
Margin of victory	yes	yes	yes	yes
Industry fixed effects	no	yes	no	yes
Firm characteristics	no	yes	no	yes
Year dummies	no	yes	no	yes
City characteristics	no	yes	no	yes
Province fixed effects	no	yes	no	yes
Mayor characteristics	no	yes	no	yes
Term characteristics	no	yes	no	yes

Notes. Estimates on 1,912 firms and 770 terms. *Appointment* is a dummy that equals 1 if at least one CEO and/or one member of the board of directors have been appointed during the term. *Turnover* coefficient at the discontinuity point is estimated with a 3rd-order polynomial spline in the margin of victory. All *Firm characteristics* are computed at the year before the election, or the following years if missing; all *Mayor* and *Term characteristics* are computed with respect to the previous term. *Firm characteristics*: industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets, firm's age in years; one dummy for firms entrusted with a public service by their reference shareholder; one dummy for firms undergoing liquidation procedures. *City characteristics*: resident inhabitants at the beginning of the term; city area; young/elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres). *Mayor characteristics*: one dummy for college degree; one previous occupation dummy (high-skilled profession); one dummy for being born in the same province; one gender dummy; one dummy for retirement, one dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics*: two political collocation dummies, one dummy for terms ended before than expected, party's tenure in office. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 13: Instability and Investments, RD

<i>Dependent variable:</i>	(1) Investments	(2) Investments
High Instability	-1,796.55*** (599.2)	-1,867.08* (1,041.2)
Medium Instability	-1,686.88*** (532.43)	-1,637.28*** (632.65)
Low Instability	-1,517** (643.93)	-1,454.26** (622.25)
<i>Mean</i>	1,797.4	1,797.4

Notes. Model (1) employs an index of political stability calculated as the average margin of victory within a municipality. Model (2) uses the share of turnovers as an additional index of instability. Marginal effects have been estimated at, respectively 25th, 50th, 75th percentiles and 20%, 33%, 50%, with a 3rd-order polynomial spline in the margin of victory. All regressions include: *Firm characteristics* (industry fixed effects, five size dummies based on employment level, firm's assets, firm's age in years, a dummy for firms entrusted with a public service, a dummy for firms undergoing liquidation procedures); *City characteristics* (resident inhabitants at the beginning of the term; city area; number of firms in the municipality; graduated/elderly share of population in the municipality as of 2011; altitude above sea level). *Mayor characteristics* (1 dummy for college degree, 1 dummy for being born in the same province, 1 gender dummy, 1 dummy for retirement, 1 dummy for previous experience in the city council/executive committee; mayor's age in years); *Term characteristics* (2 political collocation dummies, 1 dummy for terms ended before than expected, party's tenure). Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 14: Municipal Party Turnover and Operating Grants, OLS/RD

<i>Dependent variable:</i>	(1)	(2)	(3)	(4)
	Operating Grants	Operating Grants	Operating Grants	Operating Grants
Turnover	-49.847 (84.321)	-86.574 (87.735)	-680.19** (336.48)	-585.76** (231.81)
Obs.	22,999	19,930	22,999	20,075
R-squared	0.066	0.116	0.001	0.112
Mean	368.89	368.89	368.89	368.89
Margin of victory	no	no	yes	yes
Industry fixed effects	yes	yes	no	yes
Firm characteristics	no	yes	no	yes
Year dummies	no	yes	no	yes
City characteristics	no	yes	no	yes
Province fixed effects	no	yes	no	yes
Mayor characteristics	no	yes	no	yes
Term characteristics	no	yes	no	yes

Notes. Estimates on 3,430 firms and 2,930 terms. Columns (1)-(2) are OLS estimates; columns (3)-(4) report RD estimates, obtained using a 3rd-order polynomial spline in the margin of victory. *Firm characteristics:* industry fixed effects (six-digit Ateco 2007, 288 dummies); five size dummies based on employment level (according to Istat criteria); firm's assets; firm's age in years; one dummy for firms entrusted with a public service; one dummy for firms undergoing liquidation procedures. *City characteristics:* resident inhabitants at the beginning of the term; city area; elderly/graduated share of population in the municipality (as of 2011); altitude above sea level (in metres), number of firms in the municipality. *Mayor characteristics:* 1 dummy for college degree, 1 dummy for being born in the same province, 1 gender dummy, 1 dummy for retirement, 1 dummy for previous experience in the city council/executive committee; mayor's age in years. *Term characteristics:* 2 political collocation dummies, 1 dummy for terms ended before than expected, party's tenure in office. Year (21 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 15: Municipal Party Turnover and Survival of LPEs

	(1)	(2)
Turnover	0.346*** (0.099)	0.417*** (0.158)
Public Service		-0.961*** (0.159)
Absolute Majority		0.337* (0.184)
Age		-0.033*** (0.010)
Financial		0.202 (0.276)
Assests		-0.003* (0.002)
Obs.	36,878	20,134
Industry fixed effects	no	yes
Firm characteristics	no	yes
Year dummies	no	yes
Province fixed effects	no	yes

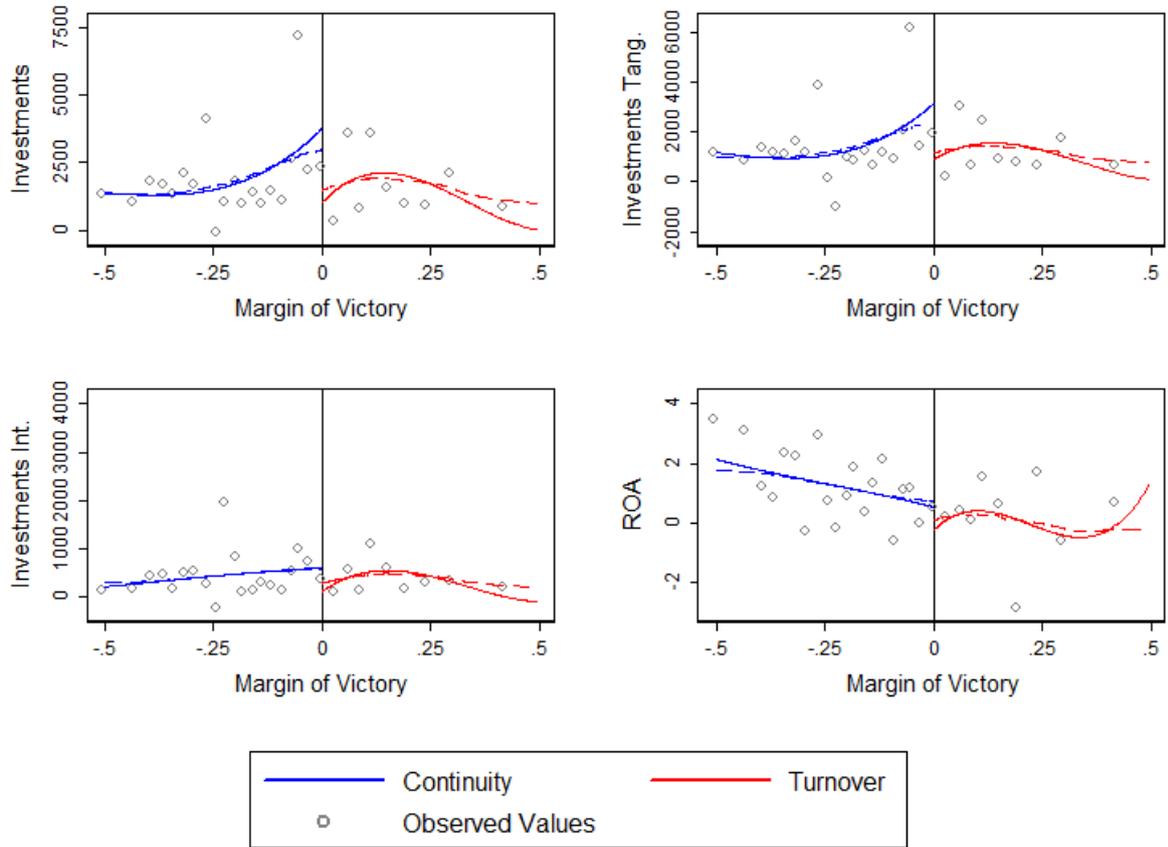
Notes. Cox proportional hazard model of firm occurrence of a bankruptcy/insolvency procedure as a function of political turnover. Efron method for tied failures has been employed. *Public Service* is a dummy for firms entrusted with a public service; *Absolute Majority* is a dummy equalling one if the LPE is controlled by its reference shareholders. *Financial* is a dummy for LPEs operative in financial sectors (excluding holdings). *Firm characteristics* also include: industry fixed effects (two-digit Ateco 2007, 65 dummies), five size dummies based on employment level, one dummy for LPEs owned with a share smaller than 25% by their reference shareholders. Year (22 dummies) and province (110 dummies) fixed effects are also included. Robust standard errors clustered at the city level are reported in parentheses. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 16: LPEs and Electoral characteristics

	<i>LPEs Dataset</i>						
	Mean	SD	Min	p25	p50	p75	Max
<i>Outcome:</i>							
North West	0.313	0.464	0	0	0	1	1
North East	0.173	0.379	0	0	0	0	1
Centre	0.218	0.413	0	0	0	0	1
South	0.122	0.327	0	0	0	0	1
Islands	0.067	0.251	0	0	0	0	1
Primary Sector	0.014	0.116	0	0	0	0	1
Secondary Sector	0.326	0.469	0	0	0	1	1
Tertiary Sector	0.638	0.481	0	0	1	1	1
Public Service	0.467	0.499	0	0	0	1	1
Indirect Entrust.	0.093	0.291	0	0	0	0	1
Multiple Ownership	0.461	0.499	0	0	0	1	1
Publicly-Owned	0.635	0.482	0	0	1	1	1
5-25% Share	0.305	0.46	0	0	0	1	1
25-50% Share	0.239	0.426	0	0	0	0	1
Absolute Majority	0.457	0.498	0	0	0	1	1
Liquidation	0.153	0.36	0	0	0	0	1
Winding-up	0.019	0.138	0	0	0	0	1
Inactivity	0.043	0.207	0	0	0	0	1
<i>Electoral Dataset</i>							
	Mean	SD	Min	p25	p50	p75	Max
<i>Outcome:</i>							
North West	0.344	0.475	0	0	0	1	1
North East	0.219	0.414	0	0	0	0	1
Centre	0.139	0.346	0	0	0	0	1
South	0.215	0.411	0	0	0	0	1
Islands	0.082	0.274	0	0	0	0	1
Turnover	0.288	0.453	0	0	0	1	1
Margin of Victory	0.192	0.33	-0.863	-0.028	0.145	0.352	1
Left-wing	0.259	0.438	0	0	0	1	1
Right-wing	0.177	0.382	0	0	0	0	1
Run-off	0.124	0.33	0	0	0	0	1
Early Ending	0.12	0.325	0	0	0	0	1
Term Limit	0.462	0.499	0	0	0	1	1
Tenure	2.021	0.937	1	1	2	2	7
Age	49.288	9.661	23	42	49	56	84
College Degree	0.445	0.497	0	0	0	1	1
Female	0.093	0.29	0	0	0	0	1
Local	0.792	0.406	0	1	1	1	1
High Skilled	0.49	0.5	0	0	0	1	1
Retired	0.112	0.315	0	0	0	0	1
Previous Experience	0.76	0.417	0	1	1	1	1

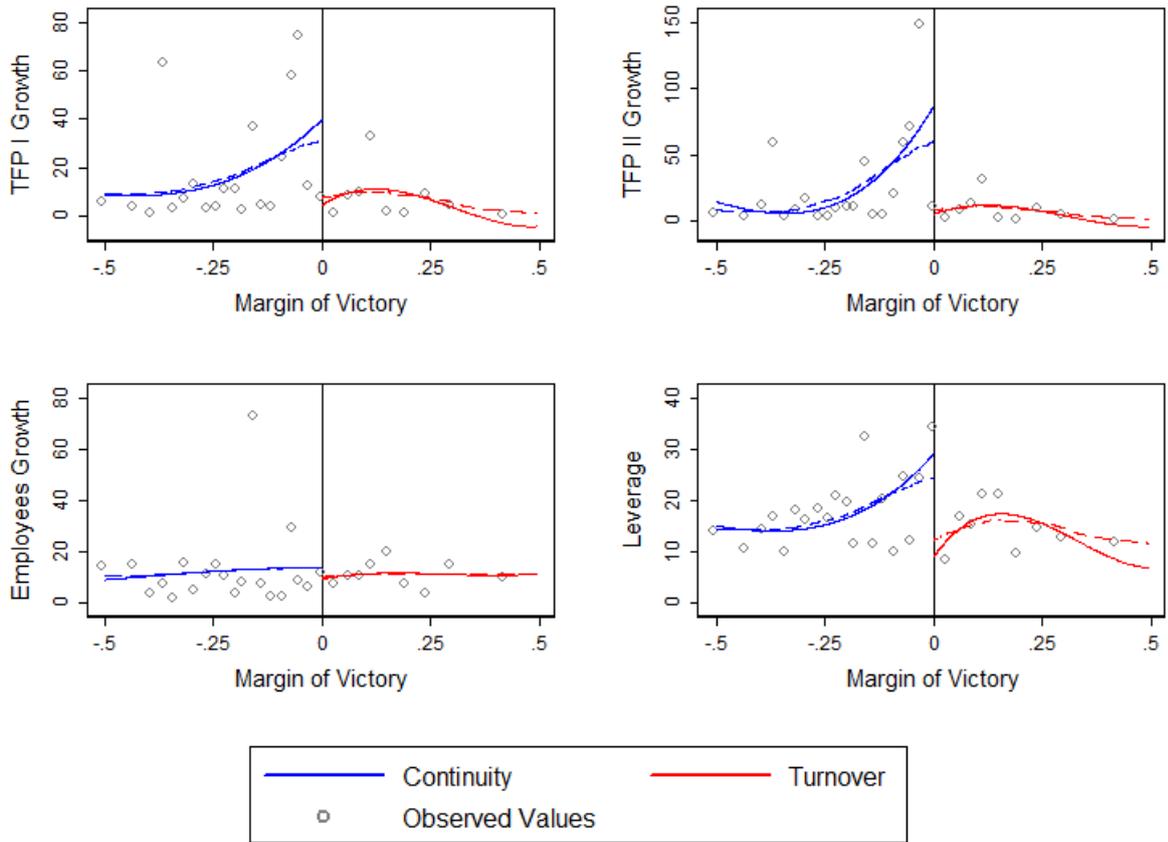
Notes. Values calculated on, respectively, 5,306 LPEs and 14,290 elections. *Public Service* is a dummy for firms entrusted with a public service by any of its shareholders; *Indirect Entrustment* is a dummy for whether LPEs has been entrusted through tender; *Multiple Ownership* is a dummy for LPEs owned by more than one municipality; *Publicly-owned* is a dummy for firms mostly owned by public administrations, not necessarily municipalities; *Absolute Majority* is a dummy equalling one if the LPE is controlled by its reference shareholders; *Inactivity* is a dummy for firms reported to be inactive. *Turnover* is a dummy for whether the incumbent lost; *Margin of victory* is defined as between the incumbent's and the challenger's vote shares in the decisive round; *Term Limit* is a dummy for term-limited mayors; *Tenure* is the number of consecutive terms with the same ruling party; *Local* is a dummy for mayors born in the same province; *High Skilled* is a dummy for mayors working as high-skilled professionals or entrepreneurs; *Previous Experience* is a dummy for mayors having already served in the council/executive committee.

Figure 1: Outcomes 1, RD



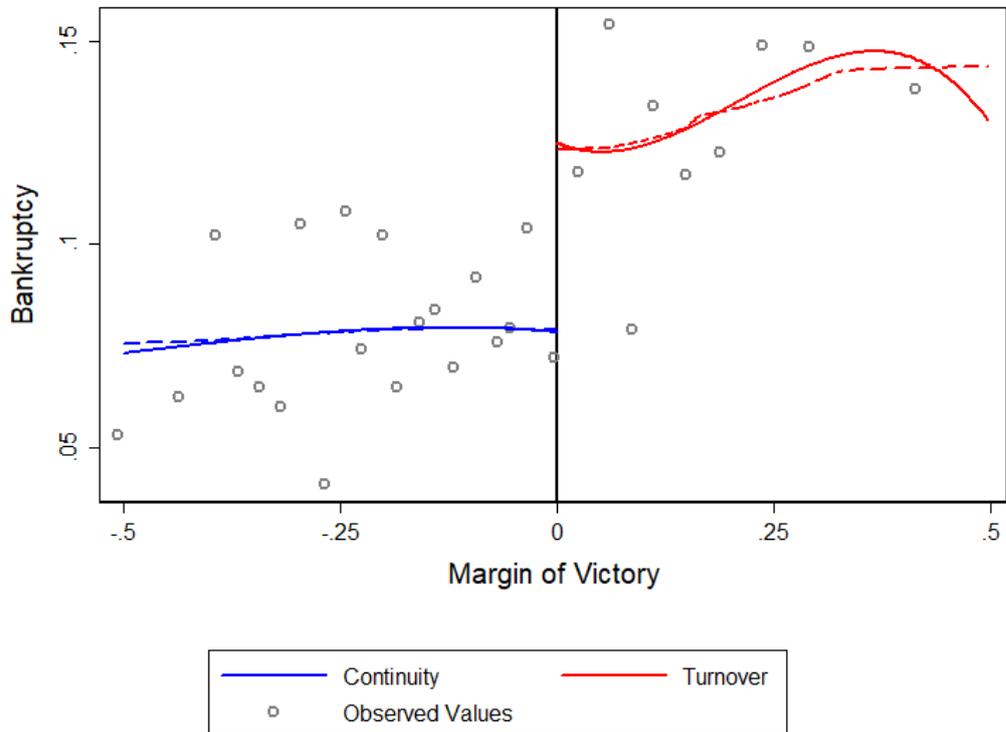
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 2: Outcomes 2, RD



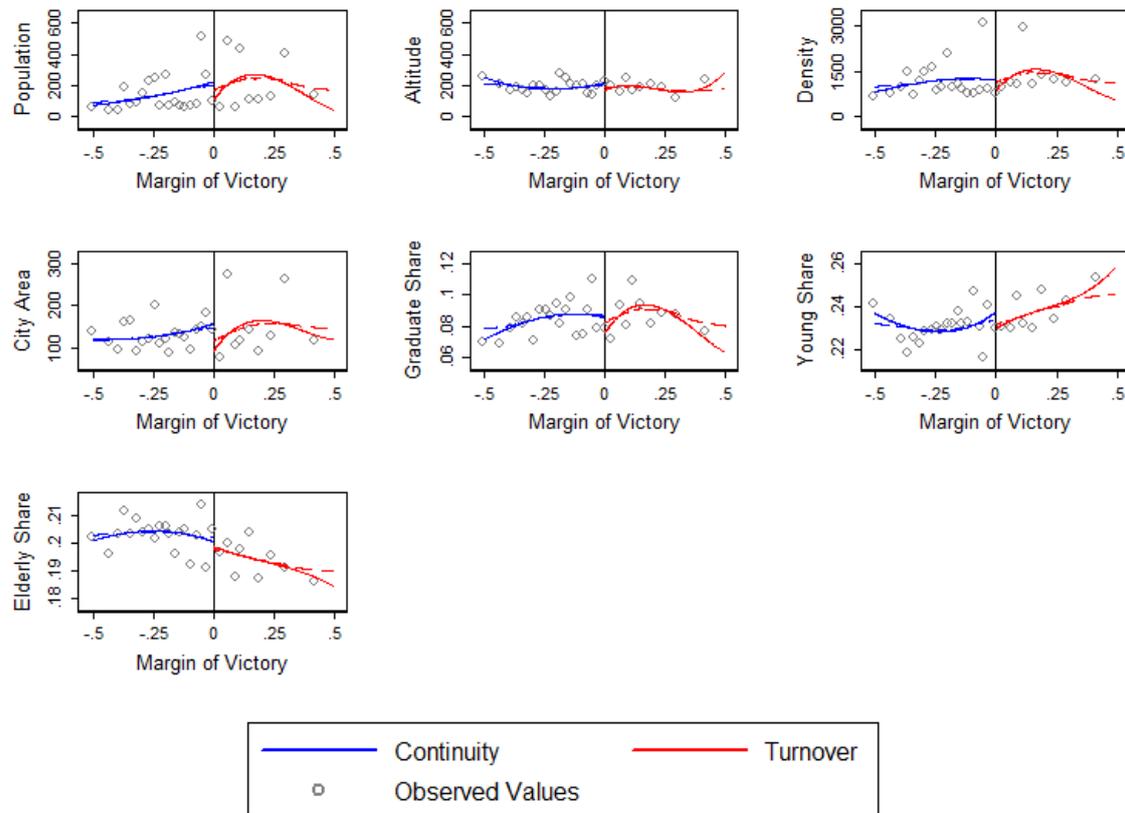
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing. TFP growth has been estimated both with as OLS residuals and with Levinsohn-Petrin (2003) approach, using investments as intermediate input.

Figure 3: Outcomes 3, RD



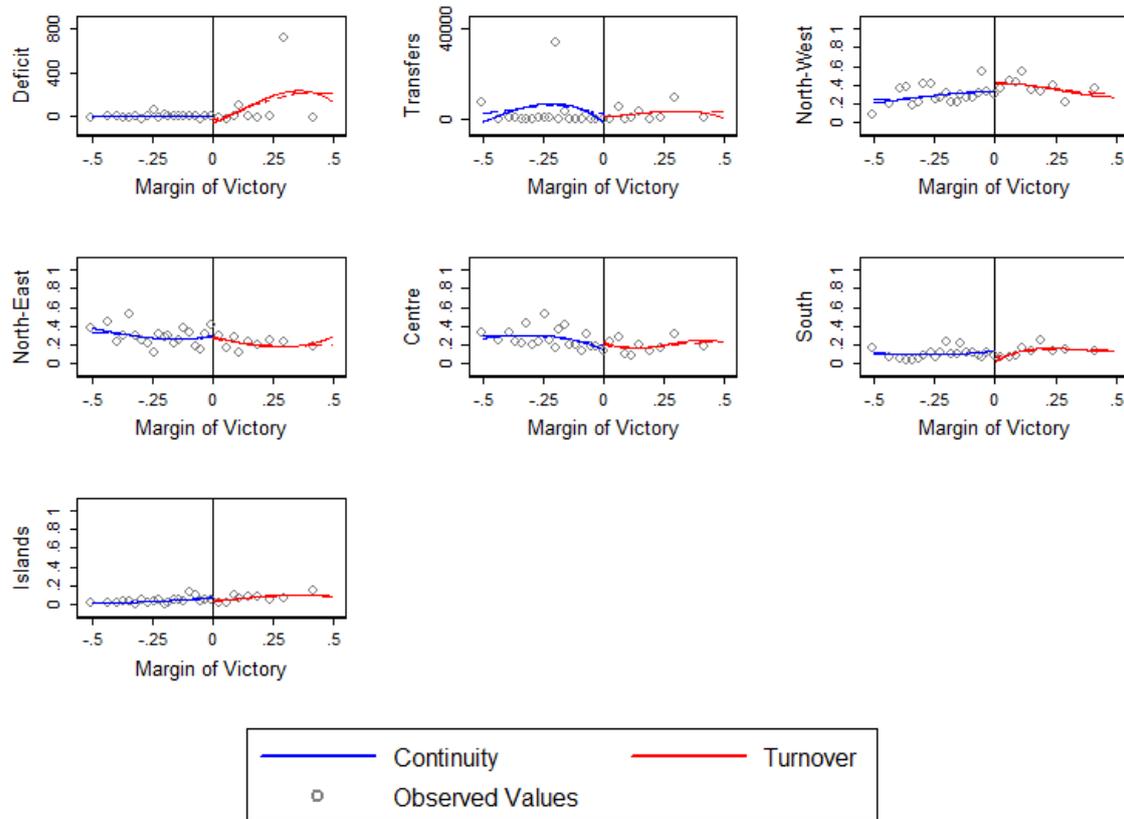
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 4: Balancing Tests, City Characteristics 1, RD



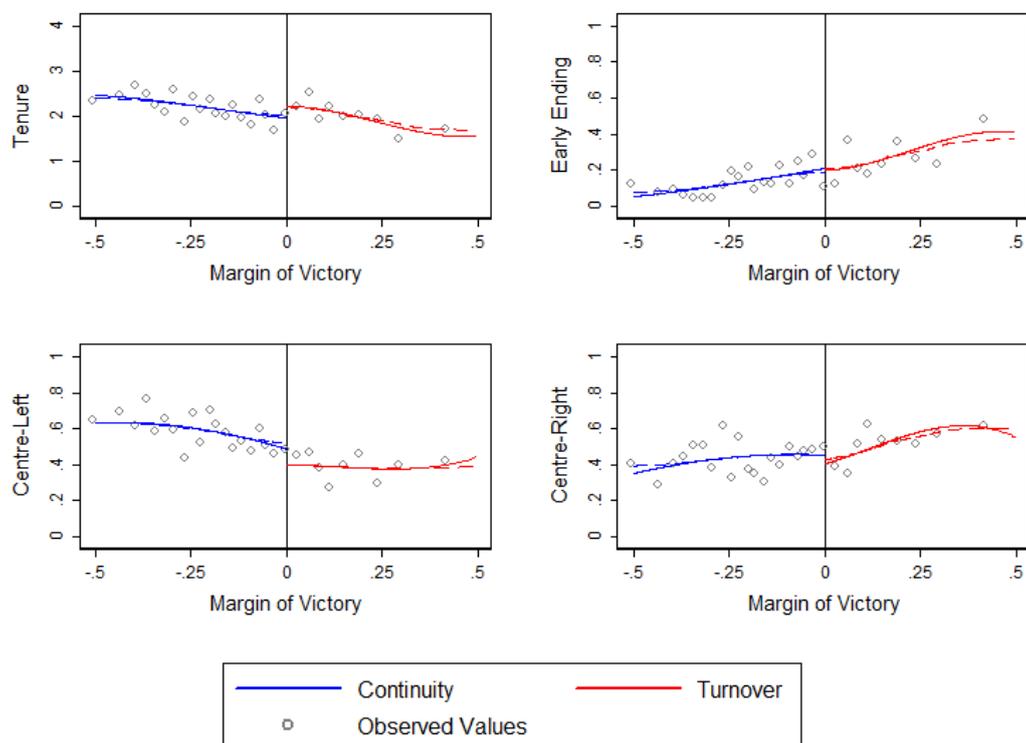
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party/coalition lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 5: Balancing Tests, City Characteristics 2, RD



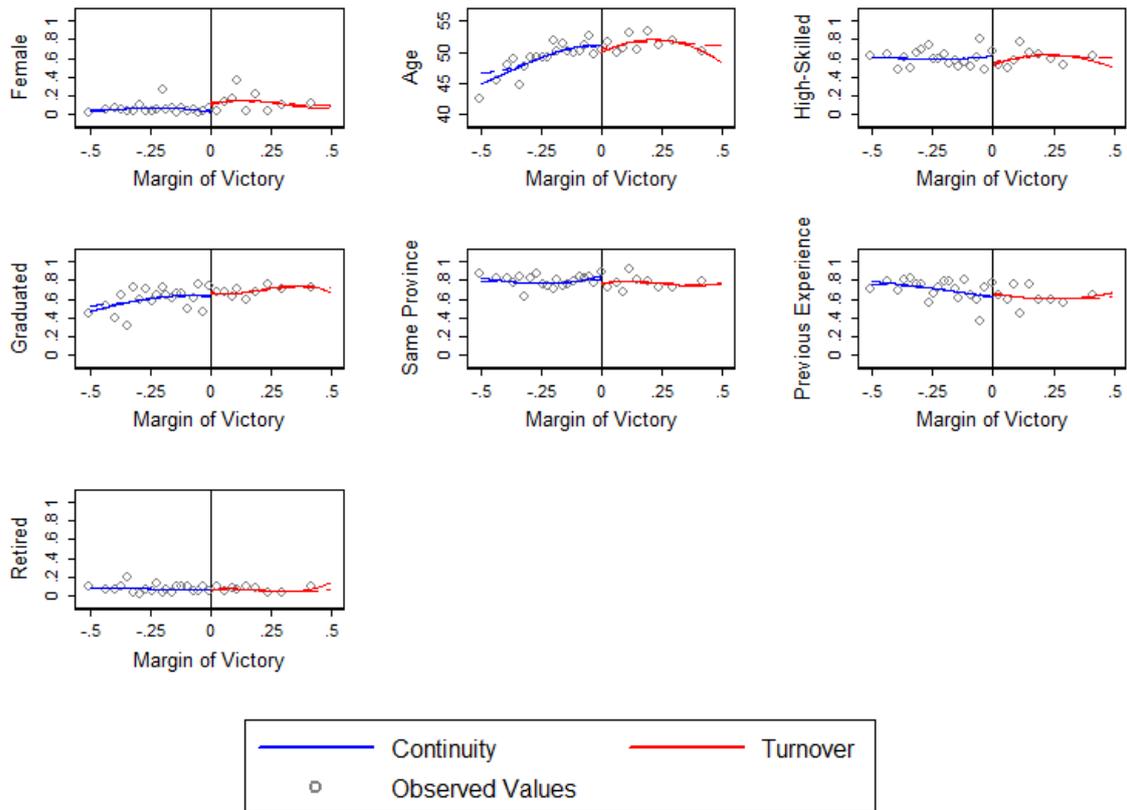
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party/coalition lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 6: Balancing Tests, Mayor Characteristics, RD



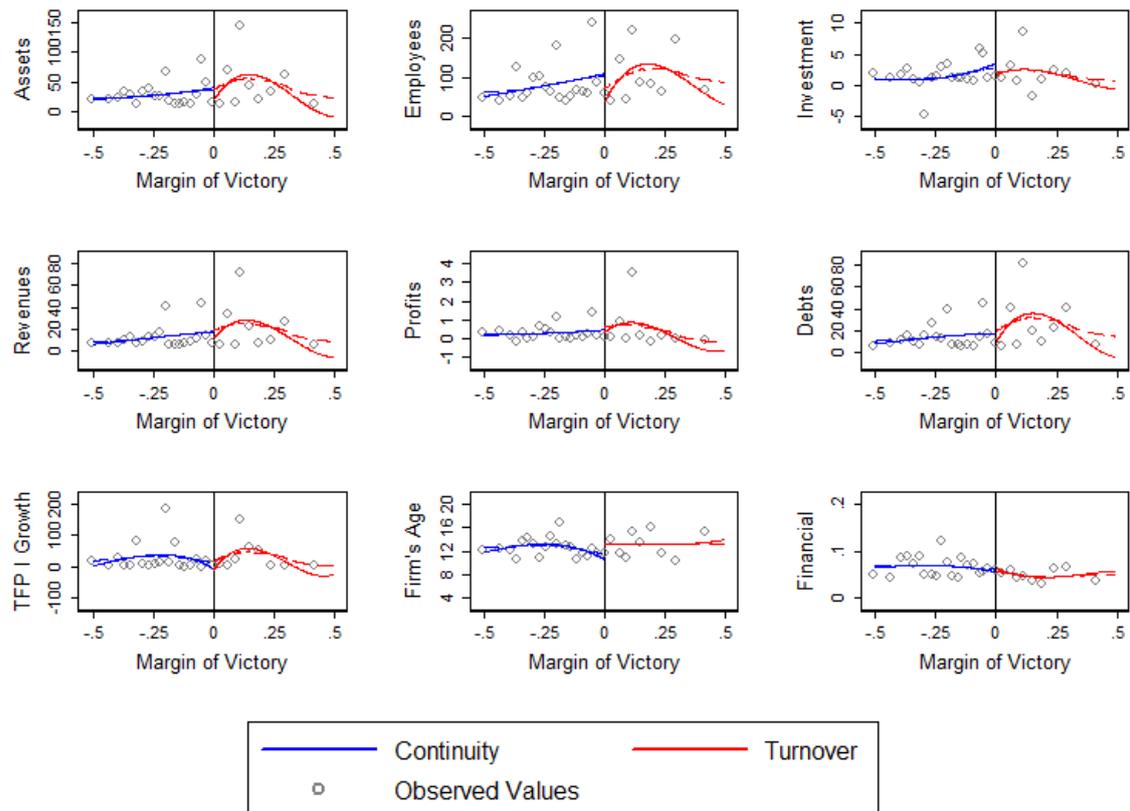
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 7: Balancing Tests, Term Characteristics, RD



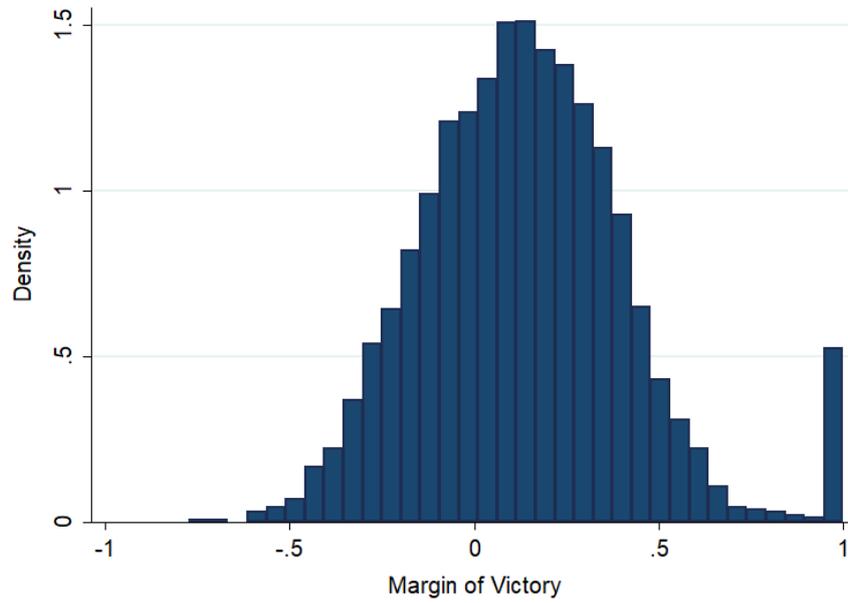
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 8: Balancing Tests, Firm Characteristics, RD



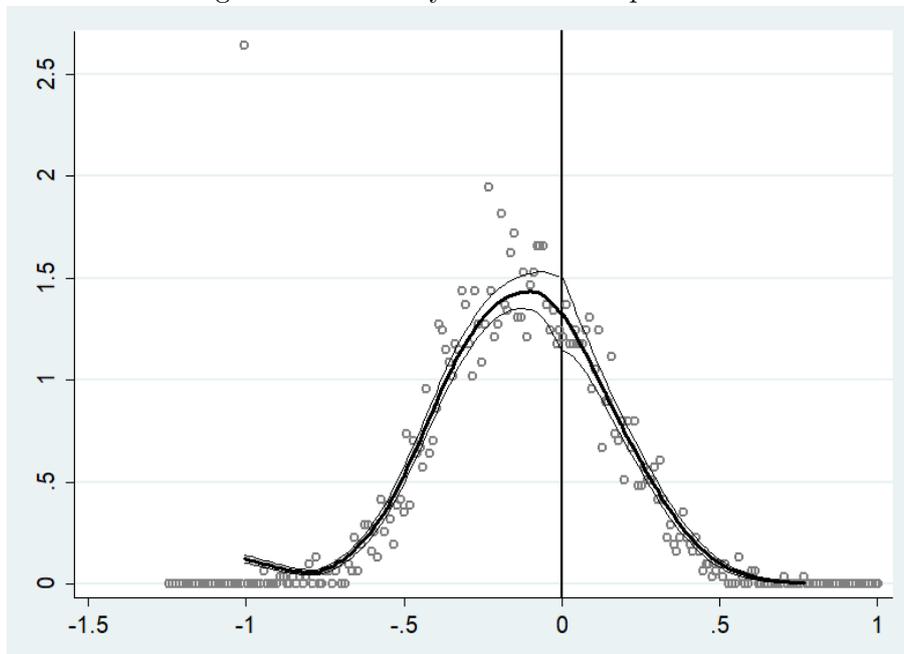
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 9: Distribution of Margin of Victory



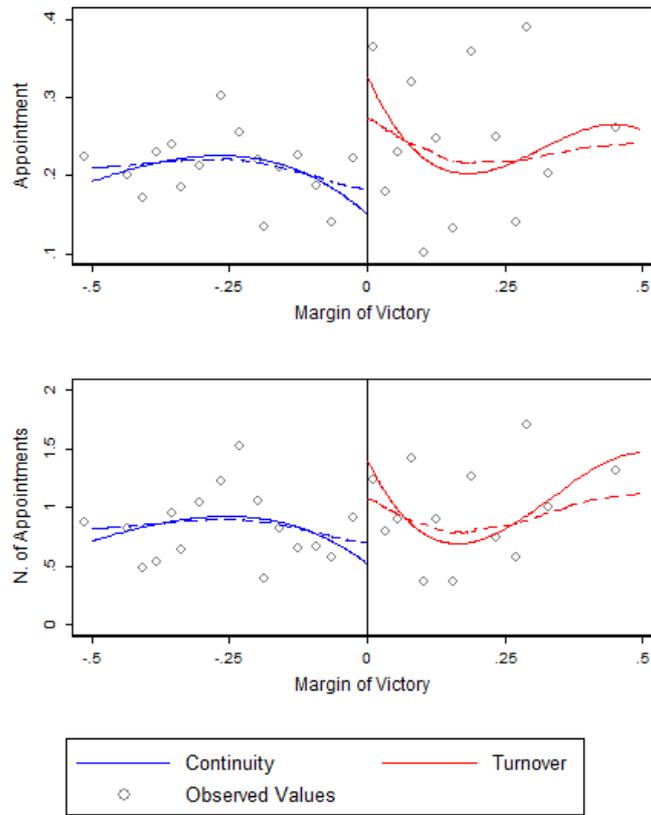
Notes. Distribution of the margin of victory, computed for 3,046 terms as the difference between the incumbent's and the challenger's votes shares in the decisive ballot.

Figure 10: McCrary Test for Manipulation



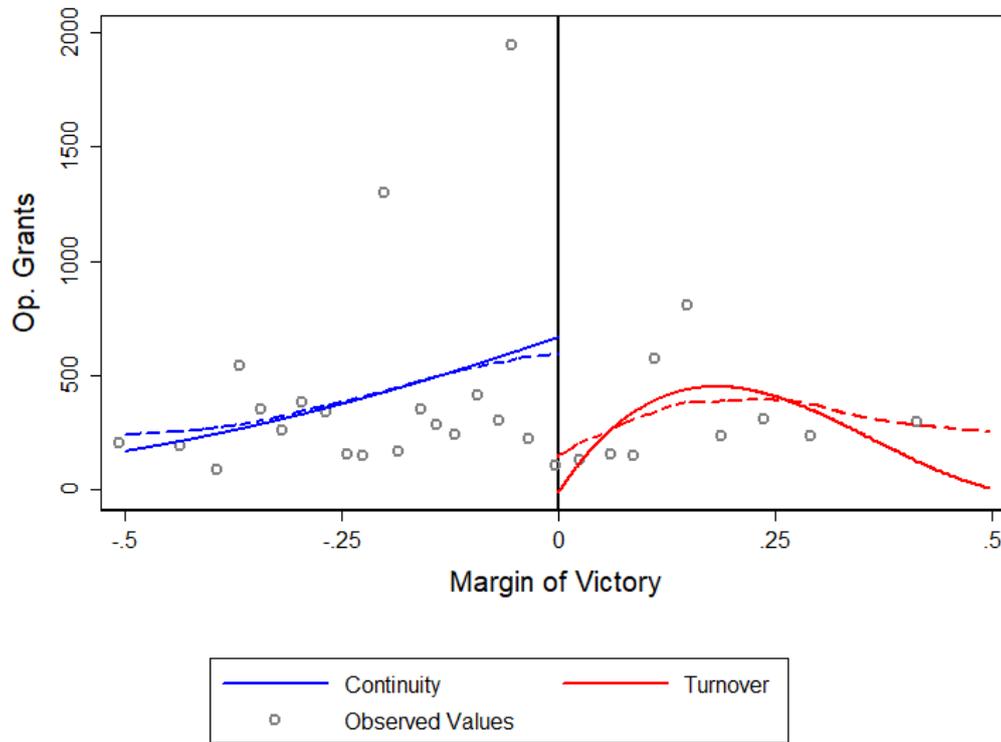
Notes. McCrary (2008) test for the manipulation of the margin of victory. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election. Circles are average observed values, the bold solid line is a kernel estimate, and the two thin lines are 95% confidence intervals. The point estimate of the discontinuity is 0.008, with a standard error of 0.102.

Figure 11: Turnover and Appointment, RD



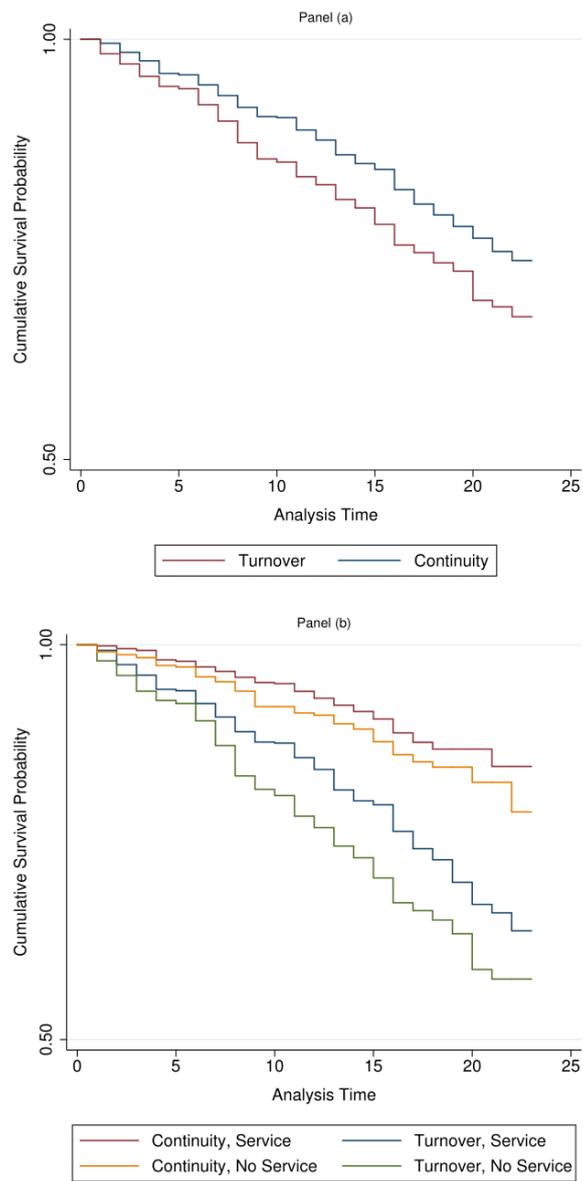
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party/coalition lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing. Appointment is a dummy variable equal to 1 if at least on member of the board of directors have been appointed during the term.

Figure 12: Turnover and Contributions, RD



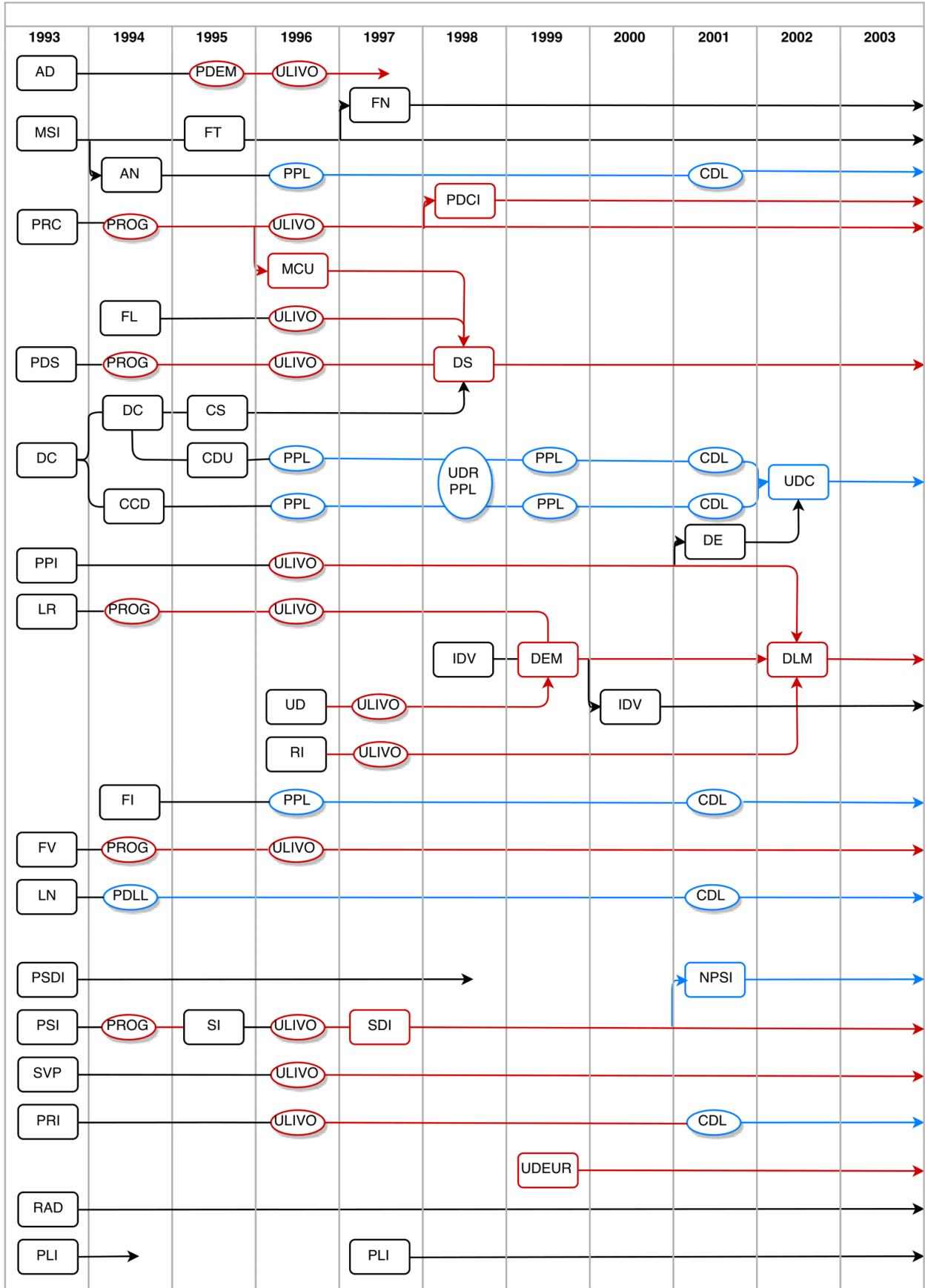
Notes. For values to the right of the cut-off we observe turnover, i.e. the incumbent party lost the election; the solid line is a third-order polynomial fit in the margin of victory, estimated separately on each side; the dashed line is a running-line least-squares smoothing.

Figure 13: Kaplan-Meier Survival Curves



Notes. Panel (a) plots the Kaplan-Meier survival functions for treated and untreated firms. Panel (b) also considers whether the firm is entrusted with a public service. The origin is defined as the moment in time in which the LPE becomes at risk, i.e. the first election available in our sample for each company; the timing of the failure event is the procedure's starting date of a bankruptcy or wind-up procedure

Figure 14: Party and Coalitions Evolution in Italy, 1993-2014



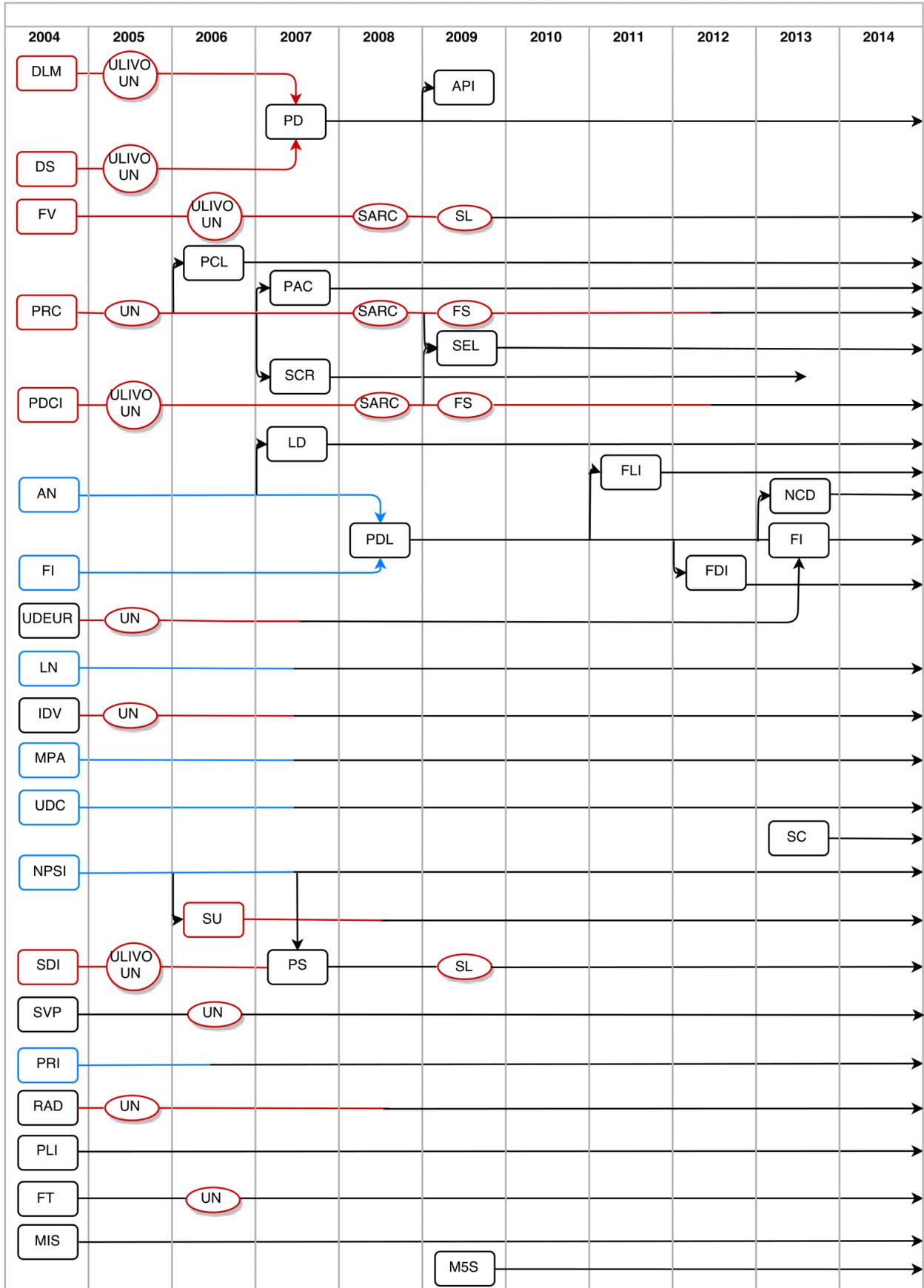


Table 17: Acronyms used in figure 14.

<p><i>Parties:</i></p> <p><i>AD:</i> Alleanza Democratica <i>AN:</i> Alleanza Nazionale <i>API:</i> Alleanza per l'Italia <i>CCD:</i> Centro Cristiano Democratico <i>CDU:</i> Cristiani Democratici Uniti <i>CS:</i> Cristiano Sociali <i>DC:</i> Democrazia Cristiana <i>DE:</i> Democrazia Europea <i>DLM:</i> Democrazia è Libertà la Margherita <i>DS:</i> Democratici di Sinistra <i>FDI:</i> Fratelli d'Italia <i>FI:</i> Forza Italia <i>FL:</i> Federazione Laburista <i>FLI:</i> Futuro e Libertà <i>FN:</i> Fronte Nazionale <i>FT:</i> Fiamma Tricolore <i>FV:</i> Federazione dei Verdi <i>IDV:</i> Italia dei Valori <i>LN:</i> Lega Nord <i>LR:</i> La Rete Movimento Democratico <i>M5S:</i> Movimento Cinque Stelle <i>MCU:</i> Movimenti Comunisti Unitari <i>MIS:</i> Movimento Idea Sociale <i>MPA:</i> Movimento per le Autonomie <i>MSI:</i> Movimento Sociale Italiano <i>NCD:</i> Nuovo Centro-Destra <i>NPSI:</i> Nuovo Partito Socialista Italiano <i>PAC:</i> Partito di Alternativa Comunista <i>PCL:</i> Partito Comunista dei Lavoratori <i>PD:</i> Partito Democratico <i>PDCI:</i> Partito dei Comunisti Italiani <i>PDL:</i> Popolo della Libertà</p>	<p><i>PDS:</i> Partito dei Democratici di Sinistra <i>PLI:</i> Partito Liberale Italiano <i>PPI:</i> Partito Popolare Italiano <i>PRC:</i> Partito di Rifondazione Comunista <i>PRI:</i> Partito Repubblicano Italiano <i>PS:</i> Partito Socialista <i>PSDI:</i> Partito Socialista Democratico Italiano <i>PSI:</i> Partito Socialista Italiano <i>RAD:</i> Radicali Italiani/Partito Radicale <i>RI:</i> Rinnovamento Italiano <i>SC:</i> Scelta Civica <i>SCR:</i> Sinistra Critica <i>SDI:</i> Socialisti Democratici Italiani <i>SEL:</i> Sinistra Ecologia Libertà <i>SI:</i> Socialisti Italiani <i>SU:</i> Socialisti Uniti <i>SVP:</i> Südtiroler Volkspartei <i>UD:</i> Unione Democratica <i>UDC:</i> Unione di Centro <i>UDEUR:</i> Unione Democratica per l'Europa</p> <p><i>Coalitions:</i></p> <p><i>CDL:</i> Casa delle Libertà <i>FS:</i> Federazione della Sinistra <i>PDEM:</i> Patto Democratico <i>PDLL:</i> Polo delle Libertà <i>PPL:</i> Polo per le Libertà <i>PROG:</i> Progressisti <i>SARC:</i> La Sinistra l'Arcobaleno <i>SL:</i> Sinistra e Libertà <i>UDR:</i> Unione Democratica per la Repubblica <i>ULIVO:</i> L'Ulivo/Uniti nell'Ulivo <i>UN:</i> L'Unione</p>
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