Organizing public investment: Evidence from close municipal elections*

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Abstract

Does the organization of public investment matter for financing, investment, and performance? I exploit a 2006 law introducing an organizational innovation — investment offices at Peruvian municipalities — and close municipal electoral contests in late 2006 to implement a fuzzy local polynomial regression discontinuity framework estimating the medium-term impacts of having an investment office. Nationwide party mayors elected in close municipal contests are substantially more likely to establish an investment office than mayors of not-nationwide parties. Establishing an investment office leads to an increase in municipal staff driven by lower-level hiring, a higher reliance on external financing, lower variability in internal surplus funding, substantially larger project investments, especially those geared towards the productive sectors of the local economy, larger external agreement investments, and some positive social program outcomes.

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1. Introduction

Does the organization of public investment decisions matter for financing, investment, and performance? Understanding the efficiency of the public investment process and offering potential solutions to inefficiency has been a central public finance concern for academics (Robinson and Torvik 2005) and policy makers (Allen and Tommasi 2001), especially in emerging countries. In parallel, the organization of investment decisions at business firms has led to a broad academic literature in finance (Stein 2003, Maksimovic and Phillips 2007, Seru 2014) somewhat disconnected from the public investment challenges faced by local governments analogous to corporations.

In this paper, I study an organizational innovation introduced by a 2006 national law in Peru: the adoption of investment offices by district-level municipalities. Seeking to revamp the national public investment system of Peru, Congress passed a law broadly modifying the national public investment system, including district municipalities. This July 2006 law mandated that each district municipality create an office of investment planning. Yet municipalities enjoyed significant latitude in complying with this indication during the years following the law. This variation in early adoption, which is not surprising in developing countries as shown by current evidence on individuals (Suri 2011) and firms (Atkin et al. 2017), motivates my study of municipalities, focusing on the impact of establishing an investment office on their financing, investment, and performance outcomes.

Specifically, I focus on the years after the 2006 law was passed and exploit the fact that some municipalities followed the regulation and established the investment office for exogenous reasons while others did not. In particular, I use the local district elections of November 19, 2006, held just a few months after the public investment law of 2006, as an exogenous shifter of each municipality's adoption of an investment office.

In my design, I focus on close municipal elections in which the two top candidates for mayor

had a separating feature: one candidate belonged to a nationwide political party while the other was not affiliated to any such party. Choosing all contests involving a nationwide party candidate builds on two ideas that help conceptualize the quasirandom victories of a nationwide party as exogenous shifters in the probability of establishing an investment office as indicated by the 2006 law. First, because of reputation considerations, parties with a national footprint may have been more willing to act upon the 2006 law's indication for municipalities to organize their investment planning through a dedicated office. Second, leaders with a particular organizational background may carry over their previous organizational traits and skills to their next job. Because nationwide parties require more organizational structure and coordination during their political campaigning, as required by the sheer complexity of an extensive, rugged country like Peru, nationwide party candidates for local mayor posts may gave been more likely to adopt an organizational innovation such as the investment office structure indicated by the 2006 law.

The quasirandom outcome of close elections placing in the mayor's post a candidate from a nationwide party as opposed to a local-party candidate constitutes the "first stage" relation in which a nationwide party victory exogenously shifts the likelihood of a municipality to adopt an investment office. This is the basis of a fuzzy regression discontinuity design that I implement nonparametrically following Calonico, Cattaneo, and Titiunik (2014) to analyze the causal impact of adopting an investment office on financing, investment, and performance throughout each mayor's mandate.

In preliminary results, I find that establishing an investment office leads to a large increase in municipal staff driven by lower-level hiring, a higher reliance on external financing, lower variability in internal surplus funding, substantially larger project investments, especially those geared towards the productive sectors of the local economy, larger external agreement investments, and some positive social program outcomes.

2. Public investment in Peru

The public investment system of Peru regulates all three levels of government: national, regional, and municipal. District municipalities are the most granular independent jurisdictions in Peru, with representatives elected by popular vote every four years. There were 1,637 district municipalities in Peru in 2006. While politically independent, district municipalities are bound to abide by the public investment system of the country; to the extent that district municipality's budgets partly depend on transfers from the higher levels of the Peruvian government, there is a strong incentive to comply with national regulation.

On July 21, 2006, Peru's Congress passed law 28802, broadly modifying the national public investment system, including district municipalities' investment procedures. This 2006 law mandated that each district municipality create an office of investment planning (*oficina de programación e inversiones*, referred to as the "investment office" hereafter). While this law, as any in Peru, was mandatory and meant to oblige all municipalities, it left substantial leeway for the adoption of the office. In particular, the text of the law refers to "the investment offices or those carrying out their functions in their stead," thus ultimately leaving up to each municipal government how to organize its investment planning while mandating that some key mandatory functions be carried out regardless of organizational form.

According to the 2006 law and subsequent regulation,[1] the specific prerogatives and duties of the investment office of a municipality included project evaluation, feasibility assessments, the ranking of priorities for investment and pre-investment projects, formal dealings with Peru's Ministry of Finance, and the general safeguarding of a professional organization of public finance and investment-related duties. The main benefits of setting up the investment office included becoming part of the system of national public investment of Peru (SNIP) and organizing

[1] Resolución directoral N. 002-2007-EF-68.01 from February 26, 2007.

investments in a more professional manner. The costs of having setting up an office would likely involve the hiring of specialized staff and implementing more bureaucratic procedures. Municipal governments were nearly reaching the end of their term (started in January 2003) when law 28802 was given.

In this paper, I analyze whether the establishment of an investment office had an impact on municipal organization, financing and social performance. To do this, I focus mainly on the years after the 2006 law is passed, and I use the local elections of November 19, 2006, held just a few months after the public investment law of 2006, as an exogenous shifter of each municipality's adoption of an investment office.

2.1. Data

The first source of data for this study is the national registry of municipalities of Peru, a publicly available repository recoding yearly information for the period 2002–2010. Every municipality was obliged to respond to a questionnaire—equivalent to a census—about its internal organization, financing, investments, and social performance outcomes. Information is collected by the National Institute for Statistics and Informatics.

A second statistical source is the publicly available electoral registry Infogob, dependent on the National Elections Office of Peru, which reports information on each municipal contest including the identity and party affiliation of candidates as well as their vote counts.

Other sources include a satellite information registry from which elevation and slope are calculated for each district, thus capturing some key underlying economic conditions (Dell 2010), and general summary measures from the National Institute for Statistics and Informatics in Peru.

Table 1 describes all the variables of the study, reporting some summary statistics.

3. Specification

I seek to study the causal impact of organizing public investments on the financing, investment, and broader performance of district municipalities after 2006. While public investments at each municipality can be organized in many different ways, the advent of the 2006 national law introducing the legal figure of an investment office is particularly conducive to a design in which more organization —i.e., adopting an investment office—is compared to less organization—i.e., not having such an office. My focus on the years 2007–2010 thus captures the early adoption of an organizational innovation and its medium-term consequences.

To fix ideas, consider an equation of the following form:

$$Municipality\ outcome_{i,\text{term}} = \alpha + \beta * Investment\ Office_i + \epsilon_i, \tag{1}$$

where *Municipality outcome* is an attribute of i measured throughout a district municipality's term, $Investment\ Office_i$ is an indicator for whether municipality i had an investment office at some point in the local government period between 2007 and 2010, and ϵ_i is an error term.

Yet the estimation of equation (1) with ordinary least squares (OLS) is problematic because promptly adopting an investment office, or failing to do so, is endogenous. The 2006 law mandated that municipalities organize their investments according to a national plan and introduced the investment office form, leaving much leeway for adoption. Thus, endogenous reasons in the cross-section of municipalities may imply that better administrations more carefully devised their future, and any observed correlation between municipal success and the creation of an investment office may be attributed to the proclivity of the already-outstanding administrations to perform well in their investment planning. Some of the self-reported reasons provided by municipalities for not adopting an investment office in the period of interest include lack of funding and lack of personnel, factors that can be related to unobservable drivers in endogenous ways. Because there will likely

exist attributes that are not observable by an econometrician, it is not possible to control for all potentially omitted variables, severely compromising inference.

3.1. A fuzzy regression discontinuity design

To address the problem of estimating equation (1), I make use of a fuzzy regression discontinuity design. Methodologically, a fuzzy regression discontinuity design has been considered analogous to an instrumental variable approach that can be estimated nonparametrically in the close vicinity of the threshold (Hahn, Todd, and Van der Klaauw 2001, Angrist and Pischke 2009); a key advantage of Calonico, Cattaneo, and Titiunik's (2014) procedure is the reduction of bias in this nonparametric estimation.

The design I introduce here exploits the exogenous nature of close municipal elections in which the two top candidates for mayor had a separating feature: one candidate belonged to a nationwide political party while the other was not affiliated to any such party. There were 783 such elections in 2006, and they constitute the testing sample. Nationwide parties are defined as those with candidates for municipal elections 2006 in more than half of the 25 regions of Peru.

Substantively, my focus on contests involving a nationwide party candidate builds on two ideas that help conceptualize quasirandom victories of a nationwide party as exogenous shifters of adoption of the investment office structure suggested by the recent 2006 law. First, a well-developed literature in political science suggests that candidates representing a political platform are more prone to implementing its proposed policies once elected (e.g., Pettersson-Lidbom 2008, Meyersson 2014). Nationwide parties may be driven by national law-abiding considerations. In this sense, because of reputation concerns, parties with a national footprint may have been more willing to act upon the recent law's indication for municipalities to organize their investment planning through a dedicated office.

Second, a literature on the organizational background of leaders suggests that they may

carry over their previous organizational traits and skills to their next job (e.g., Benmelech and Frydman 2015). Because nationwide parties' campaigning requires more organizational structure and coordination, as required by the sheer complexity of an extensive, rugged country like Peru, it is plausible that after being elected nationwide party candidates may have been more likely to adopt an organizational innovation such as the investment office suggested by the 2006 law.

Ultimately the relation between a nationwide party victory in a local election and a more likely adoption of the investment office configuration is an empirical question. Nothing obliges nationwide party candidates to follow more closely the indication of the law about setting up an investment office. Conversely, nothing prevents non-national party winners to pursue that organizational design during their administration. Following the arguments above, the quasirandom electoral outcome placing in the mayor's office a nationwide party candidate as opposed to a local party candidate constitutes the "first stage" relation in which a nationwide party victory exogenously shifts the likelihood to adopt an investment office at the municipality. This is the basis of a fuzzy regression discontinuity design that I implement nonparametrically to analyze the causal impact of having an investment office on organization, financing, and performance throughout each mayor's mandate.

In the fuzzy discontinuity design I propose here, actual treatment status T_i (i.e., having an investment office in 2007–2010) will differ from treatment assignment (i.e., when a nationwide party candidate wins the 2006 municipal election) and so it is only partly determined by the running variable X_i (i.e., the margin of victory of the nationwide party candidate in the 2006 municipal election, which is positive when the party wins and negative otherwise). For all municipalities i in the sample of interest, consider $(Y_i(0), Y_i(1), T_i(0), T_i(1), X_i)$, where treatment status is $T_i = T_i(0) \cdot \mathbb{1}(X_i < 0) + T_i(1) \cdot \mathbb{1}(X_i \geq 0)$ and always takes the form of a binary $\{0, 1\}$, and variables $Y_i(1)$ and $Y_i(0)$ represent outcomes (e.g., staffing, financing, social performance) with and without treatment, respectively. The fuzzy regression discontinuity estimand of how much T matters for Y is $\tau = (\mathbb{E}[Y_i(1)|X = 0] - \mathbb{E}[Y_i(0)|X = 0])/(\mathbb{E}[T_i(1)|X = 0] - \mathbb{E}[T_i(0)|X = 0])$, as

long as the denominator is different from zero.

I estimate this discontinuity model using Calonico, Cattaneo, and Titiunik's (2014) robust bias-correcting routine for point estimates and standard errors using nonparametric local polynomials with optimal bandwidths. For comparability, I also estimate the models using a conventional nonparametric local polynomial fuzzy regression discontinuity model. In addition, because party platforms may lead to similarities across different districts, all standard errors are clustered at the level of the political party of the election winner.

Because exogenous variation emerges from the cross-section of municipal contests, the main results of the paper contrast future investment and performance impacts across different municipalities. In essence, I compare subsequent outcomes for municipalities led by a nationwide mayor that was elected just above the next contender with the same outcome variables of municipalities in which a nationwide party candidate barely lost the election against a not-nationwide party candidate that became the mayor. Because the fuzzy discontinuity design is analogous to an instrumental variable approach, I can then interpret any differences I observe in subsequent organization, financing and performance of the municipality to the causal impact of having an investment office. I first provide standard tests on the validity of this design. In the closing section of the results, I discuss evidence on the validity of the exclusion restriction.

4. Results

4.1. Close elections and the subsequent organization of public investment

Table 2 reports the local-polynomial regression discontinuity models relating the 2006 municipal election victory of a candidate belonging to a nationwide party and the subsequent adoption of an investment office at some point in the four-year term between 2007 and 2010. The table presents models assessing the causal impact of winning an election on a binary variable for whether the

municipality had an investment office at any point during the four-year term. The statistical significance of the effects is strong (with a p-value of 1%). The point estimates ranging between 0.21 and 0.29 are substantial when compared with the average value of 0.43 for the adoption of an investment office detailed in Table 1.

The standard graphical evidence on the discontinuous jump in the probability of treatment status just discussed is presented in the top panel of Figure 1. Around the threshold of victory for the nationwide party, a positive impact can be noticed. The third-order polynomial of the fitted curve suggests a point estimate roughly similar to the ones displayed in the first column of Table 2.

Taken together, the results of the discontinuity models indicate a robust influence of quasirandom electoral wins on the adoption of investment offices at local municipalities. I now present evidence on the validity of the discontinuity design.

A key condition for a suitable design is balance. Do preexisting conditions at the municipalities of interest vary smoothly around the electoral discontinuity threshold? This is important for a design in which future outcomes will be attributable to the (likely adoption of) discontinuous treatment. Table 3 presents the results of the two alternative local-polynomial procedures outlined in Section 3.1 to estimate the discontinuous impact of a nationwide party candidate winning the local municipality election on the preexisting conditions of that jurisdiction or of the race itself.

Eight dependent variables representing various dimensions in periods prior to the beginning of a mayor's term are analyzed in Table 3. First, the population of each municipality (in logarithms) captures size. Second, the geographic extension of the district (in logarithms of square kilometers) reflects the complexity of managing a vast territory. Third, district terrain elevation (measured in average altitude above sea level in meters) is associated with economic conditions in the highly

diverse territory of Peru (Dell 2010). Fourth, the slope of the terrain is also considered. Fifth, the prior yearly expenditure of the municipality captures the size of government. Sixth, the prior yearly gross investment of the municipality reflects the importance of public investments at the localities of interest. Seventh, turnout at the election (measured as a fraction of the total electorate) captures the local public interest in the contests, even if voting is universal and mandatory in Peru. Eighth, the number of candidates running for the mayor's post represents the attractiveness of the municipality. Across all regression discontinuity procedures reported in Table 3, no significant jump in prior socio-geographic, economic, or civic conditions can be noticed among the municipalities with a nationwide-party winner.

The standard graphical evidence on smooth nature of preexisting conditions just discussed is presented in the eight panels of Figure 2. (In a local polynomial setup, each bin in a regression discontinuity plot has a different standard error; thus, no accompanying lines with fixed confidence intervals are shown.) In the vicinity of the victory threshold for the nationwide party, no statistically significant jump in observable characteristics can be noticed. The third-order polynomials of the fitted curves suggest point estimates for a difference roughly similar to the ones displayed in Table 3, and none of the differences is statistically significant.

These regression and graphical results featuring local electoral contests suggest that the discontinuous victory of the special kind of candidate— the one from a nationwide party —offers a specific shock that could be helpful to analyze the plausibly exogenous creation of an investment office when that kind of candidate becomes the winner by a very narrow margin.

Are municipal races between a nationwide party candidate and a not-nationwide party candidate suitable testing grounds for a nonparametric discontinuity analysis comparing the future investment behavior of municipalities? For nonparametric estimation of local polynomials, a substantial mass of close-to-threshold cases is required. Figure 3 displays the density of the margins of victory for each nationwide party candidate ranking among the top two candidates of each

municipal race in 2006 that faced a smaller party candidate (totaling 783 contests, as displayed in Table 1). Figure 3 demonstrates that there were many tight races in the sample of interest, with the density of margin of victory peaking around the zero threshold.

Another condition for a suitable design is that the density of the running variable (i.e., the margin of victory for the candidate from a nationwide party) do not inordinately vary when comparing both sides of the treatment assignment threshold. Suppose there were too many races (i.e., a high density of the running variable) in which a nationwide party obtained a small but positive margin of difference over the runner-up as compared to very few races with tiny margin of loss for that kind of party. Such contrast in the abundance of close winning races vs. close losing races would raise concerns about manipulation and other potentially strange dynamics jeopardizing the design. Reassuringly, when implementing Cattaneo, Jansson, and Ma's (2018) test of local-polynomial density differences, I find no evidence of changes around the cutoff; the p-value of the difference in densities around the winning threshold is 0.73. This is also clear from Figure 3. There exists a very similar frequency of close-winning and close-losing races for nationwide party candidates.

4.2. Changes in staffing

Table 4 reports the results of the discontinuity estimation techniques relating the creation of an investment office and changes in personnel. The first column shows that, regardless of the procedure employed, there is a strong positive change in the number of staff members at the municipality following the adoption of an investment office, with p-values at the 5% level. The second column of Table 4 displays results studying the log change in the number of top personnel —managers and professionals— at the municipality over the mayoral term, finding no discontinuous increase in this segment. By contrast, the third column of Table 4 reports the discontinuous impact of having an investment office on the log change of the rest of personnel at the municipality, with a strong

statistical significance (p-values at the 5% level) and large point estimates.

Figure 4 provides a graphical representation of the reduced-form discontinuous impact of a nationwide party winning the local election on the staffing variables just described. Notice these estimates do not amount to the fuzzy impact of the investment office treatment; instead, they focus directly on the assignment variable (a nationwide party candidate's victory) in relation to outcomes.

4.3. Financing policies

Table 5 displays estimation results on the impact of having an investment office on key financing policies of municipalities. The municipal registry source does not detail what external institutions provide debt. The first column shows that the creation of an investment office causes an increase in the net external financing of the municipality, with a statistical significance at the 5% level for the conventional procedure and at the 10% level for the robust bias-corrected technique. Moreover, the second column of Table 5 displays models indicating a negative impact of the adoption of the investment office on the coefficient of variation of the internal surplus funds of the municipality, the source of funding alternative to external funds; again, the statistical significance is at the 5% level for the conventional estimation and at the 10% level for the robust bias-corrected procedure.

Figure 5 offers the graphical counterpart of reduced-form models of the discontinuous influence of a nationwide party victory in the local contest on the financing variables. The changes around the neighborhoods of the cutoff are noticeable.

4.4. Project investments

Table 6 shows the results of models using information on approval decisions over project-level investments of the municipality, either in disaggregated form or pooled over the whole mayoral period (four years). Regardless of the discontinuity procedure employed, a substantially positive

impact is found on the log amount of approved project investments (with a statistical significance at the 5% level). When restricting the dependent variable to investments in the welfare sector (i.e., health, education, environment, community wellbeing), the positive impact of having an investment office is somewhat muted, with statistical significant at the 10% level. By contrast, a strong impact of the investment office is noticeable on project investments in the productive sector (i.e., agriculture, electricity, transportation, tourism), with a statistical significance at the 5% level. When analyzing the impact of the investment office on the pooled investments of the municipality during the mayoral term in the aggregate expressed in logarithms, the estimate is positive (with significance at the 10%), and a larger proclivity towards projects in the productive sector (with significance at the 10% level) is found as an impact of the investment office.

No information exists on the specific performance of each investment project. However, the time to complete each project that was finished during the mayoral term is analyzed as a proxy for the efficiency of the process. As shown in the last column of Table 6, no significant impact of the investment office is found on completion time expressed in months.

The graphical representation of the reduced-form impacts of the victory of a nationwide candidate on all these project-investment outcomes is displayed in Figure 6.

4.5. External agreement investments and some social outcomes

Table 7 presents the fuzzy regression discontinuity impacts of having an investment office on the capability to develop investment-related agreements. Municipalities cannot rely on their sole funding and planning to carry out all the investment that is required for the public interest. Thus, a separate set of projects not conducted by the municipality is taken on by external institutions, under agreement with the municipality. The first two columns of Table 7 show that having an investment office has a positive effect on the total amount of investment carried out by external institutions through agreements with the municipality (with significance at the 5% level) and a

positive impact on the average investment per agreement (with significance at the 10% level). The third column of Table 7 shows that having an investment office has a positive impact on whether the municipality successfully obtains funding for infrastructure projects from its own local communities (with significance at the 10% level), suggesting an enhanced capability for local agreements, as well.

The last two columns of Table 7 show evidence on some positive influence of the investment office on social programs for the elderly. This evidence complements the evidence in the previous subsection on the more pronounced interest in productive sector investments resulting from having an investment office.

The graphical representation of the reduced-form impacts of the victory of a nationwide candidate on external agreement investments and social outcomes is displayed in Figure 7.

4.6. The investment office as a channel for the outcomes

My empirical design uses close municipal elections as sources of exogenous variation for the organizational orientation a municipality for a limited term (four years). The arguments I provided above about how close elections place in office a person with the ideas or background to implement a more organized financial operation could be contrasted with alternative arguments about a direct impact of the election results on subsequent municipal outcomes. In independent work conducted concurrently with mine, Makarin, Pique, and Aragón (2018) proposed such alternative arguments, finding almost no evidence of a direct impact of *national* parties (a different but similar construct to my focus on nationwide parties) on welfare outcomes.

Because the investment office was introduced by law in 2006, and was adopted by many municipalities between 2007 and 2010, there are two ways to probe further into the exclusion assumption of my empirical interpretation of the investment office as the channel for the outcomes. First, focusing on the periods before the law was introduced, the direct impact of the nationwide party victory in local contests (e.g., 2002) can be studied to assess whether any impact on the

dependent variable of interest is noticeable in subsequent years (i.e., 2003–2005). Second, narrowing the sample only to periods after the law was passed (i.e., 2011–2014), using a different election cycle (i.e., 2010) from the one used throughout the study, and conditioning the sample to include only municipalities that indeed adopted the investment office by 2010, the direct impact of the nationwide party victory on local outcomes can be analyzed. Table 8 reports the results of these two sets of tests on all the main variables of the study, with no evidence of a direct impact.

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Table 1: Summary statistics

Municipal elections were held on November 19, 2006 across Peru's districts for four-year terms starting in January 2007 and ending at the end of December 2010. The sample described in this table is that of all district municipalities with a 2006 contest between a nationwide party and a not-nationwide party as the top two running parties in final vote counts. Observations are at the municipality level. Establishes an investment office is a dummy equal to one when the municipality had an investment office at any point during the four-year term after winning the election.The margin of victory for a nationwide party is positive when it is the winner, or negative when it loses. Geographic extension is in square kilometers. Elevation (measured in meters above sea level) and slope (measured in degrees) are average values for the district capital. Log average yearly expenditures in prior years and log average yearly investments in prior years are based on the average of 2003–2006. Turnout and number of candidates are from the elections.

Log change in total personnel count is the log difference between the average yearly personnel count during the current mayoral term and the prior mayoral term. The total count of personnel is further split into a top personnel variable—including only management and professional staff– and a rest of personnel variable, both of which are also expressed in log changes. Net external financing is the difference between all inflows and all outflows (e.g., amortization, interest) of external debt summed over years of the term, and is divided by the total expenses of the municipality over that period. Coefficient of variation of internal surplus funding is the standard deviation of yearly internal surplus funding, the only source of funding other than external financing, divided by its mean.

Log investment amount is defined at the project level, and further summarized separately for welfare sector projects and productive sector projects. Log total investment is the aggregate investment amount for the whole mayoral term. Share of projects of productive sector is with respect to the total count. Project completion time is in months and refers to projects completed during the mayoral term.

Investments of external agreement projects are summarized for the whole mayoral period either as a total or as an average per project and expressed in logs.

	N. obs.	Mean	Std.dev.	Min.	Max.
Establishes an investment office (1/0)	783	0.43		0.00	1.00
A nationwide party wins municipal election (1/0)	783	0.46		0.00	1.00
Margin of victory of nationwide party in contest	783	-0.01	0.13	-0.98	0.53
Log of population	782	8.31	1.18	5.24	13.13
Log of geographic extension	780	5.26	1.38	0.69	9.89
Elevation	781	2276	1368	3.60	4681
Slope	781	11.88	7.91	1.09	37.21
Log average yearly expenditures in prior years	783	13.84	1.22	0.00	17.58
Log average yearly investments in prior years	783	13.17	1.18	0.00	17.19
Election turnout	783	0.87	0.05	0.17	0.98
Number of candidates	783	6.68	2.60	2.00	19.00
Log change in total personnel count	783	0.49	0.41	-1.30	3.05
Log change in top personnel	783	0.45	0.49	-1.39	2.52
Log change in rest of personnel	783	0.42	0.45	-2.09	2.46
Net external financing over total expenses	783	-0.01	0.02	-0.14	0.22
Coefficient of variation of internal surplus funding	782	0.98	0.37	0.11	3.02
Log investment amount	21470	11.15	1.33	2.30	18.85
Log investment amount: welfare sector	9236	11.04	1.29	2.30	18.81
Log investment amount: productive sector	12013	11.24	1.35	4.32	18.85
Log total investment	782	14.87	1.08	11.01	19.61
Share of projects of productive sector	782	0.56		0.00	1.00
Project completion time	21484	3.77		0.00	45.00
Log total investment of external agreement projects	699	13.34	1.49	5.89	19.40
Log av. invest. per external agreement	699	12.01	1.20	5.20	19.40
Obtained infrastructure funding from local community (1/0)	783	0.10		0.00	1.00
Log number of social organizations for the elderly	783	0.23	0.50	0.00	3.64
Log beneficiaries of social org. for the elderly	783	1.10	1.92	0.00	8.01

Table 2: Municipal contests with a nationwide party candidate and the investment office

Each entry in this table corresponds to a different local-polynomial regression discontinuity estimation of the impact of a nationwide party winning a local municipal election on that municipality's adoption and intensity of use of an investment office during its subsequent four-year term. The procedures for estimation are standard local-polynomial nonparametric regressions and Calonico, Cattaneo, and Titiunik's (2014) robust bias-correcting routine. All standard errors are clustered by the political party of the election winner and are reported in parentheses. *** stands for significance at the 1% level.

	Dependent variable: Establishes an investment office (1/0)				
Estimation:	2nd degree polynomial	3rd degree polynomial	2% margin subsample OLS	Nonparametric conventional	Nonparametric robust bias-corrected
Nationwide party wins district election	0.212***	0.226***	0.250***	0.263***	0.288***
	(0.06)	(0.07)	(0.08)	(0.09)	(0.10)
Sample size	783	783	137	783	783

Table 3: Balance

Each entry in this table corresponds to a different local-polynomial regression discontinuity estimation of the impact of a nationwide party winning the district election on preexisting conditions of all district municipalities in the study sample. The procedures for estimation are conventional local-polynomial nonparametric regressions and Calonico, Cattaneo, and Titiunik's (2014) robust bias-correcting routine. All standard errors are clustered by the political party of the election winner and are reported in parentheses.

	Dependent variables:			
Procedure:	Log of population	Log of geographic extension	Elevation	Slope
Conventional	0.283	0.177	247.572	0.241
	(0.26)	(0.25)	(267.84)	(1.93)
Robust bias-corrected	0.318	0.206	269.183	0.323
	(0.31)	(0.30)	(297.68)	(2.23)
Sample size	782	782	781	781

Procedure:	Log average yearly expenditures in prior years	Log average yearly investments in prior years	Election turnout	N. candidates
Conventional	0.186	0.272	−0.006	0.660
	(0.34)	(0.32)	(0.01)	(0.48)
Robust bias-corrected	0.177	0.300	−0.006	0.776
	(0.42)	(0.40)	(0.01)	(0.57)
Sample size	781	783	783	783

Table 4: Fuzzy regression discontinuity impacts on changes in staffing

Each entry in this table corresponds to a different local-polynomial fuzzy regression discontinuity estimation of the impact of having an investment office on a municipality's changes in staffing. The procedures for estimation are standard local-polynomial nonparametric regressions and Calonico, Cattaneo, and Titiunik's (2014) robust bias-correcting routine. All standard errors are clustered by the political party of the election winner and are reported in parentheses. ** stands for significance at the 5% level.

	Dependent Variables:		
	Log change in total personnel count	Log change in top personnel	Log change in rest of personnel
Procedure:			
Conventional	0.547**	−0.018	0.729**
	(0.26)	(0.27)	(0.34)
Robust bias-corrected	0.599**	−0.068	0.821**
	(0.30)	(0.32)	(0.39)
Sample size	783	783	783

Table 5: Fuzzy regression discontinuity impacts on external financing and internal surplus funding variation

Each entry in this table corresponds to a different local-polynomial fuzzy regression discontinuity estimation of the impact of having an investment office on a municipality's financing policies. The procedures for estimation are standard local-polynomial nonparametric regressions and Calonico, Cattaneo, and Titiunik's (2014) robust bias-correcting routine. All standard errors are clustered by the political party of the election winner and are reported in parentheses. ** and * stand for significance at the 5% level and 10% level, respectively.

	Dependent Variables:	
	Net external financing over total expenses	Coefficient of variation of internal surplus funding
Procedure:		
Conventional	0.042^{**}	-0.820^{**}
	(0.02)	(0.39)
Robust bias-corrected	0.043^{*}	-0.877^{*}
	(0.02)	(0.45)
Sample size	783	782

Table 6: Fuzzy regression discontinuity impacts on project investments

Each entry in this table corresponds to a different local-polynomial fuzzy regression discontinuity estimation of the impact of having an investment office on a municipality's financing policies. The procedures for estimation are standard local-polynomial nonparametric regressions and Calonico, Cattaneo, and Titiunik's (2014) robust bias-correcting routine. All standard errors are clustered by the political party of the election winner and are reported in parentheses. ** and * stand for significance at the 5% level and 10% level, respectively.

	Dependent variables:		
Procedure:	Log of investment amount	Log of inv. amount: welfare sector	Log of inv. amount: productive sector
Conventional	1.392**	1.029*	1.505**
	(0.60)	(0.57)	(0.72)
Robust bias-corrected	1.555**	1.150*	1.693**
	(0.69)	(0.66)	(0.82)
Sample size	21470	9236	12013
Procedure:	Log of total investment	Share of projects of productive sector	Project completion time
Conventional	2.211*	0.175*	−0.030
	(1.32)	(0.09)	(1.74)
Robust bias-corrected	2.444*	0.190*	0.328
	(1.48)	(0.11)	(1.98)
Sample size	782	782	21484

Table 7: Fuzzy regression discontinuity impacts on external agreements and social outcomes

Each entry in this table corresponds to a different local-polynomial fuzzy regression discontinuity estimation of the impact of having an investment office on a municipality's outcomes. The procedures for estimation are standard local-polynomial nonparametric regressions and Calonico, Cattaneo, and Titiunik's (2014) robust bias-correcting routine. All standard errors are clustered by the political party of the election winner and are reported in parentheses. ** and * stand for significance at the 5% level and 10% level, respectively.

	Dependent Variables:		
	Log total investments: external agreement projects	Log. av. investment per external agreement	Obtained infrastructure funding from local community (1/0)
Procedure:			
Conventional	3.575**	1.999**	0.416*
	(1.58)	(1.01)	(0.22)
Robust bias-corrected	3.623**	1.979*	0.439*
	(1.83)	(1.16)	(0.23)
Sample size	699	699	783

	Dependent Variables:	
	Log number of social organizations for the elderly	Log number of beneficiaries of social org. for elderly
Conventional	0.816**	3.266*
	(0.42)	(1.84)
Robust bias-corrected	0.867*	3.484
	(0.49)	(2.25)
Sample size	783	783

Table 8: Impacts of victory of nationwide party candidate in subsample before investment office was introduced and in subsample after law conditional on adoption

Each entry in this table corresponds to a different local-polynomial regression discontinuity estimation of the impact of the victory of a nationwide party candidate on the dependent variables of interest. The election cycles used are those of 2002 and 2010 featuring a nationwide party candidate. The post-2002 variables are modeled using information from years 2003, 2004, 2005, that is, years before the investment office was introduced by the law, and all municipalities are considered. The post-2010 variables are modeled using information from years 2011-2014 only for municipalities that adopted an investment office by 2010. The sample is approximately of 742 municipalities for the post-2002 years and 311 municipalities for the post-2010 period. All standard errors are clustered by the political party of the election winner and are reported in parentheses.

Election cycle:	2002		2010	
Period of impacts:	2003–2005		2011–2014	
Municipalities:	All		Adopt$_t$ $\leq$2010	
Procedure:	Conv.	Robust bias-corr.	Conv.	Robust bias-corr.
Net external financing over expenses	0.003	0.007	−0.011	−0.015
	(0.02)	(0.02)	(0.01)	(0.01)
Coeff. var. internal surplus funding	−0.056	−0.055	−0.043	−0.036
	(0.08)	(0.09)	(0.11)	(0.13)
Log investment amount	0.117	0.091	−0.229	−0.139
	(0.14)	(0.17)	(0.46)	(0.51)
Log investment amount: welfare sector	0.041	0.024	−0.207	−0.112
	(0.13)	(0.15)	(0.65)	(0.76)
Log investment amount: productive sector	0.215	0.183	−0.211	−0.099
	(0.19)	(0.23)	(0.41)	(0.46)
Log total investment	−0.189	−0.285	0.403	0.595
	(0.33)	(0.38)	(0.54)	(0.62)
Share of projects of productive sector	−0.014	−0.018	−0.104	−0.130
	(0.02)	(0.03)	(0.08)	(0.09)
Project completion time	0.216	0.310	0.324	0.414
	(0.57)	(0.68)	(0.85)	(1.02)
Log total investment external agreement proj.	*n.a.*	*n.a.*	−0.940	−1.002
			(0.61)	(0.75)
Log av. invest. per external agreement	*n.a.*	*n.a.*	−0.354	−0.347
			(0.62)	(0.77)
Obtained inf. funding from loc. community	0.012	0.006	0.006	0.013
	(0.06)	(0.07)	(0.02)	(0.03)
Log n. social org. for the elderly	−0.002	−0.011	−0.050	−0.072
	(0.03)	(0.04)	(0.12)	(0.15)
Log beneficiaries of soc. org. for elderly	−0.080	−0.122	−0.773	−0.716
	(0.18)	(0.19)	(0.55)	(0.66)

Figure 1: The investment office

This figure shows regression discontinuity plots of the relation between the margin of victory for a nationwide party and the subsequent adoption or intensity (years of the term) of an investment office at the municipality. The procedure to select the number of bins is the mimicking-variance evenly spaced method using spacing estimators. The plots display cubic polynomial of the running variable on either side of zero.

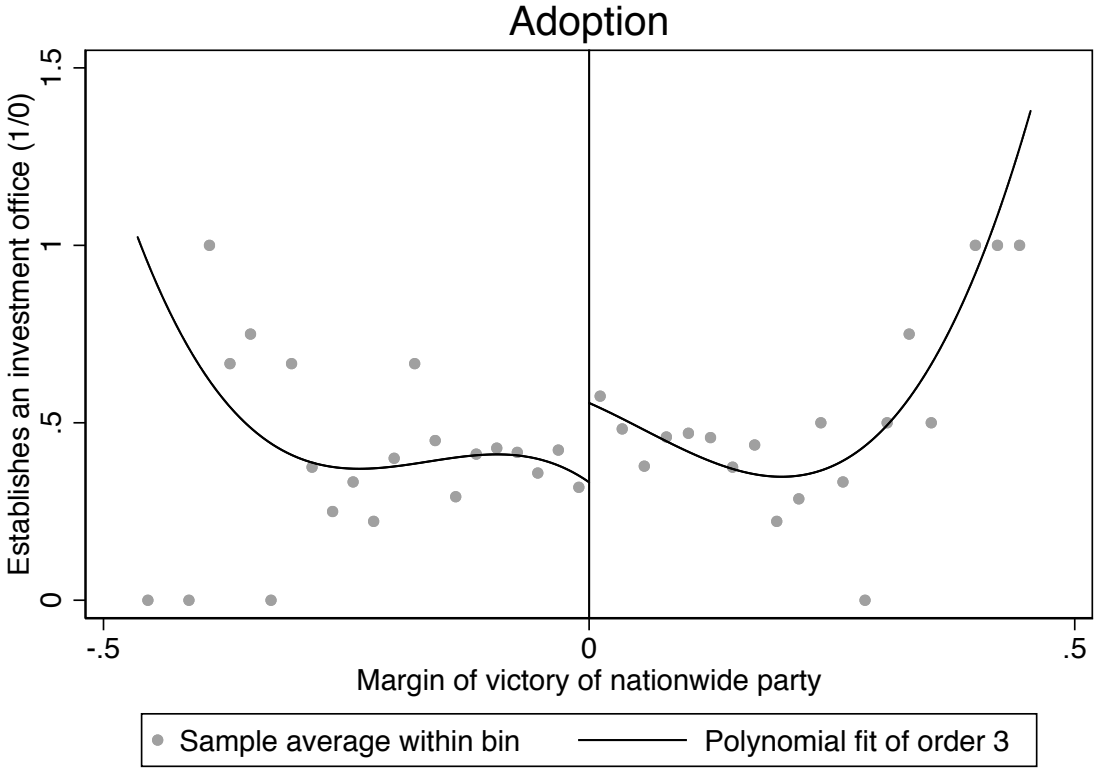


Figure 2: Balance

This figure shows regression discontinuity plots of the relation between the margin of victory for a nationwide party and the preexisting conditions at the municipality level. The procedure to select the number of bins is the mimicking-variance evenly spaced method using spacing estimators. The plots display cubic polynomial of the running variable on either side of zero.

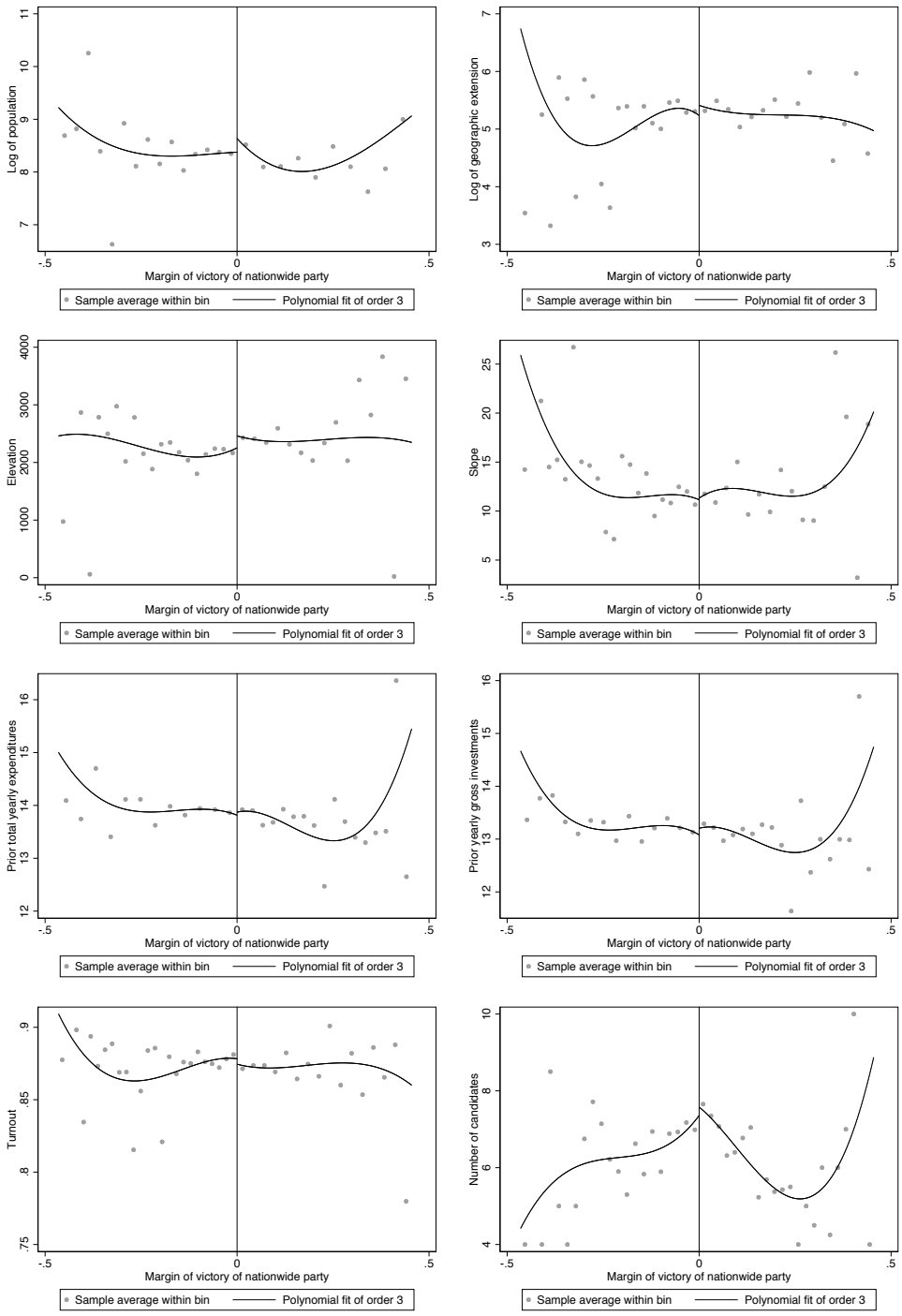


Figure 3: Density

This figure shows the density of the running variable —margin of victory of a nationwide party in a municipal election—using Cattaneo, Jansson, and Ma's (2018) local-polynomial density estimator, which avoids prebinning of the data and implements data-driven bandwidth choices. The robust bias-corrected test of differences in densities around zero has a p-value of 0.73.

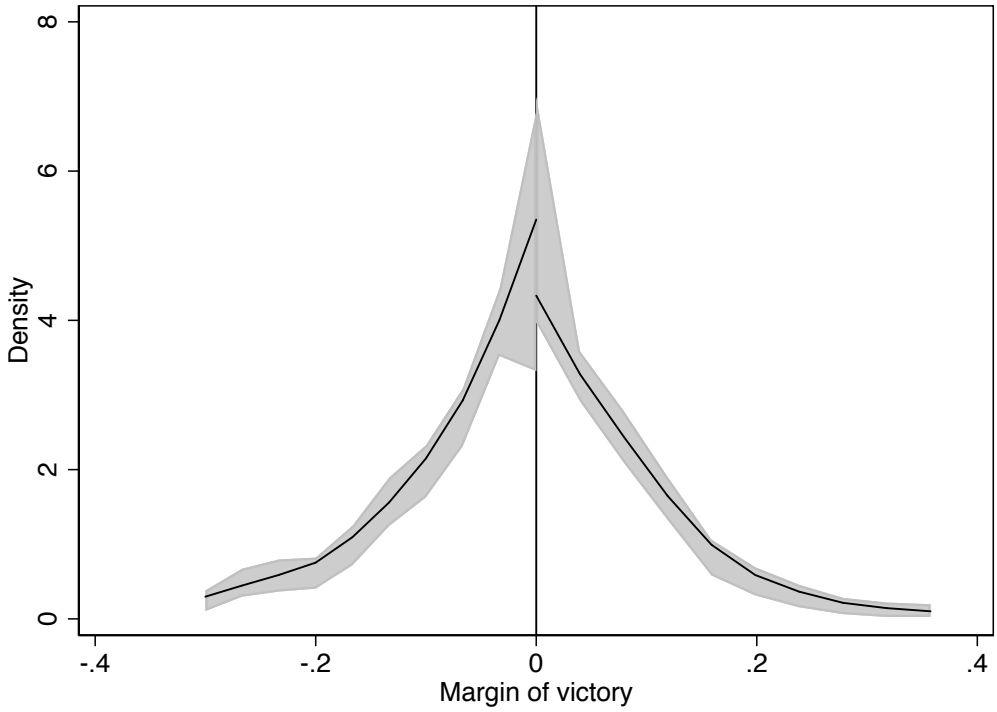


Figure 4: Changes in staffing

This figure shows regression discontinuity plots of the reduced-form relation between the margin of victory for a nationwide party and subsequent staffing changes at the municipality. The procedure to select the number of bins is the mimicking-variance evenly spaced method using spacing estimators. The plots display cubic polynomial of the running variable on either side of zero.

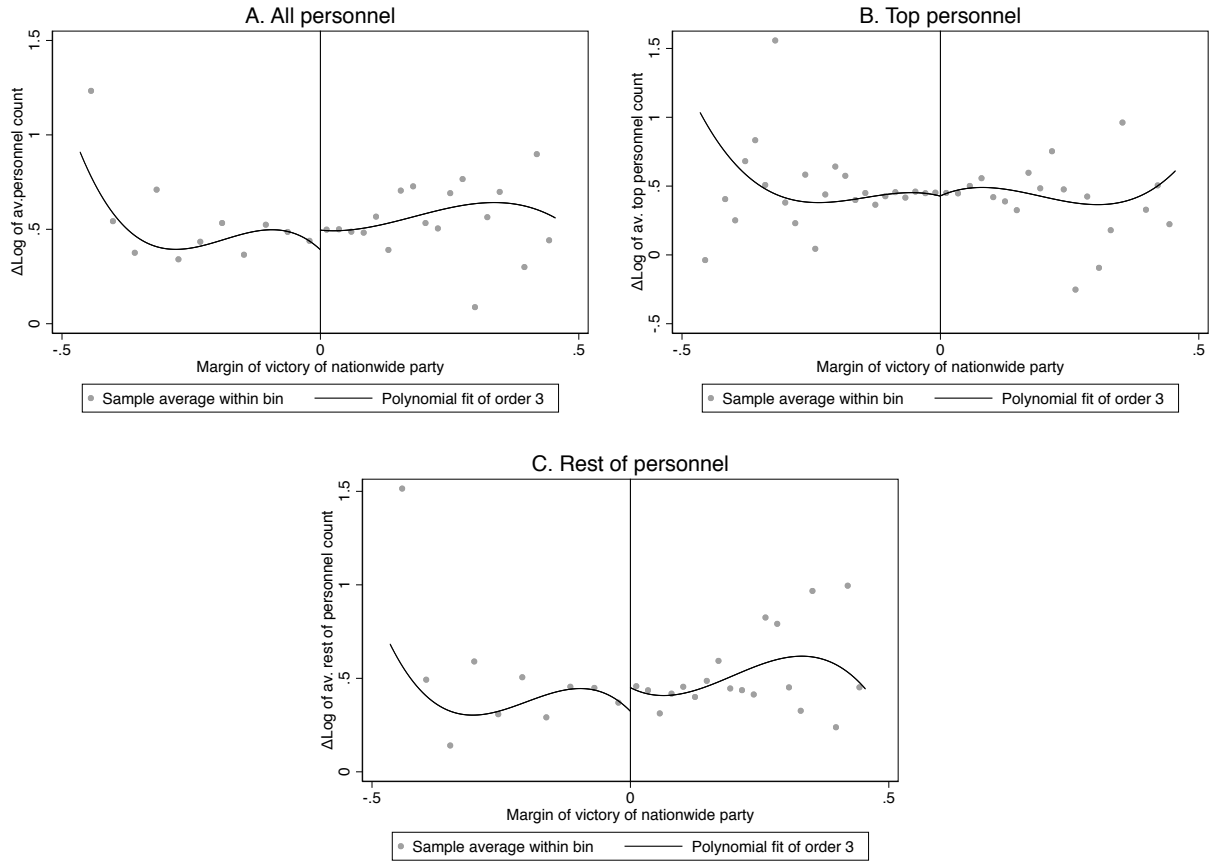
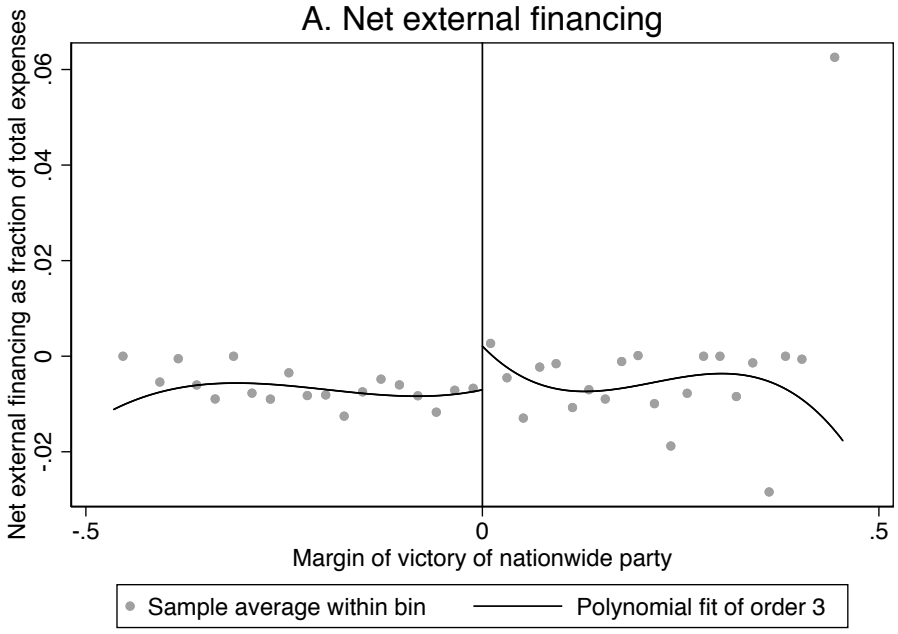


Figure 5: External financing and internal surplus funding variation

This figure shows regression discontinuity plots of the reduced-form relation between the margin of victory for a nationwide party and subsequent financing policies at the municipality. The procedure to select the number of bins is the mimicking-variance evenly spaced method using spacing estimators. The plots display cubic polynomial of the running variable on either side of zero.



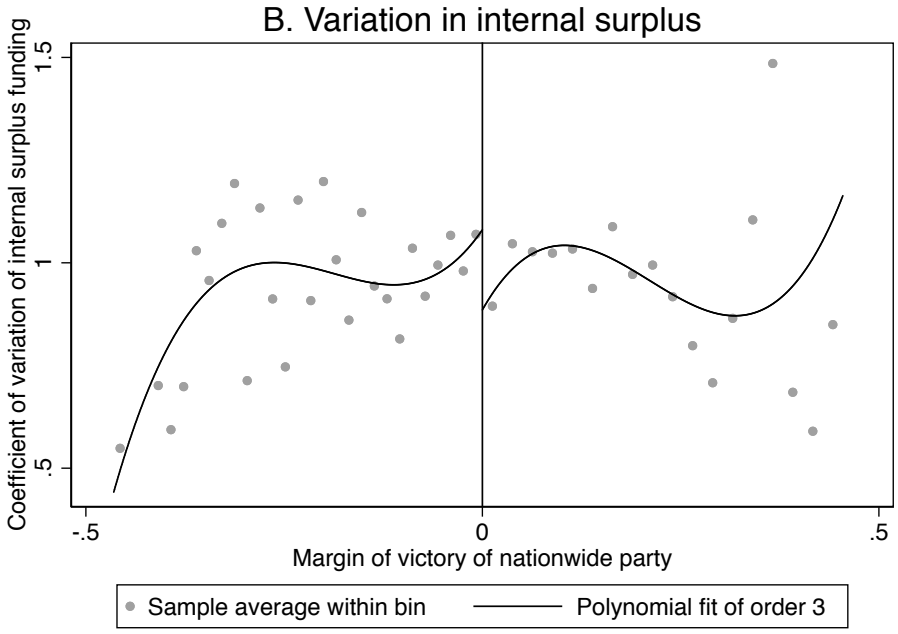


Figure 6: Project investments

This figure shows regression discontinuity plots of the reduced-form relation between the margin of victory for a nationwide party and investment decisions of the municipality. The procedure to select the number of bins is the mimicking-variance evenly spaced method using spacing estimators. The plots display cubic polynomial of the running variable on either side of zero.

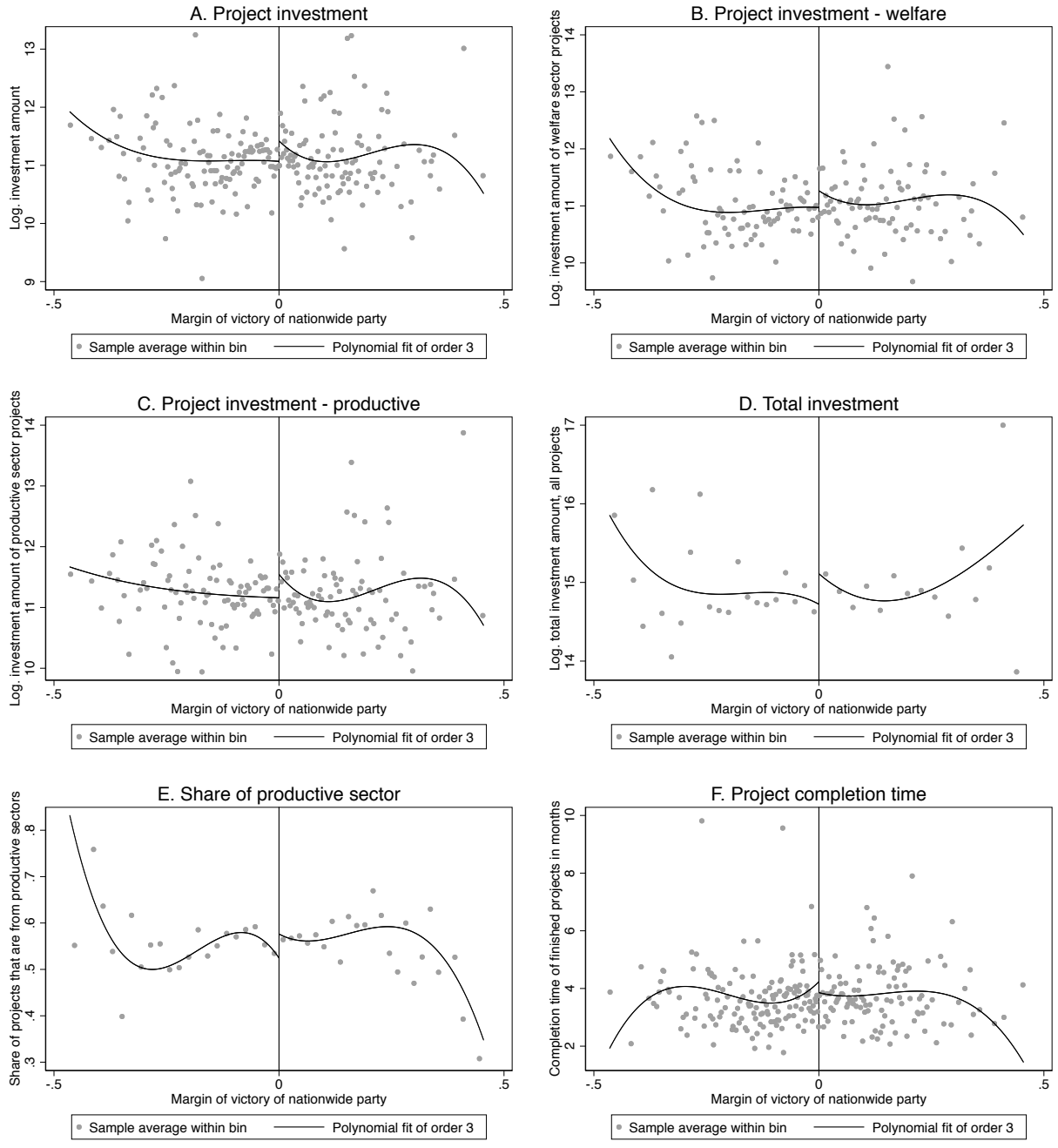


Figure 7: External agreements and social outcomes

This figure shows regression discontinuity plots of the reduced-form relation between the margin of victory for a nationwide party and subsequent outcomes of the municipality. The procedure to select the number of bins is the mimicking-variance evenly spaced method using spacing estimators. The plots display cubic polynomial of the running variable on either side of zero.