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## Returns to office in national and local politics

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### **ABSTRACT**

We study the returns to political office using data from Finnish parliamentary elections in 1970-2007 and municipal elections in 1996-2008. The discontinuity of electoral outcomes in individual candidate votes allows us to estimate the causal effect of being elected on subsequent income. Getting elected to parliament increases annual earnings initially by about €20,000, but most of this effect fades out over time. Getting elected to a municipal council has a positive effect of about €1,000 on subsequent annual earnings.

JEL Classification: D72

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# 1 Introduction

Financial rewards—obtained both during a political career and afterwards—are likely to be a major component of the incentives for entering politics and may affect the quality of politicians. Financial rewards are also likely to affect politicians’ performance while in office. There is a large theoretical literature on the returns to office, but only few empirical studies about the causal effect of a political career on individual earnings. In this paper we use Finnish data to study the economic returns to getting elected in national and local elections, and how it evolves over time and over the career.

To measure the economic returns to a political career, as opposed to just the level of remuneration for politicians, it is necessary to have an idea of the counterfactual income level of politicians had they not been elected. We use the incomes of close election losers as the counterfactual incomes of close election winners, and employ regression discontinuity (RD) design to estimate the causal effect of being elected on subsequent income.<sup>1</sup> The basic idea of the RD estimation is to exploit the discontinuity of electoral outcomes in electoral results: while election winners are likely to differ from losers in many unobservable ways that affect income, the differences between close winners and close losers should be essentially random—if “close” is appropriately defined. We estimate the economic returns to being elected for politicians in 11 parliamentary elections from 1970 to 2007 and in four municipal elections from 1996 to 2008. Our main strengths with respect to earlier literature are threefold: First, our data is of exceptionally high quality. Our income data comes from the tax register, and covers annual taxable income by year between 1993 and 2011, separately for earnings and capital income. Our data set covers 12,398 and 93,741 unique candidates in parliamentary and municipal elections respectively, and over 1.6 million person-years of income data. Second, we are able to examine the effect of being elected on earnings both in the short and in the long run, up to 40 years after the election in the case of parliamentary elections. Third, with data from both national and local elections, we can compare the returns to holding political office at different levels of government.

We find that getting elected to the parliament increased earnings by about €20,000 per year (or 25%) in the first electoral period after election, and slightly less than half of that during the second electoral period. (There is no effect on capital income.) The effect fades out over time, and from the third subsequent electoral period onwards it stays at about €3,000–€6,000 per year but is no longer statistically significant. The return is significantly higher after the year 2000, when there was a major salary reform in the Finnish parliament. By contrast, getting elected to a municipal council increased annual earnings only by about €1,000, but this effect persists and has not changed over time.

Proportional electoral systems, such as the one in Finland, pose a specific challenge to mapping electoral outcomes to an RD design. Defining close winners and losers in proportional elections is more complicated than in a two-party first-past-the-post system, where distance to the 50% vote share threshold provides a natural measure of closeness. We

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<sup>1</sup>The RD design was first utilized in estimating the economic return to getting elected by Eggers and Hainmueller (2009). We discuss related literature in the next section.

present a simple bootstrap approach for calculating the electoral closeness of candidates under any electoral rule. In the Finnish system seats are allocated to parties based on the D'Hondt method, but voters vote for individual candidates in an open list system. Thus, when a party gets  $N$  seats in some district, it is the  $N$  candidates with most votes from that party who get elected. Whether a candidate gets elected depends on the vote counts of all fellow party candidates, as well as the total vote counts of all other parties. Each candidate is competing on multiple margins both within and across parties, and (unlike in first-past-the-post electoral systems) there is no predetermined vote share which could be used to define the closeness of an election. The idea behind our method is to resample votes from the actual vote tally, and identify close winners and losers from the probability of getting elected in the simulated elections. The resulting measure of closeness is used as the assignment variable in a sharp RD design. We employ the method of Imbens and Kalyanaraman (2012) to select the bandwidth. The basic idea of causal inference from random variation around the threshold of getting elected is the same as in classic two-party RD applications.

The paper is organized as follows. Related literature is discussed in Section 2. We present key institutional features of the Finnish electoral system in Section 3 and an overview of our data in Section 4. In Section 5 we describe our methodology for measuring the closeness of elections. The empirical analysis of parliamentary and municipal elections are presented in Sections 6 and 7 respectively. Section 8 provides a discussion of possible mechanisms behind the results, and Section 9 concludes.

## 2 Related literature

The RD design was first utilized in estimating the economic return of getting elected by Eggers and Heinmueller (2009), who use wealth data from the estates of deceased Members of the British Parliament who entered the House of Commons between 1950 and 1970, and unsuccessful candidates in the same elections. According to their estimate, serving in the Parliament almost doubled the wealth for Conservatives (although the estimate is only marginally significant) but no effect is found for Labour politicians. Querubin and Snyder (2011) study the wealth of individuals who ran for the U.S. House of Representatives during the period 1850-1880. They use Census data from 1850 to 1880 to compare wealth accumulation among politicians who had lost or won their first congressional race by a small margin. They do not find evidence of faster wealth accumulation among elected politicians, with the exception of politicians who were first elected during the Civil War. Fisman, Schulz, and Vig (2012) find that the assets of Indian politicians who are elected as MPs in two elections after 2003 grow faster than assets of candidates who lost; these gains are mainly driven by MPs holding positions in the Council of Ministers.

There is a growing number of papers that use the RD design to exploit the random variation in close election outcomes to estimate a causal impact on various economic outcomes; Lee and Lemieux (2010) include eight such papers in their review.<sup>2</sup> In studying

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<sup>2</sup>Caughley and Sekhon (2011) show that narrow winners and narrow losers differ markedly in certain

single-winner electoral systems the measure of closeness is simply the difference in vote share from a pre-defined threshold. For example, with two major parties the threshold of getting elected is exactly at 50% of the major party votes. In proportional systems there is typically no such pre-determined threshold, and the rules of determining seat allocations can be quite complicated. Folke (2011) was the first to use proportional multi-party election results in an RD design. He uses Manhattan distance between actual and counterfactual vote vectors, and measures the closeness of an electoral outcome for a party as the distance from the nearest counterfactual vote vector that would result in the gain or loss of a seat for a party. He uses the variation in the number of seats of close elections to study the impact of party strength on various local policy outcomes in Swedish municipalities. Pettersson-Lidbom (2008) also uses close election outcomes in Swedish municipalities to analyze the impact of parties on policy, but he first transforms the election results into a two-party framework, by aggregating most parties to either left or right wing party groups (which tend to form ruling coalitions).

Freier and Odendahl (2012) study the impact of one party having an absolute majority in a municipal council on policy choices in Bavaria. They simulate elections where normally distributed noise is added to the actual party vote counts, and they classify as close elections those where the simulated election results in an absolute majority for a different party than in the actual election in more than 1/6th of the draws. The choice of the variance parameter for the noise in their simulation performs essentially the same function as the choice of bandwidth in a standard RD design. They find that absolute majority increases the levels of spending and property taxation.

When the focus is on individual electoral outcomes the details of how seats are allocated within parties become important. Many proportional electoral systems, including Swedish and Norwegian, systems, feature closed party lists, which means that the parties decide before the election—through some internal political process—a rank order for their candidates. In a closed system, when a party gets  $N$  seats in a district then it is the top  $N$  candidates as selected by the party who are elected.<sup>3</sup> Lundqvist (2011) analyzes the effect of being elected in local level politics on subsequent income in Sweden, using the rank order of candidates in the party list as a control. The last candidate in a party to get in and the first to be left out are then essentially defined as close winners and loser. She concludes that there is no economic return to being elected to a local council.

Willumsen (2011) studies the economic return to office in Norwegian parliament, using elections between 1977 and 2009 and taxable income recorded between 2006 and 2008. Despite using party lists, the election method in Norwegian national elections is more complicated than at local level because some seats are allocated according to a separate algorithm, with the purpose of making the total national seat counts closer to proportionality than would arise (due to integer constraints) from allocating all seats at district

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pre-treatment characteristics in U.S. House elections 1942-2008, thus casting doubt on the validity of RD. Eggers et al. (2013) examine U.S. House elections in other time periods, other American elections, and elections in other countries, and conclude that post World War II U.S. House elections are the sole exception where the validity of RD appears questionable.

<sup>3</sup>Both Swedish and Norwegian systems allow individual voters in principle to opt out of the ordering provided by the party, but in practice this has only rarely affected election outcomes.



level. Willumsen calculates electoral closeness by comparing the distance between actual and counterfactual seat count altering vote share vectors, but the details of perturbing the vote share vector differ from Folke (2011). He finds that being elected to the parliament increases income 10 – 15%, with income measured after the end of parliamentary careers.

One of the main reasons why the economic returns to being elected matter is that they can affect the quality and type of people who decide to enter politics, and the performance of those who get elected. Recent empirical work has shown that higher pay level of politicians increases the quality of candidates, using differences in compensation across municipalities (Ferraz and Finan 2009; Gagliarducci and Nannicini, 2013) or quasi-experimental evidence stemming from a large salary increase for members of parliament (Kotakorpi and Poutvaara 2011).<sup>4</sup> Higher salary for politicians also makes re-election more attractive, giving politicians stronger incentives to behave as voters wish. Di Tella and Fisman (2004) find a negative correlation between gubernatorial pay and per capita tax payments in US states, which they interpret as pay for good performance; however, Besley (2004) warns that extrinsic motivation in the form of higher pay may crowd out intrinsic motivation.

A considerable part of the returns to a political career may arise after leaving office, or from indirect effects during holding office. Politicians may learn skills that are valuable also in the private sector that they may utilize either already during their political career or afterwards, or form connections that are valuable in subsequent rent-seeking. Diermeier, Keane, and Merlo (2005) conclude that congressional experience increases subsequent wages both in the private and in the public sector. The effect of wage while in office turns out to have only a small effect on retirement and other decisions. They also find evidence of politicians having a comparative advantage in politics, as skilled politicians do not appear to enjoy higher incomes after leaving office. An important caveat here is that Diermeier et al. analyze only decisions by incumbent politicians. Several contributions have also shown that politicians' retirement decisions respond strongly to monetary incentives, including Groseclose and Krehbiel 1994; Hall and van Houweling 1995; Clarke et al. 1999; Keane and Merlo 2010. There is also a small emerging literature on the outside earnings of politicians (Becker, Peichl, and Rincke 2009; Gagliarducci et al. 2010).

### 3 Institutional background

Finland is a multi-party democracy with a proportional electoral system and a personal vote. Unlike in some other countries with proportional representation, it is not possible to vote just for a party list without specifying a candidate.

Finland has a unicameral legislature, and the country is divided into fourteen mainland districts electing in total 199 legislators and the autonomous province of Åland electing one. In each parliamentary district, parties present lists of their candidates, typically in alphabetical order but sometimes with incumbents listed first, and each voter chooses

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<sup>4</sup>There is a large theoretical literature on the impact of pay for politicians on candidate quality (Besley 2004; Caselli and Morelli 2004; Messner and Polborn 2004; Poutvaara and Takalo 2007; Mattozzi and Merlo 2008).

one candidate on one list. The legislature seats of a given district are allocated based on party vote shares to the candidates in accordance with “competitive indices” as set by the d’Hondt method. The competitive index for a given candidate is given by the total number of votes won by her party, divided by her personal rank in the within-party ranking by votes. Seats are then allocated to candidates based on the ranking of competitive indices. Being an MP is a full-time job.

Parties are also allowed to form (election- and district-specific) alliances. In an electoral alliance, two or more parties present candidates on a joint list. For the purposes of seat allocation, an electoral alliance is treated as one party.

Elections are held every four years.<sup>5</sup> The number of seats in the mainland districts varied between 6 and 34 between 1970 and 2007; the median district size was 13 seats. The maximum number of candidates that can be included on a party list equals the number of representatives elected from the district, or 14 if the district has less than 14 seats. We describe the Finnish electoral system in section 5, while we explain how we measure the closeness of election outcomes.

A total of 21 different parties have had at least one seat in the parliament between 1970 and 2007, typically with between 8 and 11 parties having seats at any one time. The three largest parties, The Centre Party, the National Coalition Party and the Social Democratic Party, have gathered on average 70 % of all seats. Since 1977, two of these parties have always been in the government, supplemented by one or more smaller parties. From the 1980s until 2011, other parties were commonly referred to as “the small parties.”

One interesting feature about the Finnish system is that opinion polls ask respondents to name the party that they are planning to vote for, and poll ratings are not available for individual candidates. Therefore, candidates do not have very good prior information on how close they are to the threshold of getting elected. This issue has been raised related U.S. elections, where candidates have much better information on whether an election is likely to be close, and may behave strategically in response to this information (e.g. investing more in a campaign when they expect the election to be a close one).

Municipal elections also take place every four years. Seats are allocated using the same method as in parliamentary elections, with each municipality forming a district. The number of municipal councillors depends on the size of the municipality, with a minimum of 13 for the smallest municipalities, and reaching a maximum of 85 in Helsinki. In municipal elections each party is allowed to present one and a half times as many candidates on its list as the number of seats in the municipal council. Measured by the total number of votes across the country, the three largest parties in the 2004 municipal elections were the Social Democratic Party (24 % of all votes), the Centre Party (23 %) and the National Coalition Party (22 %). Municipal councillor is a part-time position. Councillors are paid a compensation for participating in meetings, and may also be nominated to some other local government positions with varying levels of remuneration.

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<sup>5</sup>The earliest parliamentary elections in our data are an exception to this rule: they were held in 1970, 1972, 1975. (The president used to have the power to call early elections.) Thereafter elections have been held every four years.

## 4 Data

The election data, including information on each candidate's party, election district, number of votes and whether he or she was elected, was obtained from the Ministry of Justice (for post-1995 elections) or scanned from printed official statistics published by Statistics Finland (for pre-1995 parliamentary elections). The election data covers all candidates in the 11 parliamentary elections and the 4 municipal elections that we study. The election data covers all candidates in the 11 parliamentary elections between 1970 and 2007 and in the four municipal elections between 1996 and 2008.

The most difficult part was obtaining dates of birth for losing candidates' in the older parliamentary elections. For candidates in post-1995 elections, the dates of birth were obtained from the Ministry of Justice databases, whereas the dates of birth for candidates in earlier elections were collected by hand from various sources. The dates of birth of all previous members of parliament are listed on the web site of the parliament. The dates of birth for those candidates who did not get elected were collected from archives of the major parties as well as from archives of the election councils of some election districts.

Information on names and birth dates were used to match the election data with the earnings data. We obtained information on the candidates' earnings for the years 1993 and 1995-2010 from the official tax registry. Selected summary statistics of the earnings data as well as some background characteristics of the candidates are presented in tables Ia and Ib.

[Table 1a and 1b here]

Table Ia presents the summary statistics for candidates in the parliamentary elections 1970-2007, separately for elected and defeated candidates, and Table Ib provides the same information on municipal candidates. The unit of observation is candidate-election year. One third of the candidates in parliamentary elections and 40 % of those in municipal elections were female, and the average age was about 45 years in both types of elections. The variable "Income data found" gives the percentage of candidate-years whom we were able to match with the tax register data. In parliamentary elections, income data was found for nearly all (99,5 %) winning candidates, whereas the success rate was 85 % for defeated candidates. However, the success rate was much higher for those candidates who lost narrowly (with only around 5% of missing data near the threshold of getting elected). For candidates in municipal elections, income data was found in practically all cases, because this data is from recent elections for which data on birth dates was available as part of the election data.

Tables Ia and Ib show that the fraction of men is slightly higher among those candidates who were elected and winning candidates are slightly older than losing candidates. The fraction of incumbents and parliamentary candidates who have been elected in some previous parliamentary election<sup>6</sup> is higher among winning candidates. Further, elected candidates had higher earnings than defeated candidates not only after the election but

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<sup>6</sup>The information on whether a candidate was elected in a pre-1970 election was only collected for candidates for whom  $-50 < pmargin < 50$ .

also already prior to the election. Clearly, as expected, those who got elected and those who are different in many dimensions (probably also in those that we cannot observe).

## 5 Measuring Electoral Closeness

In this section we present a resampling method to identify close winners and losers under any electoral rule. The purpose of the method is to provide a measure of "closeness" that is comparable across elections in different districts and years, where the number of seats and voters, and even electoral rules may differ. The resulting ordering by closeness can then be used to disentangle the causal effects of being elected from unobserved heterogeneity that drives both electoral strength and the dependent variable of interest.

In a First-Past-The-Post (FPTP) election with two major parties measuring closeness is very easy, and a reasonable measure of closeness is provided by the candidate's share of the two-party vote; indeed the vote share defines a sharp discontinuity at 50%. Under other electoral systems there may be no such obvious variable with a predetermined point of discontinuity. Our empirical application is based on the D'Hondt method used in Finland, but this method would work under any electoral rule, including those with multidimensional votes. Under the D'Hondt method each candidate can be close to multiple members of her own party and to multiple members of other parties as well, in the sense that a swing of a small number of votes would switch the status of a candidate from winner to loser or vice versa. There are many counterfactual combinations of changes in vote shares that can cause a close candidate to switch status, and they don't have to involve any change in the vote shares of the candidates that switch. A method based on resampling is a natural way of investigating closeness in a situation where tractable analytical methods seem beyond reach.

Consider an election where  $n$  candidates from  $k$  parties compete for  $s$  seats. There are  $M$  voters who each vote for one candidate. The election rule  $\mathcal{H}$  selects  $s$  winners by aggregating the votes. The votes are anonymous, and the rule may utilize the party membership status of individual candidates, and randomization to break ties. The basic idea is to resample with replacement  $m$  votes from the empirical distribution of votes, then recalculate the winners according to the actual electoral rule  $\mathcal{H}$ . This "bootstrap election" is repeated many times, with the purpose of measuring for each candidate  $i$  the fraction  $p_i$  of bootstrap elections where they got elected. In special cases it would be feasible to compute the exact value of the expected vector  $p = P(m, \theta | \mathcal{H})$ , which is a function of the empirical vote shares  $\theta$ , resample size  $m$ , and of the electoral rule.<sup>7</sup> More generally, the number of repetitions should be set high enough so that  $p$  is stable to adding more repetitions.

The point of  $p$  is to order the candidates by how close they were to being elected or not. Candidates with high  $p_i$  who were not in fact elected are close losers, and candidates with low  $p_i$  who were elected are close winners, while candidates with  $p_i \approx 1$  are can be called "safe" and those with  $p_i \approx 0$  "no-hopers." However,  $p_i$  is not a cardinal measure.

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<sup>7</sup>For notational convenience, we take the electoral rule to include the number of seats and the data about candidates' party membership status.

In particular, it is not "a probability of being elected" in any ex ante sense, just the probability of being a winner in the bootstrap election.

It should be noted that there is no ex ante obvious sharp discontinuity in an election with more than one party. Consider an election where three candidates are roughly tied for one seat, while all other candidates are far from the margin. In this case all marginal candidates will have  $p_i \approx 1/3$ , and one of them was actually elected. In another district where three candidates are roughly tied for two seats each marginal candidate will have  $p_i \approx 2/3$ , with two of them actually elected. Furthermore, under the D'Hondt system, there are situations where, for example, 8 candidates from 3 different parties are roughly tied for one seat, and situations where 5 candidates are roughly tied for 4 seats. Thus there is no special value for  $p_i$  that would lead to a discontinuity in the probability of getting elected, even though electoral rules are deterministic (save for actual exact ties, which are broken by drawing lots).

One complication of the open-list D'Hondt system is that the electoral outcome of a candidate is not always monotonic in the vote count of another candidate. Consider, for example, what happens to the best-performing losing candidate  $X$  in a party if another losing candidate  $Y$  in the same party would have received more votes, holding everyone else's votes fixed. At first, a small number of extra votes to  $Y$  is beneficial for  $X$ , because it increases the total vote tally of the party which could then gain an additional seat from another party that is allotted to  $X$ . However, if  $X$  and  $Y$  were close in their vote count then a few more votes takes  $Y$  ahead of  $X$ , taking the seat away from  $X$  to  $Y$ . Adding even more votes to  $Y$  results in the party getting another additional seat, in which case  $X$  is then elected after all.

For the RD estimation it is useful to normalize the measure of closeness in such a way that all losers are below a given threshold (0) and all winners are above this threshold. This normalized variable can then be used as the standard assignment variable in sharp RD designs, and can be subjected to standard RD tests and bandwidth choice algorithms. To achieve this, for each year-district-party, we define the "pivotal  $p$ " as the mean of highest unelected  $p_i$  and lowest elected  $p_i$ . For lists where no one is elected the pivotal  $p$  is defined as 100. The variable  $pmargin$  is then calculated as the candidate's level of  $p_i$  minus the pivotal  $p$ . This way all winners have positive  $pmargin_i$ , and all losers have negative  $pmargin_i$ .

The results of the bootstrap procedure for the 1970-2007 parliamentary elections and 1996-2008 municipal elections are presented in Figure 1, which show the distribution of  $pmargin_i$ . A large fraction of candidates are "no-hopers" with  $p_i \approx 0$ , which causes a large peak at low levels of  $pmargin$ . In order to get a clearer picture of the more relevant parts of the histogram, we have cut out the left-most bin, which consists of no-hopers from year-district-alliances where no one was elected ( $pmargin = -100$ ). Most importantly for our purposes there appears to be no jump in the density of the assignment variable at zero.

[ Figure 1 here ]

While our motivation for this method is purely heuristic, the bootstrap procedure can also be interpreted as a counterfactual in a probabilistic voting model, where each candidate has a set of supporters who only turn out at some probability. In the simulation, the computational convenience of drawing a smaller number of votes than is the actual number of voters in a district has the interpretation that each resampled vote represents a block of voters whose turnout realization is perfectly correlated within group, while turnout is independent between groups. In the end, the validity and usefulness of this forcing variable is in the empirical RD results, including the balancing tests of predetermined variables and the robustness to covariates (these are reported in what follows).<sup>8</sup>

Our method can be applied in other settings, not just RD. Hyytinen, Saarimaa, and Tukiainen (2013) use it to study of municipal mergers. They generate counterfactual election outcomes to measure the impact of the merger on the threat to the personal re-election of incumbent municipal councillors, under the assumption that the distribution of votes for individual candidates would not be affected by the proposed merger. They find that re-election prospects have a clear impact on how individual councillors vote on merger decisions.

## 6 Parliamentary elections

### 6.1 Results

We first present a graphical analysis of the data on parliamentary elections. In Figure 2, the candidates have been arranged by the measure of electoral closeness (our forcing variable, *pmargin*) and divided into bins of width 1.<sup>9</sup> Zero on the horizontal axis is the threshold between losers and winners. In Figure 2, we plot the bin averages of candidates' average earnings in years (t+1) to (t+3) after the election. (Marker size is proportional to the number of observations in the bin). This corresponds roughly to the earnings in the first electoral period after the election. Elections take place in March, and the new parliamentarians start their term right after the election. We therefore exclude earnings in the election year, as these would involve a mixture of pre- and post-election earnings. We also fit local linear regressions of the income variable on *pmargin* using a triangle kernel and optimal bandwidth (as defined by Imbens and Kalyanaraman 2012). The solid line in the figure shows the fitted values from these regressions, and the dashed lines show the associated 95% confidence intervals.

[Figure 2 here]

Figure 2 shows that getting elected to parliament increases the subsequent earnings of close winners: there is a clear jump at the threshold of getting elected. The effect amounts to about €20,000 per year. We report RD estimates of the causal effect of getting elected to parliament on subsequent earnings in Table II. We estimate the effect

<sup>8</sup>The Mathematica program that implements the bootstrap is available upon request from the authors.

<sup>9</sup>Extreme bins, where  $|pmargin| > 50$ , are excluded from the figure for clarity. Note that candidates with extreme values of electoral closeness affect RD estimates only via affecting the optimal bandwidth.

on average annual earnings using four different time windows of post-election earnings: average earnings in years  $(t+1)$  to  $(t+3)$  (depicted in Figure 2),  $(t+5)$  to  $(t+7)$ , and  $(t+9)$  to  $(t+11)$  after the election, as well as average earnings for all years after the election for which we have earnings data. The first three estimates correspond to effects in the first, second and third electoral period after getting elected.

[Table II here]

The first column of Table II shows the impact of getting elected to parliament on average earnings in the first electoral period after getting elected, as already seen in Figure 2. The estimated effect of about €20,000 per year is quite large, corresponding to approximately 25 % of annual pre-election earnings of close candidates. In the second electoral period after getting elected (column 2), the effect is diminished to about €8000 but still statistically significant. By the third electoral period (column 3), the effect is no longer significant. Column 4 shows that getting elected increased average annual earnings after the election by approximately €6000, when we use all post-election income data.<sup>10</sup> Pooling data enables us to use data from all elections, but also implies that the effect is measured at very different lags for different individuals, with up to a 30-40 year lag for candidates who got elected in the 1970s.

Figure 3 illustrates the duration of the effect on earnings. It shows the estimated effect of getting elected to parliament on average earnings in a three-year moving window, up to 24 years later. (At longer lags the number of observations becomes low and standard errors become very large). The points on the horizontal axis correspond to the first year of each three-year window for windows after the election, and to the last year for windows before the election.

There should of course be no effect on earnings prior to the election. This is indeed what we find. Figure 3 tells a similar story as Table II: in the first years after getting elected, there are large effects on earnings, but the effect fades out rather rapidly over time. It is interesting to note, though, that a smaller effect of about €5000 appears to persist for a long time, even though it is not statistically significant for any individual year time window beyond the second electoral cycle. As we saw in Table II, a longer-run effect can be detected when we use the average earnings of all observed years after the election; for this measure, we have more observations (16,103 vs. 7,014 for income in the fourth electoral period  $((t+13)-(t+15))$  for instance) and hence more power to estimate small effects.

[Figure 3 here]

In Table III, we report the effect of a parliamentary election win on alternative income variables. Column (1) shows the effect on the difference between pre-election and post-election earnings, where both are measured in the three-year window closest to the election

<sup>10</sup>We use bandwidth estimated for the main outcome variable (earnings in  $(t+1)-(t+3)$ ) in all specifications. The own bandwidth estimated for the longer lags is larger, and yields larger point estimates (that are also more often significant). Estimating the bandwidth separately for each income variable yields significant effects as far as the 4th electoral period. However, a larger bandwidth may increase bias (as we would ideally want an estimate of earnings arbitrarily close to the cutoff on each side).

year. The results are similar to those found in column (1) of Table II.<sup>11</sup> Column (2) shows the results from a log specification, according to which a parliamentary election win caused an over 40 % increase in earnings in the first electoral period after getting elected. Column (3), on the other hand, indicates that getting elected to parliament increased the rate of earnings growth between the three year windows on two sides of the election by over 30 percentage points.

Finally, column (4) of Table III shows the effect of a parliamentary election win on capital income (rather than earnings). It is not obvious which way this effect should go, since capital income depends on factors such as individual savings behavior. We find no clear effect on capital income in the first electoral period after getting elected, and we can rule out large effects to any direction. It appears clear that getting elected to parliament does not have sizeable effects on capital income in the longer term either, although a small negative effect (under € 5000 per year) appears around the third electoral period after getting elected. Figure 4 illustrates the impact on capital income over time, in an analogous way to Figure 3.

[Figure 4 here]

## 6.2 Validity and robustness

We have so far presented two crucial pieces of evidence for the validity of our RD design. First, the distribution of the assignment variable is continuous at zero, as confirmed by the McCrary-test, see Figure 1. Second, the estimated "effect" of getting elected on earnings *prior* to the election is zero, as seen in Figure 3.

We next check the assumption that predetermined variables should display no discontinuities at the threshold of getting elected. We present the results by drawing similar figures as Figure 2 for our predetermined variables. Here we use the same set of individuals as used for the main specification, and in Figure 2, which means dropping those individuals for whom earnings data could not be matched. First, we do this analysis for two measures of pre-election earnings: average earnings in years (t-1)-(t-3) before the election, and average earnings in all years prior to the election (Figure 5, top panel). A similar analysis is then conducted for various background variables: the fraction of incumbents, the fraction of candidates elected in some previous election, the fraction of females, age, the candidates' share of votes in the district, region, election year, and the fraction of candidates representing each of the three main parties (see bottom panel of Figure 5). For our RD design to be valid, there should be no shifts in any of these variables at zero in the figures. This is what we find.

[Figures 5 here]

RD estimates are often sensitive to the selection of bandwidth. Figure 6 plots the estimates and confidence intervals for the effect of election win on earnings in the first

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<sup>11</sup>This analysis closely corresponds to controlling for pre-election earnings in the specification of Table II, column (1). Robustness to adding various other control variables is explored in Section 6.2.



electoral period, using various bandwidths. The figure shows that our results are not sensitive to bandwidth selection.

[Figure 6 here]

We have also examined the robustness of our main results (Column (1) of Table II) to the inclusion of various control variables. With a valid design adding control variables might make the estimate more precise, but should not have a large effect on its magnitude. Column (1) of Table IV adds election year dummies to the main specification, column (2) adds controls for election district, and column (3) adds controls for the individual's age, age squared, gender, as well as an incumbency-dummy. The table shows that our results are robust to adding these controls.

[Table IV here]

### 6.3 Results by subgroup

Table V presents results for our main outcome variable, earnings in years  $(t+1)-(t+3)$  after the election, for various subgroups. It shows how the estimated effect differs between men vs. women; young vs. old candidates; candidates in Southern electoral districts vs. rest of the country; candidates with low vs. high income prior to election; incumbent vs. non-incumbent candidates; candidates who were elected in some previous election vs. candidates who have never previously been elected; candidates from each of the three main parties vs. other parties; and elections before and after the year 2000.

[Table V here]

There are some differences in the point estimates of the effect, e.g. women seem to gain more than men. These differences are likely driven by differences in the outside option: women (outside politics) in general earn less than men. However, the differences between the subgroups are not statistically significant, and this evidence of differential effects is therefore at best suggestive.

The one instance where we do find significant differences among subgroups is between candidates in elections prior to the year 2000 and those who ran in later elections: the candidates who ran after the year 2000 gained approximately 2.5 times more than candidates in earlier elections. The estimated effect for the former is about €30,000 and about €12,000 for the latter, and this difference is statistically significant. This finding reflects the fact that the salaries of Finnish MP's were increased by approximately 35 % in 2000. We will discuss the impact of the salary reform in Section 8.

## 7 Municipal elections

### 7.1 Results

Let us next turn to the results concerning municipal elections. Similar to Figure 2, Figure 7 plots candidates' average earnings in years  $(t+1)$  to  $(t+3)$  after the election, that is, in

the first electoral period after the election, against the our measure of electoral closeness (*pmargin*). The figure shows bin averages as dots and also plots the fitted values and their 95% confidence intervals for the local linear regression.

[Figure 7 here]

The figure reveals a slight upward shift in subsequent earnings at the threshold of getting elected, but the effect appears an order of a magnitude smaller than in parliamentary elections. The much larger number of observations nevertheless allows the effect to be measured quite precisely. The regression results are reported in Table VI.<sup>12</sup> As in the case of parliamentary elections, we use four different measures of post-election earnings: average annual earnings in the three electoral periods after the elections, and a measure pooling all post-election earnings data. The pooled variable again enables us to use data from all elections, while also implying that the effect is measured at varying lags, with up to a 15 year window for candidates in the 1996 election.

[Table VI here]

Table VI shows that getting elected to a municipal council increases earnings in the first electoral period after getting elected by approximately €1200. The effect appears stable for the next two electoral periods, but the number of observations and precision of the estimate keep getting smaller. The pooled estimate indicates that getting elected increased average annual earnings by approximately 1000 €.<sup>13</sup> Figure 8 plots the estimated effect of a municipal election win in year  $t$  on three-year moving averages of earnings in years that cover electoral periods while excluding the election years.

[Figure 8 here]

We report the effect of a municipal election win on various alternative income measures in Table VII. Column (1) shows the effect on the change between pre- and post-election earnings, whereas column (2) shows that the effect on earnings in the first electoral period after getting elected to a municipal council amounts to a modest, 4 % increase in earnings. Columns (3) and (4) show that we detect no immediate effect on earnings growth or on capital income. A closer look at the impact on subsequent capital income, Figure 9, does not reveal sizeable effects on capital income in later electoral periods either.

[Table VII here.]

[Figure 9 here]

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<sup>12</sup>As with parliamentary elections, the baseline bandwidth was selected using the algorithm of Imbens and Kalyanaraman (2012).

<sup>13</sup>In the above estimations, we have again used the same bandwidth, estimated for the main outcome variable (Earnings in  $(t+1)-(t+3)$ ), in all specifications.

## 7.2 Validity and robustness

Turning to the issue of validity, the distribution of the assignment variable in Figure 1 is clearly continuous at zero also in the case of municipal elections. This is also confirmed by the McCrary-test. Further, as was shown above, the estimated "effect" of getting elected to a municipal council on earnings *prior* to the election is zero. Figure 10 examines the continuity of predetermined variables at the threshold of getting elected, first for pre-election earnings and then for other background variables.<sup>14</sup> Again, there are no significant jumps in any of these variables at the zero threshold.

[Figures 10 here]

Our results are also robust to bandwidth selection: Figure 11 shows the estimated effect of a municipal election win on earnings in the first electoral period after the election plotted against bandwidth.

[Figure 11 here]

Finally, we have examined the robustness of the main specification (reported for municipal elections in Table VI, column (1)) to the inclusion of control variables. Column (1) of Table VIII adds election year dummies to the main specification, column (2) adds controls for the number of seats in the municipal council (which is related to municipality size), and finally column (3) adds controls for the individual's age, age squared, gender, as well as an incumbency-dummy. Again, the controls make almost no difference for the main estimate.

[Table VIII]

## 7.3 Results by subgroup

The results on the effect of a municipal election win on earnings in the first electoral period after getting elected are presented for various subgroups in Table IX. The point estimates suggest that men gain more than women, non-incumbents gain more than incumbents, and councillors in large municipalities gain more than councillors in small municipalities. However, none of these differences are statistically significant. The latter finding, even though only suggestive, is consistent with the fact that compensation for council meetings tends to be higher in larger municipalities.

[Table IX here]

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<sup>14</sup>Note that for municipal elections, we do not have a variable indicating whether the individual has been elected in any previous election. Due to the size of the municipal election data, it is impossible to extend the data further back from the year 1996 when the digital records end.

## 8 Discussion

### 8.1 Parliamentary elections

What might explain the increase in earnings caused by getting elected to parliament? First, there is a direct wage effect: it may be that parliamentarians receive a salary that exceeds the earnings that they would obtain outside politics. On the other hand, since being an MP is a full time job, entering national politics has a direct opportunity cost of lost earnings outside politics, and for some individuals the direct effect may therefore be negative. Second, there may also be indirect effects: if political connections are a valuable asset outside politics, becoming a parliamentarian may be a stepping stone into profitable secondary assignments, such as memberships in company boards. More than half of current MPs have at least one position of trust in a private or state-owned company board or governing council, and some of these positions pay quite well.

Two arguments point towards direct wage effects being a key factor behind our findings. First, we found most pronounced positive effects on earnings in the first electoral period after election. This is a period during which the winning candidates were all still MPs for sure, and this finding therefore points towards a direct wage effect. Second, it is instructive to examine the returns to office both before the year 2000 and after: in September 2000, parliamentarians' salaries were increased by approximately 35 % on average. In Figure 12, we examine the earnings in the first electoral period after getting elected separately for the 1991 and 1995 elections (before the salary reform); and for the 2003 and 2007 elections (after the salary reform).<sup>15</sup> It is clear from the figure that the returns to office were significant only after the salary reform, and the estimated effect in this period is equal to €30,697 per year (standard error 4,141), considerably higher than the effect for the whole data that we reported in Table 2. This also points towards direct wage effects being important.

Figure 13 presents the average starting salaries of parliamentarians from 1992 to 2011, including taxable compensation for expenses that was paid until January 2000. The average starting salary in the two electoral periods after the 1991 election was €46,100. Together with Figure 12 this suggests that the average other income of MPs was around €15,000. Strikingly, the average starting salary of MPs was lower than the average income of close losers, and only side jobs allowed close winners to reach about the same taxable income as close losers.<sup>16</sup> The average starting salary in the two electoral periods after the 2003 election was 71,300 €. The average annual tax-free compensation over the same time period was €21,400 for those living in Helsinki and Uusimaa districts. Although part

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<sup>15</sup>We drop the 1999 election from this analysis, since the salary increase took place during the electoral period following this election.

<sup>16</sup>The real income of MPs was higher as in addition to taxable income, MPs receive monthly tax-free compensation for expenses. Its size depends on where they live and whether they have a second home in the Helsinki metropolitan area. The average annual amount for those living in Helsinki district in which the parliament is located or in the surrounding Uusimaa district was 11,000 € in the electoral periods following the 1991 and 1995 elections, with those elected from the rest of the country receiving 20,200 € in case they had a second apartment in Helsinki. If this tax-free compensation were not taken into account, it would appear that close winners did not reap any income gains before the 2000 salary increase, relative to close losers.

of this compensation reflects additional expenses that MPs faced, a considerable part of it is additional tax-free income for MPs.

The estimated income gain of about €31,000 per year after the 2003 and 2007 elections suggests that over the four-year term, close winners gained €123,000, excluding possible additional benefits from tax-free compensation. To put this gain into perspective, most MPs spent in 2011 elections €10,000-40,000, with two most expensive individual campaigns costing €55,000. Therefore, Finnish politicians who get elected as MPs appear to increase their earnings by much more than the monetary campaign cost.

To analyze to what extent the economic returns are mediated by the individual incumbency advantage in getting re-elected, we also estimate the incumbency effect, that is, the causal effect of winning on election on the likelihood of getting elected in the next election.<sup>17</sup> To our knowledge this is the first estimate of an individual incumbency effect in a proportional system. Lee (2008) finds a very large incumbency advantage for parties in U.S. House elections using RD: districts where a Democrat narrowly won an election are 45% more likely to elect a Democrat in the next election than those where Democrats narrowly lost. Liang (2013) studies the persistence in the number of seats for parties in Swedish local elections, in a manner analogous to the party incumbency effect in Lee (2008), and finds a much weaker effect. The result from estimating the incumbency effect in Finnish parliamentary elections is given in Table X.

[Table X here]

Table X indicates that the incumbency advantage is fairly modest in Finnish parliamentary elections for example compared to the U.S. This result sheds light on the finding that the returns to getting elected mainly occur in the short run, while the elected candidate is still sure to be in office.

## 8.2 Municipal elections

Municipal councillors receive only a fairly modest compensation for attending meetings. Municipal councillors continue in their civil occupations during their time as councillor. There may be indirect wage effects from working in politics at local as well as national level: if politicians acquire human capital or form local political connections that are valuable for employers, this can translate to higher pay in one's main line of employment. Again, it is also possible that the opportunity cost of spending time at council meetings or other related activities result in negative monetary returns for some councillors.

Unfortunately, data on compensation received by municipal councillors has not been systematically collected in Finland. The average compensation per meeting (calculated across municipalities) was €60 in 2009, and the average number of meetings per year was 8 in 2007.<sup>18</sup> Multiplying these figures together yields a crude estimate for the average

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<sup>17</sup>Note that what we estimate here is the effect on the combined probability of running for election and winning - see Lee (2008) for a discussion.

<sup>18</sup>This data is available on the website of the Association of Finnish Local and Regional Authorities at <http://www.kunnat.net/fi/tietopankit/tilastot/kuntavaali-ja-demokratiatilastot/kuntien>

annual compensation at 480 €. This is approximately half of the size of the effect that we have estimated.

Several factors need to be kept in mind when interpreting the above figures. First, there is large variation in the compensation per meeting as well as the number of meetings across municipalities, with larger municipalities usually holding more meetings and paying higher compensation per meeting. Second, the head of the municipal council, as well as other councillors holding some leading positions within the council, receive higher compensation. These two factors indicate that the crude proxy calculated above for the average annual compensation is an underestimate of the true average compensation. On the other hand, it is also an *overestimate* in the sense that compensation is only paid for those meetings actually attended by each councillor, and the above calculation assumes the attendance rate to be 100%. Unfortunately, we have no data on attendance rates at council meetings.<sup>19</sup>

An important issue to note is that in municipal elections the closest losers for parties that win seats become deputy members of the municipal council. Thus in our municipal election data almost all close losers are deputy councillors. The deputy members attend municipal council meetings when any of the actual councillors from their own party cannot. We do not have data on attendance, but anecdotal evidence suggests that this occurs regularly, in particular in large municipalities and for major parties. Further, close runners up are also often nominated to various positions of trust in local politics. These two facts together offer one explanation why the returns to office in local politics were found to be modest, as many narrow losers get part of the same "treatment" as those elected.

Finally, for independent interest, we report our estimates of the individual incumbency effect in municipal elections in Table XI. We find only a very small incumbency effect.

[Table XI here.]

## 9 Conclusion

We presented a simple bootstrap approach for calculating the electoral closeness of candidates under any electoral rule, and applied it to study private returns to being elected in Finnish politics. We showed that being elected to the parliament results in considerable monetary gains, while being elected to the municipal council has only a small positive impact on subsequent earnings. Most of the positive effects for MPs are direct effects from MPs having higher salary than is the outside option of a typical close election winner. The annual gain from being elected to the parliament increased from 12,000 euros to 31,000 euros after the MP salaries were increased by about 35% in the year 2000. Given that MPs also receive tax-free compensation for expenses which is not included in these

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luottamushenkilöiden-palkkiot-ja-korvaukset/Sivut/default.aspx (In Finnish only). The data for the number of meetings is available for 2007 only, whereas municipal-level data for compensation per meeting is available for 2009. Unfortunately these data are not available for the same year.

<sup>19</sup>For 2007, there is some data for the average duration of council meetings with which we can calculate some proxies for the average compensation per hour for attending council meetings. For example in Helsinki, this was €70 per hour (using the 2009 compensation data and 2007 data on the number and length of meetings).

numbers, our estimates can be viewed as a lower bound of private returns to being elected to the parliament.

While our estimates of the return to political office can be viewed as modest, they may be significantly higher in other countries. Prior to the salary reform in the year 2000, the salaries of Finnish parliamentarians were lowest in the EU (Makkonen 2000). Today, MPs in ten EU countries earn more than Finnish parliamentarians.<sup>20</sup>

## References

Becker, J., Peichl, A. and Rincke, J. (2009). Politicians' outside earnings and electoral competition. *Public Choice* 140, No. 3/4, pp. 379 - 394.

Besley, T. (2004). Paying politicians: Theory and evidence, *Journal of the European Economic Association*, Vol. 2, No. 2/3, pp. 193-215

Caselli, F., Morelli, M., 2004. Bad politicians. *Journal of Public Economics* 88, 759–782.

Caughey, D., Sekhon, J. S. (2011). Elections and the regression discontinuity design: Lessons from close US House races, 1942-2008. *Political Analysis* 19(4), 385-408.

Clarke, H.D., Feigert, F.B., Seldon, B.J. and Stewart, M.C. (1999). More time with my money: Leaving the house and going home in 1992 and 1994, *Political Research Quarterly*, Vol.52, No. 1, pp.67-85

Di Tella, R., and Fisman, R. (2004). Are politicians really paid like bureaucrats? *Journal of Law and Economics* 47, 477–513.

Diermeier, D., Keane, M. and Merlo, A. (2005). A political economy model of congressional careers. *American Economic Review* 95, 347-373.

Eggers, A.C., Folke, O., Fowler, A., Hainmueller, J., Hall, A.B., Snyder Jr., J.M. (2013). On the validity of the regression discontinuity design for estimating electoral effects: New evidence from over 40,000 close races. Manuscript.

Eggers, A.C. and Hainmueller, J. (2009). MPs for Sale? Returns to Office in Postwar British Politics. *American Political Science Review* 103, 513-533.

Ferraz, C., Finan, F., 2009. Motivating politicians: the impact of monetary incentives on quality and performance. NBER WP 14906.

Fisman, R., Schulz, F., Vig, V. (2012). Private returns to public office. Manuscript, Columbia University.

Folke, O. (2011). Shades of Brown and Green: Party effects in Proportional Election Systems. Mimeo, Columbia University.

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<sup>20</sup>See <http://presse.preisvergleich.de/preisvergleich-artikel/salary-atlas-in-the-27-eu-countries-mps-earn-an-average-of-878-percent-more-than-eu-citizens/> (accessed 7.9.2013).

- Freier, R. and Odendahl, C. (2012). Do Parties Matter? Estimating the Effect of Political Power in Multi-party Systems. DIW DP 1205.
- Gagliarducci, S., Nannicini, T. (2013). Do Better Paid Politicians Perform Better? Disentangling Incentives from Selection. *Journal of the European Economic Association* 11(2), 369–398.
- Groseclose, T. and Krehbiel, K. (1994). Golden parachutes, rubber checks, and strategic retirements from the 102d house. *American Journal of Political Science*, Vol. 38, No. 1, pp. 75-99
- Hall, R.L. and van Houweling, R.P. (1995). Avarice and ambition in congress: Representatives decisions to run or retire from the US house. *American Political Science Review*, Vol.89, No.1, pp. 121-136.
- Hyytinen Ari, Tuukka Saarimaa, and Janne Tukiainen (2013). Seat competitiveness and redistricting: Evidence from voting on municipal mergers. VATT working paper 38/2013.
- Imbens, Guido and Kalyanamaran, Karthik (2012). Optimal bandwidth choice for the regression discontinuity estimator. *Review of Economic Studies*, 79, 933-959.
- Keane, M.P. and Merlo, A. (2010). Money, political ambition and the career decisions of politicians, *American Economic Journal: Microeconomics*, Vol. 2, No. 3, pp. 186 – 215.
- Kotakorpi, K., Poutvaara, P., 2011. Pay for politicians and candidate selection: an empirical analysis. *Journal of Public Economics*, 95, 877-885.
- Lee, D. S. (2008). Randomized experiments from non-random selection in U.S. House elections. *Journal of Econometrics* 142(2), 675-697.
- Lee, D. S. and Lemieux, T. (2009). Regression Discontinuity Designs in Economics. *Journal of Economic Literature*, forthcoming.
- Lee, D. S., Moretti, E. and Butler, M. J. (2004). Do Voters Affect or Elect Policies? Evidence from the U.S. House. *Quarterly Journal of Economics* 119, 807-859.
- Liang, C.-Y. (2011). Is there an incumbency advantage or cost of ruling in proportional election systems? *Public Choice*, forthcoming.
- Lundqvist, H. (2011). Is it worth it? On the returns to holding political office. Mimeo, Uppsala University.
- Makkonen, T. (2000). Kansanedustajien palkkaus EU-maissa, Norjassa ja Islannissa. [Pay of MPs in the member states of the European Union, in Norway and in Iceland. Eduskunnan kanslian julkaisu (Publication Series of the Finnish Parliament) 3/2000. In Finnish.
- Mattozzi, A. and Merlo, A. (2007). The transparency of politics and the quality of politicians, *The American Economic Review*, Vol. 97, No. 2, pp. 311-315.



Messner, M., Polborn, M.K., 2004. Paying politicians. *Journal of Public Economics* 88, 2423–2445.

Poutvaara, P., Takalo, T., 2007. Candidate quality. *International Tax and Public Finance* 14, 7–27.

Pettersson-Lidbom, P. (2008). Do Parties Matter for Economic Outcomes: A Regression-Discontinuity Approach. *Journal of the European Economic Association*, 6, 1037–1056.

Querubin, P. and Snyder, J. M. Jr. (2011). The Control of Politicians in Normal Times and Times of Crisis: Wealth Accumulation by U.S. Congressmen, 1850-1880. Mimeo.

Table I.a. Elected vs. defeated candidates in the 1970-2007 parliamentary elections

	(1)	(2)	(3)	(4)	(5)	(6)
	elected = 0			elected = 1		
VARIABLES	N	mean	sd	N	mean	sd
Female	16,361	0.338	0.473	2,200	0.312	0.463
Age	14,077	44.98	12.00	2,196	46.95	9.294
Incumbent	16,363	0.0277	0.164	2,200	0.619	0.486
Previously elected	8,233	0.0858	0.280	2,163	0.677	0.468
Voteshare	16,363	0.00510	0.0101	2,200	0.0371	0.0411
NCP	16,363	0.117	0.321	2,200	0.211	0.408
Centre	16,363	0.104	0.305	2,200	0.217	0.412
SDP	16,363	0.114	0.317	2,200	0.266	0.442
Other parties	16,363	0.666	0.472	2,200	0.305	0.461
Income data found	16,363	0.851	0.356	2,200	0.997	0.0563
Earnings 1993-2011	13,508	31,533	28,030	2,081	67,344	41,611
Capital income 1993-2011	13,495	3,214	14,748	2,076	6,762	20,754
Earnings (t+1)-(t+3)	8,622	31,049	23,671	999	81,793	32,947
Earnings (t+5)-(t+7)	8,017	32,804	25,262	995	80,203	39,482
Earnings (t+9)-(t+11)	7,052	34,505	27,710	986	79,781	47,713
Earnings (t-1)-(t-3)	7,249	28,622	27,639	800	67,882	34,343

Earnings are measured in 2011 euros per annum.

Table I.b. Elected vs. defeated candidates in the 1996-2008 municipal elections

	(1)	(2)	(3)	(4)	(5)	(6)
	elected 0			elected 1		
VARIABLES	N	mean	sd	N	mean	sd
Female	114,125	0.403	0.491	47,138	0.346	0.476
Age	114,125	45.85	12.84	47,138	47.95	10.86
Incumbent	114,125	0.0629	0.243	47,138	0.580	0.494
Voteshare	114,125	0.00485	0.00481	47,138	0.0225	0.0149
NCP	114,125	0.194	0.395	47,138	0.176	0.381
Centre	114,125	0.242	0.428	47,138	0.361	0.480
SDP	114,125	0.222	0.416	47,138	0.211	0.408
Other parties	114,125	0.342	0.474	47,138	0.252	0.434
Income data found	114,125	0.999	0.0317	47,138	0.999	0.0226
Earnings 1993-2011	114,010	23,334	14,639	47,114	30,254	19,915
Capital income 1993-2011	114,010	1,743	7,525	47,114	4,133	16,120
Earnings (t+1)-(t+3)	114,000	24,665	16,688	47,114	32,482	22,451
Earnings (t+5)-(t+7)	85,469	25,400	17,880	36,628	32,939	24,338
Earnings (t+9)-(t+11)	57,087	25,519	18,883	24,546	32,557	27,278
Earnings (t-1)-(t-3)	113,995	22,829	15,705	47,113	29,469	22,095

Earnings are measured in 2011 euros per annum.

Table II. Effect on future earnings of getting elected to parliament.<sup>1</sup>

	(1)	(2)	(3)	(4)
	Average annual earnings (t+1)-(t+3)	Average annual earnings (t+5)-(t+7)	Average annual earnings (t+9) - (t+11)	Average annual earnings after the election
Elected <sup>2</sup>	19,999** (2,546)	7,823** (2,971)	5,995 (3,115)	6,210** (2,214)
N	9,621	9,012	8,038	16,103

Standard errors in parentheses

\*\* p&lt;0.01, \* p&lt;0.05

<sup>1</sup>Earnings are measured in 2011 euros. Column (1) uses data for 1991-2007 elections, columns (2) for 1987-2003 elections and column (3) for 1983-1999 elections. Column (4) uses data for all elections (1970-2007).

<sup>2</sup>Local linear regressions using a triangle kernel with bandwidth 40.575 used in all columns. This corresponds to the optimal bandwidth (Imbens and Kalyanaraman, 2012) calculated for the main outcome variable (column 1).

Table III. Effect on future income of getting elected to parliament: alternative outcome variables.<sup>1</sup>

	(1)	(2)	(3)	(4)
	Difference in average annual earnings (t+1)-(t+3) - (t-3)-(t-1)	Log earnings (t+1)-(t+3)	Log difference in earnings (t+1)-(t+3) - (t-3)-(t-1)	Capital income (t+1)-(t+3)
Elected <sup>2</sup>	21,260** (3,734)	0.4189** (0.0429)	0.3294** (0.0507)	1,093 (2,960)
N	8,044	9,525	7,931	8,378
Bandwidth	55.881	44.941	46.602	84.301

Standard errors in parentheses

\*\* p&lt;0.01, \* p&lt;0.05

<sup>1</sup>Earnings are measured in 2011 euros.

<sup>2</sup>Local linear regressions using a triangle kernel with optimal bandwidth (Imbens and Kalyanaraman 2012).

Table IV. Effect of parliamentary election win on earnings in (t+1)-(t+3): robustness.<sup>1</sup>

	(1)	(2)	(3)
Elected <sup>2</sup>	19,894 ** (2,517)	19,861 ** (2,520)	19,638** (2,398)
N	9,621	9,621	9,621
Controls			
Year	x	x	x
District		x	x
Individual controls <sup>3</sup>			x

Standard errors in parentheses

\*\* p<0.01, \* p<0.05

<sup>1</sup>Earnings are measured in 2011 euros.

<sup>2</sup>Local linear regressions using a triangle kernel with optimal bandwidth (40.575) (Imbens and Kalyanaraman, 2012).

<sup>3</sup> Age, age squared, gender, incumbency-dummy.

Table V. Effect on earnings in years (t+1)-(t+3) from getting elected to parliament: estimates by subgroup.

	Male	Female	Young	Old	South	North	Low income	High income	Incumbent	Non-incumbent
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Elected <sup>1</sup>	17,742**	24,124**	19,939**	18,557**	21,418**	17,060**	17,547**	19,981**	21,856**	19,192**
	(3,275)	(3,480)	(2,719)	(3,891)	(3,396)	(3,712)	(3,911)	(3,085)	(4,553)	(3,346)
N	5,849	3,772	5,027	4,594	5,976	3,645	4,357	5,284	812	8,809
	Previously elected	Never previously elected		SDP	Centre	NCP	Other parties	pre 2000	post 2000	
	(11)	(12)		(13)	(14)	(15)	(16)	(17)	(18)	
Elected <sup>1</sup>	24,483**	17,720**		18,335**	26,858**	8,475	21,889**	12,424**	30,756**	
	(4,210)	(3,513)		(4,514)	(4,093)	(7,104)	(4,424)	(2,597)	(4,140)	
N	989	3,992		1,121	1,071	1,105	6,324	5,601	4,020	
Standard errors in parentheses										
** p<0.01, * p<0.05										

<sup>1</sup>Local linear regressions using a triangle kernel with bandwidth 40.575 used in all columns.

Table VI. Effect on future earnings of getting elected to a municipal council.<sup>1</sup>

	(1)	(2)	(3)	(4)
	Average annual earnings (t+1)-(t+3)	Average annual earnings (t+5)-(t+7)	Average annual earnings (t+9) - (t+11)	Average annual earnings after the election
Elected <sup>2</sup>	1,255** (462.8)	882.7 (566.8)	1,444 (777.2)	1,044* (479.9)
N	161,114	122,067	81,633	161,116

Standard errors in parentheses

\*\* p&lt;0.01, \* p&lt;0.05

<sup>1</sup>Earnings are measured in 2011 euros. Column (1) uses data for 1996-2008 elections, column (2) for 1996-2004 elections and column (3) for 1996-2000 elections. Column (4) uses data for all elections (1996-2008).

<sup>2</sup>Local linear regressions using a triangle kernel with bandwidth 19.007 used in all columns. This corresponds to the optimal bandwidth (Imbens and Kalyanaraman, 2012) calculated for the main outcome variable (column 1).

Table VII. Effect on future income of getting elected to a municipal council: alternative outcome variables.<sup>1</sup>

	(1)	(2)	(3)	(4)
	Difference in average annual earnings (t+1)-(t+3) - (t-3)-(t-1)	Log earnings (t+1)-(t+3)	Log difference in earnings (t+1)-(t+3) - (t-3)-(t-1)	Capital income (t+1)-(t+3)
Elected <sup>2</sup>	655.6** (221.5)	0.0470** (0.0175)	0.0190 (0.0098)	188.8 (235.3)
N	161,100	160,278	159,669	161,104
Bandwidth	33.740	22.053	48.322	40.483

Standard errors in parentheses

\*\* p&lt;0.01, \* p&lt;0.05

<sup>1</sup>Earnings are measured in 2011 euros.

<sup>2</sup>Local linear regressions using a triangle kernel with optimal bandwidth (Imbens and Kalyanaraman 2012).

Table VIII. Effect of municipal election win on earnings in (t+1)-(t+3): robustness.<sup>1</sup>

	(1)	(2)	(3)
Elected <sup>2</sup>	1,259 ** (458.8)	1,241 ** (447.6)	1,282** (463.0)
N	161,114	161,114	161,114
Controls			
Year	x	x	x
No. of council seats		x	x
Individual controls <sup>3</sup>			x

Standard errors in parentheses

\*\* p<0.01, \* p<0.05

<sup>1</sup>Earnings are measured in 2011 euros.

<sup>2</sup>Local linear regressions using a triangle kernel with optimal bandwidth (19.007) (Imbens and Kalyanaraman, 2012).

<sup>3</sup> Age, age squared, gender, incumbency-dummy.



Table IX. Effect on earnings in years (t+1)-(t+3) from getting elected to a municipal council: estimates by subgroup.

	Incumbent	Non-incumbent	Female	Male	Large municipality	Small municipality	Young	Old
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Elected <sup>1</sup>	943 (845)	1,445** (553)	519 (669)	1,662** (613)	1,772 (922)	1,116* (496)	1,040 (596)	1,597* (725)
N	34,484	126,630	62,253	98,961	67,023	94,091	81,463	79,651

	Low income	High income	SDP	Centre	NCP	Other parties	1996-2000 elections	2004-2008 elections
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Elected <sup>1</sup>	805* (372)	1,073 (652)	1,216 (745)	981 (667)	1,694 (1,469)	1,608* (789)	1,297* (547)	1,288 (751)
N	80,556	80,558	35,257	44,589	30,398	50,870	82,777	78,337

Standard errors in parentheses

\*\* p&lt;0.01, \* p&lt;0.05

<sup>1</sup>Local linear regressions using a triangle kernel with bandwidth 19.007 used in all columns.

Table X. Incumbency effect in parliamentary elections.

Elected in next parliamentary election	
Elected <sup>1</sup>	0.1788** (0.0361)
N	16,559

Standard errors in parentheses. \*\*  $p < 0.01$

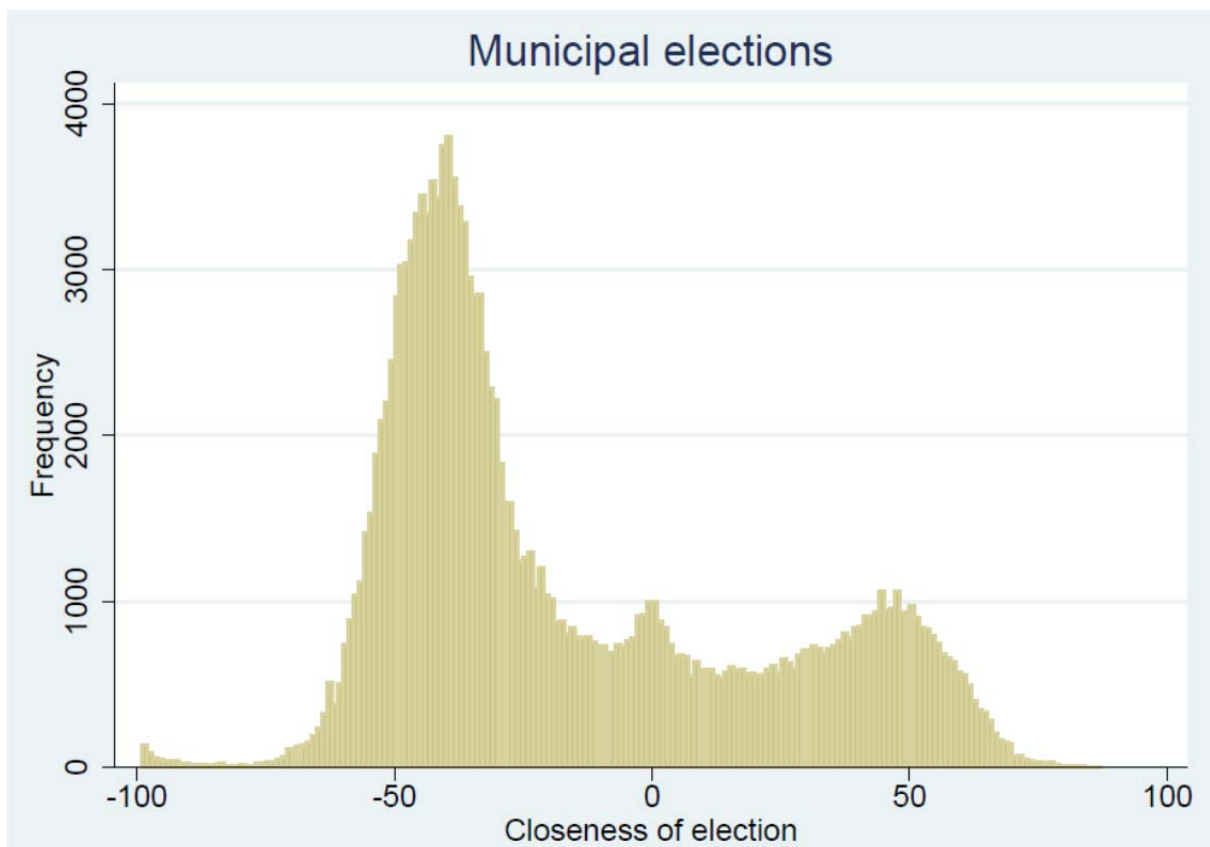
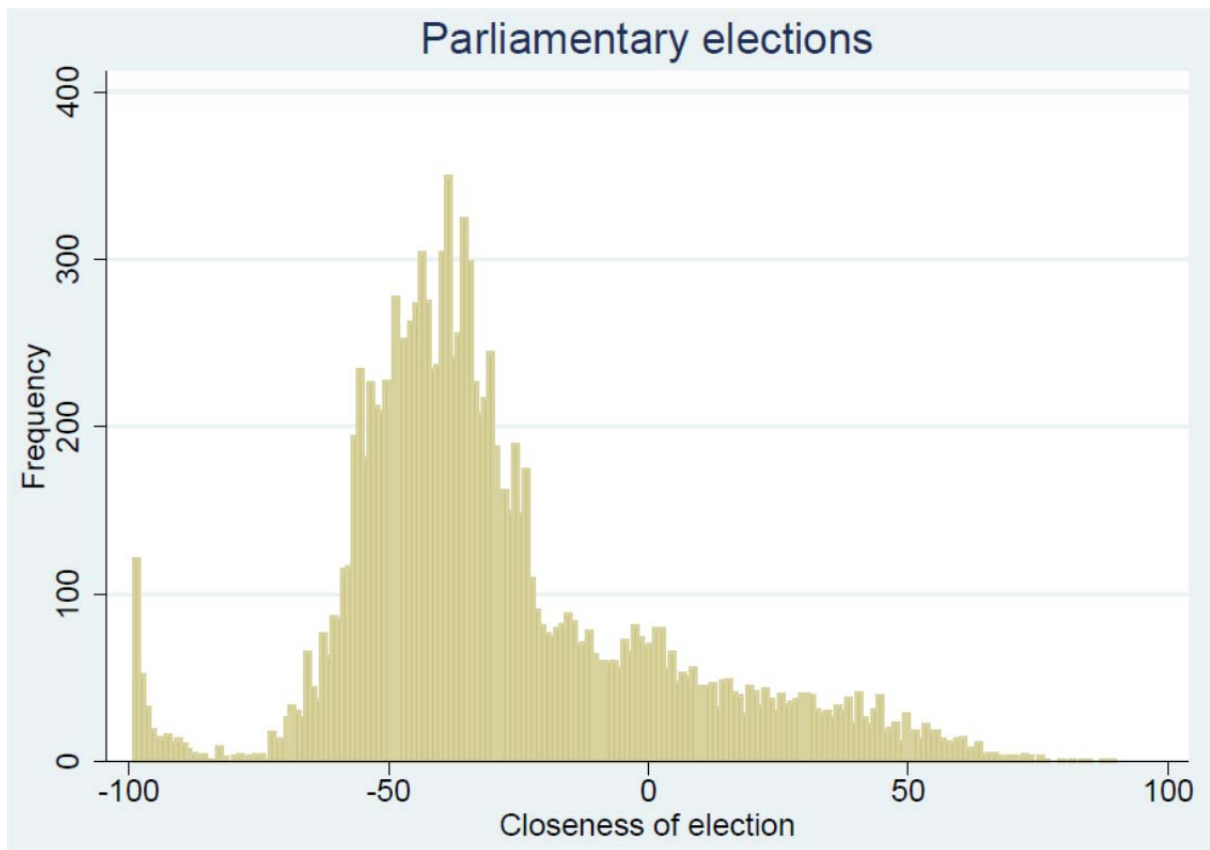
<sup>1</sup>Local linear regressions using a triangle kernel with bandwidth 28.233.

Table XI. Incumbency effect in municipal elections.

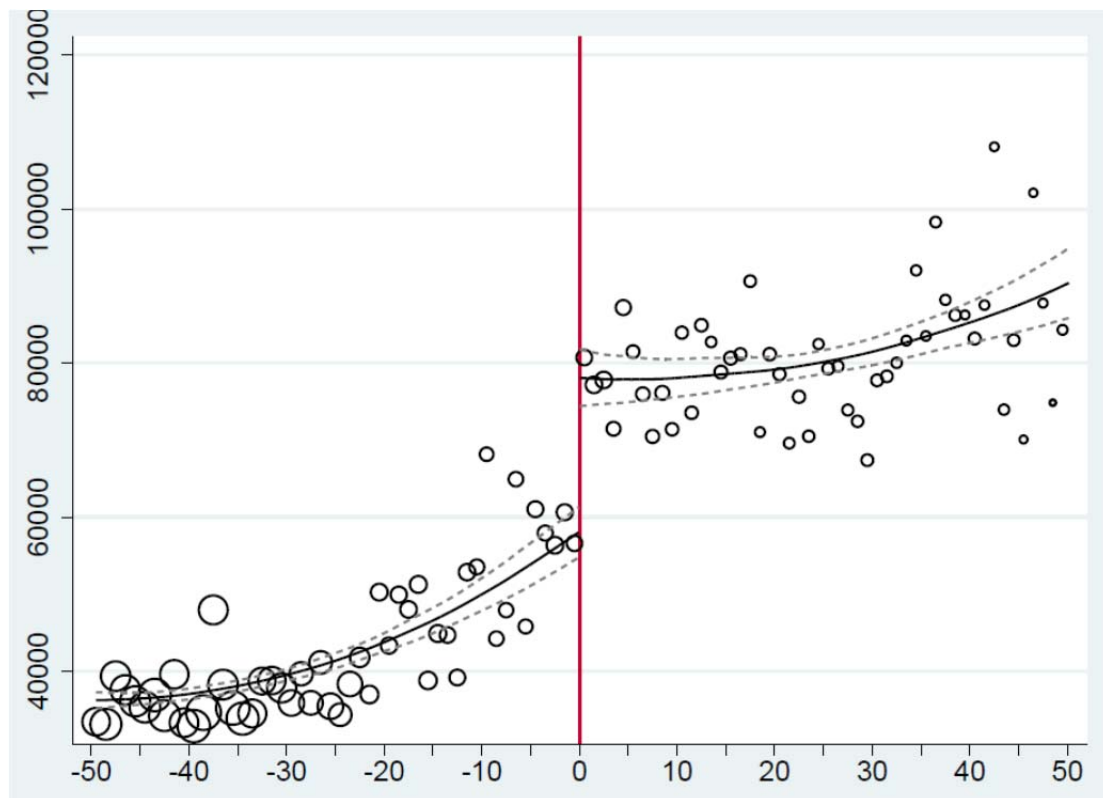
Elected in next municipal election	
Elected <sup>1</sup>	0.0254* (0.0126)
N	122,754

Standard errors in parentheses. \*  $p < 0.05$

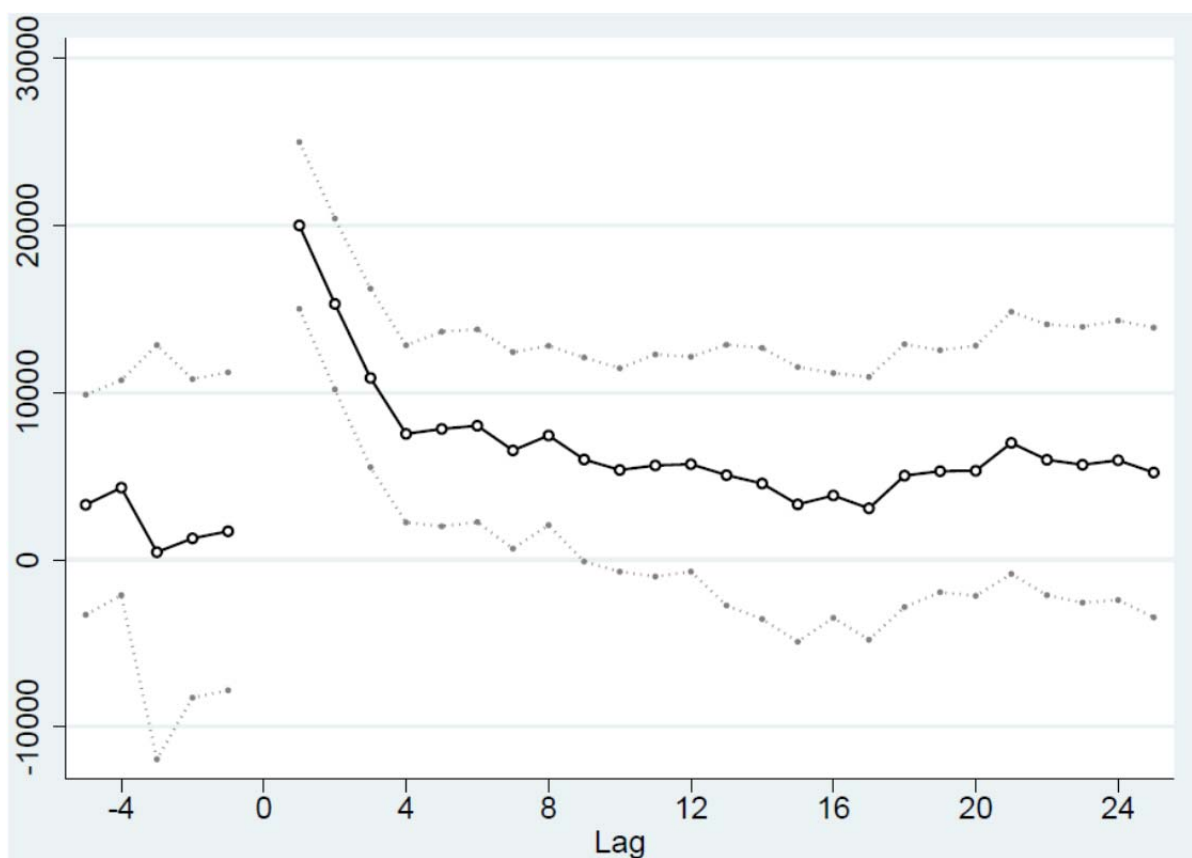
<sup>1</sup>Local linear regressions using a triangle kernel with bandwidth 20.808



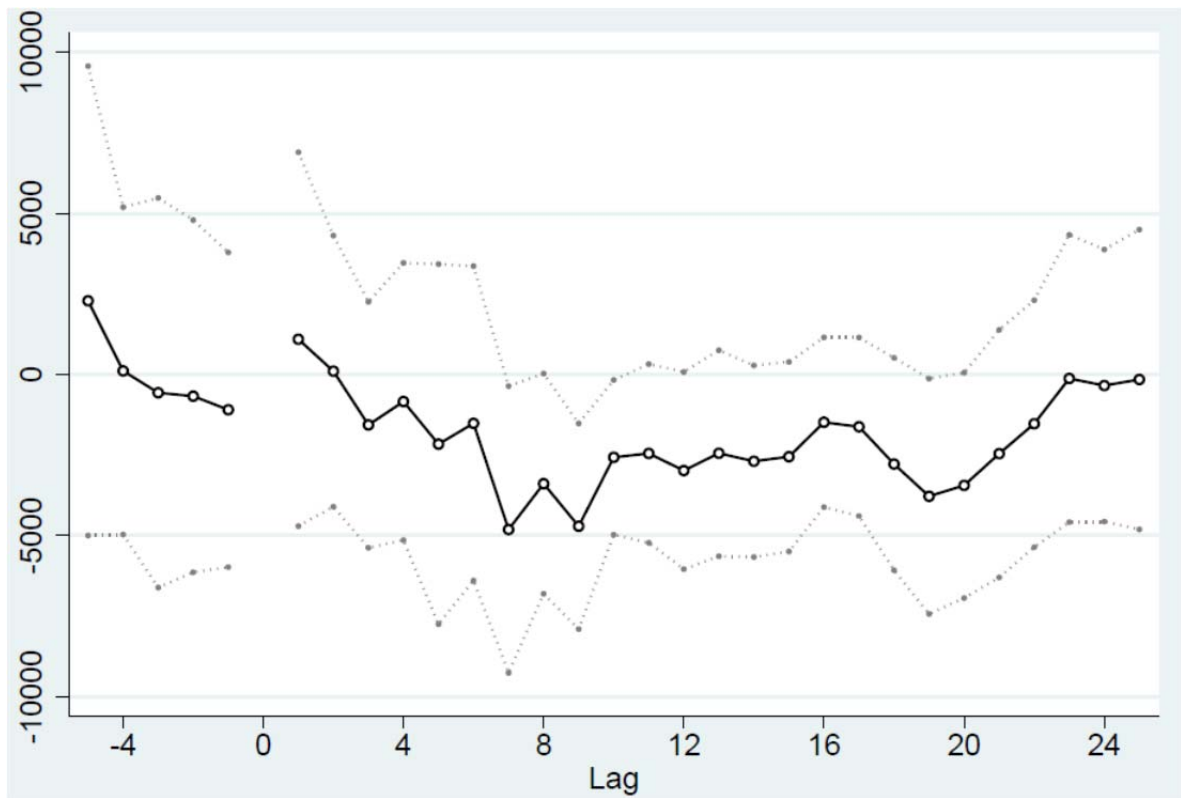
**Figure 1. Distribution of the forcing variable. McCrary-test detects no discontinuity at the cutoff (0) in either case: the test statistic has value (std. dev) 0.081 (.084) for parliamentary and -0.0067 (.0294) for municipal elections.**



**Figure 2. Effect of parliamentary election win on earnings in (t+1)-(t+3). Electoral closeness on horizontal and income per year in Euros on vertical axes.**



**Figure 3. Estimated effect of a parliamentary election win on average earnings during a 3-year window. Horizontal axes marks the first year for windows after the election, and the last year for windows before the election.**



**Figure 4.** Estimated effect of parliamentary election win on capital income during a 3-year window. Horizontal axes marks the first year for windows after the election, and the last year for windows before the election.

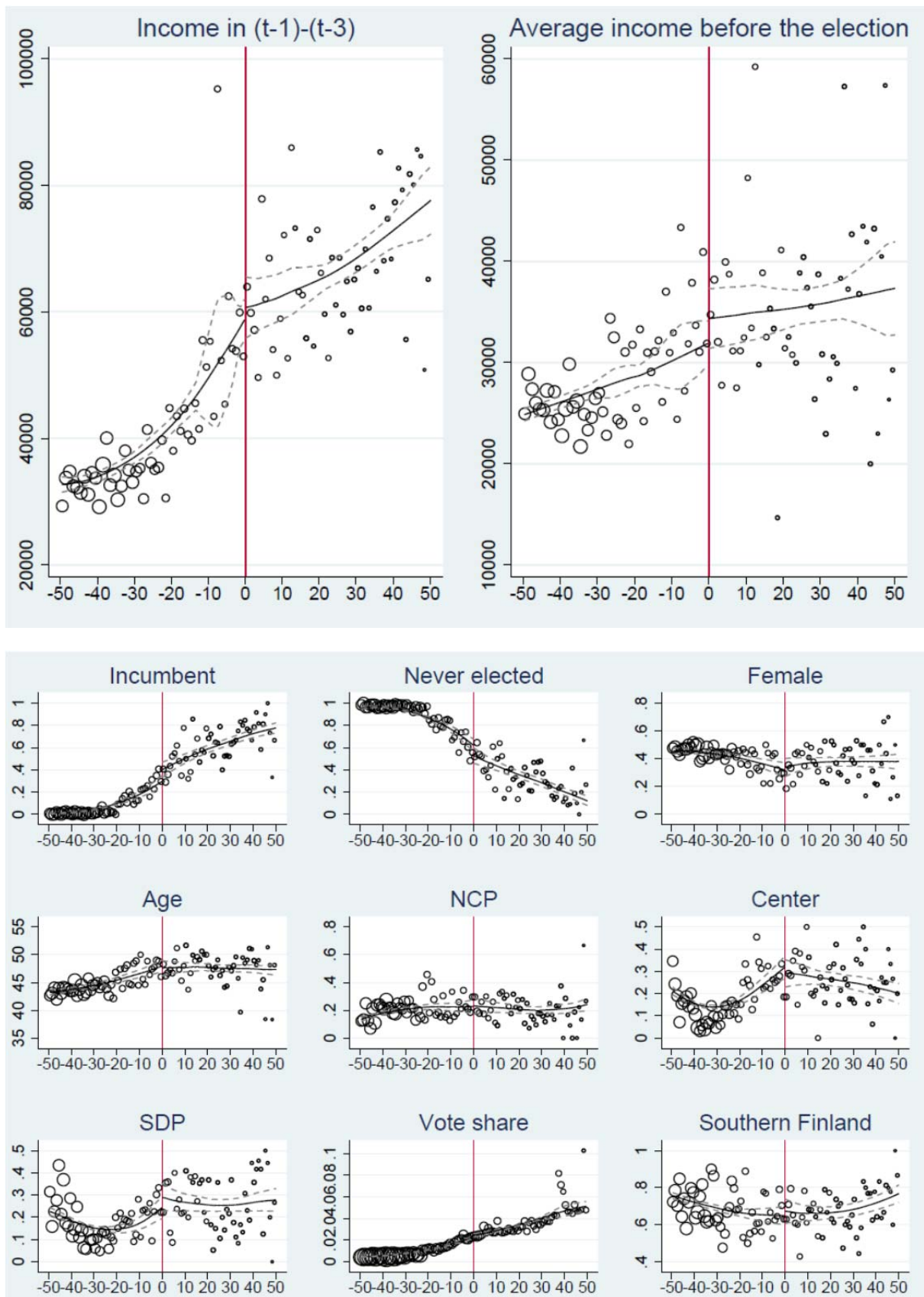


Figure 5. Continuity of predetermined variables (parliamentary elections).

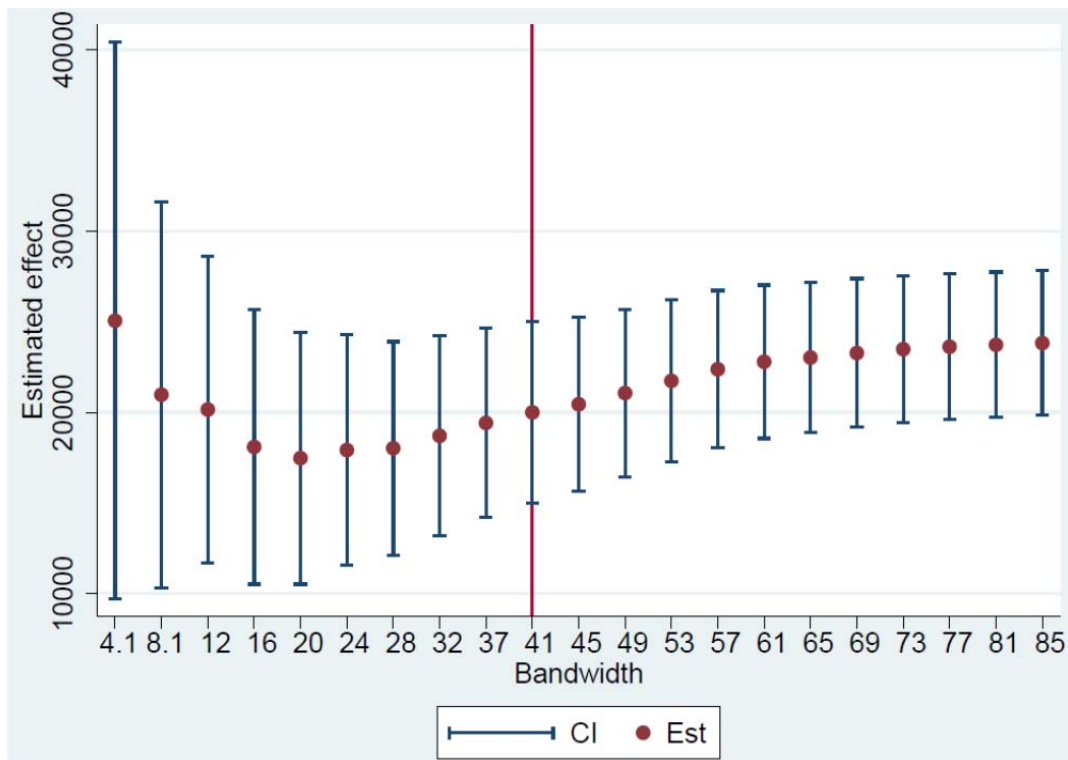


Figure 6. Robustness to bandwidth: Effect of parliamentary election win on average earnings in  $(t+1)-(t+3)$ . Vertical line marks the Imbens-Kalyanaraman optimal bandwidth.

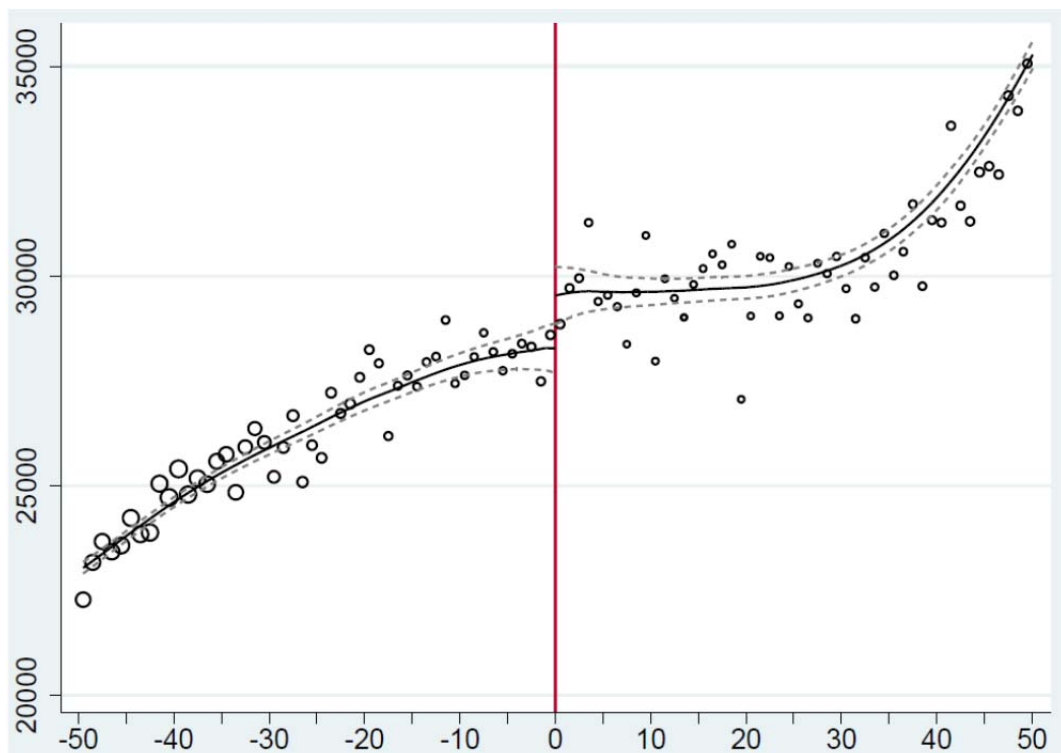
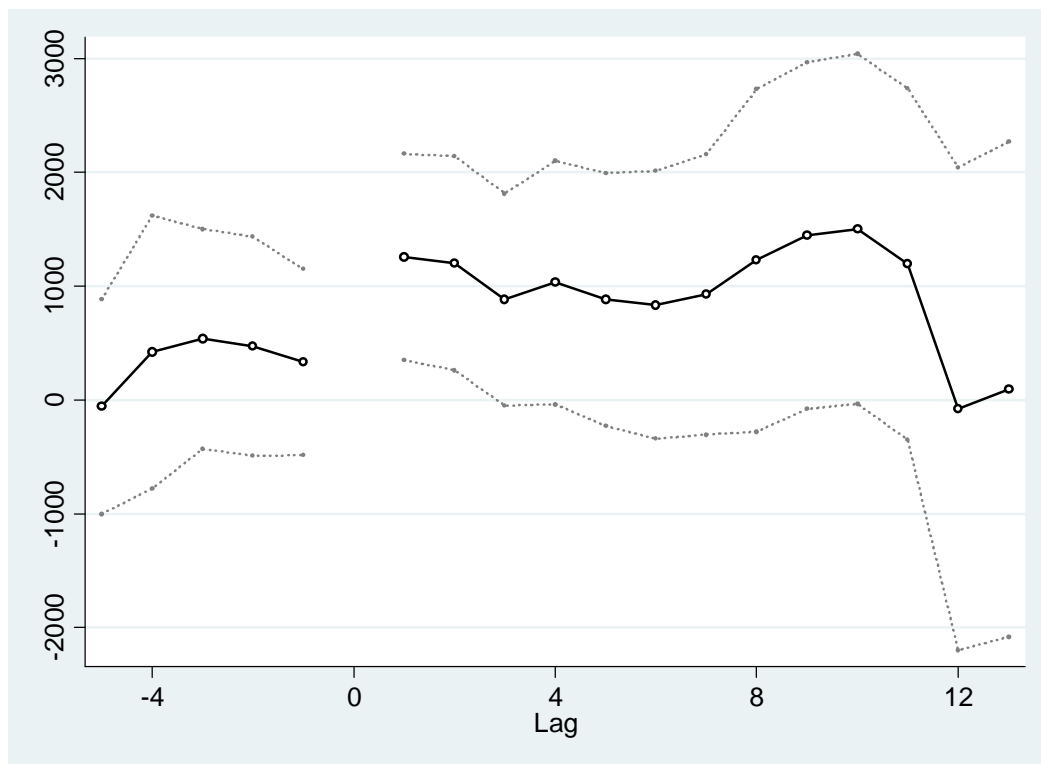
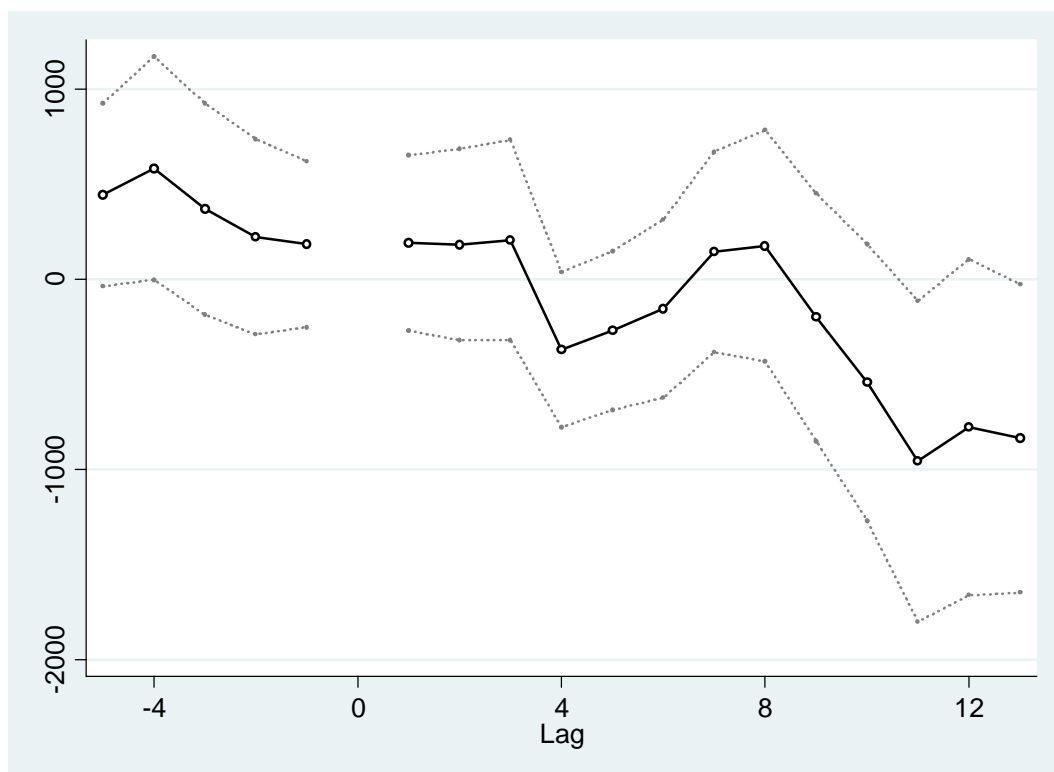


Figure 7. Effect of municipal election win on average earnings during the first electoral period after the election (years  $t+1$  to  $t+3$ ). Electoral closeness on horizontal and earnings per year in Euros on vertical axes.



**Figure 8. Estimated effect of municipal election win on average earnings during a 3-year window. Horizontal axes marks the first year for windows after the election, and the last year for windows before the election.**



**Figure 9. Estimated effect of municipal election win on average capital income during a 3-year window. Horizontal axes marks the first year for windows after the election, and the last year for windows before the election.**



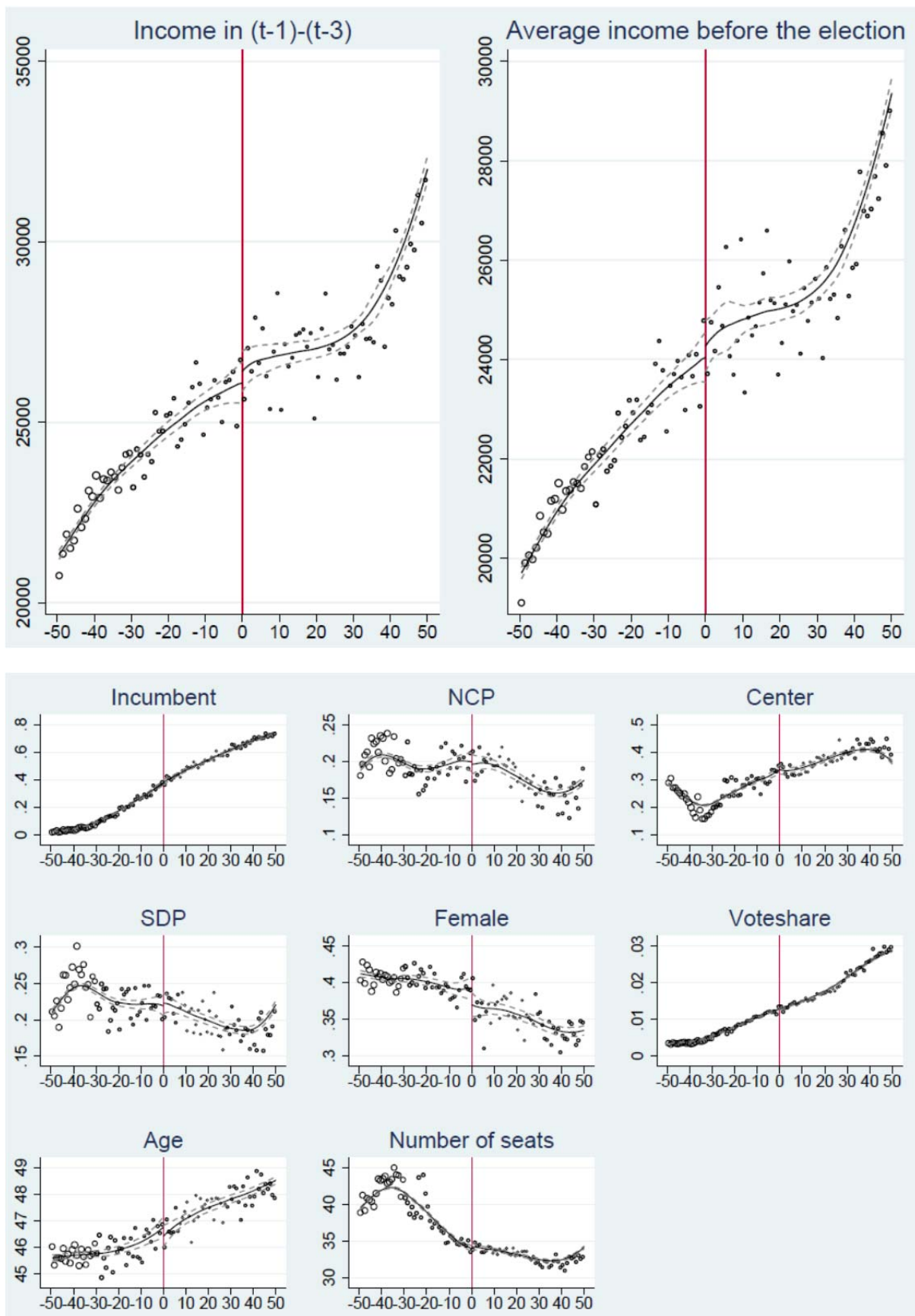


Figure 10. Continuity of predetermined variables (parliamentary elections).

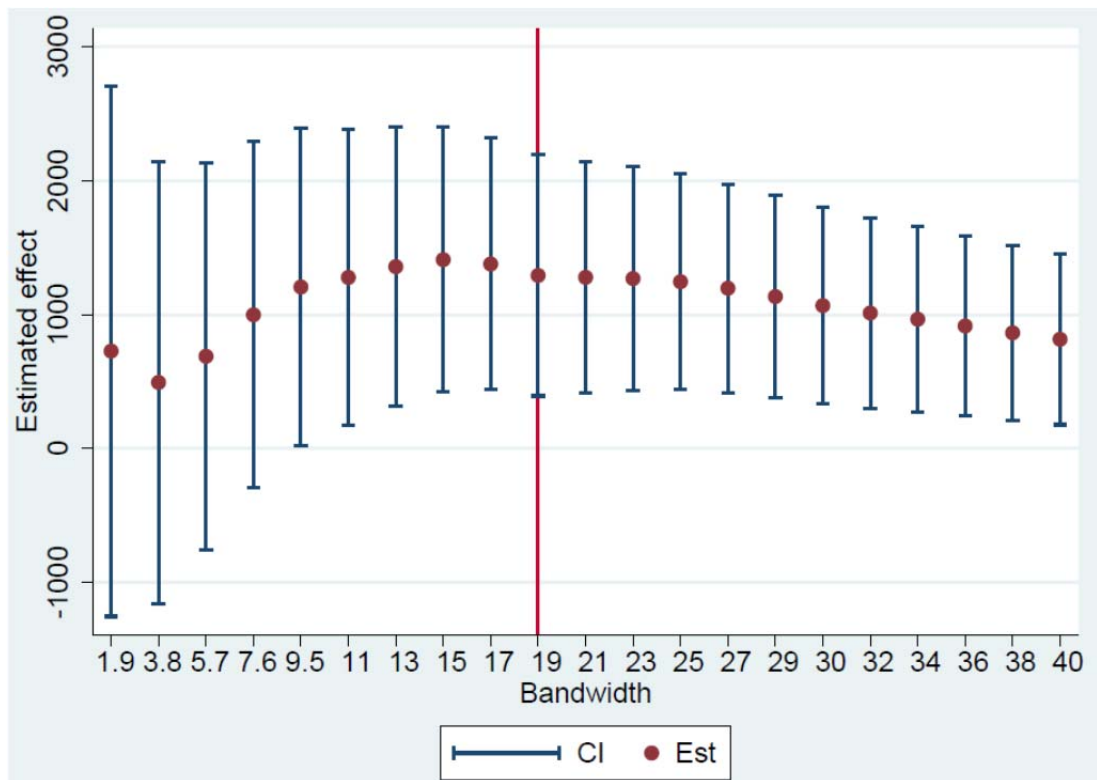


Figure 11. Robustness to bandwidth: Effect of municipal election win on average earnings in (t+1)-(t+3). Vertical line marks the Imbens-Kalyanaraman optimal bandwidth.

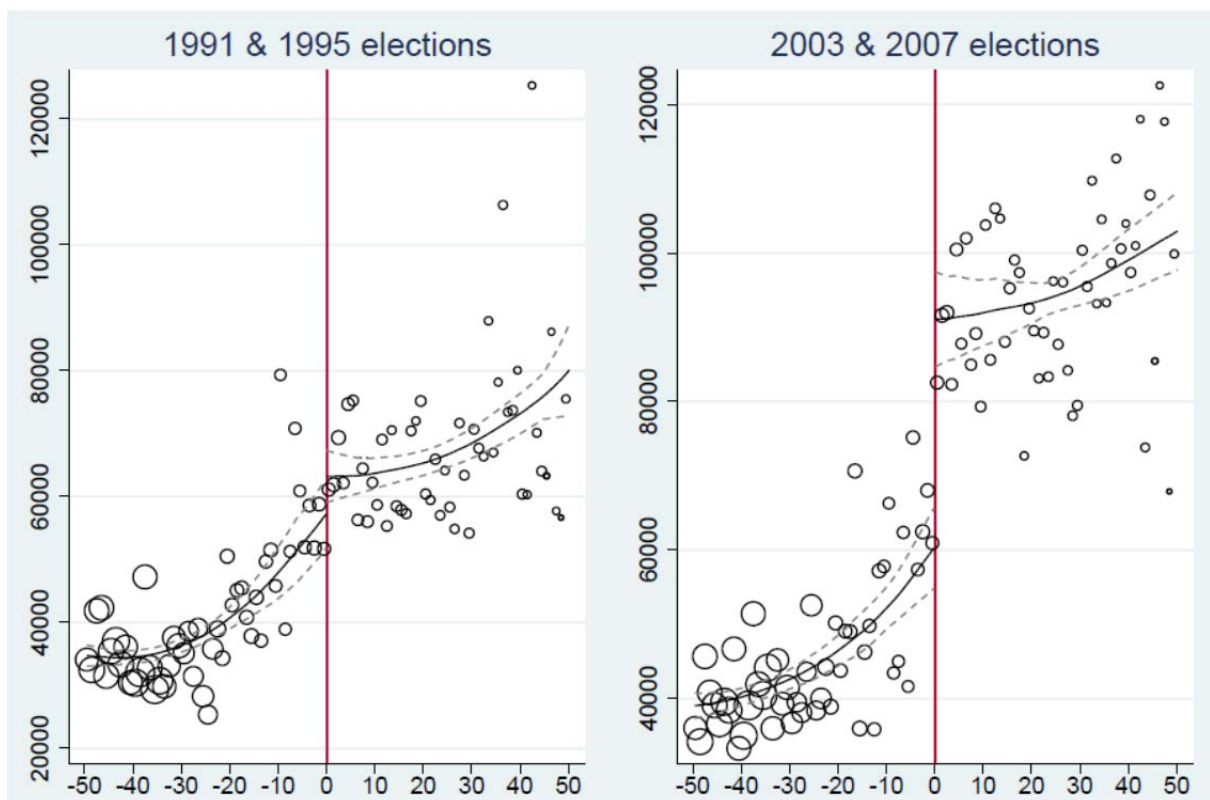


Figure 12. Earnings in (t+1)-(t+3) before and after parliamentarians' salary reform. Electoral closeness on horizontal and income per year in Euros on vertical axes.

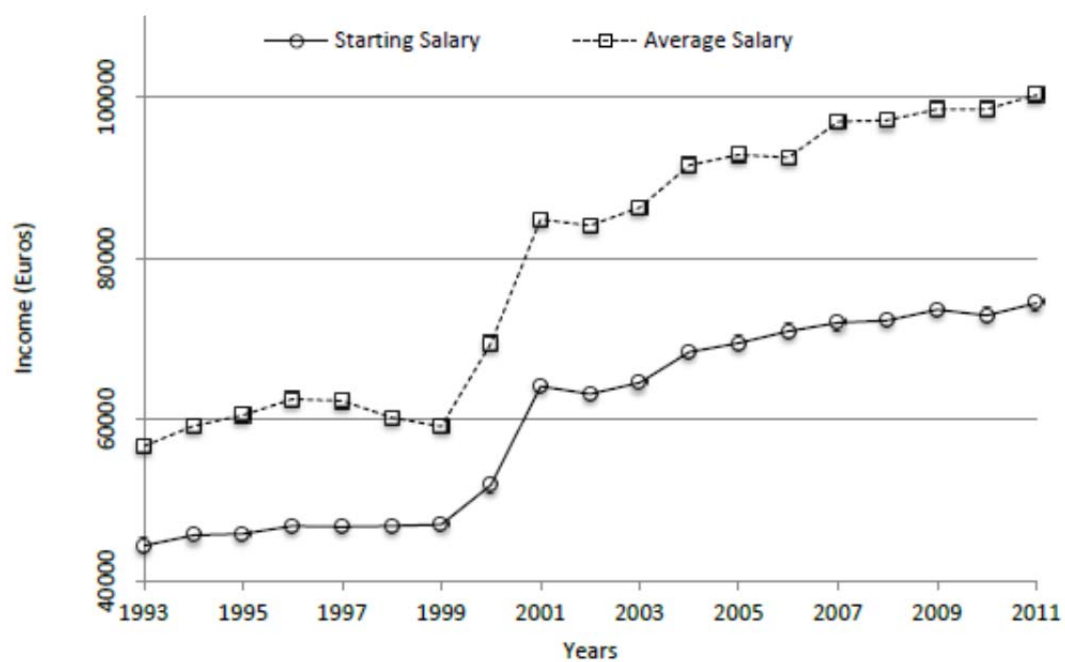


Figure 13. MP's average and starting salaries.

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