Essays in Political Economy

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Thesis submitted for assessment with a view to obtaining the degree of
Doctor of Economics of the European University Institute

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Essays in Political Economy

PhD Thesis

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Abstract

The thesis is made up of three chapters on political economy topics.

In the first chapter, I study whether the introduction of primary elections induces more or less political polarization. Before 1976, only representatives from Indiana had to pass through the primaries, whereas the reform introduced primaries for Indiana's US senators too. Using a difference-in-differences, I show that primaries deliver less-polarized politicians and account for one-fifth of the pre-reform average ideological gap between parties. I interpret the results in the light of a conceptual framework in which primaries lower the cost of participating in candidate selection procedures, giving incentives to participate to moderate voters as well.

In the second chapter, coauthored with Daniela Iorio and Andrea Mattozzi, we use a newly collected dataset from 63 old and new democracies, and we construct a novel measure of political capital: the tenure accumulated by the ruling party while in office since the establishment of a democracy onward. We merge these data with fiscal policy indicators to estimate the fiscal effect of political tenure. We find an expenditure elasticity of 0.061 and a deficit elasticity of 0.055 over the period 1972-2014. We discuss a number of potential explanations. Our findings point into the direction of an honeymoon effect: the older is the coalition of parties, the more divisive tend to be the available policy choices, which require costly transfers in the form of public expenditure to keep coalition members together later on.

In the third chapter, I exploit newly collected data on ties between local politicians in Italy from 1985 onwards, to study the relation between cross-party connections and future career prospects. Exploiting a difference-in-discontinuities design, I find that ruling coalition members connected with the runner-up are twice as likely to be promoted to the council in which the runner-up leads the opposition. Interestingly, the effect of connections with the leader of the rivals disappears when I consider appointments to boards of state-owned enterprises. These findings suggest that connected politicians act as political brokers and smooth the relationship between government and opposition. Finally, connected politicians are less educated than the average appointed official, indicating that political selection is negatively affected.

Acknowledgements

Contents

Political Polarization and

Primary Elections[*]

Andrea Cintolesi[†]

November 2019

Abstract

I study whether primary elections induces more or less political polarization. Before 1976, only representatives from Indiana had to pass through the primaries, whereas the reform introduced primaries for Indiana's US senators too. Using a difference-in-differences, I show that primaries deliver less-polarized politicians, reducing of one-fifth the ideological gap between parties before the reform. I interpret the results in the light of a conceptual framework in which primaries lower the cost of participating in candidate selection processes, giving incentives to participate to moderate voters as well.

Keywords: primary elections, candidate selection, polarization.

JEL Code: D72.

During past decades, the political polarization of elected politicians has been exponentially growing. As an example, in the United States, the difference between Democrats and Republicans congresspeople with regard to the liberal—conservative dimension has quintupled since 1930.[1] This disproportionate growth of polarization may lead to costly political deadlocks and instability, giving rise to an urgent need to understand its drivers.[2] [3]

Some researchers and observers deem primary elections to be one of the causes of political polarization.[4] The common argument is that with primaries candidates have an incentive to converge towards the median voter of the primary election, moving away from the median voter of the general election. At present, the empirical evidence on this particular subject is surprisingly scant. A notable exception is Hirano et al. (2010) that use the staggered introduction of primaries for a group of US states, and compare MPs from states where the reform took place with MPs from states where primaries were already compulsory.

I use a similar environment of Hirano et al. (2010), and I propose an empirical analysis with a causal testing ground. I focus on congresspeople from Indiana elected since 1929, and I measure polarization over the most common ideology measure, the DW-NOMINATE. Indiana is a special case be-

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[1]In Europe, parties at the edge of the political spectrum — mostly right-wing parties — are gaining an increasing support, causing a considerable increase in the ideological standard deviation of MPs. For United States data are from https://legacy.voteview.com/ a website managed by the University of Georgia until 2017 and now managed by UCLA. For Europe, data are from the 'parliaments and governments' database at the University of Bremen.

[2]According to Forbes, the cost of shutdown to the United States due to lost output was around $11 billions.

[3]McCarty et al. (2016) find that the least polarized congressional term produced between 60 percent and 166 percent more legislation than did the most polarized terms.

[4]Brady et al. (2007), Burden (2001), Burden (2004), Fiorina and Levendusky (2006), Wright and Berkman (1986).

cause its US senators did not have to go through primaries between 1928 and 1976, although they became mandatory in the latter year; however, its representatives had to pass through primaries from 1914 onwards. Indiana, therefore, presents a unique opportunity: representatives are elected by the same constituencies that elect senators,[5] and are a precious control group able to absorb state-specific time variation, such as can be seen in voters' preferences. The same framework can be found in New York State; however, because New York State allows for party fusion, party coalitions vary over time and a part of the data is of limited use. Nevertheless, I use a selected subsample of observations from New York State, in which party coalitions are stable, as a robustness check to confirm the findings.[6]

Surprisingly, I find that primaries sharply decrease the political polarization of US senators from Indiana. The point estimate is of -.14 on the liberal—conservative scale, and accounts for more than one-fifth of the average distance between Democrat and Republican Indiana US senators before the reform. Carrying out the same exercise for New York State confirms the results: the effect is lower in absolute value (-.11), but consists of about one-quarter of the pre-reform gap. Results are robust across parties and validated with a set of robustness and placebo checks.

The results, which contradict the common understanding of primaries as a cause of polarization, raise the unexplored question of why primaries reduce polarization. I propose a conceptual framework to interpret the results. A theoretical approach, however, needs to address a major issue. Although modelling primary elections would be simple, the smoke-filled rooms of

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[5]Representatives from a state are elected districtwide, and senators are elected statewide by all the citizens of its districts.

[6]I essentially restrict this to US senators from New York State affiliated to the Democratic Party. The reasons are carefully detailed in Section 1.

party conventions and meetings are less formal, less standardized and, most importantly, much harder to model. Further, different interpretations of the latter would allow to produce the most different results without offering a compelling comparison with regard to candidate selection methodologies. In point of fact, this may be the reason for the scarcity of theoretical works.

I choose to limit myself and provide a simple conceptual framework able to account for the results in which primaries differ from party conventions and meetings in just one aspect. I start from the fact that to vote in primary elections is much simpler than to join a convention. With primaries, a voter just needs to go to the poll station and vote.[7] Conversely, conventions and party meetings require a voter to be actively involved in the party, to be chosen as delegate and then attend the event: it is quite clear that the absence of primaries make it more costly to participate in the candidate selection. I embed this fact in a simple citizen-candidate framework with a generic candidate selection and a general election, and show how it can account for the results. At the candidate selection stage, voters decide whether to pay a cost and be part of the selection, or not pay the cost and just vote in the general election. The framework rationalises the fact that moderate voters, even if they could be certain of having their most preferred policy chosen (if they were to participate the selection stage), participate to the selection procedure only when the participation cost is sufficiently low; otherwise, they prefer not to participate at all. This result hinges on the intuition that moderate voters gain less from participating than do extreme voters and, therefore, participate just when the cost is low. As a consequences, primaries select

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[7]At most — in case of closed primaries — the voter need to be registered to the party. This seems to be not very demanding, and Norrander and Wendland (2016) shows that there is no significant ideological difference between voters in closed and open primaries.

more moderate candidates than procedures with higher participation cost, like conventions or party meetings.

The contribution of this paper is twofold. First, it is the first that studies in a causal framework the effect of primary elections as opposed to party meetings or convention on political polarization. Through this, I show that contrary to common understanding, primaries have a considerable mitigating effect on political polarization. Second, I embed in a theoretical framework the fact that primaries make it easier for voters to participate in the candidate selection, and show how this can account for the empirical results.

This paper fits into the stream of literature on primary elections and politicians' ideology. As I have already stressed, to the best of my knowledge, few papers empirically try to contrast primaries with party conventions and meetings. Hirano et al. (2010) exploit the staggered introduction of primaries for senators and representatives for a group of US states, and compare MPs from states where the reform took place with MPs from states where primaries were already compulsory. However, my empirical strategy circumvent the problem that MPs from different states represent different ideological trends, even before the reforms.[8]

Then, Jackson et al. (2007) propose a model to study the impact of different nominations methods on policies. They consider also nominations by party leaders and nominations by a vote of party members, but their specific comparison totally depend on the exogenous relative ideology of party leaders respect to party median voters. Casas (2019) presents a model with opposite predictions respect to my empirical analysis. He shows that in case candidate's ideology is hidden but their charisma is public, party leaders

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[8]This can be caused by state-specific time-varying components such as voters' preferences.

handpick more moderate candidates than primaries. [9]

The rest of the literature on primaries and ideologies studies politicians' behaviour, taking primaries as granted.[10] Agranov (2016) and Hummel (2010) study candidates' ideological flip-flopping between primary and general elections. Gerber and Morton (1998) compare the impact for polarization of different types of primaries. Ansolabehere et al. (2001) and Burden (2004) focus on the pressure faced by incumbent politicians for potential primary challengers, providing conflicting evidence with regard to the ideological position the incumbent chooses. Last, some papers introduce valence in primary elections, and study how it affects candidates' ideological stances (e.g. Adams and Merrill (2008), Andreottola (2019), Hirano et al. (2014), Hummel (2013)). [11]

The paper is organized as follows: Section 1 describes the testing grounds, the identification strategy and the data; Section 2 reports the results; Section 3 proposes a conceptual framework and, finally, Section 4 draws the conclusions.

[9]The empirical exercise of this paper, however, does not fit the environment in Casas (2019), because politicians that run for congress often have previous political experience in which they signal their ideologies.

[10]Two book contains the main studies and facts on US primaries: (Hirano and Snyder (2019) and Ware (2002)).

[11]A broader and less related literature studies systems of preference aggregation and political polarization. In this respect, some papers that consider two-stage election models, indirectly rationalise the idea that partisan electorates in primary elections motivate politicians to run with more extreme platforms (e.g. Aranson and Ordeshook (1972), Coleman (1972), Owen and Grofman (2006)),[12] and Bordignon et al. (2016) show with an empirical comparison that runoff systems reduce political polarization compared to single round systems.

1 US Senators and Representatives: Elections and Primaries

US senators are elected statewide. Every state elects two senators who sit in three congresses and who hold office for six years. Members of the House of Representatives are, instead, elected districtwide every two years. States with a higher population have more districts and, therefore, have more representatives. Neither senators nor representatives are term limited.

In 1913, the U.S. Constitution's Seventeenth amendment created the popular election of U.S. senators by the state's people, and since 1914, direct primaries are compulsory in almost any state both for representatives and senators. The introduction of direct primaries in the United States was driven by a series of state-level laws with some exceptions that left out opportunities to answer this paper's question.

Overall, eight states introduced primaries after 1914 or halted them for some elections. Unfortunately, most of them are of limited use.[13] First, in some cases, primaries were halted for very short periods of time, and the incumbency advantage of the politician in office (nominated without primaries) to win the nomination again nullifies the effect of primaries.[14] Second, when the change in election procedures last for longer, a control group that could properly take into account state-specific time varying factors as voters' preferences is missing. Indeed, the majority of changes in the law with regard to primaries apply to any elective office of a state, making it im-

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[13]The eight reforms took place in Connecticut (1956), Delaware (1970), Idaho (1930), Indiana (1976), New Mexico (1940), New York (1968), Rhode Island (1948), and Utah (1938).

[14]Incumbency advantage in primaries is well documented in US elections, for a literature review see Ansolabehere and Snyder (2002)

possible to find a counterfactual that takes into account voters' preferences.[15]

Out of eight state-level reforms that introduce or retract primaries, just two of them — in Indiana (1976) and New York State (1968) — have lasted long enough and allows to control for time-varying preferences of state constituencies. Their peculiarity with respect to other reforms is that they apply just to senators, leaving representatives from the same state as ideal control groups. Therefore, in my empirical analysis, I focus on congresspeople from Indiana and New York State. Below, I describe in details changes in regulations with regard to primaries.

Indiana: Indiana introduced direct primaries for representatives and US senators from 1914 onwards, but it halted primaries for US senators in 1928, a situation that would not change until 1976. The number of districts (and, as a consequence, of representatives too) in Indiana has been quite stable over time. The state had 12 districts until 1941, 11 districts between 1942 and 1983, 10 districts between 1984 and 2001 and between 2007 and 2009, and 9 districts between 2002 and 2006 and after 2009.

Indiana is using an open primary system. Voters are not needed to register with a party, but laws stipulate that voters vote in the primary of the party they have voted for most often in the past. Obviously, this is impossible to enforce, and citizens just vote in the primary they prefer. [16]

New York State: As in Indiana, New York State introduced direct primaries for representatives and US senators from 1914 onwards, and it halted primaries for US senators even earlier then Indiana — in 1921. New York

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[15]In Appendix B I show that politicians elected to the same office in other states (e.g. senators from a different state) are not a good counterfactual, most likely because preferences of voters of different states follow different time trends.

[16]https://ballotpedia.org/Voting_in_Indiana

State reintroduced mandatory primaries for US senators in 1968. Unfortunately, the sample has to be restricted for two reasons.

First, in 1947, the approval of the Wilson Pakula Act radically changed primary elections for representatives. In the 1940s, both the New York State Republican and Democratic parties were worried that members of other political parties, particularly the American Labor Party, were running candidates in their party primaries and winning nominations.[17] The act entitled parties to prevent candidates who were not members of the party or members of other parties from running in their primaries, drastically changing the ideological spectrum of candidates seeking nomination.

Second, New York State has allowed fusion voting since the 19th century.[18] After the Wilson Pakula Act, party tickets for senatorial elections were very stable until 1968. Democrats typically ran with the support of the Liberal Party, which took over the role of third party from the ALP after the Second World War, and Republicans were supported by the Conservative Party. After 1968, in five non-consecutive elections (1970,1974,1980,1986 and 1992), the Liberal Party either ran in ticket with the Republicans (and the Conservative ran alone, winning the election in 1970), or it ran with its own candidate. The different political alliances make it impossible to compare politicians elected in those elections: the Liberal Party, acting as a sort of a loosely aligned pressure group that steers a candidate's ideology towards one end of the political spectrum, obviously made the Republican line more liberal.

Therefore, considering the introduction of the Wilson Pakula Act and

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[17]The law was likely aimed at Vito Marcantonio, an East Harlem's congressman who won both parties' nominations after entering the American Labor Party.

[18]Electoral fusion is an agreement in which two or more political parties decide to list the same candidate, pooling the votes together to support his/her election.

the change in party alliances, I am forced to isolate New York State senators and representatives elected after 1947 and under the 'standard' party alliances (Democrats and Liberal, as opposed to Republicans and Conservatives). Unfortunately, the few Republican senators elected since 1968 were all supported by the Liberal Party, in contrast with all the Republican senators elected before 1968, who were elected under the 'standard' party alliances. For this reason, I drop all the Republicans and the five elections with a different party alliances, and I focus my analysis on the Democrats elected in the remaining elections.

1.1 Polarization and Identifying Strategy

I measure ideology and polarization of US senators and representatives starting from the DW-NOMINATE (DW-N), a measure that is derived from the multidimensional scale method developed by Poole and Rosenthal in the early 1980s, and that allows comparison of politician ideologies across congresses, observing their voting behaviour.[19]

The measure of polarization that I use in this paper is from Hirano et al. (2010). I compute an individual's contribution to polarization with the average of his/her party colleagues elected to the same chamber and congress. For individual i, in office for party $p \in \{D, R\}$, in chamber c during congress t, I define polarization as $I_{ict} = (DWN_{ict} - \overline{DWN}_{Rct})$ for republicans and $I_{ict} = -(DWN_{ict} - \overline{DWN}_{Dct})$ for democrats, where $\overline{DWN}_{pct}$ is the average DWN of politicians in office in chamber c in congress t for party $p \in \{D, R\}$. Higher values of I_{ict} mean higher polarization of a single individual as opposed to the average of his/her party in the same chamber, and the opposite

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[19]For further reference to it: http://voteview.com/dwnomin.html.

holds for lower values.

Table 1: Summary statistics for polarization

Indiana — before 1976

	Obs	Mean	25%	50%	75%	Max.	SD
Senators	51	.1	.07	.12	.14	.33	.09
Representatives	284	.02	-.04	.02	.09	.57	.13
Rep. Senators	24	.13	.06	.11	.16	.33	.08
Rep. Representatives	152	.04	-.01	.03	.07	.57	.11
Dem. Senators	27	.08	.09	.12	.13	.29	.09
Dem. Representatives	132	-.01	-.12	-.01	.11	.25	.14

Indiana — after 1976

	Obs	Mean	25%	50%	75%	Max.	SD
Senators	36	-.04	-.13	-.05	.06	.17	.13
Representatives	179	0	-.12	.02	.1	.34	.16
Rep. Senators	28	-.02	-.12	0	.07	.17	.12
Rep. Representatives	90	.08	-.03	.08	.19	.34	.14
Dem. Senators	8	-.1	-.18	-.13	-.06	.13	.11
Dem. Representatives	89	-.08	-.2	-.12	.04	.22	.13

New York State dem. — before 1968

	Obs	Mean	25%	50%	75%	Max.	SD
Senators	8	.34	.2	.34	.47	.49	.14
Representatives	257	.2	.07	.2	.29	1.07	.18

New York State dem. — after 1968

	Obs	Mean	25%	50%	75%	Max.	SD
Senators	27	.04	.01	.02	.06	.13	.04
Representatives	478	.08	.01	.07	.17	.42	.12

Summary statistics of polarization for senators and representatives before and after the introduction of primaries for senators. The two top panels are for Indiana, the two lower panels for New York State. New York State's Republicans are missing for the reasons explained in Section 1.

Obs:observations; Max:maximum;Rep.:Republican;Dem.:Democrat. 25%, 50%, 75% and Max. refer to the quantile of the distribution.

In Table 1, I report the summary statistics for I_{ict} of senators and representatives from Indiana and New York State before and after 1976 and 1968 respectively, that is, the year in which primaries also become mandatory for senators. Both for Indiana and New York State senators are more polarized than the average of other senators from the same party before the introduction of mandated primaries, and they become much more similar to them after primaries are introduced. Obviously, this pattern may just reflect an intrinsic trend of Indiana and New York State politicians. Therefore, I propose an empirical strategy that relies on a difference-in-differences estimate, in which I compare the polarization of US senators and representatives of the same state before and after the introduction of primaries for senators.

However, because I define the treatment as *compulsory primaries*, the empirical setup differs slightly from a standard difference-in-differences estimation. Indeed, the control group — the representatives — is always treated before and after the reform.[20] Therefore, before proceeding, I show that the difference-in-differences estimator identifies the same the effect of interest, and that the identifying assumption is very similar to the standard parallel trend assumption of difference-in-differences.

Let $I_{ist}(G = g)$ and $I_{irt}(G = g)$ be, respectively, the polarization of senator or representative i, where $g \in \{0, 1\}$ is 1 when primaries are mandatory by law and 0 otherwise, and $t \in \{0, 1\}$ is 1 to indicate the periods after the reform, and 0 for periods before. The objective of interest is:

$$\eta = E[I_{is1}(G = 1)] - E[I_{is1}(G = 0)].$$

[20]Even if I define the treatment as *not compulsory primaries*, the framework differs from a standard diff-in-differences because before the reform senators are treated and representatives are not.

Clearly, $E[I_{is1}(G = 0)]$ cannot be observed.

The comparison between senators and representatives before and after the reforms provides the following estimand:

$$\tau = E[I_{is1}(G = 1)] - E[I_{is0}(G = 0)] - (E[I_{ir1}(G = 1)] - E[I_{ir0}(G = 1)]).$$

The difference with a standard difference-in-differences is that the last two components of the right-hand side in the parentheses have $G = 1$ and not $G = 0$. Then, I add and subtract $E[I_{is1}(G = 0)]$ from τ:

$$\begin{aligned}
\tau &= E[I_{is1}(G = 1)] - E[I_{is0}(G = 0)] - (E[I_{ir1}(G = 1)] - E[I_{ir0}(G = 1)]) \\
&\quad + E[I_{is1}(G = 0)] - E[I_{is1}(G = 0)]
\end{aligned}$$

$$\tau = \eta + E[I_{is1}(G = 0)] - E[I_{is0}(G = 0)] - (E[I_{ir1}(G = 1)] - E[I_{ir0}(G = 1)]).$$

The last expression identifies the Assumption needed for τ to be an unbiased estimator of η:

Assumption 1

$$E[I_{is1}(G = 0)] - E[I_{is0}(G = 0)] - (E[I_{ir1}(G = 1)] - E[I_{ir0}(G = 1)]) = 0$$

It is quite easy to see that the identifying Assumption 1 is very similar to the standard difference-in-differences parallel trend assumption. In particular, even if representatives are treated before and after the treatment of senators, it still requires that representatives and senators's polarization would

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have followed the same trends, had primaries for senators not been introduced. Finally, note that the difference-in-differences estimand can be validated with the usual diagnostic tools and pre treatment parallel trend tests.

In light of the identifying strategy just illustrated, I run a standard difference-in-differences model to estimate η. For congressperson i, elected for party p in chamber c and congress t:

$$I_{ict} = \alpha_0 + \alpha_1 \cdot \text{senators}_c + \alpha_2 \cdot \text{after}_t + \alpha_3 \cdot \text{senators}_c \cdot \text{after}_t + \delta_p + \beta \cdot X_{ict} + \epsilon_{ict} \quad (1)$$

where after_t is a before/after reform dummy, senators_c is a senator/representatives dummy and X_{ict} is a set of individual controls. In the most preferred specification, I collapse the time dimension in before/after to preserve the standard errors.[21] Under Assumption 1, α_3 is an unbiased estimator of η. I run the model using the full set of observations (Democrats since 1947 for New York State and Democrats and Republicans since 1928 for Indiana), and also restricting to smaller subsamples.

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[21]For details see Bertrand et al. (2004). However, I also run a model with congress fixed effects.

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Figure 1: Indiana representatives and US senators
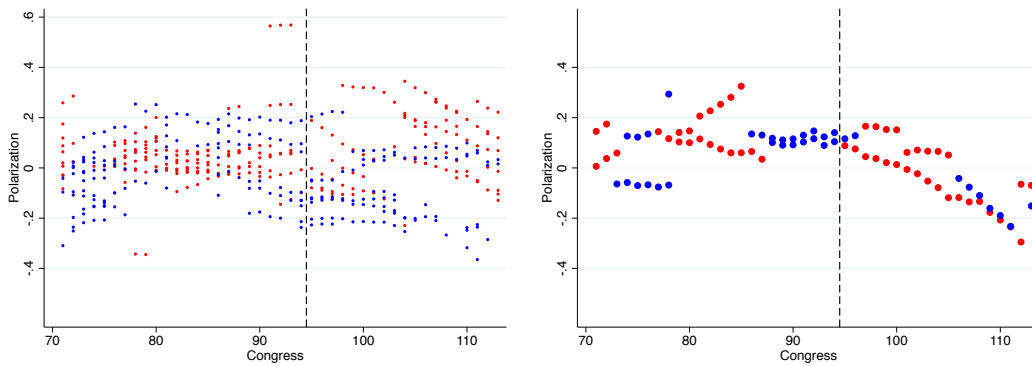
Trend of polarization (I_{ict}) for representatives (left) and US senators (right) from Indiana. On the x axis there is the number of the congress, on the y axis the level of polarization. The dashed line marks the introduction of primaries for senators. Red dots are Republican representatives or US senators, and blue are Democrats. US senators from Indiana elected after the introduction of primaries clearly progressively converge to less extreme stances respect to representatives.

Figure 2: Indiana Avg. Difference
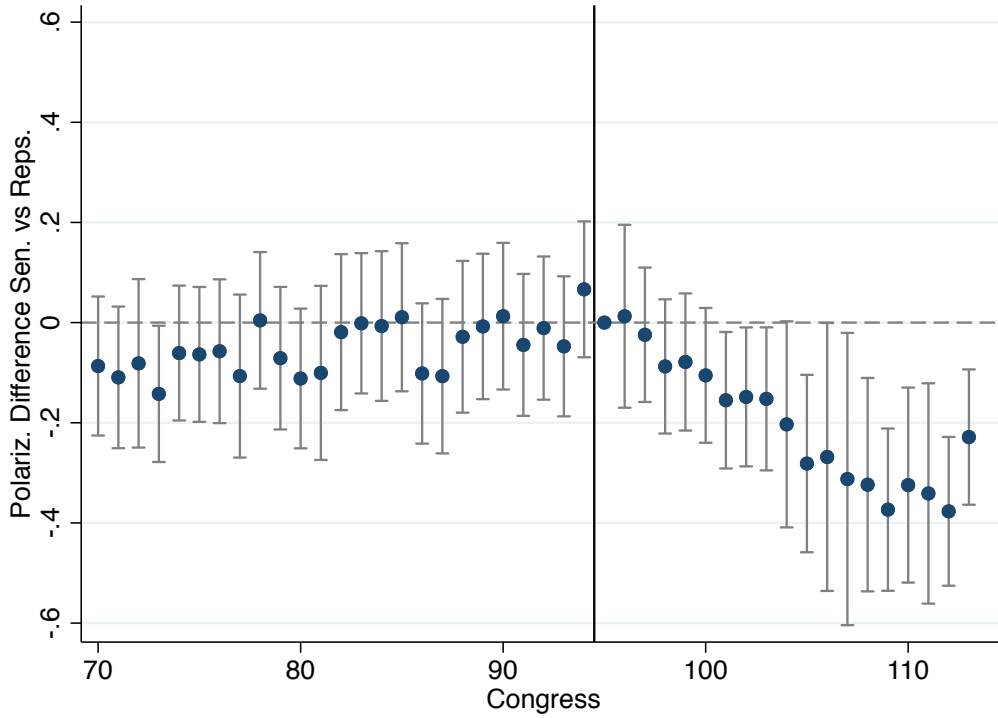
Difference in polarization (I_{ict}) between senators and representatives from Indiana in each congress (baseline the 95th congress elected immediately after the reform). On the x axis there is the number of the congress, and on the y axis the difference in polarization. The differences on the y axis are estimated by the coefficients βs in the following model:

$$I_{ict} = \alpha_0 + \alpha_1 \cdot \text{senators}_c + \sum_t \beta_t \cdot \text{senators}_c \cdot \text{congress}_t + \text{congress}_t + \delta_p + \alpha \cdot X_{ict} + \epsilon_{ict}.$$

Grey lines are the 95% confidence intervals. This estimation is more precise than a simple average comparison because allows to control for party affiliations and covariates. The difference in polarization between senators and representatives from Indiana is very stable and close to zero before the reform, and drops after the reform, meaning that senators become less polarized.

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2 Empirical Results

Indiana: In Figure 1, I plot the time series of I_{ict} for Republican and Democrat US senators and representatives from Indiana. Similar to the summary statistics in Table 1, Figure 1 shows that before primaries become mandatory, both Republican and Democrat senators from Indiana are slightly more polarized than their colleagues of the same party from other states (have positive I_{ict}). After the introduction of primaries, senators from Indiana (mostly Republican, but some Democrats too) progressively become less polarized. Figure 1 does not show any similar change in representatives' polarization after the introduction of mandated primaries for senators.

In Figure 2, I plot the difference in average polarization for senators and representatives from Indiana in each congress. The difference is very stable and close to zero until primaries are introduced for senators, suggesting that polarizations of senators and representatives follow a parallel trend before the treatment. The figure clearly shows that, only right after the treatment, senators become gradually less polarized.

Table 2 reports the main results for specification (1). From column 1 to 5 I progressively expand the time range: as expected, when the time before and after the reform is too short, results are not significant and close to zero,[22] but for a large sample the effect becomes stable and robust to a set of controls. Primaries reduce the polarization of .14. Because the pre treatment difference in DW-N scores between Republican and Democrat senators from Indiana is .65, primaries account for more than a fifth of the pre treat-

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[22]As mentioned, some time is needed because of the incumbency advantage of the incumbent and the progressive learning of aspirant politicians. Note that a senator when elected remains in charge for three congresses, that last six years.

Table 2: Main results — Indiana

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	5 Cong.	10 Cong.	15 Cong.	25 Cong.	25 Cong.	25 Cong.	Rep.	Dem.
After · Senators	-0.03	-0.04	-0.11***	-0.14***	-0.13***	-0.13***	-0.15***	-0.08*
	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
After	-0.07***	-0.06***	-0.03*	-0.02	-0.06***	0.85	0.00	-0.11***
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(1.81)	(0.03)	(0.03)
Senators	0.13***	0.10***	0.10***	0.09***	0.08***	0.08***	0.09***	0.07***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Republican	0.10***	0.08***	0.08***	0.09***	0.09***	0.08***		
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)		
Population					0.00***	-0.00	0.00	0.00
					(0.00)	(0.00)	(0.00)	(0.00)
Incumbent					0.01	0.02	0.03	0.00
					(0.02)	(0.02)	(0.02)	(0.02)
Exp. in office					0.00	0.00	-0.01***	0.02***
					(0.00)	(0.00)	(0.00)	(0.00)
Exp. in Congr.					-0.01***	-0.01**	-0.00	-0.01***
					(0.00)	(0.00)	(0.00)	(0.00)
Observations	129	254	378	565	565	565	306	259
Party FE	1	1	1	1	1	1	.	.
Congress FE	0	0	0	0	0	1	0	0
R²	0.20	0.17	0.14	0.15	0.17	0.21	0.08	0.13

Results for specification (1) for Indiana (model: $I_{ict} = \alpha_0 + \alpha_1 \cdot \text{senators}_c + \alpha_2 \cdot \text{after}_t + \alpha_3 \cdot \text{senators}_c \cdot \text{after}_t + \delta_p + \beta \cdot X_{ict} + \epsilon_{ict}$). The first column uses 5 congresses before after the reform, the second use 10 congresses, the third 15 congresses and the fourth, the fifth and the sixth the full sample (i.e. 25 congresses). Columns 7 and 8 show the results for each party separately. Exp. in office is the number of congresses in which the politician held the same office in the past. Exp. in Congr. is the number of congresses in which the politician was elected for a seat in the congress in the past. Incumbent is a dummy that is 1 if the politician was in serving in the same office during the previous congress.
*** indicates the 1% level of significance, ** the 5% and * the 10%.

ment ideological gap between the two parties.[23] The effect is the same in sign when each party is considered alone, being larger for Republicans then Democrats.

New York State: The results and the analysis for Democrats elected after 1947 in New York State are very similar. In Figures 6 and 7, I plot the time series of I_{ict} for senators and representatives from New York State, excluding politicians elected under a party alliance different from the 'standard' one. Unfortunately, I lack observations close to the reform, and because I need to drop Republican senators the observations are fewer in number with respect to Indiana.

Table 3 shows the empirical estimates. In column 1, I use 15 congresses before and after the reform to have a symmetric time span around the reform, in column 2 I use the full sample and in columns 3 and 4 I add controls and congress fixed effect. Due to the lack of observations, I cannot restrict the sample further as I do for Indiana. The estimators range between -.11 and -.19 and are largely significant. Results are very similar to those from the previous section, and robust to different specifications. The magnitude of the effect is, again, very high and comparable to the one for Indiana: the average pre treatment ideological gap between Republican and Democrat senators is .39, meaning that the absence of primaries accounts for 28.2% of this.

2.1   Validation and Placebo

The results in section 2 provide an estimation of the effect of the introduction of mandated primaries on elected politicians' ideology, and are valid if Assumption 1 is fulfilled. Here, I validate Assumption 1 using the standard

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[23]Republican senators has an average DW-N of .38 and democrats of -.27.

Table 3: Main results — New York State

	(1) 15 Congr.	(2) Full	(3) Full	(4) Full
After · Senators	-0.19***	-0.14***	-0.11***	-0.11***
	(0.03)	(0.03)	(0.03)	(0.03)
After	-0.09***	-0.12***	-0.06***	-0.42
	(0.01)	(0.02)	(0.01)	(0.60)
Senators	0.09***	0.09***	0.07**	0.08***
	(0.03)	(0.03)	(0.03)	(0.03)
Population			-0.00***	0.00
			(0.00)	(0.00)
Incumbent				0.00
				(0.02)
Exp. in office				0.00
				(0.00)
Exp. in Congr.				-0.00
				(0.00)
Observations	641	847	847	847
Congress FE	0	0	0	1
R^2	0	0	0	0

Results for specification (1) for New York State (model: $I_{ict} = \alpha_0 + \alpha_1 \cdot \text{senators}_c + \alpha_2 \cdot \text{after}_t + \alpha_3 \cdot \text{senators}_c \cdot \text{after}_t + \delta_p + \beta \cdot X_{ict} + \epsilon_{ict}$). The first column uses 15 congresses before/after the reform, the second, third and fourth use the full sample (i.e. 15 congresses before and 22 after). Exp. in office is the number of congresses in which the politician held the same office in the past. Exp. in Congr. is the number of congresses in which the politician was elected for a seat in the congress in the past. Incumbent is a dummy that is 1 if the politician was in serving in the same office during the previous congress.
*** indicates the 1% level of significance, ** the 5% and * the 10%.

diagnostic tools pertaining to difference-in-differences.

Table 4: Parallel trend assumption tests.

	(1)	(2)	(3)	(4)
	Indiana	Indiana	New York State	New York State
Trend · Senators	0.000	0.001	-0.006	-0.006
	(0.00)	(0.00)	(0.01)	(0.01)
Trend	0.003*	0.002	-0.013***	-0.013***
	(0.00)	(0.00)	(0.00)	(0.00)
Observations	337	337	265	265
Controls	0	1	0	1
R^2	0.083	0.136	0.084	0.085

I consider only pre treatment periods. The dependent variable is polarization of the congressperson. I regress it on a trend and I allow the trend to be different for senators. The first two columns are for Indiana (without and with controls), the third and fourth are for New York State (with and without controls). Controls include: a dummy for senators, experience in office, experience in congress, incumbency and party affiliation (just for Indiana).
*** indicates the 1% level of significance and * the 10%.

The validity of Assumption 1, which requires that polarizations of senators and representatives follow a parallel trend before the treatment, is already suggested by Figure 2. Further, in Table 4, I run an empirical model to support Assumption 1. I regress the polarization of each senator or representative during the pre treatment periods on a time trend, allowing senators to have a different trend respect to representatives. Columns 1 to 4 show that the senators-specific trend is never significant neither for Indiana nor for New York State.

To further test Assumption 1, I run a placebo estimation of the main specification in (1) on pre treatment periods, for which I use each congress as a

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Figure 3: Senators from Indiana — Placebo
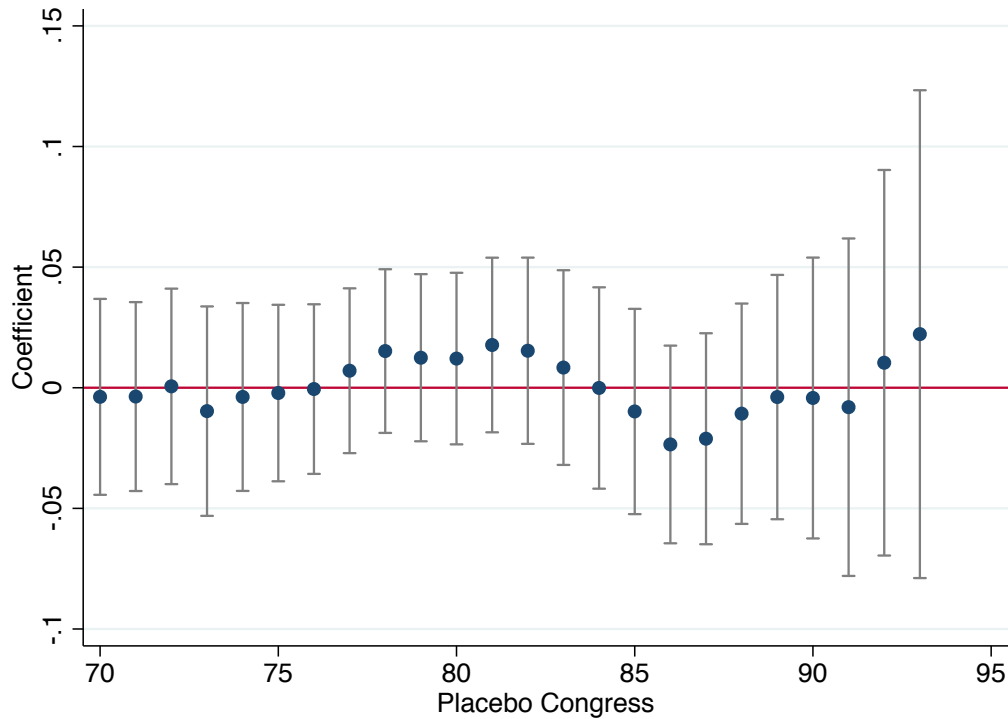
I run specification ([1](#)) for Indiana senators only on pre treatment observations (before 1976) and with a fake period of start treatment (model: $I_{ict} = \alpha_0 + \alpha_1 \cdot \text{senators}_c + \alpha_2 \cdot \text{after}_t + \alpha_3 \cdot \text{senators}_c \cdot \text{after}_t + \delta_p + \beta \cdot X_{ict} + \epsilon_{ict}$). On the x axis there is the number of congress used as fake period of start treatment, and on the y axis the placebo estimates (α_3). No estimate is significant, showing that before the treatment US senators and representatives from Indiana follow the same trend.

fake period of start of treatment. I report the results in Figure [3](#), with the fake period of start of treatment on the x axis and the coefficient on the y axis. No coefficient is significantly different from zero, and point estimations are very small. These results show two things. First, whichever way I split the pre treatment periods we don't find any difference in pre/post average polarizations between senators and representatives, suggesting that Assumption [1](#) is fulfilled. Second, because point estimations are much smaller than the main

results in Table 2, main results are very unlikely to be obtained by random chance alone.[24]

Finally, I run a placebo test replacing Indiana with any other US state. I expect that no more than 5% of the estimates to be larger in absolute value than the estimator for Indiana. In Figure 4, I plot the cumulative distribution of the placebo estimators. The red lines mark the main result for Indiana with positive and negative sign. A very small share of estimators — lower than 5% — is larger than the estimator for Indiana, vouching for the robustness of the results.

Figure 4: Other State Estimates's Distribution
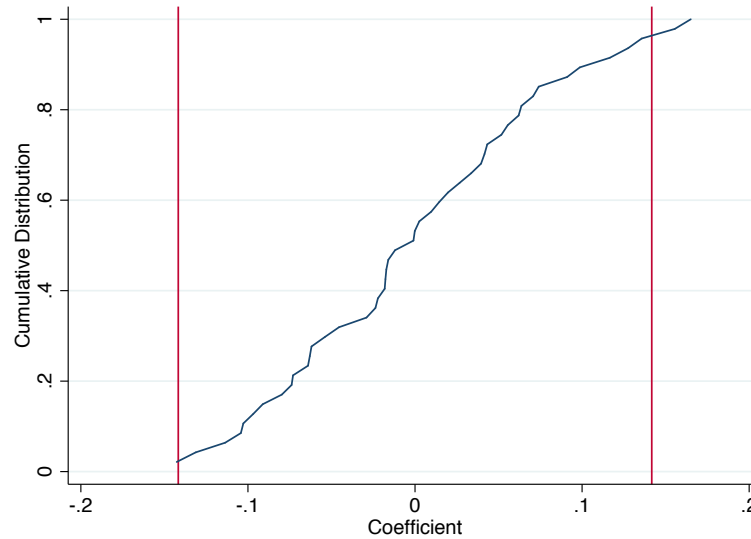
$(I_{ict} = \alpha_0 + \alpha_1 \cdot \text{senators}_c + \alpha_2 \cdot \text{after}_t + \alpha_3 \cdot \text{senators}_c \cdot \text{after}_t + \delta_p + \beta \cdot X_{ict} + \epsilon_{ict})$. Results for placebo specification (1) for any other US states but Indiana and New York State. On the x axis there is the difference-in-difference estimate (α_3), on the y axis the cumulative distribution of it. The two red lines mark the estimates for Indiana with positive and negative sign. Overall, less than 5% of the estimates are larger in absolute value than the estimates for Indiana.

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[24]I refer to the possibility that results are obtained by a type I error, i.e. the rejection of a true null hypothesis.

3 Conceptual Framework

The empirical results disprove the common understanding of primaries as a cause of polarization. Further, showing that primaries in respect of party conventions or meetings reduce polarization instead of increasing it, they naturally beg another question: why do primaries deliver more moderate politicians than conventions or meetings?

As stressed in the introduction, if primaries are a transparent methodology that can be easily modelled, alternative systems are unclear, less formalized and, most important, much harder to model. Indeed, to the best of my knowledge, no theoretical model has the main objective of offering a comparison between primary elections and other candidate selection methodologies, and taking the liberty of modelling the alternative procedures would probably leave the researcher unable to provide a compelling comparison.[25] For this reason, I choose to reduce my degree of freedom and provide a simple conceptual framework in which primaries differ from conventions and meetings in just one aspect.

A key difference between primaries and conventions or meetings is the participation cost. For a voter, the cost of voting in a primary election is much smaller than the cost of participating in a convention or party meeting of a state-recognized political party. To vote in primaries, citizens just need to have the right to vote in the general election and — in case of closed primaries — to be registered to the party. Instead, participate in a convention or party meeting requires more effort: typically, voters need to be active members of the party, be chosen by a local committee to join the convention

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[25]Indeed, Jackson et al. (2007) focuses mostly on the comparison with nominations by a spending competition among potential candidates, and Casas (2019) on the comparison between different types of primaries.

and then attend the event. This aspect can be embedded in a theoretical framework in which voters pay a different cost to participate in a generic candidate selection procedure and in the next Section I show how it can account for the results.

3.1   Environment

Setup: There is an election to choose a policy in an ideological spectrum [0, 1] in which two parties (R and D) run. The position of the median voter m is unknown to the parties, and his/her distribution is common knowledge, with $m \sim U[\frac{1}{4}, \frac{3}{4}]$. Party R is the incumbent, and runs with the incumbent politician and a known policy $r \in [\frac{1}{2}, 1]$. Party D is the challenger and its voter are divided in two groups, the *extreme voters* and the *moderate voters*.

Preferences: Each group of voters of party D decides whether to pay a cost to participate in the candidate selection procedure.[26] The extreme voters have bliss point at 0 and utility function $U_e = -p^2 - c$, where p is the policy implemented and c is the cost to participate in the candidate selection. The moderate voters have bliss point at $\frac{1}{4}$ and utility function $U_e = -(p - \frac{1}{4})^2 - c$.

Candidate Selection: The candidate of party D can be chosen with or without primaries. I don't model them in different ways, and I assume a generic selection procedure with a cost of participation. Further, I do not even specify the cost, but I only assume the cost under primaries to be lower than the cost without.

The selection is trivial: in case just one group of voters participate to the candidate selection, they select the policy that maximize their utility, taking into account the policy of the incumbent and the consequent chances

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[26]To simplify the framework, each group takes a uniform decision (every voter in the group chooses that). Further, I just consider pure strategies.

of winning. When both groups enter, I assume the moderate voters set their most preferred policy.[27] Finally, in case no group enters, party R wins and r is implemented.

Timing: The timing is the following. First, the moderate and the extreme groups decide whether to participate. Then, a policy to run with for party D is chosen as described above. So, the median voter is realized and the policy closer to him/her is implemented.

3.2 Solutions

I compare the equilibrium solution of this simple framework under different levels of the participation cost.[28] The following proposition shows that for any r, three costs are relevant thresholds to describe the possible equilibria. Define:

- $c^{high} = \frac{1}{108}(1 - 6r - 24r^2 + 64r^3 + \sqrt{1 - 4r + 16r^2})$,

- $c^{med} = \frac{1}{54}(64r^3 - 48r^2 + 12r - 1)$

- $c^{low} = \frac{1}{864}(-34 + 588r - 1056r^2 + 1024r^3 - 9(5 + 8r)\sqrt{1 - 4r + 16r^2})$.

Note that for any $r \in [\frac{1}{2}, 1]$, $c^{high} > c^{med} > c^{low}$.

Proposition 1 *For any $c > c^{high}$ no groups participate and r is implemented. For any $c \in (c^{med}, c^{high}]$, the extreme voters participate and the moderate voters do not. For $c \in (c^{low}, c^{med}]$ two equilibria are possible. In one equilibria the extreme voters participate and the moderate voters do not; in the other, the moderate voters*

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[27]This assumption is a worst case scenario for the channel I aim at describing. Indeed, I will show that even if moderate voters can completely offset the extremes, when the participation cost is too high, extreme voters participate and moderate voters do not.

[28]Being r given and voters of party D the only ones to choose strategically, I am providing a partial equilibrium solution.

participate and the extreme voters don't. Finally, for $c \leq c^{low}$, the moderate voters always participate and the extreme voters do not.

Figure 5: Equilibria and the cost of participation.
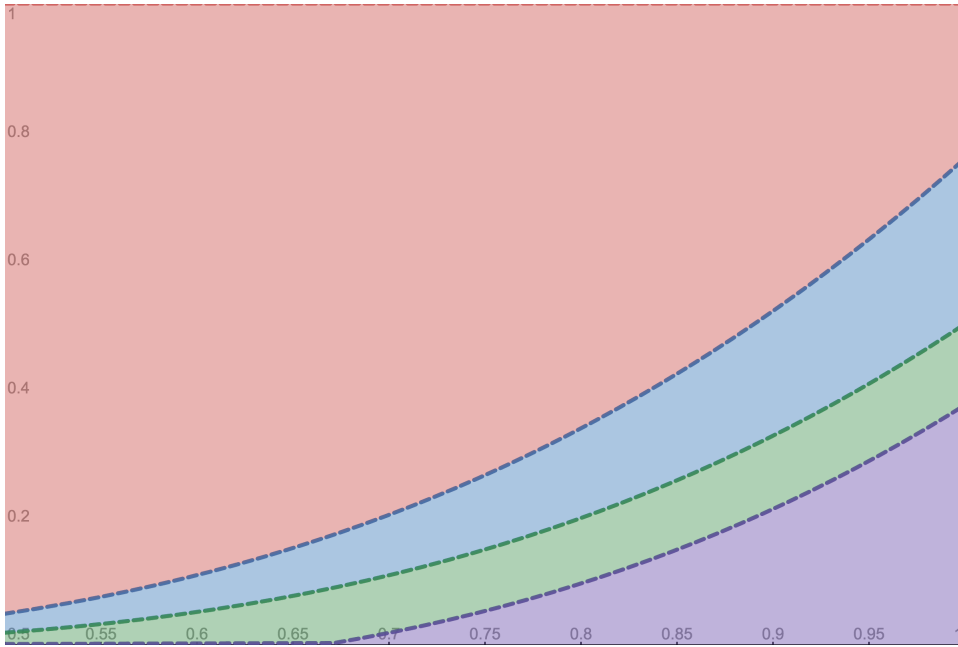
Graphical description of Proposition 1. On the x axis there is the policy that the incumbent propose in the election (r). On the y axis the participation cost to the candidate selection. Possible equilibria: no groups from party D participates (red area). Only the extreme voters of party D participate (blue area). One group of voters from party D participate (green area). The moderate voters from party D participate (purple area).

The proof of Proposition 1 is in Appendix C. The Proposition is summarized in Figure 5. On the x axis there is r, the policy with which the incumbent runs, and on the y axis the participation cost. For any r, the red area is the costs due to which no group from party D participates. The blue area is the costs due to which only the extreme voters participate. The green area is the costs for which two equilibria are possible: one group participates and the other does not. Finally, the purple area — if present — is the costs due

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to which the moderate voters participate and the extremes do not.

This simple framework shows the relationship between polarization and participation cost. When the cost is high only the extreme voters have an interest in participating, because they are the ones who face a higher loss when the policy of the opponent is implemented. When the cost decreases, each group of voters prefers to participate if the other does not. This is because each group loss would be greater than the cost of participation in case r is implemented. At the same time, in case the other group participates, each group prefers not to participate since the cost of participation is higher than the gain from participating.[29] Finally, when costs are low enough the moderate group always participates, because they prefer to pay the (low) cost and choose the policy which for the party to run with.

Now, under the consideration that primaries reduce the cost of participation, Proposition 1 gives rise to the following corollary.

Corollary 1 *Primary elections deliver weakly more moderate policy than alternative systems with a higher participation cost when party D wins.*

The insight of the framework should now be clear: primaries, making easier the participation to the candidate selection procedure, favour the participation of moderate voters as well, who have less incentive to participate and therefore refrain from participating in case the cost is too high. As a result, parties run with more moderate policies.

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[29]The gain for the group of extreme voters is zero. For the group of moderate voters is the difference between the expected utility when party D runs with the policy they would choose and the expected utility when party D runs with the policy the extremes would choose.

4   Conclusions

Many observers deem primaries, as opposed to party conventions or meetings, to be a cause of political polarization. In this paper, I examine this argument empirically using two reforms for senators from Indiana and New York State. In both states, representatives faced mandated primaries from 1914 onwards, whereas primaries for US senators were not introduced until the 1960s and 1970s. These cases, which are anomalies with respect to the other US states, offer the chance of exploiting reforms for senators, using representatives as controls for state-specific, time-varying factors.

The findings are in direct contrast to the common understanding of primaries and polarization. Indeed, I find that primaries strongly reduce polarization. The absence of primaries accounts for more than one-fifth of the pre-reform average ideological gap between senators from opposing parties. I interpret the results in the light of the fact that primaries it make easier to participate to the candidate selection. Without primaries, voters need to be actively involved in political parties, be chosen as delegates and attend conventions. Primaries instead make the participation much cheaper, attracting voters with lower incentives. The theoretical argument is quite simple: with a high cost of voting, only extreme candidates are prepared to pay the cost, enter the selection procedures and influence the nomination because they will have higher losses than moderate voters if there is somebody else in the race whom they lose to. If the costs are lower, moderate voters are also willing to participate to the candidate selection, eventually ousting extreme candidates and select a moderate candidate with which the party runs in the election.

Candidate selection methods are relevant for polarization, and because

they may be regulated by law, they have the potential to be an effective policy instrument for stemming polarization drifts. However, the policy-maker need to be certain about the way each method affects polarization. As I have shown in this paper, common understanding may lead to very wrong conclusions.

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A New York State — Figures

Figure 6: New York senators
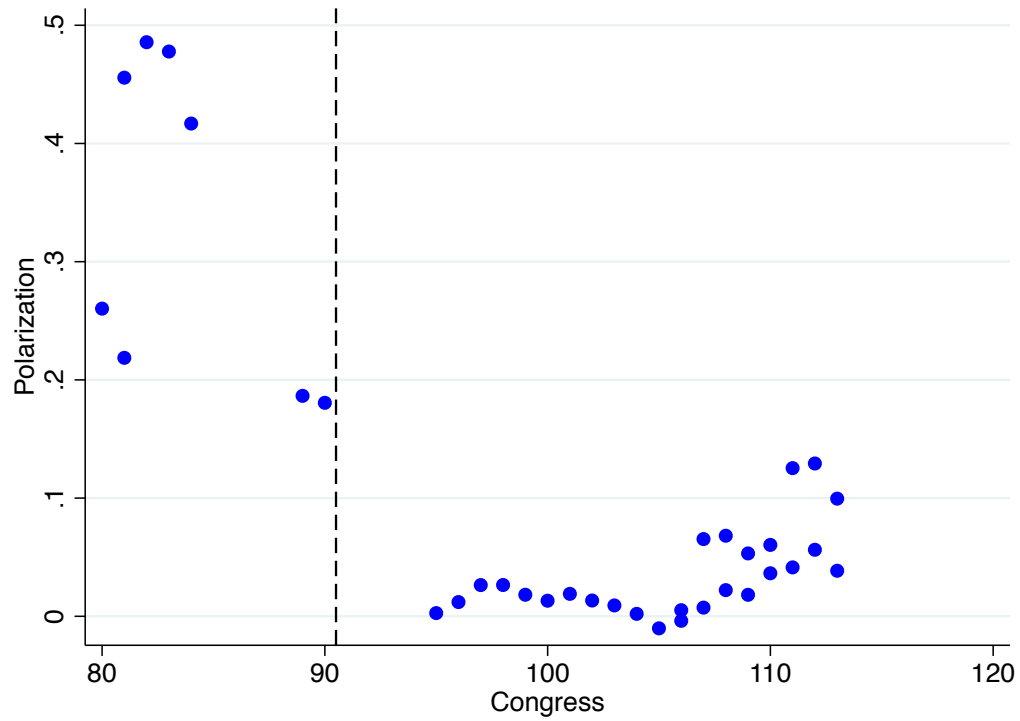
Trend of polarization (I_{ict}) for US senators from New York State. On the x axis there is the number of the congress, on the y axis the level of polarization. The dashed line marks the introduction of primaries for senators. Red dots are Republican senators, and blue are Democrats.

Figure 7: New York representatives
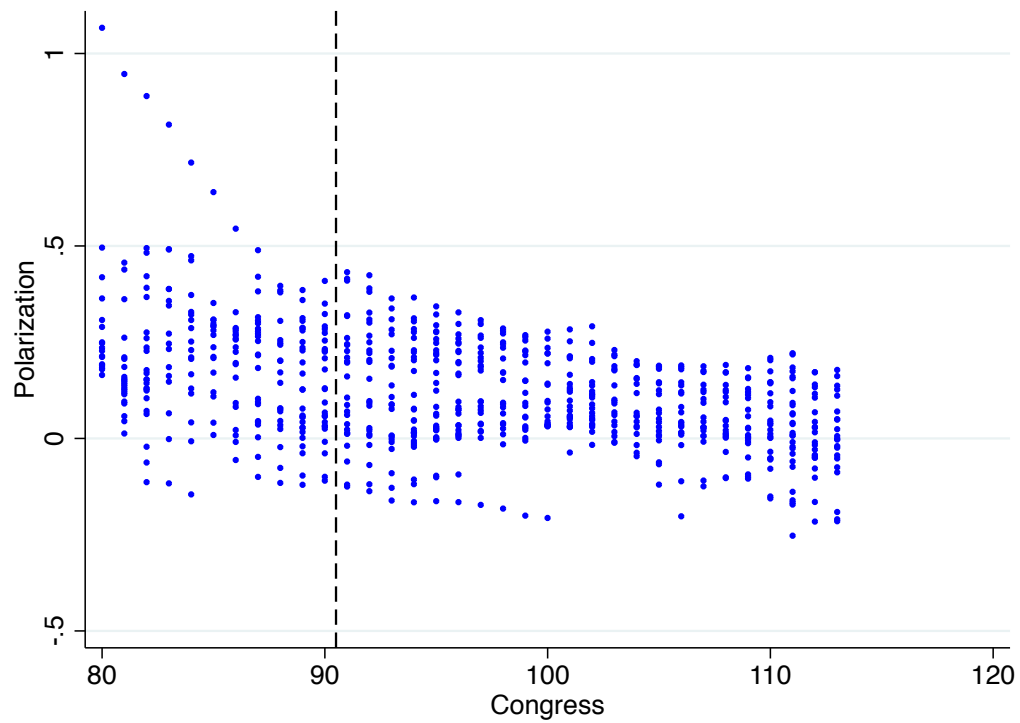
Trend of polarization (I_{ict}) for representatives from New York State. On the x axis there is the number of the congress, on the y axis the level of polarization. The dashed line marks the introduction of primaries for senators. Red dots are Republican senators, and blue are Democrats.

B Alternative Control Groups

Here I compare my analysis with the on in Hirano et al. (2010). As mentioned in the introduction, Hirano et al. (2010) exploits staggered introduction of primaries for senators and representatives for a group of US states, and compare senators (or representatives) form states where the reform took place with senators (or representatives) where primaries were already compulsory.

I show that the comparison in Hirano et al. (2010) is less appealing than mine, testing whether it would be an unbiased control group for Indiana. In particular I check whether, during pre treatment periods, the polarizations of senators from Indiana and senators from other US states were on the same trend. I regress the polarization of senators on a time trend, a dummy for Indiana, and a time trend interacted with the dummy for Indiana. The latter regressor is the one of interest: if senators from Indiana and from other US states were on the same, it shouldn't be significant.

In Table 5, I report the results when all US states are included. Clearly, senators from Indiana are on a different trend than the average trend of senators from other US states. This remain true even when I include controls, or I consider each party on its own. In Figure 8, I illustrate the coefficient where senators from Indiana are compared with senators from each other US state considered on its own. The specification include controls and dummy for party affiliation. The Figure clearly shows that most of other US states (about three fourth) have senators on different trends respect to senators from Indiana. Some states have senators on more and some on less polarized trends, and not even states nearby Indiana have senators on similar trends.

Table 5: Alternative control groups — Parallel trend tests.

	(1) Full	(2) Controls	(3) Republicans	(4) Democrats
Since 80th congress				
trend · indiana	-0.010***	-0.011***	-0.003	0.006***
	(0.002)	(0.002)	(0.009)	(0.002)
trend	-0.001	-0.001	-0.003***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	1506	1316	636	870
party FE	1	1	.	.
state FE	1	1	1	1
R^2	0.39	0.41	0.69	0.63
Since 70th congress				
trend · indiana	0.002	0.002	0.005**	0.008***
	(0.002)	(0.001)	(0.002)	(0.001)
trend	-0.000*	0.002***	-0.002**	-0.002***
	(0.000)	(0.000)	(0.001)	(0.001)
Observations	2495	2146	1014	1481
party FE	1	1	.	.
state FE	1	1	1	1
R^2	0.19	0.21	0.50	0.35

I use all US states and pre treatment congress (before 1976), and I regress the polarization of senators on a time trend, a dummy for Indiana, and a time trend interacted with the dummy for Indiana. The upper panel uses observation from the 80th congress onwards, the lower from the 70th onwards. The first column has no controls, the second includes margin of victory, the turnout, the population and the fact that the winner is the incumbent, the third and fourth run separate regression for Republicans and Democrats respectively.
*** indicates the 1% level of significance,** the 5% and * the 10%.

Figure 8: Difference in pre treatment trend Indiana vs other states
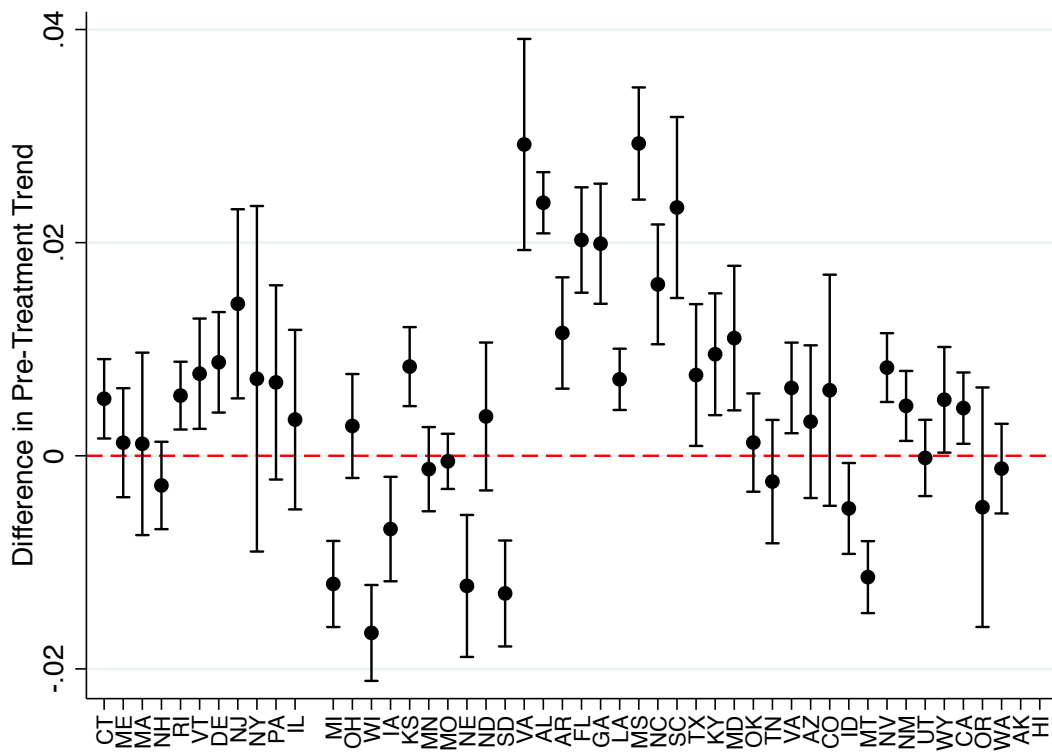
For each US states and pre-treatment congress (before 1976), I regress separately the polarization of senators on a time trend, a dummy for Indiana, and a time trend interacted with the dummy for Indiana. On the x axis there is the US state name abbreviation and on the y axis the estimated difference in pre treatment trends. More than 75% of US states had senators on different ideological trends respect to Indiana.

C Proof of Proposition 1

The nominee of party D with bliss point i solves the following maximization problem:

$$\max_{x \in [0,1]} -(b-x)^2 \cdot Pr(\text{Dem wins}|x,r) - (b-r)^2 \cdot (1 - Pr(\text{Dem wins}|x,r))$$

According to the distribution of the general election median vote:

$$Pr(\text{Dem wins}|x,r) = Pr(m-x < r-m) = Pr(m < \frac{r+x}{2}) = \frac{(\frac{r+x}{2} - \frac{1}{4})}{\frac{1}{2}} = r+x-\frac{1}{2}$$

The solution to the maximization problem for the moderate and the extreme groups of voters is $x_m = \frac{1}{6}(2r + \sqrt{16r^2 - 12r + 3})$ and $x_e = \frac{1}{6}(2r - 1 + \sqrt{16r^2 - 4r + 1})$, respectively. Define $U_i(A, x, r)$ the utility of voters in the group $i \in \{\underline{\text{m}}\text{oderate},\underline{\text{e}}\text{xtreme}\}$, when they take action $A \in \{\underline{\text{E}}\text{nter}, \underline{\text{N}}\text{ot } \underline{\text{E}}\text{nter}\}$, party D runs with policy x and party R with policy r. In equilibrium at most one group enters. I distinguish five different cases and map them to the equilibria described in Figure 5:

1. No Groups enter if $U_m(E, x_m, r) \leq U_m(NE, -, r)$ and $U_e(E, x_e, r) \leq U_e(NE, -, r)$

2. Extreme enters if $U_m(E, x_m, r) \leq U_m(NE, -, r)$ and $U_e(E, x_e, r) \geq U_e(NE, -, r)$ and $U_m(E, x_m, r) \leq U_m(NE, x_e, r)$

3. Extreme enters if $U_m(E, x_m, r) \geq U_m(NE, -, r)$ and $U_e(E, x_e, r) \geq U_e(NE, -, r)$ and $U_m(E, x_m, r) \leq U_m(NE, x_e, r)$

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4. Moderate enters if $U_m(E, x_m, r) \geq U_m(NE, -, r)$ and $U_e(E, x_e, r) \geq U_e(NE, -, r)$

   and $U_e(E, x_m, r) \leq U_e(NE, x_m, r)$

5. Moderate enters if $U_m(E, x_m, r) \geq U_m(NE, -, r)$

   and $U_e(E, x_e, r) \geq U_e(NE, -, r)$ and $U_m(E, x_m, r) \leq U_m(NE, x_e, r)$

Note that case 1 corresponds to the red area in Figure 5, case 2 to the blue area, cases 3 and 4 to the green area and case 5 to the purple area. Solving each inequality for the level of the cost of participation yields to the conclusions of Proposition 1.

Good Old Spendthrift.

The Fiscal Effects of Political Tenure

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Abstract

Using a newly collected dataset from 63 old and new democracies, we construct a novel measure of political capital: the tenure accumulated by the ruling party while in office since the establishment of a democracy onward. Our measure uncovers a large variation in the political capital of the governments alternating in office. We merge these data with fiscal policy indicators to estimate the fiscal effect of political tenure. We find an expenditure elasticity of 0.061 and a deficit elasticity of 0.055 over the period 1972-2014. We discuss a number of potential explanations that could account for the uncovered empirical relationship and discuss additional evidence related to each of them. Our findings point into the direction of an honeymoon effect: the older is the coalition of parties, the more divisive tend to be the available policy choices, which require costly transfers in the form of public expenditure to keep the coalition members together later on.

Keywords: Political tenure, government expenditure, panel data.

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1 Introduction

Budgetary policies have always been at the center of the public debate. The incumbent government is largely responsible for these policies and the evolution of fiscal aggregates within and between legislatures is the result of government characteristics, electoral incentives, and political institutions.

The relation between budgetary policies and electoral incentives has been the focus of an influential theoretical and empirical research started in the late seventies. According to the political cycle theory, the incumbent government may have an incentive to strategically manipulate policies prior to elections in order to boost its electoral prospects. Indeed, a number of empirical studies have found evidence of a political budget cycle: an increase of total government spending or strategic debt accumulation in election years.[1] Recent empirical studies have documented, however, that political budget cycles are only present in newly established democracies.[2]

Virtually no empirical attention has been devoted to other measures of political capital other than the age of the democracy. In this paper we use a newly collected dataset to examine whether (or not) the tenure accumulated by the party of the Prime Minister or the President has an effect on the evolution of fiscal aggregates, over and above the age of democracy or the electoral cycle. After all, the characteristics of the government in office, and in particular the fact that "old" and "young" administrations alternate

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[1]See Nordhaus (1975), Hibbs (1977), Alesina (1987), Rogoff (1990), and Drazen (2001) for a detailed review of the theoretical literature. Regarding empirical evidence, see, e.g., Persson and Tabellini (2003) and Shi and Svensson (2002).

[2]In fact, if anything, election-year deficits are punished by voters in old consolidated democracies. See Brender and Drazen (2005) and Brender and Drazen (2008). Akhmedov and Zhuravskaya (2004) provide evidence on political cycle in Russian regional elections and interpret it as a new democracy phenomenon. Peltzman (1992) documents fiscal conservatism of voters in the U.S.

in office, could well matter for budgetary policies as the tenure of a team of managers could shape a firm performance.

To do so, we first assemble a novel dataset about political tenure by tracing back information about each party (or coalition of parties) in power starting from the beginning of the 20th century until present. Regarding newer democracies, we consider the year of the establishment of a democratic regime as initial condition. To measure political capital, we define two alternative measures of tenure: i) the tenure of the party of the Prime Minister in parliamentary democracies or the President in presidential democracies (henceforth, PM), that is the number of years of experience accumulated by the party of the PM while in office in all the past and current legislatures; ii) we replace the tenure of the party of the PM with that one of her ruling coalition in multiparty parliamentary democracy. There is natural concern that our measure of tenure may be overstated, since we would give equal weights to all years in office. For this reason, we also depreciate the tenure at various rates so to weight more capital accumulated in the more recent years. When presenting the results we will mainly restrict our attention to a tenure that depreciates at a rate of 0.5%. However, we will show that our results would also hold for other depreciation rates and starting points. Both measures of tenure uncover a large variation in the political tenure of the governments alternating in office. We then merge this information with time series of fiscal policy indicators taken from the Government Finance Statistics (GFS) and the International Financial Statistics (IFS). As a result, we have an unbalanced panel covering sixty-three countries over the period 1972-2014.

We document a robust positive relation between tenure and central government expenditure, which is not only significant but also sizeable. For example, an increase of ten percent in the political tenure of the PM party

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increases government expenditure by 0.61 of one percent of GDP. Further, when we include the tenure of the party of the PM as well as the tenure of the leader himself, only the coefficient of the former is significant. Hence, we conclude that the tenure of the leader does not seem to be a confounding factor for the fiscal effect of the tenure of the ruling party. These figures are stable across different model specifications and confounding factors such as the age of the democracy, political institutions, incumbency of the party and of the leader, political corruption, and party fixed effects.

We also uncover a strong and positive relationship between political tenure and deficit, regardless of whether the years of economic crisis are included or not. On the contrary, we see a rice of deficit in election years only before the economic crisis, but not afterwards. Interestingly, political tenure decreases the size of the political cycle: while the coefficient of the electoral dummy on deficit is positive and significant, i.e. 0.75 when we do not control for tenure, the overall effect shrinks to 0.62 at the average tenure of the ruling party when we allow for a possible interaction between tenure and the election year. A qualitatively similar result holds with expenditure.

We discuss our empirical findings in light of alternative potential explanations. In particular, the positive relation between government tenure and fiscal aggregates does not appear to be driven by political corruption or bureaucratic inefficiency, intertemporal incumbency effects, learning by doing or fiscal preferences of the voters. Interestingly, we find that the dynamic of tenure and level of expenditures is influenced by the level of fractionalization of the government and that our results are stronger in the case of multiparty democracies with mixed or proportional electoral systems. In light of these findings we propose a conceptual framework based on the simple idea of a "honeymoon effect": the older is the coalition of parties (or the factions

within the single party in office), the more "divisive" tend to be the available policy to be implemented simply because "consensual" policies were typically implemented first. In fact, an agreement on divisive policies requires costly transfers in the form of public expenditure. When the cost of transfers are sufficiently steep, the older is the coalition of parties the higher are the transfers needed to keep the coalition members together later on. In this sense, increased expenditures over the tenure are the result of a gradual fading of the honeymoon effect, which is stronger the higher the heterogeneity in the government is.

The outline of the paper is as follows. In Section 2 we describe the data we collected and present basic statistics on political capital. We outline our methodology for studying the relationship between political capital and fiscal aggregates in Section 3. We present our results in Section 4 and we discuss alternative mechanisms behind our findings in Section 5.

2 Data

Sample We assembled a novel dataset covering sixty-three countries (Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, Colombia, Costa Rica, Cyprus, Czech Republic, Denmark, Dominican Republic, El Salvador, Estonia, Finland, Fiji, France, Germany, Greece, Guatemala, Honduras, Hungary, Iceland, India, Ireland, Israel, Italy, Japan, Lithuania, Luxembourg, Madagascar, Malaysia, Malta, Mauritius, Mexico, Nepal, Netherlands, Nicaragua, Norway, New Zealand, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, United Kingdom, Uruguay, United States), among which 21 have

always been presidential democracy, 34 parliamentary democracy, and 9 switched regime during the time span we cover. We then merge this information with time series of fiscal policy indicators taken from the Government Finance Statistics (GFS) and the International Financial Statistics (IFS). As a result, we have an unbalanced panel covering sixty-four countries over the period 1972-2014. It is unbalanced because the date of establishment of a democratic regime changes across countries and the fiscal aggregates sample is slightly unbalanced. We exclude from our final sample some democracies with breaks in their series, due to a temporary military or totalitarian regime, such as Guatemala, 1974-1985; Philippines,1972-1986; Fiji, 1987-1989.

Variables and data source. We propose two measures of political tenure for parliamentary democracies: the tenure of the Prime Minister's party (t_PMp), which is years of experience accumulated by a party during all the legislatures in which the PM belonged to that party, and the tenure of the ruling coalition (t_COALp), which is years of experience accumulated by each partisan coalition while in office. Regarding presidential democracies, we only consider the former tenure, which is the tenure accumulated by the party of the President. To construct these variables, we trace back information since the coalition or a party was born (starting from 1900 for old democracies, and the establishment of a democratic regime in new democracies) until present. We consider a democracy as old if born before 1965. In our sample 49.2% are new democracies. Regarding parliamentary democracies, information about coalition governments (i.e. identity of coalition parties, prime minister party, government type, duration, etc.) are taken from Makie and Rose (1990), Woldendorp et al. (1998, 2013), and

for later years from the *European Journal of Political Research* and other on-line sources.[3] Regarding presidential democracies, information about the identity of the president, tenure in office, and political party affiliation are taken from the Political Handbook of the World, the *Election Results Archive* (http://cdp.binghamton.edu/era/countries/), and the *Political Database of the Americas* (http://pdba.georgetown.edu/). Since the political capital measures are a novel feature in these data, we describe them in details in Table 1.

The upper panel of Table 1 reports the descriptive statistics of *t_PMp* when the party is the unit of observation. For each party, we consider only its tenure in the most recent year in office (i.e., maximum tenure accumulated over the legislatures in office).There are 189 parties that, at least once, have been in power; 57% in new democracies. More than half belong to European countries, which typically are multiparty parliamentary democracies with mixed electoral rule. Tenure in office greatly varies across parties: the average tenure is slightly above eleven years and the median is only 5.4 years; while one quarter of parties displays an average tenure of 2.5 years (they are likely to have been in power only once), at the top of the distribution 25% of parties displays a tenure of about sixteen years. This variation is in part explained by the presence of old and new democracies (as outlined in the second and third rows of the panel). Further, the shares of "young" and "old" parties are not uniformly distributed across countries. For instance, the bottom and top 25% have a tenure of four and fifty years, respectively, in North America and Oceania; of 2.5 and 16.5 in Europe; and of 1.9 and 10.5 in the rest of the world. However, the variation in tenure is not only between but also within countries. In fact, in our panel with country-year

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[3]e.g., Zarate's Political Collections (ZPC) database and Wikipedia.

as unit of observation *t_PMp* features a between standard deviation of 11.58 and a within standard deviation of 8.81.

The middle panel reports the statistics for *t_PMp* when country-year is the unit of observation. The sample size is 1637. The average and median of *t_PMp* are 14.6 and 9.2 years, respectively, in the overall sample; 20.7 and 18 in the old democracies (we obtain similar figures for developed countries); and 4.5 and 3.1 in the new democracies. The standard deviation in the overall sample is 14.8. Furthermore, parliamentary regimes display a much longer average tenure than presidential regimes (16.4 vs 11, respectively). [4] Note that this measure of tenure gives equal weight to all years regardless of whether they have been accumulated at the beginning of the democracy or at later stages. Hence, we also consider a depreciated measure of tenure as to weight less the political capital accumulated in legislatures further away in time. For instance, when we allow the tenure to depreciate at a rate between 0.05% and 2%, four years of political experience accumulated twenty years ago result in an additional tenure of 3.6 years with a rate of depreciation equal to 0.05% and a tenure of 2.7 years with a rate equal to 2%. Similarly, four years of political capital accumulated thirty-five years ago result in an additional tenure of 3.2 years with a depreciation rate equal to 0.05% and of 1.6 years with a rate equal to 2%. When we use a rate of 0.05%, the depreciated average tenure is 10.7 years in the overall sample, and the median is 8.35 (see the upper panel of Table 1.A of the online supplement). As expected, the correlations between fiscal policy indicators and political tenure are remarkably larger when these latter "effective" measures of tenure are considered, as we are weighting more the tenure accumulated in recent years. Further, when we look at other two measures of political cap-

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[4]Figures 1-4 in the online supplement plot *t_PMp* for each country separately.

ital, that are the tenure of ruling coalitions (*t_Coalp*) and the tenure of the President/ Prime Minister himself (*t_PM*), the average tenures are clearly shorter, as the turnover of coalitions and PMs occur more frequently (see the middle and bottom panels of table 1.A). For example, in the case of *t_PM*, it is 4.54 years at the average and 3.75 at the median, with a standard deviation of 3.78; while the tenure of ruling coalitions *t_Coalp* is 10.06 years at the average and 4.31 at the median, with a standard deviation of 13.03.

The bottom panel reports the statistics for the central government total expenditure (henceforth *cgexp*) as a share of GDP for any country and year in our sample, as it is our main dependent variable. We also collected information about other fiscal policy indicators, namely *balance* and total revenues and grants (henceforth *trg*). They are all taken from the Government Finance Statistics (GFS) and the International Financial Statistics (IFS). *Balance* is defined as the difference between *trg* and *cgexp*. All these variables are in % GDP.[5]

Economic and demographic indicators are taken from IFS (i.e. percentage of population aged 65 or older, percentage of individuals aged 15-64, real GDP per capita, trade share, estimated measure of the output gap, inflation, unemployment). We also used the dataset provided by Brender and Drazen (2013) for the period 1970-2009, which also contains information about political institutions. The electoral dummy is coded using information from the Political Handbook of the World and the Election result archive. [6]

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[5]Our data collection was based on the database assembled by Brender and Drazen (2013). We next updated it adding missing years and countries from the Government Finance Statistics (GFS) of the IMF. Data as percentage of GDP are obtained dividing these values by GDP from IFS 2015. More details are provided in the data appendix.

[6]Our coding is not always consistent with Brender and Drazen (2013). For instance, in the latter case the indicator is equal to one in the year following an election held in September, October and November only in some countries (e.g., in Australia, Sweden, US), but not in others (e.g., Switzerland, Canada, Japan, and Greece.

3 Empirical Methodology

We consider a dynamic panel data model of the form,

$$y_{it} = \alpha_1 + \alpha_2 y_{it-1} + \alpha_3 lnD_{it} + \mathbf{x}'_{it\ 4} + \mu_j + \lambda_t + \varepsilon_{it}.$$

where the fiscal policy instrument in country i at time t, y_{it}, depends upon the governing experience accumulated by the executive in power, namely $D_{it} = \{t\_PMp_{it}, t\_COALp_{it}\}$.[7] In the baseline specification we control for a set of time varying and country specific explanatory variables such as real GDP per capita, a measure of the output gap, and inflation, as fiscal policy is often pro cyclical, at least in developing countries;[8] demographic factors, such as the shares of the population under 14 years and over 65 years; and political factors, such as an electoral year dummy variable and the electoral system. We also include additional controls, which are party specific, as they are potential confounders that may be associated with both tenure and government expenditure, such as the incumbency of the ruling party or coalition and the PM's party strength (proxied by the vote share obtained in the last election). We also include year dummies, (λ_t), to account for secular changes and aggregate shocks that change over time and affect all countries in the same way, the age of the democracy, which acts as a country specific trend, and PM's party fixed effects, (μ_j), to control for unobserved characteristics of the PM's party that might be correlated with tenure and can also affect the fiscal aggregates. By doing so, in the most conservative specifi-

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[7], We mostly consider the central government expenditure as share of GDP. In some specifications, we consider the deficit accumulated each year by the central government or tax and revenues, as a share of GDP.

[8] In many developing countries government spending as a share of GDP goes up during booms and down in recessions, and deficits increase in booms and decrease in recessions (see in particular Alesina et al. (2008) and references therein).

cation, we exploit only the time variation within each ruling party in office and isolate the effect of its unobserved characteristics, as long as they are persistent over time. The ϵ_{it} are clustered at the country level.

Estimation of the model   All specifications include country fixed effects (FE). In dynamic fixed effect models, parameters' estimates may be biased because of the correlation between the transformed y_{t-1} and the transformed ε. Nickell (1981) shows that in fixed effects or Least Squares Dummy Variable the resulting bias is of order (1/T). In our case, the panel is rather long and therefore the bias shall be rather small. Based on these considerations, our benchmark specification is a dynamic fixed effect model, but we also employ alternative estimation methods that correct for the bias at the price of higher standard errors, as a robustness check. Several bias reduction procedures have been proposed.[9] The typical approach for dealing with this problem is to first first-difference the data to remove the country FE, which yields: $\Delta y_{it} = a\Delta y_{it-1} + b\Delta x_{it} + \Delta e_{it}$, and then to instrument for it, because Δy_{it-1} is correlated with the first difference error term. Andersen and Hsiao (1981) proposed Δy_{it-2} or y_{it-2} as an instrument as these terms are not correlated with Δe_{it}. We implement an extension of the Arellano and Bond (1991) approach, where we use an extended linear GMM estimator that uses lagged differences of y_{it} as instruments for the equation in levels, in addition to lagged levels of y_{it} (in our setting we use y_{it-3}) as instruments for equations in first difference (see Blundell and Bond (1998)). Note that the Arellano-Bond moment conditions are derived under the assumption of no serial correlation in the errors. Hence, after we estimate the dynamic model using their procedure, we test for the presence of second order serial

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[9]See Arellano and Honore' (2000) for a review of this literature.

correlation in the error difference.

4   Results

We first discuss the results we obtain with *t_PMp* and government expenditure as share of GDP reported in Table 2. Since *t_PMp* is expressed in log, the estimated coefficient is an elasticity. We consider four specifications of the FE model with an incremental set of controls. We assume that tenure depreciates at a 0.05% rate, as not to give equal weight to tenure accumulated in different points in time. The first year after which tenure starts accumulating is set to 1946.

Across all specifications, we find that political tenure is significantly and positively associated with central government expenditure. The size of the estimate is rather large: a ten percent increase in tenure is associated with a rise in expenditure of 0.45-0.61 of one percent of GDP. When we include a dummy for incumbency (in column 2) and party fixed effects (in column 3), the size of the estimated coefficient of tenure increases. This finding indicates the presence of a downward bias when we do not include an incumbency dummy and party dummies, μ_j. Regarding the direction of the selection bias, our intuition is the following: more competent parties are more likely to be reappointed, which increases their tenure. They are also more likely to provide public goods in an efficient way and, in turn, they spend relatively less. A similar reasoning applies to μ_j that, among other things, captures the competence of the party, which is positively correlated with tenure.

Interestingly, the estimated coefficient of election year is of the expected sign (see Brender et al. (2005)) but not significant. Our benchmark specifi-

cation is column (4) with the full set of controls, where the sign and magnitude of the set of demographic and economic variables are in line with the previous literature (see in particular Alesina et al. (2008)). The estimated coefficient of the age of the democracy is negative, meaning that as the democracy is more established, the expenditure tends to decrease. Finally, while not significant, the sign of party strength goes in the expected direction.

The estimate of interest is even stronger when we consider the AB model in Table A.1 in the appendix, where a 10% increase in tenure is associated with a a rise of expenditure of 0.8 of one percent of GDP. Qualitatively similar results are estimated in Table A.2 where tenure is measured in level with a quadratic term: one year of political tenure is associated with a rise in expenditure of 0.08-0.17 of one percent of GDP, and the magnitude of these effects decreases with tenure. For instance, if we consider the point estimates in column 5, the partial effect computed at the median level of depreciated tenure when the PM's party takes office (i.e., about 9 years of political experience) indicates that one additional year of tenure is associated with an increase in expenditure of 0.095 percent of GDP. Further, at the average tenure (i.e., about 15 years of experience), the partial effect is smaller (0.05 percent of GDP).

We next show that the results remain robust to different ways of computing the tenure of the party of the PM. For instance, we consider different initial year for the old democracies (either 1900 or 1946) in Table A.3, and we present the results with both measures of tenure, depreciated and not, using our benchmark specification. As expected, the point estimates of political tenure are remarkably larger when "effective" measures of tenure (i.e. depreciated) are considered. Note that changing the initial year of tenure does not affect the results. This is mainly due to the fact that parties active

at the beginning of the 20th century no longer exist. Finally, we check that the effect of tenure is not driven by the years in office accumulated during the current legislature (i.e., government duration). Note also that the duration of the current government is potentially endogenous in those countries where it is possible to call early elections. For this reason, in Table B.2 of the online appendix we only consider the tenure accumulated by the party of the PM in the past legislatures, but not the duration of the current government, and we refer to this measure as "Tenure Step". The overall effect, albeit smaller, remains positive and significant.

Tenure and the electoral cycle In Table 3, each panel reports the elasticities of each fiscal policy indicators (namely, expenditure, balance, and tax&revenues) to political tenure and the coefficient of the electoral dummy, using the specifications (1) and (4) of Table 2. We consider three time spans: 1972-2014 (overall period), 1972-2007 (before the economic crisis), and until 2001, which is the last year considered in Brender and Drazen (2005), who document the presence of political cycles in deficit. The sample size shrinks a little because data on revenues are missing for some country-year observations. Strikingly, the expenditure elasticity is now even higher and highly significant: the estimates rises from 0.071 (over the period 1972-2014) to 0.08 (1972-2007) and to 0.098 (1972-2001). The middle panel shows that the deficit elasticity is positive, and significant in all (but one) columns, ranging from 0.041 to 0.094. Again, comparing columns (1) and (2), (3) and (4), (5) and (6), the effects of tenure are more marked when we include party fixed effects across all sample periods. Further, the shorter the time span, the higher the deficit elasticity is. Regarding revenues, we do not discern a robust and significant effect of tenure on tax&revenues (bottom panel of Table 3).

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Note that, when we consider only the time period before the economic crisis, the estimated coefficient of election year is positive and significant for balance (but not for expenditure), which is in line with the political cycle literature (e.g., Brender et al. (2005)). Using a time-span similar to Brender et al. (2005), we find interesting results for the interactions between the electoral cycle and political tenure in Table A.4. While the coefficient of the electoral dummy on deficit is positive and significant (0.75 in column (3)), the rise of deficit in an election year decreases with the political tenure of the ruling party (column (4)). At the average tenure of 14.6 years, the deficit increases of 0,62 of one percent of GDP during an election year.

Political background: We next examine whether there are differential effects of tenure in new and old democracies in columns (2) and (3) of Table 4. We consider whether the democracy was established before or after 1965 (median initial year). We document a larger (and positive) association between tenure and expenditure in old democracies than in young democracies.

We next investigate whether the political tenure effects do change across electoral and institutional regimes in the first two columns of Table 6. We compare heterogeneous effects for Presidential vs Parliamentary democracies and for Majoritarian vs Proportional &Mixed Systems. The expenditure elasticity is somewhat smaller in presidential systems (column (1)), but the difference is not statistically significant. On the contrary, the fiscal effect of tenure is significantly more prominent in democracies with proportional and mixed representation (column (2)).

Alternative measures of political capital One might argue that the fiscal effect of the tenure of the ruling party is capturing the potential effects of

other relevant measures of political capital, such as the tenure of the ruling coalition or the tenure of the prime minister (or president) himself. We investigate this hypothesis in Table 5. Only the estimate of the latter measure of political capital is significant, but much smaller in size than the estimated elasticity of ruling party (column (1) vs (2)). Further, when we run an horse race between the tenures of the party of the PM and the tenure of the PM himself (column (3)), our results show that only the former matters. Hence, the tenure of the leader does not seem to be a confounding factor for the fiscal effect of the tenure of the ruling party.

Fiscal effect on the composition of the expenditure Finally, regarding the composition of the expenditure, preliminary results indicate that tenure is negatively associated with spending on health and positively associated with spending on social security. Finally, we do not discern significant effect of tenure on the growth rate of GDP. These additional results are reported in the online supplement.

5   Discussion of Potential Mechanisms

Fractionalization: We might think that the dynamic of tenure and level of expenditures can be influenced by the level of conflict in the government. This might be roughly captured by the ideological heterogeneity within the ruling party or the parties forming the governing coalition. To this end, we investigate whether the point estimates of political tenure change with the fractionalization of the government. We use several indexes as a measure of fractionalization: the Herfindhal Index, which ranges between 0 and 1 and is the sum of the square of seats share of each party that form the government;

the standard deviation in the political positions of the ruling parties along three dimensions: i) a 0–10 scale of the ideological spectrum from far Left to far Right, ii) a 0–10 scale of regulation of the economy from State to Market, a 0-10 scale from Authority vs Libertarian. Details on the data sources are in the appendix. Clearly the standard deviation would be zero for single party governments. We use a fully interacted model. We find that across all dimensions the fiscal effects of tenure increase with the heterogeneity in the coalition in Table 6. [10]

"Honeymoon" Effect   A collective decision making process in the presence of some conflict of interest typically involves compromise and - when possible - direct and indirect transfers of various kind. Different political actors may and do have different policy preferences and the actual implemented policy is the outcome of a bargaining process that involves both what to do and what to do first. The idea of the honeymoon effect is based on the simple conjecture that the older is the coalition of parties (or the factions within the single party in office), the more "divisive" tend to be the available policy that can be implemented. Divisive policies require costly transfers within the coalition in the form of public expenditure as opposed to relatively cheap "consensual" policies, which will be typically implemented first. Hence, the older is the coalition of parties the higher are the transfers needed to keep the the coalition members together later on. Increased expenditures over the tenure are the result of a gradual fading of the honeymoon effect.

To get a sense of the mechanism, consider a simple conceptual frame-

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[10]Finally, we include other controls, such as ideology, change in leadership, change in ideology, and normalized time to the next election in the online supplement, and the estimated coefficients of tenure stand robust to these alternative specifications. See Table A.5 in the appendix.

work with two players $i = \{1, 2\}$ in a partnership, who are two parties in the ruling coalitions or two factions within the same ruling party. Each player has preferences over a finite set of policies $n = \{1, \cdots, k\}$ denoted by v_i^n. There are as many periods as policies and only one policy can be implemented in each period.

Consider the simplest possible bargaining protocol where one of the players controls the agenda and can make a take it or leave it offer to the other player. An offer is a policy to be implemented in this period and a transfer that, in our interpretation, will materialize in public expenditures. If the offer is accepted, the policy is implemented and the partnership moves to next period; if not, the partnership is dissolved, each player gets zero and the game is over. Suppose first that the cost of transfers is linear. Players maximize the discounted sum of their joint per-period payoff and if at time t policy n is implemented the joint payoff gross of equilibrium transfers is $v_1^n + v_2^n$.[11]

Suppose further that players have different valuations for the same policy but they share the same ranking of policies. In this case, almost mechanically, the agenda setter will implement consensual policies with both positive valuations earlier - in the honeymoon period - and leave divisive policies, which will require transfers to compensate one player, for later periods with the amount of transfers increasing in tenure since more divisive policies will be postponed. If the ranking of preferences is different, a similar result would hold if the cost of transfers is sufficiently increasing and

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[11]Notice that the joint payoff is always equal to $v_1^n + v_2^n$ when at least one of the two valuations is positive (if they are both negative, the policy will never be implemented). If they are both positive it is obvious, if one of the two is negative, then the transfer must equal the negative valuation for the offer to be accepted and we are assuming linear cost of transfers.

convex and the conditions on the cost function will be less demanding the more positively correlated are the preferences of the players.

A natural concern is that this conceptual framework does not take into account a number of important forces at play in a real political setting. For instance, new policy issues may emerge or political realignments will take place, which may "reset the clock"of the negotiations. However, two considerations are in order. On one hand, it is unlikely the case that new policy issues arise every other year and, more relevantly, at a higher arrival rate in "old" executives . On the other hand, we do see that the fiscal effect increases with the rate of depreciation of the tenure, suggesting that the relevant time horizon of the negotiations within the ruling party (or coalition of parties) is not four decades.

Notice also that, according to the honeymoon effect, we should expect that a less cohesive coalition will experience a more pronounced increase of expenditure and this is consistent to what we find in Table 6. Similarly, we should expect a stronger effect in parliamentary democracies where government coalition are common and can be quite heterogenous, which is consistent with our findings in Table 6.

One might argue that there are other potential mechanism that may drive the positive association between government tenure and fiscal aggregates. In the rest of this section we discuss a number of these alternative mechanism.

Fiscal preferences   The positive relation between government tenure and fiscal aggregates might be driven by the fiscal preferences of the voters. For instance, voters may keep reelecting an older government because they want larger expenditure and more deficit. However, previous evidence points into

the opposite direction. In particular, voters seems to be fiscal conservatives in established democracies (e.g., Brender and Drazen (2008) and Peltzman (1992)).

Corruption A positive correlation between accumulated tenure and public spending could also be the result of the incumbent government using public expenditure to directly affect the election outcome. To this end, it is important to stress that our results are robust to controlling for the ICRG index of corruption (see the last column Table 7). Furthermore, and perhaps more importantly, Brender and Drazen (2008) find little evidence that public expenditure in election years have a positive effect on the probability of reelection[12]. Interestingly, we do not find evidence of political cycle in expenditure (see Table 3).

License to Spend An intriguing alternative explanation could point in the direction of an intertemporal incumbency effect, with voters rationally granting a "license to spend" to governments with longer accumulated tenure. In fact, such inter temporal incumbency effect can emerge as an equilibrium phenomenon if both forward looking voters and an incumbent politician with career concerns are symmetrically learning about the unobserved competence of the incumbent. For example, suppose that voters have an optimal level of public expenditure but government rents are always increasing in public expenditure. Furthermore, the election outcome is affected by both the policy chosen and the government competence. If competence is unknown and the policy is observed imperfectly by voters, each time a government is reelected both the government and the voter revise upward their

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[12]See also Peltzman (1992)

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estimates of the politician's expected competence. Since voters reward political experience, government with longer accumulated tenure can increase spending more than what would be optimal from the voter's perspective and still get reelected.[13] Notice, however, that according to this conceptual framework, the license to spend granted to incumbents should be decreasing in the political experience of the opponent, but this is not what we find in the data (see Table 7).

Learning by doing   One might argue that it may take some time to understand the functioning of the administrative machine before an incumbent can affect policy. To this end, Padró I Miquel and Snyder (2006) document that legislative effectiveness of U.S. state legislators rises sharply with tenure not only as a result of selection but also of individuals' learning-by-doing. Further, Brender and Drazen (2013) note that political leaders in their first years in office affect the composition of expenditure less than leaders in their last years in office. However, in our context it is hard to think that understanding the administrative machine is a fifteen years long process. Rather, it might be related to learning within the legislature. In addition, if learning by doing were the main driver of our findings, we would expect a larger effect in the first years after the establishment of democracy and we do not find it (see Table 4). Even more importantly, while we also find evidence that the tenure of the PM or President himself is positively associated with public expenditure, when we also include the tenure of the party only the latter one is positive and significant (Table 5). This casts doubts on the possibility that individuals' learning by doing is driving our findings.

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[13]For example, the theoretical framework of Ashworth (2005) could be easily extended in such direction.

Clearly, an important question that is left to ask is whether having an "old spendthrift" in office is good or bad for welfare. The answer depends on the use of spending and therefore, ultimately, on the quality of the policy output. While our results are robust to controlling for a number of measures related to the quality of government and to the overall level of corruption, more work is needed to have reliable measures of the provision of the public good. This is beyond the scope of the present paper and it is left for further research.

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Table 1: Descriptive Statistics

Tenure: Party Level Summary Statistics

	Parties	Mean	25%	50%	75%	Max	StDev
Full	189	11.26	2.49	5.44	15.68	72.35	13.68
Old Democracies	82	19.52	5.37	16.07	28.57	72.35	16.84
New Democracies	107	4.93	1.81	3.75	6.84	21.88	4.69
European	100	11.31	2.57	6.89	16.47	52.02	12.12
N. America & Oc.	13	27.79	4.28	23.27	51.12	72.35	24.86
Other	76	8.36	1.87	3.98	10.49	58.14	10.97

Tenure: Country/Year Observations

	Party/Year	Mean	25%	50%	75%	Max	StDev
Full	1637	14.62	2.99	9.18	23.1	72.35	14.81
Old Democracies	1023	20.72	7.83	17.97	30.72	72.35	15.51
New Democracies	614	4.46	1	3.15	6.49	21.88	4.37
European	893	13.38	2.99	8.97	22.68	52.02	12.43
N. America & Oc.	165	33.51	17	36.49	48.79	72.35	19.56
Other	579	11.15	2	6.18	15.98	58.14	12.56

Expenditures as % of GDP: Country/Year Observations

	Party/Year	Mean	25%	50%	75%	Max	StDev
Full	1637	29.93	21	29.85	38.34	69.09	10.63
Old Democracies	1023	32.46	23.93	33.34	40.1	69.09	10.58
New Democracies	614	25.7	17.68	25.34	32.1	59.1	9.29
European	893	36.53	31.67	37.04	41.7	69.09	8.41
N. America & Oc	165	26.67	21.69	25.05	30.79	53.99	6.82
Other	579	20.67	15.57	18.87	25.03	43.32	6.43

Summary Statistics for the Tenure of the Prime Minister Party (PMp) and the Total Expenditures as share of GDP. The upper panel reports the statistics for the maximum tenure of each PMP in our sample. The middle panel reports the statistics for the tenure of the PMP in office for any country and year in our sample. The lower panel reports the statistics for the Total Expenditures as a share of GDP for any country and year in our sample.

Table 2: Log(Total Expenditure) and tenure of PMP

	(1) FE	(2) FE	(3) FE	(4) FE
Log Tenure	0.045*** (0.016)	0.056*** (0.017)	0.061*** (0.022)	0.061*** (0.022)
Expenditure$_{(t-1)}$	0.802*** (0.027)	0.801*** (0.027)	0.778*** (0.029)	0.778*** (0.029)
Election Year	0.069 (0.187)	0.133 (0.198)	0.205 (0.215)	0.205 (0.215)
Party Strength	-0.007 (0.005)	-0.007 (0.005)	-0.007 (0.006)	-0.007 (0.006)
% pop. under 14	-0.137** (0.065)	-0.140** (0.065)	-0.072 (0.067)	-0.072 (0.067)
% pop. over 65	0.140 (0.159)	0.131 (0.158)	0.245 (0.158)	0.245 (0.158)
Output Gap	0.139*** (0.047)	0.148*** (0.047)	0.147*** (0.054)	0.147*** (0.054)
GDP Growth	-0.193*** (0.033)	-0.194*** (0.032)	-0.218*** (0.034)	-0.218*** (0.034)
Inflation	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.003)	-0.001 (0.003)
Incumbent PMP		-0.328* (0.177)	-0.394* (0.224)	-0.394* (0.224)
Age of Democracy				-0.050* (0.026)
Observations	1637	1637	1637	1637
year FE	1	1	1	1
party FE	0	0	1	1
countries	63	63	63	63
R^2	0.92	0.92	0.90	0.88

FE Models: Effects of PMP tenure on level of Expenditure as a share of GDP. Throughout the rest of the paper we refer to specification of Column 4 as main reference.

Table 3: Robustness to Political Cycle

	Full Sample		until 2007		until 2001	
Expenditure						
Log Tenure	0.063***	0.071**	0.063**	0.080**	0.055**	0.098**
	(0.022)	(0.027)	(0.025)	(0.033)	(0.025)	(0.044)
Election Year	-0.019	0.041	0.255	0.356	0.234	0.370
	(0.205)	(0.220)	(0.208)	(0.228)	(0.252)	(0.256)
Deficit						
Log Tenure	0.041*	0.055*	0.046*	0.072**	0.045	0.094*
	(0.023)	(0.030)	(0.026)	(0.035)	(0.031)	(0.048)
Election Year	0.164	0.205	0.400**	0.478**	0.442*	0.620**
	(0.192)	(0.201)	(0.199)	(0.211)	(0.248)	(0.237)
Revenues						
Log Tenure	0.023*	0.020	0.019	0.013	0.016	0.014
	(0.013)	(0.016)	(0.014)	(0.018)	(0.016)	(0.022)
Election Year	-0.159	-0.142	-0.128	-0.120	-0.182	-0.250
	(0.112)	(0.121)	(0.127)	(0.146)	(0.167)	(0.206)
Observations	1231	1231	985	985	743	743
Year FE	1	1	1	1	1	1
Party FE	0	1	0	1	0	1
Countries	51	51	50	50	46	46

Main FE specifications (columns 1 and 4 of Table 2) for Expenditure, Deficit and Revenues as % of GDP. The first two columns use the full sample, the third and fourth use observations until 2007, and the last two use observations until 2001 as in Brender and Drazen (2005). The number of observations is slightly lower respect to Table 2 because some data on Revenues are missing.

Table 4: Heterogeneous Effect for Age of Democracy

	(1)	(2)	(3)
Log Tenure	0.061***	0.065***	0.075**
	(0.02)	(0.02)	(0.03)
Ten · New Dem.		-0.015	
		(0.05)	
Ten · Age Dem.			-0.001
			(0.00)
Observations	1637	1637	1637
Year FE	1	1	1
Party FE	1	1	1
Countries	63	63	63
R^2	0.89	0.88	0.89

Main FE specification (column 4 of Table 2). In columns 2 and 3 we test whether effects are heterogeneous depending on the political system (Presidential vs Not Pres.), the fact that the democracy is new (born after 1965) or old (born before 1965), and the age of the democracy.

Table 5: Robustness and Interpretation

	(1)	(2)	(3)	(4)	(5)	(6)
Log Tenure	0.061*** (0.022)		0.052** (0.023)			
Log Tenure PM		0.020** (0.009)	0.010 (0.010)		0.016 (0.011)	0.011 (0.013)
Log Coal T				0.031 (0.020)		0.026 (0.022)
Observations	1637	1637	1637	1045	1045	1045
year FE	1	1	1	1	1	1
party FE	1	1	1	1	1	1
countries	63	63	63	39	39	39
R^2	0.89	0.87	0.88	0.85	0.85	0.84

Main FE specification (column 4 of Table 2). Comparison between the effects of the Tenure of the Party in office with the Tenure of the Person in office and the Tenure of the Coalition in office.

Table 6: Political System and Political Heterogeneities

	(1)	(2)	(3)	(4)	(5)	(6)
Log Tenure	0.047	0.001	0.052**	0.006	-0.012	0.016
	(0.033)	(0.015)	(0.025)	(0.028)	(0.026)	(0.036)
Log Ten · Pres	-0.008					
	(0.043)					
Log Ten · Prop		0.056*				
		(0.029)				
Log Ten · Herfgov			0.001***			
			(0.000)			
Log Ten · Sd Left Right				0.032*		
				(0.019)		
Log Ten · Sd Market State					0.044***	
					(0.016)	
Log Ten · Sd Authority Libertarian						0.022
						(0.024)
Observations	1544	1544	994	994	994	994
Year FE	1	1	1	1	1	1
Party FE	1	1	1	1	1	1
Countries	60	60	38	38	38	38
R^2	0.78	0.83	0.72	0.75	0.74	0.75

Main FE specification (column 4 of Table 2). The first two columns compare heterogeneous effects for Presidential vs Not Presidential countries and for Proportional Systems vs Not Proportional Systems. We consider Proportional a system where a positive share of seats is assigned through a proportional rule. Columns 3 to 6 investigate heterogeneous effect for the heterogeneity of the ruling coalition in a subset of countries of which we have data. Column 3 finds no difference in the effect of tenure across governments with different numerical fractionalization (Herfindal Index). Columns 4 to 6 find a strong heterogeneous effect in the ideological heterogeneity of the ruling coalition, measured as the standard deviation of their Left-Right, State-Market and Authority-Libertarian indexes. The effect of political tenure on expenditure is driven by ideological heterogeneous governments.

Table 7: Tenure of the opponents and Corruption

	(1)	(2)	(3)	(4)	(5)	(6)
Log Tenure	0.061***	0.058**	0.053**	0.056**	0.056**	0.065**
	(0.022)	(0.022)	(0.021)	(0.022)	(0.022)	(0.024)
Ten. most recent opp.		0.044	0.044			
		(0.031)	(0.030)			
Ten. · Tenure most recent opp.			-0.002			
			(0.003)			
Tenure most tenured opp.				0.096***	0.097***	
				(0.036)	(0.036)	
Ten · Tenure of most ten. opp.					-0.000	
					(0.003)	
Corruption						1.721
						(2.005)
Observations	1637	1637	1637	1637	1637	1303
year FE	1	1	1	1	1	1
party FE	1	1	1	1	1	1
countries	63	63	63	63	63	60
R^2	0.89	0.90	0.88	0.87	0.88	0.89

Main FE specification (column 4 of Table 2) allowing for heterogeneous effect for the tenure of the opponent defined as the tenure of the most recent opponent and the highest tenure among the opponents (columns 1 to 5). Columns 6 controls for corruption.

6 Appendix

6.1 Variables and Sources

Expenditure We begin from the database from Brender and Drazen 2013, and we update the database adding the missing years and countries in the following way. Data are taken from the Government Finance Statistics (GFS) of the International Monetary Fund. Specifically, from the GFS Historical Data CD for the period 1972-1989, and from the GFS CD (December 2015) for the period 1990-2014.

Data for Consolidated Central Government[14] were used, integrated with data for the Budgetary Central Government when such information was missing. Data as percentage of GDP are obtained dividing these values by $GDP\ IFS$ 2015.

Importantly, the accounting system used in our two sources differs, switching from the GFSM 1986 to the GFSM 2014 framework. This determines some discrepancies in the classification of expenditures before and after 1990. Caution is, thus, needed when comparing the datasets[15].

GDP IFS 2015 is the Gross Domestic Product as retrieved from the IFS CD (August 2015).

For countries which underwent a change in the national currency, the appropriate exchange rate was applied.

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[14]For the data 1990-2014, expenditures are classified according to the GFSM 2014, which introduced a distinction between Consolidated Central Government *including* social security funds, and Consolidated Central Government *excluding* social security funds. The first category was considered.

[15]Also note that, when the fiscal year does not coincide with the calendar year, the IMF approximates by ascribing the values to the calendar year for which the greatest number of monthly observations exist.This seems to be a concern only for few of the countries included in our dataset

Output Gap computed from GDP time series from World Bank Databank. We adopt an HP filter with smoothing parameter computed using the Ravn-Uhlig rule.

GDP Growth computed from GDP time series from World Bank Databank.

Election Year Indicates whether an election was held in that year. We consider parliamentary elections for non presidential countries and presidential elections for countries with presidential systems. Most of the data are from the Comparative Political Data Set. We collect the missing data from http://www.wikipedia.org.

Party Strength Records the total vote share of all government parties. From the Database of Political Institutions 2015.

Inflation Consumer price level annual variation. From the QOG Basic Dataset 2017 (http://www.qog.pol.gu.se).

Incumbent PMP Dummy variable equal to 1 whenever the PMP is the same that was in charge at the end of the previous legislature.

Age Of Democracy Indicates the number of year from the first democratic and free election held in the country. Most of the data are from Boix-Miller-Rosato dichotomous coding of democracy, 1800-2007. Missing data are from Wikipedia.org.

Left Dummy for prime minister party that are defined as communist, socialist, social democratic, or left-wing. From the QOG Basic Dataset 2017 (http://www.qog.pol.gu.se).

Change Ideology Dummy that identifies the year in which the ideology of the Prime Minister changes. We use data from the QOG Basic Dataset 2017 (http://www.qog.pol.gu.se) where party orientation is defined with respect to economic policy, coded based on the description of the party in the sources, using the following criteria. Right: for parties that are defined as conservative, Christian democratic, or right-wing. Left: for parties that are defined as communist, socialist, social democratic, or left-wing. Center: for parties that are defined as centrist or when party position can best be described as centrist (e.g. party advocates strengthening private enterprise in a social-liberal con- text). Not described as centrist if competing factions average out to a centrist position (e.g. a party of right-wing Muslims and Beijing-oriented Marxists). 0: for all those cases which do not fit into the above-mentioned category (i.e. party's platform does not focus on economic issues, or there are competing wings), or no information. Dummy is missing for changes from Right, Center or Left to 0.

Change Leader Dummy that identifies the year in which the identity of the Prime Minister changes. We collected our own the data on prime ministry identity.

Herfindahl Index The sum of the squared seat shares of all parties in the government. Missing if there is no parliament. If there are any government parties where seats are unknown or if there are no parties in the legislature,

the Herfindahl is missing. Independents are calculated as if they were individual parties with one seat each. From the Database of Political Institutions 2015.

Presidential From the Database of Political Institutions 2015. Dummy to identifies countries with presidential system. Systems with unelected executives are considered presidential. Systems with presidents who are elected directly or by an electoral college (whose only function is to elect the president), in cases where there is no prime minister, are also considered presidential. In systems with both a prime minister and a president, we consider the following factors to categorize the system: a) Veto power: president can veto legislation and the parliament needs a supermajority to override the veto. b) Appoint prime minister: president can appoint and dismiss prime minister and / or other ministers. c) Dissolve parliament: president can dissolve parliament and call for new elections. d) Mentioning in sources: If the sources mention the president more often than the PM then this serves as an additional indicator to call the system presidential. The system is presidential if (a) is true, or if (b) and (c) are true. If no information or ambiguous information on (a), (b), (c), then (d). Consult Appendix for specific country examples.Countries in which the legislature elects the chief executive are non presidential.

Corruption and Bureaucracy From the QOG Basic Dataset 2017 (http://www.qog.pol.gu.se). It's computed doing one manus the mean value of the ICRG variables Corruption, Law and Order and Bureaucracy Quality, scaled 0-1. Higher values indicate lower quality of government.

Proportional System We start from the variabile "gol est" in QOG Basic Dataset 2017, that takes on one of three values indicating the basic type of electoral system used in the elections: majoritaria, proportional or mixed. We define proportional if it has at least a part assigned with a proportional system and it is not pure majoritarian.

Ideological Heterogeneity Parliaments and governments database (ParlGov): Information on parties, elections and cabinets in modern democracies. We use the table on party to have a measure of their position in the ideological spectra **Left vs Right** (0–10 scale mean value in left/right dimension with data from Castles/Mair 1983, Huber/Inglehart 1995, Benoit/Laver 2006 and CHES 2010), **State vs Market** (0–10 scale mean value in 'regulation of the economy' dimension with data from Benoit/Laver 2006 and CHES 2010) and **Authority vs Libertarian** (0–10 scale mean value in 'libertarian/authoritarian' dimension with data from Benoit/Laver 2006 and CHES 2010). Then for each ruling coalition we compute the standard deviation of ideology as measure of heterogeneity.//

6.2 Additional Material

Table A.1: Log(Total Expenditure) and tenure of the party of the PM: Arellano-Bond Model

	(1)	(2)	(3)	(4)
Log Tenure	0.061***	0.070***	0.081***	0.081***
	(0.022)	(0.018)	(0.019)	(0.019)
Expenditure$_{t-1}$	0.778***	0.672***	0.688***	0.688***
	(0.029)	(0.043)	(0.045)	(0.045)
Output Gap	0.147***	0.094*	0.096*	0.096*
	(0.054)	(0.050)	(0.051)	(0.051)
Election Year	0.205	0.235	0.272*	0.272*
	(0.215)	(0.148)	(0.153)	(0.153)
% pop. under 14	-0.072	-0.079	-0.076	-0.076
	(0.067)	(0.056)	(0.057)	(0.057)
% pop. over 65	0.245	0.308***	0.309***	0.309***
	(0.158)	(0.115)	(0.118)	(0.118)
Party Strength	-0.007		-0.014***	-0.014***
	(0.006)		(0.005)	(0.005)
GDP Growth	-0.218***	-0.190***	-0.191***	-0.191***
	(0.034)	(0.032)	(0.032)	(0.032)
Inflation	-0.001		-0.001	-0.001
	(0.003)		(0.001)	(0.001)
Incumbent PMP	-0.394*		-0.252	-0.252
	(0.224)		(0.183)	(0.183)
Age Democracy	-0.050*			0.029
	(0.026)			(0.023)
Observations	1637	1637	1637	1637
countries	63	63	63	63

Column 1 reports the main FE specifications (column 4 of Table 2). Columns 2,3 and 4 report the results for the Arellano-Bond with the last lag of the dependent variable used as instrument. Any specification includes Party and Year Fixed Effect.

Table A.2: Quadratic Total Expenditure and tenure of PMp

	(1) FE	(2) FE	(3) FE	(4) AB	(5) AB
Tenure	0.076*	0.108	0.108	0.166***	0.167***
	(0.039)	(0.068)	(0.068)	(0.057)	(0.057)
Tenure^2	-0.002*	-0.003	-0.003	-0.004***	-0.004**
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Expenditure$_{t-1}$	0.799***	0.774***	0.774***	0.666***	0.678***
	(0.027)	(0.030)	(0.030)	(0.038)	(0.037)
Output Gap	0.153***	0.151***	0.151***	0.103**	0.103**
	(0.047)	(0.053)	(0.053)	(0.051)	(0.051)
% pop. under 14	-0.136**	-0.063	-0.063	-0.056	-0.051
	(0.066)	(0.068)	(0.068)	(0.058)	(0.059)
% pop. over 65	0.123	0.223	0.223	0.296***	0.289**
	(0.150)	(0.166)	(0.166)	(0.114)	(0.114)
Election Year	0.085	0.158	0.158	0.219	0.219
	(0.195)	(0.212)	(0.212)	(0.151)	(0.152)
Party Strength	-0.007	-0.007	-0.007	-0.015***	-0.015***
	(0.005)	(0.006)	(0.006)	(0.005)	(0.005)
GDP Growth	-0.194***	-0.216***	-0.216***	-0.191***	-0.191***
	(0.033)	(0.036)	(0.036)	(0.032)	(0.032)
Inflation	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.002)	(0.003)	(0.003)	(0.001)	(0.001)
Incumbent PMP	-0.273	-0.368	-0.368	-0.197	-0.196
	(0.178)	(0.237)	(0.237)	(0.192)	(0.193)
Age Democracy			-0.051*		0.021
			(0.026)		(0.023)
Observations	1637	1637	1637	1637	1637
Year FE	1	1	1	1	1
Party FE	0	1	1	1	1
Countries	63	63	63	63	63
R^2	1	1	1	.	.

Effects of Prime Minister Party tenure on level of Expenditure as % of GDP with quadratic measure of Tenure. Columns 1-3 are FE models. Columns 4 and 5 are AB specifications.

Table A.3: Other Measures of Tenure

	(1) FE	(2) FE	(3) FE	(4) AB	(5) AB
Tenure 1900					
Log Tenure	0.051***	0.057**	0.057**	0.074***	0.077***
	(0.017)	(0.022)	(0.022)	(0.020)	(0.020)
Tenure 1900 Discounted					
Log Tenure	0.056***	0.061***	0.061***	0.069***	0.069***
	(0.017)	(0.022)	(0.022)	(0.021)	(0.021)
Tenure 1946					
Log Tenure	0.051***	0.057**	0.057**	0.063***	0.063***
	(0.017)	(0.022)	(0.022)	(0.021)	(0.021)
Tenure 1946 Discounted					
Log Tenure	0.056***	0.061***	0.061***	0.069***	0.069***
	(0.017)	(0.022)	(0.022)	(0.021)	(0.021)
Tenure Ruling Coalition 1900 Discounted					
Log Tenure Coalition	0.028*	0.027*	0.027*	0.042**	0.041**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)

Effects of Prime Minister Party tenure on level of Expenditure as % of GDP with different measures of tenure, in order: tenure computed since 1900, tenure computed since 1900 discounted at .05% rate every year, tenure computed since 1946, tenure computed since 1946 discounted at .05% rate every year, tenure of the ruling coalition since 1900 discounted at .05% rate every year. Columns 1-3 are FE models (corresponding to columns 1-3 of Table A.2). Columns 4 and 5 are AB specifications (corresponding to columns 4 and 5 in Table A.2).

Table A.4: Electoral Cycle and Tenure

	(1)	(2)	(3)	(4)
Expenditure				
Election Year	0.172	0.248	0.283	0.463*
	(0.253)	(0.260)	(0.257)	(0.254)
[1em] Log Tenure		0.065*		0.133**
		(0.036)		(0.053)
[1em] Log Tenure · Election Year		-0.025		-0.090*
		(0.047)		(0.052)
Observations	743	743	743	743
Year FE	1.000	1.000	1.000	1.000
Party FE	0	0	1	1
countries	46	46	46	46
R^2	1	1	1	1
Deficit				
Election Year	0.649*	0.803**	0.748**	1.063**
	(0.342)	(0.387)	(0.336)	(0.400)
[1em] Log Tenure		0.129		0.227**
		(0.085)		(0.091)
[1em] Log Tenure · Election Year		-0.085		-0.165*
		(0.091)		(0.085)
Observations	743	743	743	743
Year FE	1	1	1	1
Party FE	0	0	1	1
Countries	46	46	46	46
R^2	0	0	0	0

Table A.5: Robustness for Political Ideology, Change in Ideology, Change of Leader and Fractionalisation.

	(1) FE	(2) FE	(3) FE	(4) FE
Log Tenure	0.061***	0.050**	0.050**	0.049**
	(0.022)	(0.023)	(0.022)	(0.022)
Election Year	0.201	0.239	0.293	0.300
	(0.214)	(0.213)	(0.224)	(0.226)
Left	0.263	0.209	0.256	0.256
	(0.274)	(0.345)	(0.275)	(0.282)
Change Ideology		0.129		
		(0.355)		
Change Leader			-0.355*	-0.364*
			(0.192)	(0.198)
Herfindal Index				0.000
				(0.001)
Observations	1637	1374	1637	1634
Year FE	1	1	1	1
Party FE	1	1	1	1
Countries	63	59	63	63
R^2	0.89	0.85	0.88	0.88

Effects of Prime Minister Party tenure on level of Expenditure as % of GDP. Specifications as in column 4 in Table 2. In column 1 we control for party ideology, in column 2 for a change in ideology respect to the previous government, in column 3 for a change of the Prime Minister, in column 4 for the level of heterogeneity of the ruling coalition.

'Keep Friends Close, But Enemies Closer': Connections and Political Careers[*]

Andrea Cintolesi[†]

Abstract

Using newly collected data on ties between local politicians in Italy from 1985 onwards, this paper studies the relation between cross-party connections and future career prospects. Exploiting a difference-in-discontinuities design, I find that ruling coalition members connected with the runner-up are twice as likely to be promoted to the council in which the runner-up leads the opposition. The results are driven by weak and ideologically fragmented governments. Interestingly, the effect of connections with the leader of the rivals disappears when I consider appointments to boards of state-owned enterprises. These findings suggest that connected politicians act as political brokers and smooth the relationship between government and opposition. Finally, connected politicians are less educated than the average appointed official, indicating that political selection is negatively affected.

Keywords: Connection, networks, political careers, structural holes.

JEL Codes: D72, D85, M51

1 Introduction

Connections between politicians from different parties have always characterised politics. As an example, US presidents John Adams and Thomas Jefferson had a famous bromance but were also political rivals from very different backgrounds. Journalists and pundits often deem cross-party connections to be a determinant of the approval of laws and of governments' survival; politicians themselves reveal that cross-party friendships shape the contents of policies.[1]

Despite the fact that cross-party connections are useful in politics, the impact of a connection with members of the opposition on political careers of ruling party politicians is ambiguous. On the one hand, for a party in office, promoting politicians in the party who are well connected with the opposition might not be desirable if disloyalty enhances agency problems and hinders policy implementation. On the other hand, it can be advantageous if a connection with the opposition serves as a safety net in the case of political instability, favours the reaching of compromises and softens the political opposition.[2]

This paper investigates how a connection with the leader of the oppo-

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[1] As an example, in April 2013 President Obama took a group of Republican senators to dinner (*The Washington Post*, 6 March, 2013) and asked Republican Paul Ryan to lunch at the White House. According to the sociologist Neil Gross, the goal of those meetings was 'to build personal relationships that might erode partisan gridlock'. In another example, Jess Phillips, a Labour MP in the UK, reveals that cross-party friendship 'can force the government to change what they're going to put in a bill before they do it' (*The Guardian*, 15 October, 2017). In addition see Saia (2018)

[2] For example, preventing severe and damaging forms of opposition such as strikes, demonstrations and filibustering (a political procedure in which one or more members of a parliament or congress debate over a proposed piece of legislation so as to delay or entirely prevent a decision being made on the proposal).

sition influences the political career of ruling party politicians. The testing ground is Italian provinces, which are administered with a majoritarian system very similar to most Western democracies. I exploit data on provincial governments from 1995 onwards, and I observe which politicians are promoted to the provincial governments and which receive nomination to the boards of state-owned enterprises (SOEs). I define two politicians as connected if they have ever sat together on the same council at the same time in the past. With this novel methodology, I map the connections between about 620,000 Italian politicians who have served on municipal, provincial and regional councils since 1985.

To identify the effect of interest, I set up a difference-in-discontinuities design, a method that merges the difference-in-differences and regression discontinuity (RD) approaches.[3] I compare two RD designs. In the first, I estimate the effect of closely winning a provincial election as opposed to closely losing on future careers of party members who are connected with the leader of the opposition. The estimator is the sum of two effects on career prospects: the success of the party and the fact that politicians are connected when their party wins. In the second RD, I set up the same design for party members who are not connected with the leader of the opposition. The second estimator identifies the effect of the success of the party only. To difference out the effect of the success of the party, I take the difference between the two estimators. In order to have a precise measure of the confounding treatment, I exploit unconnected politicians who are valid counterfactual for the connected ones. In the RD for the connected

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[3] Grembi et al. (2016) provide accurate identification assumptions and suggest diagnostic instruments for this methodology.

politicians, I use party members who before a provincial election sit on a specific council with the leader of the opposition, who are, therefore, all connected. In the second RD I use party members who sit on the same council before the previous election, and who were unconnected with the leader of the opposition in the previous election. The crucial identifying assumption is that across consecutive elections, the effect of the success of the party is always the same for the group of party members from a specific council. After validating the identifying assumption, I interpret the difference between the two RD designs as the effect of having a connection with the leader of the opposition for ruling party politicians.

I find that a connection with the leader of the opposition doubles the probability of politicians from the ruling party being promoted to the government of a province. For politicians who have a baseline probability of being promoted of 2.9%, a connection with the leader of the opposition increases the probability by 3%.[4] The same connection has no effect for offices in which the appointee does not need to deal with the opposition (SOEs) or in local governments of other (regional) councils in which the party faces different politicians as opponents. I further look at the terms following the one in which politicians are connected. The results suggest that the benefits of the connection trigger better subsequent careers, measured by the attainment of more desirable offices. Finally, among the politicians promoted, those who have connections are remarkably less educated,

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[4] The surprising size of the results is comparable to those of related works on connections with politicians, like Dal Bó et al. (2009), who find that one extra term in the US Congress more than doubles the probability of having a relative entering Congress later on, or Gagliarducci and Manacorda (2016), who find that a relative in politics means to the family an extra income of € 9000 per year from the private sector.

suggesting that the selection of politicians is negatively affected (Besley et al. (2011)).

The argument that connected politicians are useful as a political liaison with the opposition is corroborated by a set of other results. First, a connection with the opposition is relevant only to careers in offices in which politicians need to bargain with the opposition. Second, connections with the leader of the opposition are a determinant for promotion to provincial governments only in the case of weaker ruling coalitions. Connections with the opposition do not help with obtaining promotion when one single party holds more than 50% of the seats. Otherwise, the influence of the connection is positive, even being extremely relevant when the support of any party in the ruling coalition is necessary to secure a majority in the council.[5] Finally, in the light of the concept of *homophily*, the tendency of individuals to associate and bond with similar others, I show that, among the connected politicians, those who are closer in individual characteristics to the leader of the opposition are those who are more likely to be promoted.

The contribution of my paper is threefold. First, it adds to the large stream of works on political careers in economics (e.g.Besley and Reynal-Querol (2011); Caselli and Morelli (2004); Dal Bó et al. (2009); Dal Bó et al. (2013); Ferraz and Finan (2009); Mattozzi and Merlo (2008); Messner and Polborn (2004)), providing evidence of a new driver of successful careers that is not considered in previous research.

Second, my paper contributes to the study of the influence of connections *between* and *with* politicians (Acemoglu et al. (2016); Chaney et al.

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[5] Similar insights are provided by measuring government weakness with ideological heterogeneity.

(2011); Cingano and Pinotti (2013); Faccio et al. (2006); Firth et al. (2009); Fisman and Wang (2015); Gagliarducci and Manacorda (2016); Khwaja and Mian (2005); Xu (2018); You and Du (2012)), which is quickly growing as connections are proved to have an enormous impact on many outcomes. This large body of literature only focuses on connections with ruling party politicians in office. In contrast, this paper is the first to analyse connections with politicians of the opposition who have no direct power over the outcomes of such connections, and to test a new channel through which connections are important in politics, that is, the capacity to bridge the gap between the majority and the opposition.

Finally, this work complements the theoretical research on politicians' networks (e.g. Fowler (2006); Kirkland (2011); Tam Cho and Fowler (2010); Battaglini et al. (2018)). Such networks have been proved to be relevant with regard to politicians' effectiveness and to the allocation of campaign contributions of interest groups. My paper shows the presence of *structural holes*[6] in the politicians' network. This contributes to the understanding of the network formation process, suggesting that one incentive for forming connections is the possibility to gain the benefits resulting from linking two parties. According to theoretical findings,[7] the presence of *Structural Holes* shapes the network of politicians (star network and/or cycle networks, Goyal and Vega-Redondo (2007)) as well as the distribution

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[6]   A notion introduced by Burt (1992) that denotes the absence of a connection between two separated clusters in a network, and the potential gains whenever a node fills it. This notion has been applied to many fields. In my case it refers to the lack of a connection between two clusters, the majority and the opposition, and the possibility of politicians being able to access better careers by bridging this gap through weak ties with the leader of the opposition.

[7]   Most of which have different applications than the one considered in my paper.

of payoffs across nodes in the network (e.g. Burt et al. (2002), Choi et al. (2017)).

The remainder of the paper is organised as follows. Section 2 provides preliminary details on Italian provinces, the methodology used to map connections and the outcomes considered. Section 3 describes an instructive example of the empirical strategy, and Section 4 provides details of the implementation of the empirical design. Section 5 outlines the main results, validates all the assumptions necessary for the identification and proposes some robustness exercises. Section 6 discusses the channel and Section 7 draws the conclusions.

2 Institutional Background

2.1 Italian Provinces

An Italian province is an intermediate level administrative division between a municipality and a region, and it is made up of numerous municipalities. Usually, several provinces form a region together; the Valle d'Aosta region is the only exception as it is not split into provinces, and the region performs provincial tasks.

On average, provinces are made up of 76 municipalities, cover an area of 761 km^2 and have a population density of 205 inhabitants/km^2. Since 1850 the amount of provinces in Italy has continuously increased, as many new ones are created from older ones. In 2014, the national government approved a reform and transferred most of the power from the provinces to

municipalities or regions.[8] As a consequence some provinces have recently been abolished, such as the provinces of Carbonia-Iglesias, Gorizia, Medio Campidano, Ogliastra, Olbia-Tempio, Pordenone, Trieste, and Udine, which were abolished in 2016.

Provinces are meant to carry out different functions[9]. Their most important responsibilities are the following: directing local zoning; coordinating municipal development plans; organising and providing long-distance transport; maintaining local roads and operating the application procedure for driving licenses; overseeing the local police, fire fighters and rangers; organising some health services; managing high schools; and, sometimes, waste management.
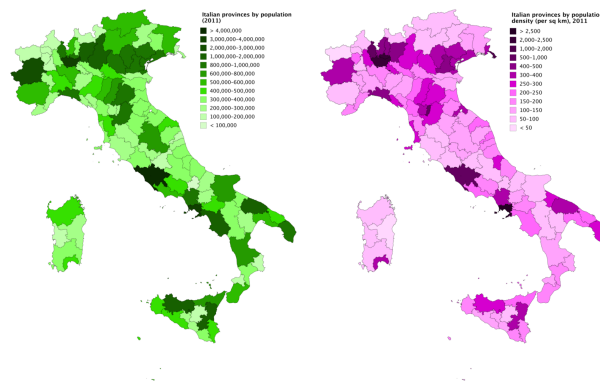
Figure 1: Map of population and population density of Italian provinces.

Provinces are administered by a provincial government, formed by a president and a cabinet, and a provincial council.

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8 Legge n. 56/2014.
9 decreto legislativo n. 112/1998 and art. 19 del decreto legislativo 18 agosto 2000, n. 267

Between 1993 and 2014, the president and the council were elected simultaneously by the citizens of the provinces with a majoritarian rule and a two-round system. Parties could group together in a coalition to support one single candidate. The candidate who obtained the most votes became the president. The runner-up candidate became the leader of the political opposition in the council, on which he sat as councillor. The majority bonus endowed the winning coalition with at least 60% of the seats in the council, and the seats assigned to a coalition were split in proportion to the votes of each single party list.

The length of the term was fixed at four years until 2000, when it was extended to five years. The council could only dismiss the head of the government at the price of its own dissolution, due to a rule known as *simul stabunt simul cadent*. According to this rule, the approval of a motion of no confidence, or the resignation or death of the head of government, mark the end of the legislature.

Any province carries out its functions mostly through the actions of the provincial government. A subsidiary way of performing certain missions of its own are (SOEs). SOEs are widely used by Italian administrative units[10] and fall within the private regulations for companies, even if they are at least partially owned by a public administrative unit. Provinces used to own about 1800 SOEs, including approximately 500 for which they owned more than 50% of the shares, although the basis for this figure is

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[10] Local SOEs employ approximately 500,000 people in all sectors of the economy, and the total sum of transfers in the state is estimated to be € 16.5 billion (1% of GDP) per year. V. and Pinelli, D. (2016). Local State-Owned Enterprises in Italy: Inefficiencies and Ways Forward. European Commission, Economic Brief 10. Luxembourg: Publications Office of the European Union.

not always clear.[11] SOEs are used mostly for providing products or services that would not be profitable for a private company but that are of public interest. They are also used to keep strategic goods and public services, such as water, energy and telecommunications, under public control. In practice, SOEs are often a way of circumventing bureaucratic structures and the related restrictions on the use of public money (e.g. public procurement, recruitment, budget constraints).

2.1.1 Appointments

When a new incoming president of a province comes into office, he/she needs to make some appointments.

- **Provincial Government Appointments:** The elected president appoints a provincial government. Each member of the government is called an *assessore*, is responsible for a specific sector of provincial affairs and directs the corresponding branch of provincial government, called the *assessorato* (department). Politicians appointed to the provincial governments act as local ministries with regard to their specific tasks, proposing new laws and sitting on the council during the council sessions. Most of the new proposals need to be approved by the council with a public vote during a council session

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[11] Provinces did not have any disclosure requirements with regard to their SOEs before 2010. In the interests of efficiency and transparency, over the last eight years, different regulations have obliged administrative units to completely disclose the ownership of their SOEs. My numbers are from a disclosure of 2010, in which I replace the missing reports with the average of provinces with similar population. The Italian Chamber of Commerce, which provided me with the data on the SOEs described later, could not give me the exact number or ensure that the data the sum total of SOEs in Italy.

before they are adopted. As already mentioned, the government can be entirely dismissed by the council with the approval of a motion of no confidence.

The maximum number of politicians that can be appointed to provincial governments is regulated by law, and has slightly changed over time. In 1993, a national law[12] mandated that the number of appointed politicians had to be less than one-fifth of the number of councillors (which is a function of the population of the province) and in any case less than eight. In 2000, another national law[13] delegated the decision on the maximum number of politicians in their governments to the provinces, resulting in an average increase of 20% in the size of provincial governments. In 2008, a new regulation[14] established the maximum number at 12, and in 2011 it was finally set to be less than one-fifth of the number of councillors.

- **Appointments to SOEs**: The governments of provinces that own a state-owned enterprise have the same power as any other shareholder over the appointment of the managers of the SOE. In the empirical analysis, I exploit appointments to SOEs of which over 50% is owned by the administration to which the election refers, focusing on cases in which the appointments are fully attributable to the administrations.[15] Obviously, a new incoming administration cannot

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[12]   Legge 25 marzo 1993, n. 81.
[13]   Decreto legislativo 18 agosto 2000, n. 267 (known as 'Testo Unico degli Enti locali').
[14]   Legge 24 dicembre 2007, n°244
[15]   With regard to SOEs of which the administration owns less than 50%, the public owner might still have an influence on the appointments. However, because of a lack of any information on the structure of the rest of the ownership, it is conservative to

fire any staff belonging to its SOEs. However, to guarantee the new government control over the SOEs, two laws have established that staff whose role is crucial to implementing the main objectives and orientation of the public owner can be replaced by the new incoming administration during the 90 days after an election.[16] This practice is called the *spoils system*. The specific roles that are subject to this rule are not listed by law; however, their number has progressively decreased through different judgements of the Constitutional Court of the Italian Republic. Nevertheless, throughout the last two decades, it has been commonly accepted that new governments can replace the most significant managers of the SOEs, namely CEOs, chairmen and vice-chairmen of the board of directors, members of the executive team and general managers.

2.2 Connections Between Politicians

The literature on connections in relation to politics makes use of different proxies for connectedness. The usual procedure is the following: first, to identify a component that even if affected by a non-negligible measurement error, captures an event or characteristic that raises the probability of forming or having a connection; and second, to take into account its endogeneity. As examples, Battaglini and Patacchini (2016) use the alumni network and the cosponsorship of the same laws; Dal Bó et al. (2009) and Gagliarducci and Manacorda (2016) exploit surnames; Xu (2018) uses an-

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16   refer just to those for which the public owner has full control over the appointments.
      D.Lgs. n. 80/1998 and il D.Lgs. n. 165 del 2001.

cestor in common and Nickerson (2008) uses household membership. My methodology follows the same approach.

In Italy there are 20 regional, 93 provincial and 7954[17] municipal councils. Each council is composed of its president, the local government and a number of councillors that varies depending on the population of the territory. The literature has shown that proximity of politicians makes their voting behaviour more closely aligned (Saia (2018)), suggesting that politicians, albeit from different parties who are members of the same council and sit in close proximity, interact with each other and form connections. I proxy for connections between politicians by observing whether each pair of politicians has ever sat together on a local council. Note that the number of politicians in a local council is fairly small, making the council not as diffuse an environment as are national parliaments. Municipal councils are made up of, on average, 20.4 politicians, provincial councils of 36.5, and regional councils of 61.7.[18] Having served on the same council is likely to increase the probability of forming a social tie, even across party lines, for a number of reasons. First, council sessions offer opportunities to discuss and meet. Second, every council member is assigned to a sub-committee (often more than one). During sub-committee sessions, politicians discuss new laws before they reach the council, supervise the implementation of the new policies, and examine and reinforce issues of public relevance. Third, politicians interact at informal occasions such as public events and debates. Fourth, politicians have offices in the same building, and, finally, some politicians also meet in the *Conferenza dei capigruppo*, the group of the

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[17]   8101 in 2010, and 8071 in 2014.
[18]   The size of a local council is a function of the population of the territory.

leaders of each political group in the council, at which they set the work schedule for the council.

As with other types of measures of connection, the proxy that I propose is severely affected by endogeneity. Politicians with different skills have different careers and, therefore, different probabilities of meeting on the same councils. The identifying strategy in Section 3 is devoted to solving this problem. On the other hand, this novel measure of connectedness allows for the mapping of connections between over 620,000 politicians who ever served in office in Italy after 1985, despite the little information available on them. With this methodology I exploit relatively fresh interactions and I can construct a larger dataset than most of the previous papers on connections in politics.

3 Empirics

To explain the identification strategy I make use of an instructive example that reduces the complexity of the exposition. The link between the following framework and the broader picture is straightforward, and reported in detail in the appendix.

3.1 Empirical Setup

There is one provincial council c_p, a set of municipal councils $\mathcal{C}_m$, a set of politicians $\mathcal{J}$, two parties, j and $-j$ and a set of three elections for every council $\mathcal{T} = \{t_0, t_1, t_2\}$. For election at time $t \in \mathcal{T}$ for council c_p in which party j runs against party $-j$, the population of interest is any $i \in \mathcal{J}$ who

served in office before $t \in \mathcal{T}$ for party j, therefore indexed ij.

For any ij and for election at time t_2 for council c_p at which party j runs against party $-j$, call o_{-jt_2} the leader of party $-j$ in the election. Then, define $w_{ijt_2} \in \{0,1\}$ as a treatment variable for whether party j wins the election, and $s_{ijt_2} \in \{0,1\}$ as a treatment dummy for whether i and o_{-jt_2} sat together during the term preceding t_2. Finally, define $Y_{ijt_2} \in \{0,1\}$ as an indicator variable for whether i receives an appointment at t_2.

My goal is to identify and estimate:

$$\tau_{s|w=1}^{jt_2} = E[Y_{ijt_2}|w_{ijt_2} = 1, s_{ijt_2} = 1] - E[Y_{ijt_2}|w_{ijt_2} = 1, s_{ijt_2} = 0]$$

In words, $\tau_{s|w=1}^{jt_2}$ is the effect of being connected with the leader of the opposition when the party wins on the probability of being appointed. Obviously, s_{ijt_2} is not randomly assigned to the population of interest, and correlates with unobservables that affect Y_{ijt_2}. In the absence of an experiment in which s_{ijt_2} is randomly assigned, I propose an identification strategy that under mild and testable assumptions allows me to identify $\tau_{s|w=1}^{jt_2}$.

3.2 Connected and Not Connected Samples

Here, I isolate two subsamples from the population of interest. Assume that the leader of party $-j$ in election at t_2, o_{-jt_2}, sat on $c_m \in \mathcal{C}_m$ at t_1.

Let the *Connected* sample (CS_{jt_2}) be the set of all politicians of party j who served on c_m during t_1, and let the *Not Connected* sample (NS_{jt_2}) be the set of all politicians of party j who served on c_m during t_0. Figure 2
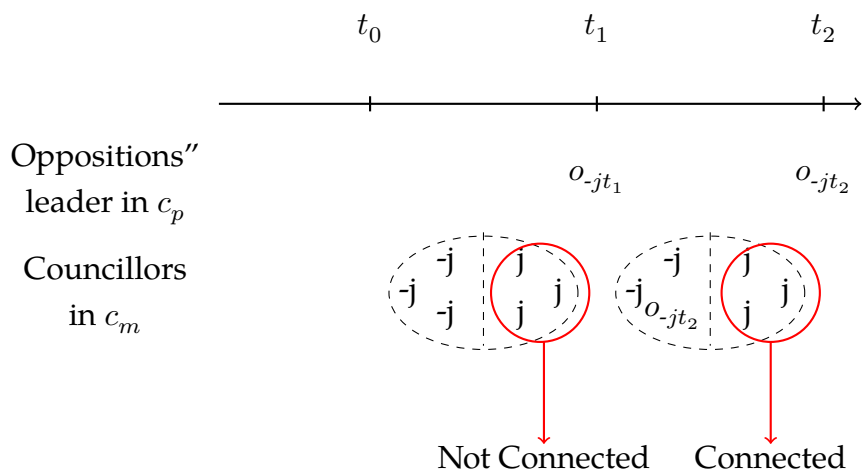
Figure 2: Two subsamples from the population of interest: Connected and Not Connected

provides a graphical illustration of the two subsamples.

Note that politicians in the Connected sample sit on c_m at t_1 with o_{-jt_2} (the leader of party $-j$ in election at t_2), whereas politicians in the Not Connected sample sit on c_m at t_0 but do not meet o_{-jt_1} (the leader of party $-j$ in election at t_1) there. The only exceptions are the incidental cases in which the leaders of $-j$ at t_1 and at t_2 serve on the same council before they run for the election, at t_1 and at t_2 respectively. Those cases will account for less than the 5% of the observations in the Not Connected sample and would, eventually, downward bias the results, as discussed later on.

3.3 Difference-in-Discontinuities

For any ij, potential outcomes are defined as $Y_{ijt}(w_{ijt}, s_{ijt})$, with $w_{ijt} \in \{0,1\}$ and $s_{ijt} \in \{0,1\}$. I now set up two RD designs. In the first I exploit close elections at t_2 for c_p and politicians in the Connected sample and in the second I make use of close elections at t_1 for c_p and politicians in the Not Connected sample. Define M_{ijt_1} and M_{ijt_2} as the difference in vote share between party j and party $-j$ for election for council c_p, at time t_1 and t_2 respectively. The following assumption allows me to exploit the RDs' setup.

Assumption 1 *For $t \in \{t_1, t_2\}$, all potential outcomes $Y_{ijt}(w_{ijt}, s_{ijt})$, with $w_{ijt} \in \{0,1\}$ and $s_{ijt} \in \{0,1\}$, are continuous in M_{ijt} at 0.*

Assumption 1 is the standard sufficient condition for RD estimations; for the full theory and explanation I refer to Hahn et al. (2001).

Consider M_{ijt_2} as the running variable, and the politicians in the Connected sample as the observations. The assignment to $w_{ijt_2} = 1$ follows a deterministic rule: $w_{ijt_2} = \mathbb{1}(M_{ijt_2} \geq 0)$, where $\mathbb{1}$ is the indicator function. Denote $E^+[Y_{ijt_2}]$ as the expected value of Y_{ijt_2} when M_{ijt_2} approaches 0 from the right, and $E^-[Y_{ijt_2}]$ when M_{ijt_2} approaches 0 from the left. Under Assumption 1, at $M_{ijt_2} = 0$, I identify and estimate:

$$\tau_{w|s=1}^{jt_2} = E^+[Y_{ijt_2}|w_{ijt_2} = 1, s_{ijt_2} = 1, c_{mt_2}] - E^-[Y_{ijt_2}|w_{ijt_2} = 0, s_{ijt_2} = 1, c_{mt_2}]$$

In words, $\tau_{w|s=1}^{jt_2}$ is the effect of the victory of the party on the probabil-

ity of being appointed at $M_{ijt_2} = 0$ when $s_{ijt_2} = 1$.

Similarly, consider M_{ijt_1} as the running varible in a second RD design, and politicians in the Not Connected sample as observations. The assignment to $w_{ijt_1} = 1$ follows a deterministic rule: $w_{ijt_1} = \mathbb{1}(M_{ijt_1} \geq 0)$, where $\mathbb{1}$ is the indicator function. Exploiting again Assumption 1, I set up a RD estimation and, at $M_{ijt_1} = 0$, I identify:

$$\tau^{jt_1}_{w|s=0} = E^+[Y_{ijt_1}|w_{ijt_1} = 1, s_{ijt_1} = 0, c_{mt_1}] - E^-[Y_{ijt_1}|w_{ijt_1} = 0, s_{ijt_1} = 0, c_{mt_1}]$$

In words, $\tau^{jt_1}_{w|s=0}$ is the effect of the victory of the party on the probability of being appointed at $M_{ijt_1} = 0$ when $s_{ijt_1} = 0$.

I now state two assumptions that allow me to retrieve the object of interest ($\tau^{jt_2}_{s|w=1}$) using $\tau^{jt_2}_{w|s=1}$ and $\tau^{jt_1}_{w|s=0}$.

Assumption 2 *For ij in c_m at the time of an election, $\tau^{jt}_{w|s=0}$ is constant over time.*

Assumption 3 $E^-[Y_{ijt_2}|w_{ijt_2} = 0, s_{ijt_2} = 1, c_{mt_2}] = E^-[Y_{ijt_2}|w_{ijt_2} = 0, s_{ijt_2} = 0, c_{mt_2}].$

As Grembi et al. (2016) highlight, Assumption 2 is equivalent to assuming that observations just below and just above $M_{ijt_1=0}$ are on a local parallel trend. Assumption 2 is similar to the parallel trend assumption for difference-in-differences, but is required to hold only for observations

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in a neighbourhood of the threshold. Assumption 3 assumes that having a connection or not is indifferent when the party marginally loses.

Proposition 1 *Under Assumptions 1 , 2 and 3,* $\tau_{s|w=1}^{jt_2} = \tau_{w|s=1}^{jt_2} - \tau_{w|s=0}^{jt_1}.$

 Proof Take the difference, at $M_{ijt_2} = 0$:

$$
\begin{aligned}
\tau_{w|s=1}^{t_2} - \tau_{w|s=0}^{t_1} &= \tau_{w|s=1}^{t_2} - \tau_{w|s=0}^{t_2} \\[2em]
&= E^+[Y_{ijt_2}|w_{jt_2} = 1, s_{ijt_2} = 1, c_{mt_2}] - E^-[Y_{ijt_2}|w_{jt_2} = 0, s_{ijt_2} = 1, c_{mt_2}] - \\
&\quad\; E^+[Y_{ijt_2}|w_{jt_2} = 1, s_{ijt_2} = 0, c_{mt_2}] + E^-[Y_{ijt_2}|w_{jt_2} = 0, s_{ijt_2} = 0, c_{mt_2}] \\[2em]
&= E^+[Y_{ijt_2}|w_{jt_2} = 1, s_{ijt_2} = 1, c_{mt_2}] - E^+[Y_{ijt_2}|w_{jt_2} = 1, s_{ijt_2} = 0, c_{mt_2}] \\[2em]
&= \tau_{s|w=1}^{t_2}
\end{aligned}
$$

In the first line I use Assumption 2, and in the third I use Assumption 3. It is now clear that the identification exploits the difference between two cross-sectional RDs with a methodology known as difference-in-discontinuities design. For a detailed discussion of the theory of this methodology I refer to Grembi et al. (2016).

3.4   Empirical Models

Separate RD: First, I estimate separately the effects of the two RDs. Consider all the elections for provincial councils with contested outcomes. For

politicians i, party j, time t and province p, define T_{ijpt} as a dummy for M_{ijpt} larger than 0. Let $f(M_{ijpt})$ be a polynomial function of M_{ijpt}, interacted with T_{ijpt} to allow for different shapes on each side of the discontinuity. Considering politicians in the Connected sample, I estimate the following model:

$$Y_{ijpt_2} = \tau_C \cdot T_{ijpt_2} + f(M_{ijpt_2}) + \epsilon_{ijpt_2} \tag{2}$$

For politicians in the Not Connected sample, I estimate the following model:

$$Y_{ijpt_1} = \tau_{NC} \cdot T_{ijpt_1} + f(M_{ijpt_1}) + \epsilon_{ijpt_1} \tag{3}$$

The coefficients τ_C and τ_{NC} are the separate RD estimators for Connected and Not Connected samples.

Difference-In-Discontinuities: The object of interest is the difference between τ_C and τ_{NC}. Again, I consider all the contested elections for provincial councils. For politicians i in the Connected or Not Connected samples, party j, time t and province p I define:

(3)

$$c_{ijpt_2} = \begin{cases} 1 & \text{if } i \in CS_{jpt_2} \\ 0 & \text{if } i \in NS_{jpt_2} \end{cases} \qquad m_{ijpt_2} = \begin{cases} M_{ijpt_2} & \text{if } i \in CS_{jpt_2} \\ M_{ijpt_1} & \text{if } i \in NS_{jpt_2} \end{cases}$$

$$t_{ijpt_2} = \begin{cases} 1 & \text{if } m_{ijpt_2} > 0 \\ 0 & \text{if } m_{ijpt_2} \leq 0 \end{cases} \qquad y_{ijpt_2} = \begin{cases} Y_{ijpt_2} & \text{if } i \in CS_{jpt_2} \\ Y_{ijpt_1} & \text{if } i \in NS_{jpt_2} \end{cases} \tag{4}$$

and I estimate:

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$$y_{ijpt_2} = \tau \cdot t_{ijpt_2} \cdot c_{ijpt_2} + \alpha \cdot t_{ijpt_2} + f(m_{ijpt_2}) + c_{ijpt_2} \cdot f(m_{ijpt_2}) + \epsilon_{ijpt_2} \quad (6)$$

Under Assumptions 2 and 3, τ is the effect of having a connection to the leader of the opposition when the party is in power. Note that specifications (2),(3) and (6) can be estimated in two ways. A first possibility is to estimate them at the politician level, clustering the standard errors at election level. A second way is to aggregate y_{ijpt_2} at election level, and estimate a weighted least square model at the election level, weighting each observation with the number of politicians to which it refers. Following the predominant trend in the literature, I present the latter. In any case, results are identical.

4   Data and Implementation

Here, I describe my data sources and map the framework from the empirical settings to my application.

4.1   Data Sources

I use three datasets from two sources. The Ministry of the Interior reports online annual data on the composition of municipal, provincial and regional councils from 1985 to 2014, that include the list in which each politician was elected, and their role in the council. The data also contain the following information on all the elected people: date of birth, level of education, gender and profession. The Ministry of the Interior also provides data on provincial elections from 2004 onwards and on regional elections

from 1997 onwards. I personally collected data on provincial elections held between 1993 and 2003.

InfoCamere, an in-house company belonging to the Italian Chamber of Commerce, supplied me with data from 1997 onwards on the composition of the boards of 462 companies that are at least 50% owned by a province. Provinces are not required to submit reports to the chamber of commerce of information on the companies that they owned. I therefore asked for any company for which a single province was registered as owning more than 50% of the shares. The data suffer, and might be incomplete for two reasons. First, I computed the ownership considering direct or indirect shareholding at the second level. I therefore lose ownership through companies at lower levels. Second, data digitalisation started in 1997 but took many years to complete in some local chamber of commerce, and there is no way of identifying whether other companies had at least 50% ownership during the period I consider.[19]

4.2 Implementation

4.2.1 Terms Exploited to Map Connections

The framework in Section 3 is necessary to simplify the intuition of the identification strategy. However, there is no reason to consider only the connections made by politicians during the last term, and exclude the terms

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[19] Both the number and the ownership structures of Italian SOEs were very vague for many years and cannot be fully uncovered because of the lack of any disclosure requirements. This is also the reason why, in the last five years, national governments have implemented a rationalisation process for local SOEs and have started to ask local administrations to disclose their shareholdings.

before. Therefore, in order to gain power in my estimations, I exploit all of the co-workership information that I have at my disposal and consider as Connected those politicians who sat on the same council at the same time during the 10 years preceding the election (this can be two or three terms, depending on the council and the time of election), and I define as Not Connected those politicians using the methodology explained in Section 3. The mathematical definition is given in Appendix C.

4.2.2 Elections

In the main estimation I restrict the analysis to provincial elections held between 1995 and 2010. The main reason for this is that a new law[20] altered the number of politicians sitting on municipal and provincial councils, thus drastically reducing the number of connections and, most likely, the type of politicians who were connected. The second motivation is that a debate about abolishing the provinces started in 2011. Some presidents of provincial governments reacted and decided to resign in protest at the proposal. As a result, appointments to provincial councils lost a lot of appeal. Nevertheless, the results are robust to the inclusion of elections held after 2010.

4.2.3 Party Affiliation

As candidates in Italian elections are supported by a coalition made up of many large and small parties that merge and change names over time, I categorise the political affiliation as Left, Centre or Right. Identifying

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[20]   Articolo 16, comma 17, della legge n. 148 del 2011.

the candidate of each political area in each election is fairly easy. Then, because politicians, especially at the municipal level, might be registered as members of civic lists, I assign each politician to one of the three areas exploiting the name of the most recent civic list or political party for which that politician served in office before the election. The full algorithm for mapping politicians to political areas is described in Appendix B.[21]

5 Results

5.1 Main Results

My sample contains 736 party—province observations, half of which refer to the Connected sample and the other half to the Not Connected sample, for a total of 17,055 politicians. Table 1 reports the main results for promotions to provincial governments of specifications (2), (3) and (6).

For any regression, standard errors are clustered at the provincial level. In column 5, I report the RD estimator for Connected politicians considered on their own. I use the data-driven optimal bandwidth selection from Calonico et al. (2014) and I fit a local linear regression allowing for different trends on each side of the discontinuity. Connected politicians have a benefit of 6% higher probability of being promoted to the provincial government when their party wins. Column 6 reports the same for the Not Connected politicians. They exhibit a much lower benefit from the suc-

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[21] Some politicians were always affiliated as members of civic lists for which their names are not reported. Because I do not have any way of identifying their political affiliation, I drop those observations. This accounts for 18% of the Connected politicians.

Table 1: Main results: The chance of being promoted to the provincial government as a benefit of having a connection with the leader of the opposition

	Connection with the leader of the opposition				Connected	Not Conn.
	0.04**	0.03**	0.03**	0.03**	0.06***	0.03**
	(0.015)	(0.016)	(0.014)	(0.014)	(0.011)	(0.015)
Elections	393	336	446	736	174	111
Politicians	9199	8051	10572	17055	3965	2818
Bandwidth	0.173	0.148	0.198	1.000	0.152	0.098
Degree	1	1	1	2	1	1
R^2	0.16	0.19	0.15	0.17	0.19	0.10

Standard errors in parentheses

** $p < 0.05$, *** $p < 0.01$

Results for weighted least square specifications in (2), (3) and (6), with robust standard errors. Columns 1, 2, 3 and 4 report the difference-In-discontinuities estimators of the effect of having a connection with the leader of the opposition on the probability of being promoted to the provincial governments. Columns 5 and 6 report the RD estimators for the effect of the success of the party on the probability of being promoted to the provincial government for politicians when Connected (column 5) and when Not Connected (column 6).

In columns 1, 2, 3, 5 and 6, a local linear polynomial with a different trend on each side of the discontinuity is estimated. In columns 1, 5 and 6 the optimal bandwidth is chosen according to Calonico et al. (2014), and in columns 2 and 3 I shrink and increase it by 2.5%. In column 4, I estimate a second-degree spline polynomial using the full sample.

cess of their party, estimated to be 2.9%. Both groups have a statistically and economically relevant benefit from the success of their party. Figure 3 shows the graphs of the two separate RDs.

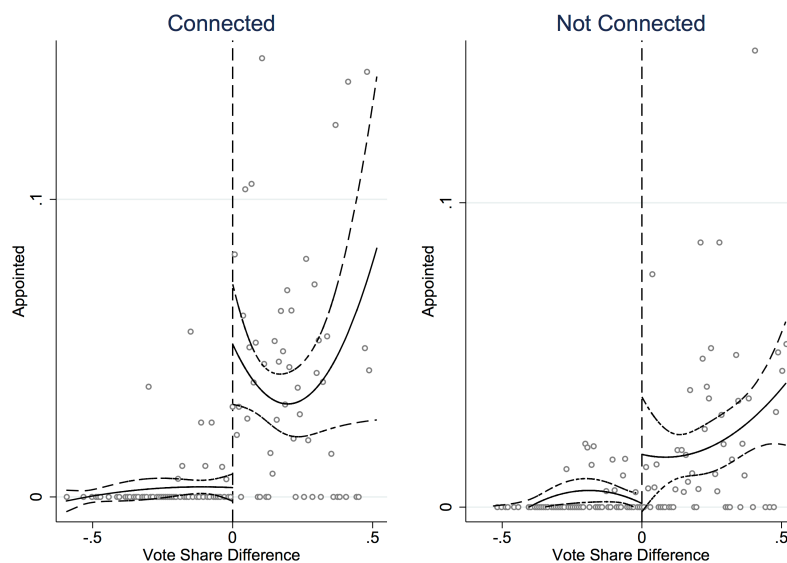In columns 1, 2, 3 and 4 I report the difference-in-discontinuities esti-

Figure 3: Separate RD for appointments to provincial councils.
Vertical axis: appointed or not. Horizontal axis: margin of vote share between the party
to which a politician belongs and the opposition party. The central line is a second-order
spline polynomial; dashed lines represent the 95 % confidence interval. Scatter points
are averaged over intervals of 0.5 % vote share. Left and right panels are separate graphs
for specifications in (2) and (3). The left panel displays the graph for politicians when
Connected, the right panel for politicians when Not Connected.

mators. Column 1 uses the optimal bandwidth computed on the full sam-
ple, following Calonico et al. (2014). Politicians who have a connection
with the leader of the opposition have a 4% higher probability of receiv-
ing an appointment to the provincial government. In columns 2 and 3 I
check for a dependency of the results on the bandwidth, increasing and
shrinking the optimal bandwidth by 2.5%, and in column 4 I use the full
sample to fit a second-order spline polynomial. The results are very simi-
lar, and suggest that a connection with the leader of the opposition more
than doubles the probability of being appointed to the provincial govern-

Figure 4: Difference-in-discontinuities for appointments to provincial councils
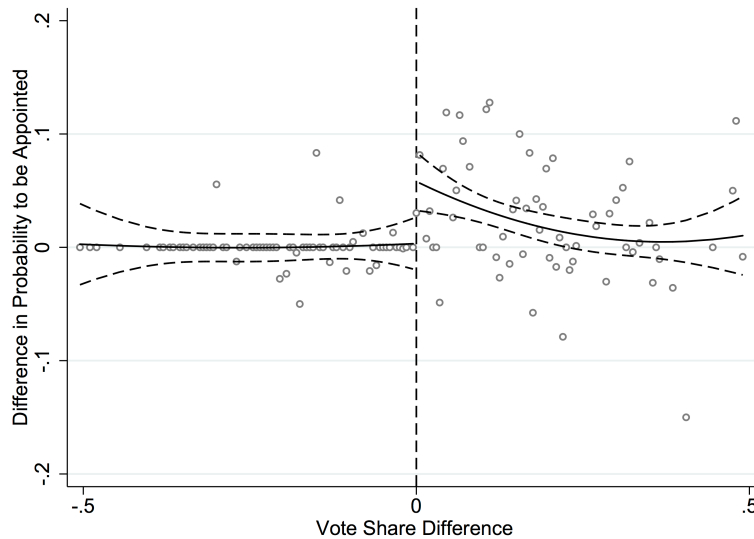
Vertical axis: difference in whether appointed or not to the provincial government between the Connected and the Not Connected group (specification (6)). Horizontal axis: margin of vote share of the party to which a politician belongs and the opposition party. The central line is a spline second-order polynomial; dashed lines represent the 95 % confidence interval. Scatter points are averaged over intervals of 0.5 % vote share.

ment. Figure 4 plots the difference-in-discontinuities estimators, for which every observation is the difference in the probability of being appointed between Connected and Not Connected.

Table 2 reports the main results for appointments to SOEs.

Table 2: Main results: The chance of being promoted to a SOE in which the province has a greater than 50% share as a benefit of having a connection with the leader of the opposition

	Connection with the leader of the opposition				Connected	Not Conn.
	-0.003	-0.007	-0.002	-0.002	0.008*	0.011*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Elections	217	181	268	615	181	87
Politicians	5642	4488	6863	15358	4319	2544
Bandwidth	0.106	0.081	0.131	1.000	0.116	0.121
Degree	1	1	1	2	1	1
R^2	0.02	0.03	0.03	0.02	0.02	0.05

standard errors in parentheses

* $p < 0.1$

Results for weighted least square specifications in (2), (3) and (6), with robust standard errors. Columns 1, 2, 3 and 4 report the difference-in-discontinuities estimators of the effect of having a connection with the leader of the opposition on the probability of being promoted to SOEs of which at least 50% is owned by the administration. Columns 5 and 6 report the RD estimators for the effect of the success of the party on the probability of being promoted for politicians when Connected (column 5) and when Not Connected (column 6).

In columns 1, 2, 3, 5 and 6 a local linear polynomial with a different trend on each side of the discontinuity is estimated. In columns 1, 5 and 6 the optimal bandwidth is chosen according to Calonico et al. (2014), and in columns 2 and 3 I shrink and increase it of 2.5%. In column 4, I estimate a second-order spline polynomial using the full sample.

Again, columns 5 and 6 show the separate RD estimators for Connected and Not Connected with optimal Calonico et al. (2014) bandwidths and clustered standard errors at the provincial level. Separate RD estima-

tors suggest that there are no differences between the two groups. Columns 1, 2, 3 and 4 present the difference-in-discontinuities estimators for different bandwidths and degrees of the polynomial. Overall, they confirm that a connection with the leader of the opposition has no bearing on the probability of being promoted to a SOE of which the province owns an absolute majority of the shares.
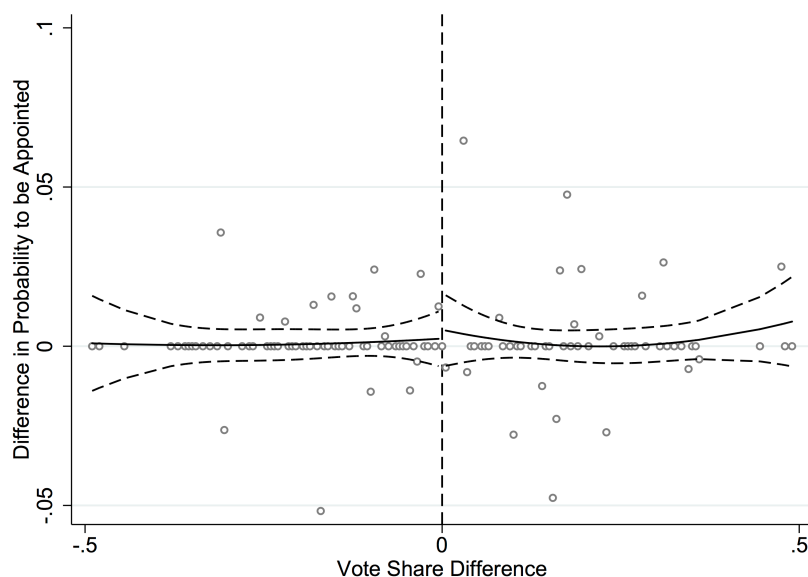

Figure 5: Difference-in-discontinuities for appointments to SOEs.
Vertical axis: difference in whether appointed or not to a SOE of which at least the 50% is owned by the province, between the Connected and the Not Connected group (specification (6)). Horizontal axis: margin of vote share between the party to which a politician belongs and the opposition party. The central line is a second-order spline polynomial; dashed lines represent the 95 % confidence interval. Scatter points are averaged over intervals of 0.5 % vote share.

Finally, Table 3 reports the main results for appointments to other councils' governments. In particular, I use politicians from both earlier estimations, and I observe whether they are appointed to their regional council. Obviously, I replace the margin of vote share of the provincial election with the one of regional elections. Columns 5 and 6 show that separate RD estimates are very similar, suggesting that being connected with the leader of the opposition in a provincial council does not influence the chance of promotion to regional governments when the party wins. Columns 1, 2, 3 and 4 confirm this, showing that the difference-in-discontinuities estimator is not significant, either statistically or economically.

Table 3: Main results: the chance of being promoted to the regional government as a benefit of having a connection with the leader of the opposition in the provincial council

	Connection with the leader of the opposition				Connected	Not Conn.
	0.006	-0.007	0.007	0.008	0.034	0.035***
	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.01)
Elections	107	71	111	186	48	59
Politicians	5606	3702	6225	12406	2605	3001
Bandwidth	0.110	0.085	0.135	1.000	0.115	0.109
Degree	1	1	1	2	1	1
R^2	0.14	0.15	0.09	0.10	0.10	0.18

standard errors in parentheses

*** $p < 0.01$

Results for weighted least square specifications in (2), (3) and (6), with robust standard errors. Columns 1, 2, 3 and 4 report the difference-in-discontinuities estimators of the effect of having a connection with the leader of the opposition on the probability of being promoted to regional governments. Columns 5 and 6 report the RD estimators for the effect of the success of the party on the probability of being promoted for politicians when Connected (column 5) and when Not Connected (column 6).

In columns 1, 2, 3, 5 and 6 a local linear polynomial with a different trend on each side of the discontinuity is estimated. In columns 1, 5 and 6 the optimal bandwidth is chosen according to Calonico et al. (2014), and in columns 2 and 3 I shrink and increase it by 2.5%. In column 4, I estimate a second-order spline polynomial using the full sample.

5.2 Validation

In this section I discuss and validate the identifying assumptions stated in Section 3.

Assumption 1 requires that potential outcomes are continuous around the threshold. In Figure 7, I plot the density of the running variable for Connected and Not Connected, and I test its continuity around the thresholds, running McCrary (2008)'s continuity test.

Figure 6: Difference-in-discontinuities for predetermined covariates.
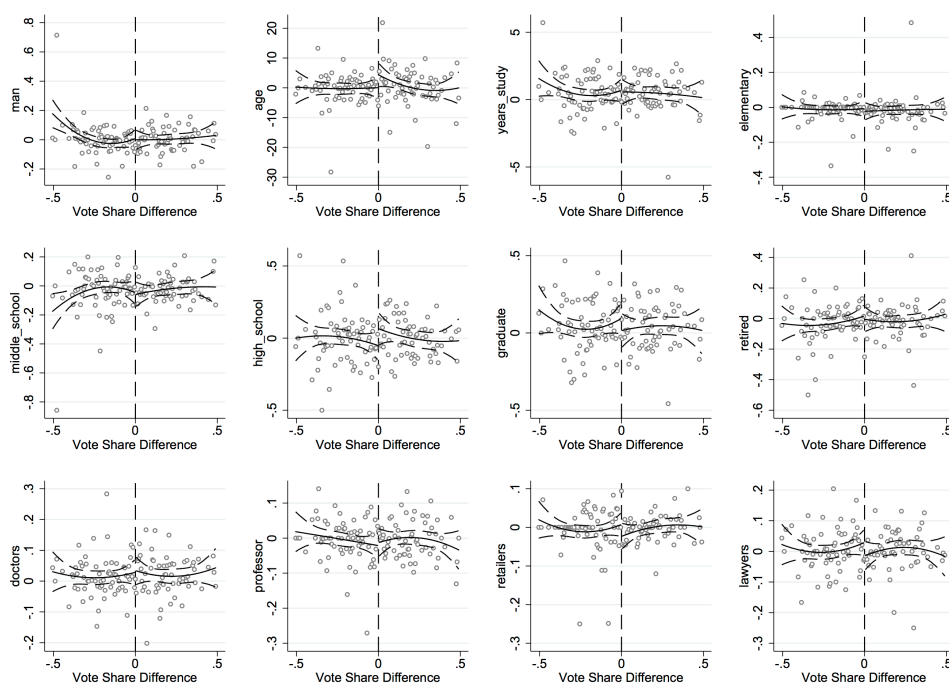
Vertical axis: difference in the covariate between the Connected and the Not Connected group (specification in 6). Horizontal axis: margin of vote share between the party to which a politician belongs and the opposition party. The central line is a second-order spline polynomial; dashed lines represent the 95 % confidence interval. Scatter points are averaged over intervals of 0.5 % vote share.
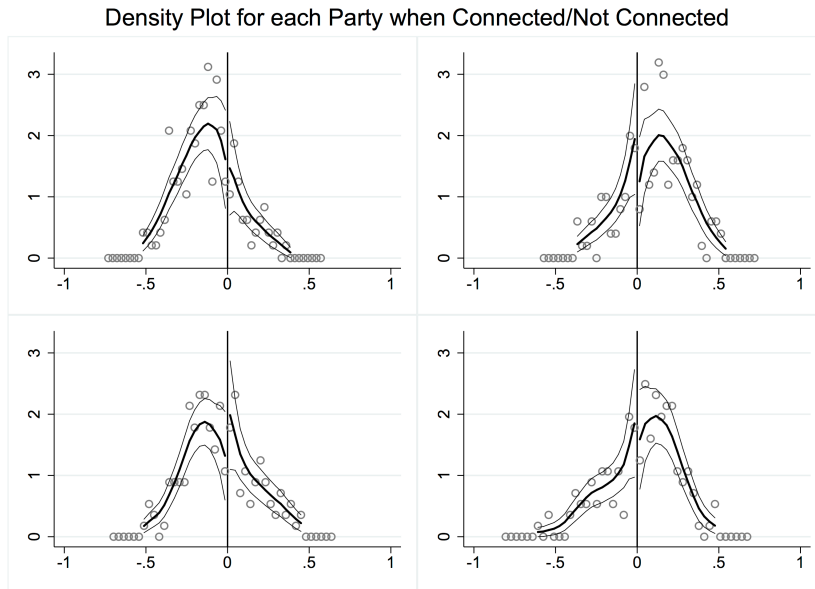
Figure 7: McCrary test

Vertical axis: density of the observation. Horizontal axis: difference in vote share between a party and the opposition. The vertical line is the threshold at 0, the central line is the point estimate and the lateral lines represent the 95 % confidence interval. Left panels refer to the right coalition, and right panels to the left coalition. The top two panels are for the Not Connected, and the bottom two panels are for the Connected.

If parties were able to manipulate the difference in vote share against the opposition, my RD setup would suffer from selection bias. However, it is very hard to argue that a party can manipulate the outcome of an election because the procedures for controlling and counting the votes are very stringent, and representatives from any party running in the election are allowed to be present during the counting in any polling station. As expected, the densities turn out to be continuous. Density differences at the threshold are estimated to be .05 (-.66) with a standard deviation of .43 (.46) for Right- (Left-) wing candidates in the Not Connected sample; and .59 (-.34) with a standard deviation of .44 (.44) for Right- (Left-) wing candi-

dates in the Connected sample. The outcomes of McCrary tests vouch for the fact that units around the threshold cannot control on which side of the discontinuity they end up. In Table 15 and Figure 6 I report the difference-in-discontinuities estimators of a number of pretreatment characteristics of the politicians. They are shown to be continuous around the thresholds, suggesting that potential outcomes are also very likely to be continuous around the thresholds.

Assumption 2 is the additional assumption in the difference-in-discontinuities framework with respect to the usual RD estimation. It requires that the effect of the success of the party for politicians from a particular council when they are not connected is constant over time. I test this assumption with a falsification exercise, and with an alternative estimation in which the time trend between Connected and Not Connected politicians is reversed. I falsify the difference-in-discontinuities specification comparing the Not Connected with the cohort of politicians that sat on that council before them. Figure 8 gives a graphical description.

I estimate for both groups the benefit of the success of the party when Not Connected. Therefore, if the effect of the success of the party is constant over time, separate RD estimates identify the same estimand, and the difference-in-discontinuities estimator should be zero. Table 4 supports Assumption 2. Columns 5 and 6 show the separate RD estimators and columns 1, 2, 3 and 4 the difference-in-discontinuities estimators. Note that because I need to use observations from one more term before, I lose one term and some observations. Nevertheless, the difference-in-discontinuities estimates are very close to zero, and the separate RD estimates are very

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Figure 8: Falsification framework.
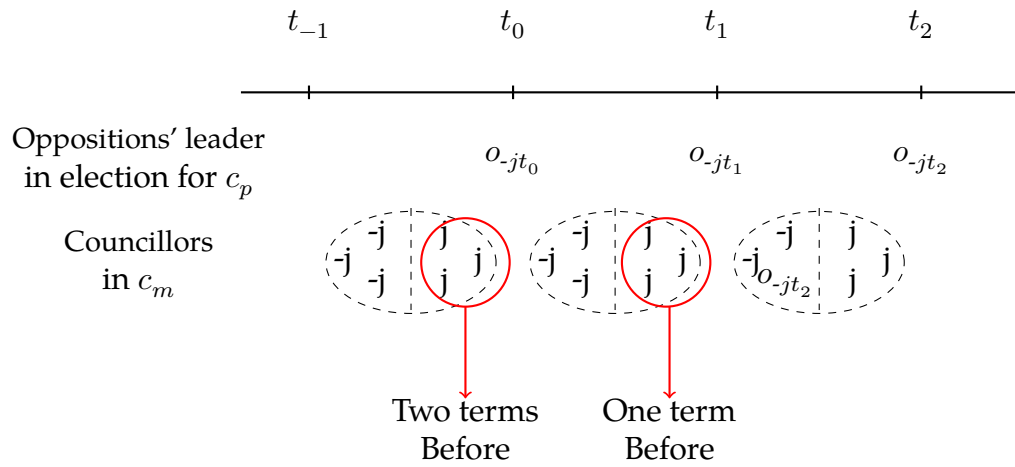
similar and comparable with those of the Not Connected in Table 1, strongly suggesting that there is no time trend in the effect of the victory of the party alone.

Table 4: Time trend assumption. Falsification test.

|	Connection with the leader of the opposition				1 term before	2 terms before
	-0.00	0.00	-0.00	-0.00	0.03	0.02**
	(0.019)	(0.021)	(0.018)	(0.016)	(0.018)	(0.011)
Observations	213	183	250	430	93	99
Politicians	5572	4741	6669	11168	2551	2417
Bandwidth	0.160	0.135	0.185	1.000	0.133	0.156
Degree	1	1	1	2	1	1
R^2	0.07	0.08	0.05	0.08	0.08	0.06

standard errors in parentheses

** $p < 0.05$

Results for weighted least square specifications in (2), (3) and (6), with robust standard errors. Columns 1, 2, 3 and 4 report the difference-in-discontinuities estimators using the placebo samples on the probability of being promoted to provincial governments. Columns 5 and 6 report the RD estimators of the effect of the success of the party on the probability of being promoted for politicians from the same councils when Not Connected, that sit on the council one term before the Connected (column 5) and two terms before (column 6).

In columns 1, 2, 3, 5 and 6 a local linear polynomial with a different trend on each side of the discontinuity is estimated. In columns 1, 5 and 6 the optimal bandwidth is chosen according to Calonico et al. (2014), and in columns 2 and 3 I shrink and increase it by 2.5%. In column 4, I estimate a second-order spline polynomial using the full sample.

Another way to test Assumption 2 is to draw the Not Connected politicians only from the cohort elected after the Connected, and not from the one elected beforehand. Figure 9 provides a graphical display. If Assumption 2 is not fulfilled and $\tau^{jt_1}_{w|s=0}$ is on some time trend, running this alternative exercise I should observe results that contradict those of the main estimations. If, instead, Assumption 2 is fulfilled, the results should be the same. Table 5 reports the results. The difference-in-discontinuities estimators are very similar to those in Table 1. The RD estimators of the Connected and Not Connected groups differ significantly, and the difference-in-discontinuities estimators turn out to be very close to those of Table 1.

Figure 9: Framework to revert the time trend between Connected and Not Connected.
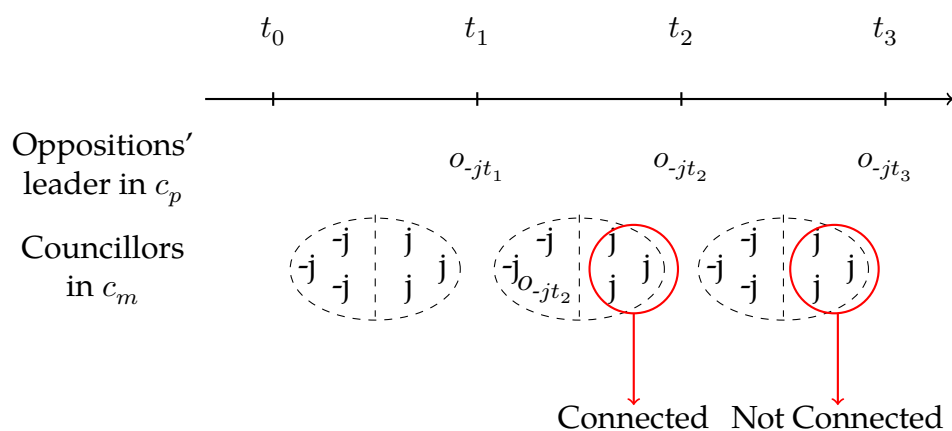
To further support Assumption 2, in Figure 10, I compare covariates of Connected and Not Connected. Even if covariate balancing is not strictly required to prove Assumption 2,[22] showing that covariates are balanced

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[22] Indeed, Assumption 2 could be fulfilled even if covariates were unbalanced, as, for

Table 5: Time trend assumption test: The chance of being promoted to the provincial government as a benefit of having a connection with the leader of the opposition. Not Connected politicians are selected from the term subsequent to the one in which the Connected sit on the council.

	Connection with the leader of the opposition				Connected	Not Conn.
	0.03*	0.04**	0.02	0.02	0.08***	0.03**
	(0.019)	(0.020)	(0.017)	(0.016)	(0.016)	(0.015)
Observations	312	272	376	662	144	117
Politicians	6355	5493	7664	13387	2665	2615
Bandwidth	0.157	0.132	0.182	1.000	0.140	0.123
Degree	1	1	1	2	1	1
R^2	0.21	0.22	0.20	0.20	0.20	0.26

standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Results for weighted least square specifications in (2), (3) and (6), with robust standard errors. Columns 1, 2, 3 and 4 report the difference-in-discontinuities estimators for the effect of having a connection with the leader of the opposition on the probability of being promoted to the provincial governments. Columns 5 and 6 report the RD estimators for the effect of the success of the party on the probability of being promoted to the provincial government for politicians when Connected (column 5) and when Not Connected (column 6).

In the Not Connected sample there are politicians from the term subsequent to the one in which Connected sit on their council of origin.

In columns 1, 2, 3, 5 and 6 a local linear polynomial with a different trend on each side of the discontinuity is estimated. In columns 1, 5 and 6 the optimal bandwidth is chosen according to Calonico et al. (2014), and in columns 2 and 3 I shrink and increase it by 2.5%. In column 4, I estimate a second-order spline polynomial using the full sample.

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example, in the case in which the time trend in covariates between Connected and Not Connected is common to politicians from any council within the province.

suggests that politicians self selection and electors' selection criteria for council do not change over time, and that the chance of promotion in absence of connection would have been the same. The three graphs at the top of Figure 10 report the kernel density estimations and the average for sex, age and level of education of Connected politicians (in red) and Not Connected politicians (in blue). Estimated densities are very similar and means overlap, showing that the two groups are very similar. The three graphs at the bottom of Figure 10 report the density for each covariate of the difference between Connected and Not Connected and the other politicians in office in the province at the same time. This exercise shows that the relative level of each covariate between politicians in the Connected sample and other politicians in office at the same time in the province is the same as the relative level of each covariate between politicians in the Not Connected sample and other politicians in office in the province at the same time. This evidence suggest that Connected and Not Connected politicians have the same level of competitiveness within their province, bringing additional ammunition to support Assumption 2.

Figure 10: Kernel density estimates for covariates (upper panels), and for the difference in the level of each covariate with respect to the average number of politicians in office in the province (lower panels) for Connected and Not Connected.
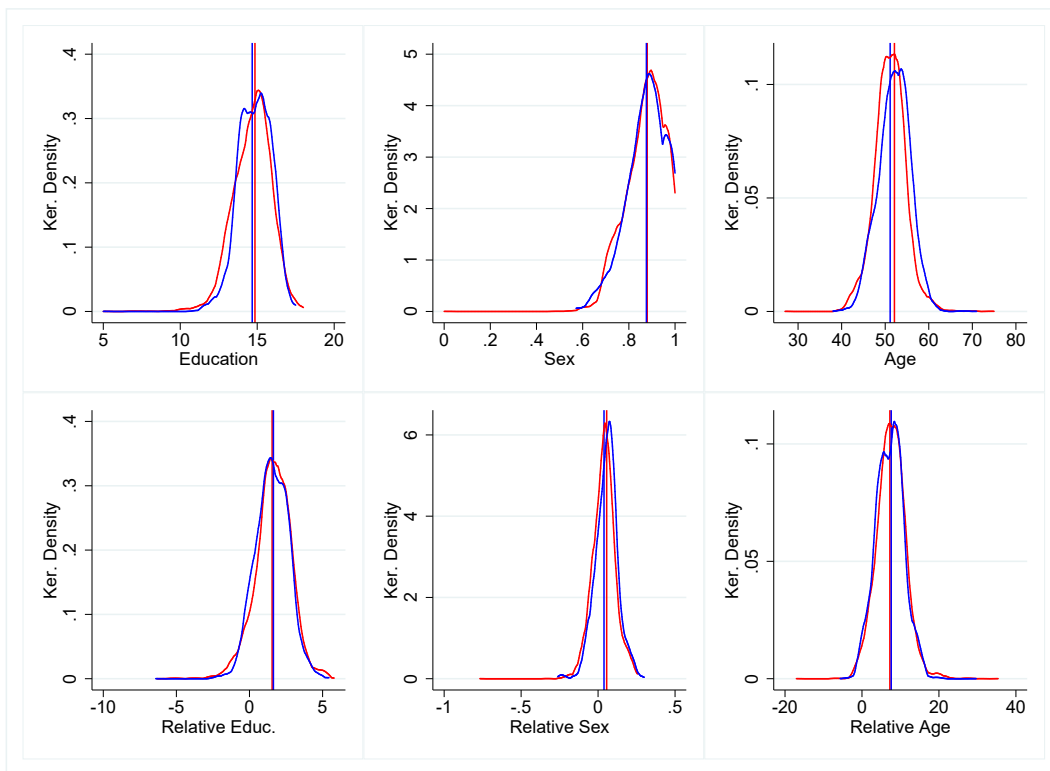
Assumption 3 requires that having a connection with the leader of the opposition is not useful when one's own party loses. In Figure 3, we immediately see that at the left of the threshold, the probability of being appointed is zero.

Table 6: Null effect of connection with the leader of the opposition when the party loses

| | 95% interval | |
	Full sample	10% around the threshold
$E[Y_{ijt}|w_{jt} = 0]$	(0.0033;0.0040)	(0.0031;0.0036)
$E[Y_{ijt}|w_{jt} = 0, s_{ijt} = 1]$	(0.0033;0.0043)	(0.0030;0.0037)
$E[Y_{ijt}|w_{jt} = 0, s_{ijt} = 0]$	(0.0029;0.0041)	(0.0029;0.0036)

95% confidence interval for the probability of being appointed when the party loses and the politician is connected with the leader of the opposition party. The probability of being appointed is extremely small, and the second and third rows exhibit very similar intervals. Assumption 3 is fulfilled.

Table 6 reports the 95% confidence intervals for the probability of being appointed. The probability is the same for politicians in both the Connected and the Not Connected sample, and is very close to zero both for observations close to the threshold from the left and for the full sample at the left of the threshold.

Moreover, a possible threat to the identification is the possibility that some time varying factors drive both the selection of the leader of the rivals and the selection of the promotion among politicians of the winning party. As an example, suppose that an earthquake occurs and a municipality suddenly gets a great deal of media exposures. The popularity of politicians from that municipality rises, making them more likely to be se-

lected as a candidate and leader of their party in the following provincial election, in addition to being more likely to be promoted in the event of their party winning. To address this possible issue in Table 7, I show that Connected and Not connected have the same chance of being selected to run for councillors, receive the same amount of preference from the voters and have the same chance of being elected as councillors in the respective elections.[23] Further, results of promotion to regional offices confirm that *Connected* and *Not connected* are alike in their careers in regional offices. This evidence proves that Connected and Not Connected are very similar in any political outcome other than promotion to the provincial government, whether this be under the control of the party or the voters, ruling out a correlation with any time-varying factor that influences the connection between the opposition and their political promotions, for example, the aforementioned unexpected rise in the popularity level of the opposition.

Finally, because I am comparing two RD estimates that by definition refer to the population around the respective cutoff, I show that observations that happen to be very close to the thresholds for Connected and Not Connected are very similar, proving that the estimators are suitable for the comparison that I am running. In Figure 11, I report the average province and individual characteristics of observations around the thresholds for the Connected and Not Connected samples; none of them turn out to be statistically significant, suggesting that both RD estimates refer to very similar populations.

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[23]   These data are available from 2004 onwards.

Figure 11: Similar observation around the threshold
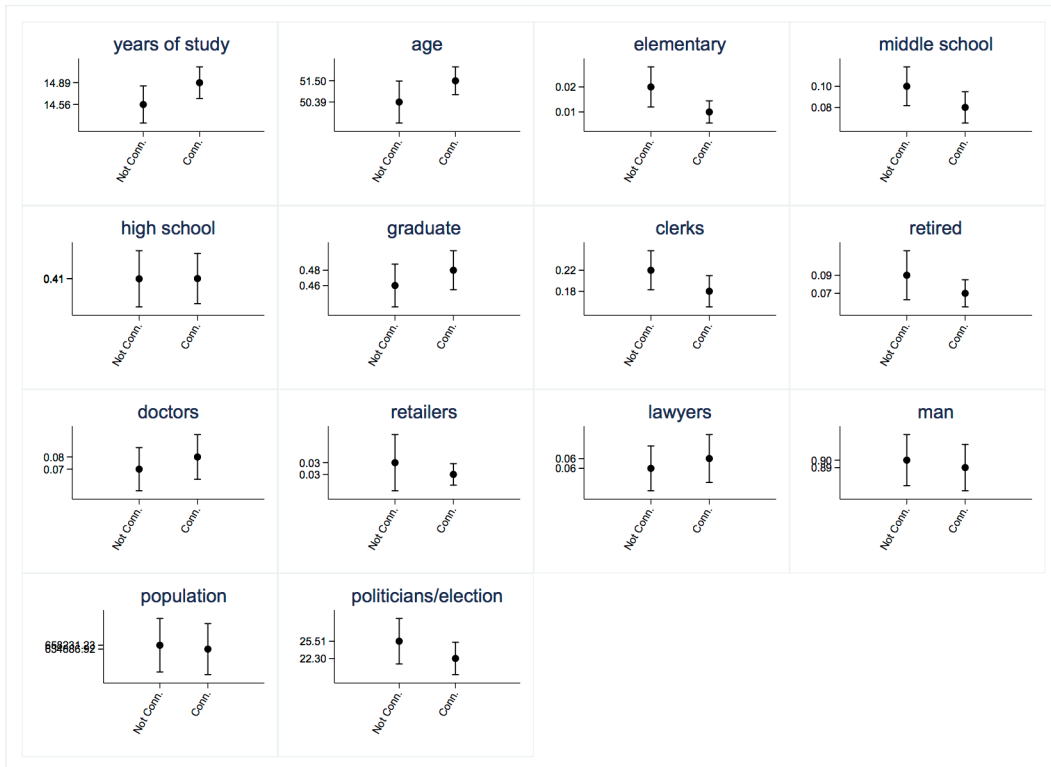
For each covariate: vertical axis is the average for observations around the threshold (+/- 10% difference in vote share); horizontal axis is the group (Not Connected and Connected). The vertical lines represent the 95 % confidence interval. Observations that happen to be close to the thresholds have similar characteristics in both groups, suggesting that RD coefficients coming from different samples are comparable.

Table 7: Share of Connected and Not Connected chosen to run for the provincial council, elected as councillor in the council and the number of preferences received

	Connected (2009)	Not Connected (2004)	Difference	P-val
Candidate	.18 (.02)	.22 (.02)	.04 (.03)	.19
Preference	1629.46 (164.32)	1536.87 (184.08)	92.58 (249.22)	.71
Elected	.075 (.01)	.067 (.01)	.008 (.02)	.59

	Connected (2004)	Not Connected (2009)	Difference	P-val
Candidate	.22 (.02)	.18 (.02)	.04 (.03)	.18
Preference	1325.2 (139.25)	1495.4 (135.81)	170.25 (194.51)	.38
Elected	.066 (.01)	.077 (.01)	.011 (.02)	.52

5.3 Persistency

An interesting aspect to explore is whether the benefits from a connection with the leader of the opposition persist over time, or whether politicians return to their career trajectories. Here, I restrict the sample of analysis to elections held before 2006, and I explore the effects of a connection with the leader of the opposition in a provincial council during the term of the election to which they refer, and during the subsequent term.

I use specification (6) for different types of offices and for the two terms after a provincial election. I explore which politicians are appointed to the provincial and regional governments and which are elected to the regional council. Note that both the regional council and the regional government are more desirable offices than the provincial government.

Table 8 reports the results. The upper panel shows that during the term of the election, a connection with the leader of the opposition in a provincial council is beneficial only for appointments to the provincial government, obviously because the leader of the opposition to whom politicians have a connection sits on the provincial council. Afterwards, the effect spreads to other more desirable offices. The lower panel suggests that the effect on political careers is persistent, and politicians connected with the leader of the opposition in the previous term are more likely to be appointed to the provincial and regional government, and also more likely to be elected to the regional council.

Unfortunately, the time dimensions and the power of the results are very limited. However, Table 8 suggests that the benefits of a connection with the leader of the opposition go beyond the term in which he/she is

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Table 8: Persistency: impact of a connection with the leader of the opposition in a provincial council during the term in which politicians are connected with the leader of the opposition in the provincial council, and during the subsequent term.

	(1) Provincial gov.	(2) Regional council	(3) Regional gov.
During the term of the election in which connected with the leader of the opposition in the provincial council			
	0.055***	0.007	0.008
	(0.017)	(0.088)	(0.047)
Elections	265	163	128
Politicians	5957	3697	2716
Bandwidth	0.184	0.121	0.090
R^2	0.17	0.09	0.07
During the following term			
	0.031	0.035	0.025
	(0.024)	(0.045)	(0.029)
Elections	195	171	140
Politicians	4475	3911	3151
Bandwidth	0.133	0.122	0.097
R^2	0.07	0.09	0.10

Standard errors in parentheses

*** $p < 0.01$

Provincial elections held before 2006. Difference-in-discontinuities estimators for appointments made during the term of the provincial election in which politicians are connected with the leader of the opposition in the provincial council, and during the successive term. A connection with the leader of the opposition in a provincial council has an immediate impact on the probability of being promoted to the government of that council. Then, the promotion propagates to other better councils and governments (e.g. the regional) in subsequent terms.

on the opposing side, and persist in the form of better careers in more desirable offices in the future.

5.4 Robustness

Here, I present the results of some robustness tests. In the upper panel of Table 16 I report the results of the main specification with controls for several observed characteristics. The results are confirmed, and the estimators are slightly more precise, due to the set of controls. In Figure 12, I plot the RD estimates of specification (6) against the size of the local bandwidth. The difference-in-discontinuities estimator is very stable and the results do not depend on the choice of bandwidth.

Figure 12: Difference-in-discontinuities: Bandwidth robustness.
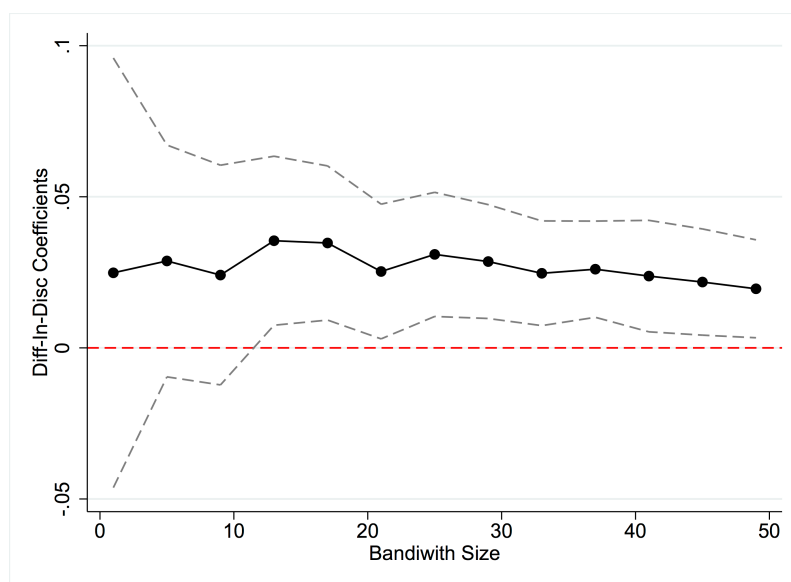
Vertical axis: Difference-in-discontinuities estimator (specification in (6)). Horizontal axis: bandwidth size. Dashed lines represent the 95 % confidence interval.

In Table 14, I present the results of a robustness exercise in which I exclude the few politicians connected both to the leader of the opposition *and* their own party's candidate. In some cases, both parties might have incentives to recruit leaders from the same council. The motivations might be

very different and might reflect temporary or structural characteristics of the province or region.[24] This exercise is necessary to rule out the possibility that the results are driven by a connection with the candidate from the party that wins, in the spirit of Dal Bó et al. (2009) and Xu (2018), even if the correlation of connection with each candidate is remarkably low. Table 14 shows that the results do not change.

Finally, in the lower panel of Table 16, I present the results of running the main specification while including provincial elections held after 2010, as well as regional elections with their respective Connected and Not Connected samples.

6   Channel

Here I present ammunition to support the interpretation of the results. My argument is that appointees with a connection with the leader of the opposition are able to form a bridge between the government and the opposition, thereby improving the relationship, making the legislative procedure quicker and preventing strong forms of opposition. If this channel is driving the results, the data should display certain facts. First, among those who met the leader of the opposition, politicians closer in individual

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[24]   For example, when a natural disaster such as an earthquake hits a particular territory, parties might find it convenient to choose politicians from that territory. The same pattern might occur for other media-relevant episodes. Furthermore, there might be structural features of the provinces or regions that mean a party's choice of candidates is correlated to whatever these are: they might decide to recruit candidates from areas that are more populated, or from where the voters are more educated or where the electorate is more volatile or more sensitive to whether they are being represented.

characteristics to him/her should be more likely to form a connection and, therefore, be more likely to be appointed. Second, a good relationship with the leader of the opposition should be more important for weaker governments.

6.1 Homophily

Human beings tend to prefer to link and bond together with others that are similar to them in characteristics such as socio-economic status, values, beliefs and attitudes. This human tendency is known as *homophily*, and is observed in almost any context.[25] In the light of this phenomenon, politicians closer in individual characteristics to the leader of the opposition should be those who were more likely to have formed a connection with her when they met him/her in the past. Therefore, I should observe that among the politicians who met the leader of the opposition, those who are more similar to him/her are the drivers of the results.

I measure homophily in terms of age, education, job and sex. For any variable I measure homophily as $X_{\text{homphily}} = -|X_{\text{politician}} - X_{\text{leader opposition}}|$. I also build an index of homophily multiplying the four measures. I allow specifications (2) and (3) to have a heterogeneous effect at the threshold for any homophily measure. The upper panel of Table 9 shows that for connected politicians, having similar characteristics to the leader of the opposition increases the likelihood of being appointed when the party wins. Because an obvious objection may be that better politicians exhibit similar traits, I repeat the exercise for the Not Connected. The lower panel of Ta-

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[25] For a survey see, for example, McPherson et al. (2001).

Table 9: Relevance of homophily with the leader of the opposition when the proper party wins for Connected and Not Connected

	(1) Index	(2) Age	(3) Job	(4) Sex	(5) Education
Connected					
Homophily	0.003***	0.003*	0.124	0.015	-0.000
	(0.001)	(0.002)	(0.114)	(0.024)	(0.002)
Elections	121	121	117	122	117
Politicians	2561	2561	2494	2563	2437
Bandwidth	0.114	0.114	0.107	0.113	0.108
Degree	1	1	1	1	1
Rsq	0.02	0.02	0.02	0.02	0.01
Not Connected					
Homophily	0.002	0.001	-0.033	0.004	0.005
	(0.001)	(0.001)	(0.046)	(0.017)	(0.005)
Elections	91	91	93	93	103
Politicians	2168	2168	2291	2240	2579
Bandwidth	0.084	0.084	0.085	0.094	0.097
Degree	1	1	1	1	1
Rsq	0.02	0.02	0.02	0.02	0.02

Standard errors in parentheses

* $p < 0.1$, *** $p < 0.01$

Heterogeneity of the effect of the victory of the party is separately estimated for Connected and Not Connected. Homophily in variable X is measured as $X = -|X_{\text{politician}} - X_{\text{leader opposition}}|$. *Index* is the product of the homophily in age, job, sex and education. As expected, having similar characteristics to the leader of the opposition has a positive effect only for the Connected.

ble 9 proves that when a politician hasn't met the leader of the opposition, having similar characteristics to him/her does not increase or decrease the benefit of the victory of the party.

Overall, Table 9 suggests that only for politicians who have met the leader of their opponents in the past, having similar characteristics to him/her means a higher probability of being appointed when his/her party wins. These results confirm the prediction I made with regard to *homophily*, supporting the fact that the appointment is made because of a connection between the politician and the leader of the opposition.

6.2 Strength of the Governments

Governments have a greater incentive to have a good relationship with the opposition when their majority is weak or heterogeneous, because they are more likely to face situations in which they lack support, or disagree among themselves. Therefore, I suspect that the importance of forming a connection with the leader of the opposition in relation to being appointed to the provincial government is greater the less stable and homogeneous the government is. Unfortunately, the difference-in-discontinuity estimation makes use of close elections that by definition deliver only very weak governments. I therefore switch to OLS estimations.

I consider two alternative measures of stability. First, I compare a *supermajorities*, that is, coalitions in which one single party has more than 50% of the seat share, against *minimum winning coalitions*, that is, coalitions in which the support of all the parties is necessary to reach an absolute majority in the council, and against any *other coalition*, a residual category

that rests in the middle of the two. I take into consideration politicians of the party that wins a provincial election and who are in office in one of the municipalities of the province during the year before the election. I regress whether they are appointed on a set of individual characteristics, and time, province and coalition affiliation fixed effects. I report the results in Table 10. When the ruling coalition is a supermajority, a connection with the leader of the opposition has no effect, either economically or statistically. The relevance of the connection with the leader of the opposition becomes positive and significant for the other groups, showing a huge impact for the minimum winning coalitions, which are obviously meant to be the most unsafe and unstable.

Table 10: Heterogeneous effects of a connection with the leader of the opposition: Supermajorities and minimum winning coalitions.

	(1) One party has more than the 50% of the seats	(2) other coalitions	(3) Any party is necessary to achieve 50%	(4) One party has the 50% of seats	(5) Other coalitions	(6) Any party is necessary to achieve 50%
Importance of being connected	-0.007	0.060**	0.095***	-0.011	0.058**	0.097***
	(0.034)	(0.024)	(0.035)	(0.033)	(0.024)	(0.034)
Observations	6284	32645	5253	6284	32645	5253
Year FE	0	0	0	1	1	1
Province FE	0	0	0	1	1	1
Ideol. FE	0	0	0	1	1	1
R^2	0.13	0.11	0.11	0.14	0.11	0.12

Standard errors in parentheses
** $p < 0.05$, *** $p < 0.01$
Provincial elections held between 1995 and 2010. Observations: politicians active in a council of the province during the year before the election. Outcome: whether appointed to the provincial government. Controls: years of study, white collar, age, age square, male, political experience and whether also connected with the elected president from the party. In columns 3, 4 and 5 I control for election and ideology fixed effects. Standard errors are clustered at council of provenance level.

Second, I try to capture government stability using politicians' ideology. I build a measure of political ideology ranking the ideology of any politicians between 0 (extreme Right) and 1 (extreme Left), exploiting the name of the party list for which they are elected.[26] For each provincial election I create two measures of government stability. First, I compute the standard deviation in the ideology of politicians elected for party-lists that support the governments. Second, I define the difference in ideology between the elected president and the average ideology of councillors elected in the majority. Indeed, depending on the preferences of the electors expressed in the ballot, a majority can be more or less volatile or more or less close to the ideology of the elected president. Again, I run an OLS, in which I consider politicians of the party that wins a provincial election and who are in office in one of the municipalities of the province during the year before the election. In Table 11, I regress whether they are appointed on a set of individual characteristics, and time, province and coalition affiliation fixed effects. The results show that the importance of a connection with the leader of the opposition is zero for very stable coalitions, and increases for more heterogeneous coalitions.

Overall, the results suggest that the importance of a connection with the leader of the opposition for members of the party that wins an election is positively correlated with the weakness of the government. The less stable and homogeneous a government is, the higher the returns from a connection with the leader of the opposition.

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[26] The full algorithm is given in Appendix B.

Table 11: Heterogeneous effects of a connection with the leader of the opposition: Ideological volatility

	(1) Safe	(2) Not safe	(3) Safe	(4) Not safe	(5) Safe	(6) Not safe
Importance of a connection with the leader of the opposition	0.028 (0.018)	0.070*** (0.019)	0.008 (0.018)	0.059** (0.024)	0.004 (0.018)	0.058** (0.024)
Observations	35641	30762	35028	30308	35028	30308
Year FE	0	0	0	0	1	1
Province FE	0	0	0	0	1	1
Ideol FE	0	0	0	1	1	1
R^2	0.11	0.11	0.12	0.11	0.12	0.12

Standard errors in parentheses

** $p < 0.05$, *** $p < 0.01$

Provincial elections held between 1995 and 2010. Observations: politicians active in a council of the province during the year before the election. Outcome: whether appointed to the provincial government. Controls: years of study, white collar, age, age square, male, political experience and whether also connected with the elected president from the party. In columns 1, 3 and 5 (2, 4 and 6) I consider elections in which the standard deviation of the ideology of politicians elected with the winning coalition is below (above) the median. I control for election and ideology fixed effects. Standard errors are clustered at council of provenance level.

Table 12: Heterogeneous effects of a connection with the leader of the op-
position: Ideological distance.

	(1) Safe	(2) Not safe	(3) Safe	(4) Not safe	(5) Safe	(6) Not safe
Importance of a connection with the leader of the opposition	0.035** (0.018)	0.074*** (0.018)	0.013 (0.019)	0.063*** (0.022)	0.009 (0.018)	0.062*** (0.022)
Observations	36180	33334	35571	32866	35571	32866
Year FE	0	0	0	0	1	1
Province FE	0	0	0	0	1	1
Ideol FE	0	0	1	1	1	1
R^2	0.11	0.11	0.11	0.11	0.12	0.12

Standard errors in parentheses

** $p < 0.05$, *** $p < 0.01$

Provincial elections held between 1995 and 2010. Observations: politicians active in a council of the province during the year before the election. Outcome: whether appointed to the provincial government. Controls: years of study, white collar, age, age square, male, political experience and whether also connected with the elected president from the party. In columns 1, 3 and 5 (2, 4 and 6) I consider elections in which the standard deviation of the ideology of politicians elected with the winning coalition is below (above) the median. I control for election and ideology fixed effects. Standard errors are clustered at council of provenance level.

Provincial elections held between 1995 and 2010. Observations: politicians active in a council of the province during the year before the election. Outcome: whether appointed to the provincial government. Controls: years of study, white collar, age, age square, male, political experience and whether also connected with the elected president from the party. In columns 1, 3 and 5 (2, 4 and 6) I consider elections in which the average distance in ideology between the elected president and the politicians elected with the winning coalition is below (above) the median. I control for election and ideology fixed effects. Standard errors are clustered at council of provenance level.

6.3 Consequences for Politicians' Selection.

Understanding whether promotion of politicians connected with the opposition has a positive or negative impact on welfare is a very hard task. First, welfare is hardly measurable. Second, in the empirical exercise, I exploit variation at the politician level, whereas a welfare evaluation would require a variation of connectedness at the government level.[27] However, an analysis of individual characteristics of politicians can help us to describe the consequences for politicians' selection.

Education is probably the sole factor that has been unquestionably shown to have positive effects on unambiguous economic indicators.[28] In particular, Besley et al. (2011) consider more than 1000 political leaders between 1875 and 2004 and show in a causal framework that more-educated leaders foster a country's growth. In Table 13, I report some summary statistics for politicians promoted to provincial governments. Obviously, this is just a partial analysis, because Connected politicians can differ from those who are Not Connected in an array of unobservable characteristics that might be relevant qualities for a politician. The profile of Connected politicians is quite different from the profile of those who are Not Connected: Connected politicians are more likely to be men, are older and, most importantly, are considerably less educated. Therefore, Table 13 suggests that promotion of Connected politicians negatively affects politicians' selection, at least when referring to education.

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[27] The lack of variation at government level would require the construction of counterfactual laws and policies with respect to those implemented.

[28] Pre-office income of politicians is the other common measure of politicians' quality. However, its impact on economic performance has not been established yet.

Table 13: Consequences for politicians' selection: Individual characteristics

Variable	Not connected	With connection	Without connection	P-val
Education	15.59	14.95	0.63**	0.03
	(.12)	(.28)	(.29)	
Male	0.81	0.94	-0.13***	0.00
	(0.02)	(0.02)	(.03)	
Age	46.92	47.77	-0.85	0.35
	(.40)	(.78)	(.91)	
White collar	0.75	0.78	-0.03	0.52
	(.01)	(0.04)	(.04)	

Standard errors in parentheses
Columns 2 and 3 report the averages for politicians promoted to the government with a
connection and without. Connected politicians are more likely to be male, to be older, to
be less educated and to be white-collar workers.

7   Conclusions

Structural holes are very relevant in network analysis. They shape the network characteristics, the payoffs allocations and the efficiency of nodes (e.g. Goyal and Vega-Redondo (2007); Burt et al. (2002); Choi et al. (2017)). After the seminal papers of Granovetter (1983) and Burt (1992), this concept has been extended to different and complex structures of intermediation, such as transportation and communication networks, supply chains, information networks and financial brokerage.

In theory, whether structural holes in the politicians' network matter for political careers is not clear. Despite the fact that politicians able to work across party lines are deemed very useful in politics, having a connection with the leader of the opposition and being able to connect majority and opposition might be beneficial, but could also be harmful for the political careers of ruling party politicians. Indeed, politicians connected with the leader of the opposition can be a useful political liaison with the enemy, but they can also be disloyal.

In this paper, I use data on Italian provinces to investigate how having a connection with the leader of the opposition affects the careers of ruling party politicians. Results show that ruling party politicians who have a connection with the leader of the opposition in a provincial council double their probability of being promoted to the provincial government. The same connection does not alter either the probability of being appointed to SOEs, or the probability of being promoted to the regional governments, in which the opposition is made up of other politicians. The results are driven by weaker governments, exactly those for which the liaison with

the opposition is most necessary. In addition, during the terms following their promotions, Connected politicians enjoy better careers and hold more desirable offices. Finally, Connected politicians are less educated than the others promoted, which suggests that the selection of politicians is negatively affected.

To conclude, political careers are clearly an issue of practical and theoretical relevance in economics. Thanks to the recent literature, we know very well that politicians who have a connection with a politician in office enjoy better careers (e.g. Dal Bó et al. (2009); Xu (2018)). This paper shows that successful political careers are also fostered by having a connection with the leader of the opposition, because politicians with such a connection act as political brokers between the majority and the opposition. The size of the result is remarkably large; however, at the same time it is very comparable with similar investigations on the effects of connections between firms and individuals, and politicians, confirming that connections with politicians are a strong determinant of many relevant outcomes in our society. Finally, it is curious but, at the same time, very consistent, to also note that in a very polarised environment, such as the one in which I ran the empirical analysis, keeping the enemies close is an objective of political promotions.

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A Robustness

Table 14: Robustness:The chance of being appointed to the provincial government as a benefit of a connection *only* to the leader of the opposition

	Connection with the leader of the opposition				Connected	Not Conn.
	0.05***	0.05***	0.04***	0.05***	0.06***	0.01
	(0.013)	(0.013)	(0.012)	(0.012)	(0.016)	(0.007)
Observations	352	302	396	646	100	88
Politicians	7580	6640	8562	13239	1990	1932
Bandwidth	0.175	0.150	0.200	1.000	0.103	0.081
Degree	1	1	1	2	1	1
R^2	0.15	0.17	0.14	0.12	0.16	0.04

standard errors in parentheses

*** $p < 0.01$

Results for weighted least square specifications in (2), (3) and (6), with robust standard errors and excluding politicians connected *also* with the candidate of their party. Columns 1, 2, 3 and 4 report the difference-in-discontinuities estimators of the effect of having a connection with the leader of the opponent on the probability of being promoted to the provincial governments. Columns 5 and 6 report the RD estimators of the effect of the success of the party on the probability of being promoted to the provincial governments for politicians from the same councils, when connected (column 5) and when not connected (Column 6).

In columns 1, 2, 3, 5 and 6 a local linear polynomial with different a trend on each side of the discontinuity is estimated. In columns 1, 5 and 6 the optimal bandwidth is chosen according to Calonico et al. (2014), and in columns 2 and 3 I shrink and increase it by 2.5%. In column 4, I estimate a second order spline polynomial using the full sample.

Table 15: Covariates balancing in difference-in-difference estimations

	Male	Age	Years Study	Elementary	Middle school	High school
Local linear regressions						
Connection with the leader of the opposition	-0.04	0.62	0.37	-0.02*	-0.03	0.06
	(0.036)	(1.687)	(0.395)	(0.011)	(0.030)	(0.046)
Observations	214	239	292	202	293	245
Politicians	5128	5747	6946	4766	7040	5887
Bandwidth	0.103	0.114	0.132	0.095	0.134	0.120
Degree	1	1	1	1	1	1
Second order polynomial						
Connection with the leader of the opposition	0.02	1.79	0.28	-0.01	-0.04*	0.04
	(0.024)	(1.106)	(0.336)	(0.009)	(0.024)	(0.032)
Observations	701	701	704	704	704	704
Politicians	16458	16458	16458	16458	16458	16458
Degree	2	2	2	2	2	2

	Graduate	Retired	Doctors	Professor	Retailers	Lawyers
Local linear regressions						
Connection with the leader of the opposition	0.01	-0.05	0.03	-0.04	0.01	0.01
	(0.055)	(0.031)	(0.024)	(0.027)	(0.020)	(0.031)
Observations	245	210	293	215	215	194
Politicians	5887	5037	7040	5128	5128	4463
Bandwidth	0.119	0.097	0.139	0.100	0.103	0.092
Degree	1	1	1	1	1	1
Second order polynomial						
Connection with the leader of the opposition	0.00	-0.02	0.02	-0.03*	-0.00	0.00
	(0.043)	(0.020)	(0.020)	(0.018)	(0.011)	(0.018)
Observations	704	704	704	704	704	704
Politicians	16458	16458	16458	16458	16458	16458
Degree	2	2	2	2	2	2

Results of specification (6) on predetermined covariates. Difference-in-discontinuities estimators do not show any unbalancing. For any characteristic I run a local linear polynomial estimations with different trend on each side of the discontinuity (upper panels), and a second degree spline polynomial (lower panels). For the local linear polynomial estimations, the optimal bandwidth is chosen with Calonico et al. (2014).

Table 16: Main Results Robustness: Benefits from a connection with the leader of the opposition on the chance to be appointed to the local government when including controls.

Including controls

	Connection to the leader of the opponent				Connected	Not Conn.
	0.03**	0.02	0.04**	0.03**	0.05***	0.03**
	(0.015)	(0.016)	(0.014)	(0.014)	(0.014)	(0.015)
Elections	378	324	423	701	127	93
Politicians	8969	7912	10197	16458	2907	2317
Bandwidth	0.176	0.151	0.201	1.000	0.121	0.084
Degree	1	1	1	2	1	1
R^2	0.22	0.24	0.23	0.24	0.31	0.18

Including election after 2010 and controls

	0.03**	0.02	0.04**	0.03**	0.05***	0.03**
	(0.015)	(0.017)	(0.015)	(0.013)	(0.012)	(0.012)
Elections	329	271	398	767	154	121
Politicians	7814	6422	9277	17768	3465	3029
Bandwidth	0.140	0.115	0.165	1.000	0.127	0.100
Degree	1	1	1	2	1	1
R^2	0.25	0.27	0.23	0.24	0.30	0.22

standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Results for weighted least square specifications in (2), (3) and (6), with robust standard errors. Columns 1,2, 3 and 4 report the Difference-In-Discontinuities estimators of the impact of having a connection to the opponent on the probability to be promoted to the provincial governments. Column 5 and 6 report the Regression Discontinuity estimators of a success of the party on the probability to be promoted to the provincial government for politicians from the same councils, when connected (Column 5) and when not connected (Column 6). In any specification I control for the following variables: man, age, years of study, elementary school degree, middle school degree, high school degree, graduate, retired, doctor, professor, retailers, lawyers. In the lower panel I include provincial elections held after the 2010.
In columns 1,2,3,5 and 6 a local linear polynomial with different trend on each side of the discontinuity is estimated. In columns 1,5 and 6 the optimal bandwidth is chosen with Calonico et al. (2014), and in columns 2 and 3 I shrink and increase it of 2.5%. In column 4 I estimate a second order degree spline polynomial using the full sample.

B Party Affiliations and Ideological Measure

Here I report the list that I use for the party affiliation. I use the most recent affiliation of the politician among those listed before. Centre politicians are a very small minority of the sample used in the main estimations, however, results are robust to considering Centre politicians as Lefty or Righty. In parenthesis the measure of ideology used in Subsection 6.2.

Right: "ALLEANZA NAZIONALE" (0.1) - "CASA DELLE LIBERTA" (0.2) - "CEN-DES(CONTR.UFF.)" (0.2) - "CEN-DES(LS.CIVICHE)" (0.2) - "DESTRA" (0.1) - "FI-ALTRI" (0.2) - "FI-AN" (0.2) - "FI-CCD-AN" (0.2) - "FI-UDC" (0.25) - "FORZA IT-POLO POP." (0.25) - "FORZA ITALIA" (0.2) - "FORZA ITALIA-PRI" (0.25) - "IL POPOLO DELLA LIBERTA'" (0.2) - "IL POPOLO DELLA LIBERTA' - ALTRI" (0.2) - "IL POPOLO DELLA LIBERTA - LA DESTRA" (0.2) - "IL POPOLO DELLA LIBERTA - LEGA NORD" (0.1) - "L.NORD-CIVICHE" (0) - "L.NORD-PATTO D." (0) - "L.NORD-PPI" (0.1) - "LEGA LOMB-LEGA NORD" (0) - "LEGA LOMBARDA" (0) - "LEGA NORD" (0) - "LEGA NORD-ALTRE" (0) - "LG.VENETA REPUB-BLICA" (0) -"PDL - UNIONE DI CENTRO" (0.3) - "POLO PER LE LIB-ERTA" (0.2).

Centre: "ALL.POP." (0.35) - "CATTOLICI LIBERALI" (0.35) - "CCD-PPI" (0.35) - "CDU" (0.4) -"CENTRO" (0.5) - "CENTRO CRIST.DEM." (0.45) - "DC" (0.45) - "DEM.CRIST. AUTONOMIE - ALTRI" (0.45) - "POPOLARI" (0.45) - "POPOLARI DEMOCRATICI" (0.55) - "POPOLARI LIBERALI" (0.45) - "POPOLARI RETICI" (0.45) -"PPI (POP)" (0.45) -"RINNOVAMENTO" (0.5) - "U.D.EUR" (0.55) -"U.D.EUR POPOLARI" (0.55) - "UNIONE DI CENTRO" (0.45) -"UNIONE DI CENTRO - CIVICA" (0.45) -"POLO CIVICO

DI CENTRO" (0.5) -

Left: "CEN-SIN(CONTR.UFF.)" (0.7) -"CEN-SIN(LS.CIVICHE)" (0.7)
-"DEM.SIN-ALTRI" (0.75) -"DEM.SIN-COM.IT-F.VER" (0.85) -"DEMOCRATICI
SINISTRA" (0.75) -"DI PIETRO ITALIA DEI VALORI" (0.65) - "DL.LA MARGHERITA"
(0.6) -"DS-SDI-ALTRI" (0.7) - "L'ULIVO" (0.65) - "L'UNIONE" (0.65) -"LA
MARG." (0.6) -"LA MARGHERITA" (0.6) -"LISTA ARCOBALENO" (0.9) -
"LISTA DI PIETRO" (0.65) - "PART.DEMOCRATICO- ALTRI" (0.65) -"PARTITO
DEMOCRATICO" (0.65) -"PARTITO DEMOCRATICO - CIVICA" (0.65) -
"PARTITO DEMOCRATICO-DI PIETRO IT. VALORI" (0.6) -"PARTITO DEMOCRATICO-
P.SOCIALISTA" (0.65) -"PARTITO DEMOCRATICO-RIF.COMUNISTA" (0.75)
- "PDS" (0.8) - "RIFONDAZIONE COMUNISTA" (0.9) -"SINISTRA" (0.8) -
"SINISTRA DEMOCRATICA" (0.8) - "SINISTRA UNITA" (0.8) -"UNIONE
DEM." (0.7) - "UNITI NELL'ULIVO" (0.65) -"SINISTRA ECOLOGIA LIB-
ERTA'" (0.85) - "RIFOND.COM." (0.9) - "RIF.COM." (0.9) - "PARTITO CO-
MUNISTA ITALIANO" (0.95) -"PARTITO COMUNISTA" (1) - "PARTITO
COMUNISTA DEI LAVORATORI" (1).

C Connected and Not Connected - Full Math Description

Define o_{-jt} as the leader of party $-j$ in election at t. Call $\nu_{t-i}(o_{-jt})$ the
set of councils in which o_{-jt} sat i years before t, and $p_{j,t-i}(\nu_{t-i}(o_{-jt}))$ the
politicians of party j that sat on ν at $t-i$.

Similar to methodology in section 3, provided that consecutive elec-
tions for the same province take place after k years, define:

- **Connected** politicians the set $NC = \bigcup\limits_{i=1}^{10} p_{j,t-i}(\nu_{t-i}(o_{-jt}))$

- **Not Connected** politicians the set $C = \bigcup\limits_{i=1}^{10} p_{j,t-i-k}(\nu_{t-i}(o_{-jt}))$