The Wrong Kind of Learning: Explaining Subnational Recall Diffusion

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Abstract

The use of participatory institutions, and in particular citizen-initiated direct democracy mechanisms, has significantly expanded in the past few decades. Yet while there has been a fair amount of research studying when they are used, by whom, and to what effect, there is one driver of the use of these institutions that has received limited attention: social learning. This paper uses subnational recall elections in Peru —the most intensive user of the recall worldwide— to show that recalls diffuse spatially through a process of social learning in which information about the political viability of this institution is transmitted to the local politicians who are responsible for its repeated activation. These politicians learn to (ab)use participatory institutions to re-do elections regardless of voter's preferences.

Across the world, the availability and use of participatory institutions has expanded in recent decades. This is notably the case of citizen initiated direct democracy mechanisms (Altman, 2010). Yet while there has been a fair amount of research studying when they are used, by whom, and to what effect, there is one driver of the use of these institutions that has received limited attention: social learning. In this paper, I use subnational recall elections in Peru —the most intensive user of the recall worldwide (Welp, 2015)— to show that recalls diffuse spatially through a process of social learning in which information about the political viability of this institution is transmitted to the local politicians who are responsible for its repeated activation.

The recall is the least studied direct democracy mechanism worldwide (Qvortrup, 2011). The limited literature there is on it portrays an ongoing (and long-running) debate regarding its theoretical benefits and drawbacks. Empirical research on the determinants and effects of its adoption and use remains limited, particularly outside the US. Furthermore, while there is some evidence that the use of direct democracy mechanisms spreads between countries (Altman, 2010), research on the process through which the use of the recall —or any other citizen-initiated direct democracy mechanism— spreads within countries is, to the best of my knowledge, nonexistent.

For the Peruvian case, a number of descriptive studies have suggested that recall use may be determined by political culture, institutional design, political incentives, or social unrest (Welp, 2015, 2014; Tuesta Soldevilla, 2014c), but have not provided conclusive evidence regarding any of these. Most recently, quantitative contributions by Holland and Incio (2019) and Artiles et al. (2021) have shown that recalls seem to be organized by losing politicians and have a negative effect on candidate selection, respectively. The possibility that the use of the recall might be influenced by the behavior of neighbors is considered by Artiles et al. (2021) but not systematically explored.

This paper seeks to contribute to fill this gap in the literature by investigating whether recall usage diffuses spatially, what it is that diffuses and who the actors driving this diffusion are. To do so, I focus on subnational recalls in Peru. This setting provides a large number of observations (1634 districts) and a relatively long time series (1996-2014), allowing me to exploit variation in the presence of recall elections within districts over time, to uncover the effect of neighbors' behavior and the dynamics of political competition on the probability a recall takes place. As such, this project will provide a first rigorous analysis of the within-country diffusion of recalls.

The paper proceeds as follows. Section 1 presents the institution of the recall, the theoretical debates regarding its potential effects and existing empirical findings. Section 2 describes the functioning and use of the recall in Peru, as well as existing research on its determinants and consequences. Section 3 introduces my hypotheses, focused on explaining how recalls diffuse, what it is that diffuses and who the actors driving this diffusion are. Section 4 presents my empirical strategy and data. Section 5 presents and

discusses the results of my analyses. Section 6 describes robustness tests and section 7 concludes.

1 The Recall

The recall is a direct democracy mechanism that allows voters to remove an elected official from office before the end of her term via a special election. In this paper I focus on what are known as full or direct recalls, which are both initiated and decided by the people, as opposed to indirect or mixed recalls, which are either initiated or decided by the legislature (Beramendi et al., 2008; Qvortrup, 2011). Furthermore, I study recalls that are aimed at specific individuals (members of the executive or legislative at different levels of government), as opposed to institutions as a whole (i.e., the parliament).

It is worth noting some particularities of the recall. Firstly, it stands apart from all other direct democracy mechanisms (referendums, plebiscites, popular initiatives) in that it involves a decision regarding a person instead of an issue. Secondly, it has two important differences with respect to impeachment procedures: decisions are made by the people instead of the parliament, and it does not need to be based on legal grounds (although in some countries —not Peru— a justification is required) (Beramendi et al., 2008).

Historically, recall provisions were first introduced in some Swiss cantons in the mid 19th century, as a way of preventing the spread of the liberal revolutions that had been taking place throughout the continent.[1] However, they are considered a "measure of last resort, to use when all other mechanisms of control and accountability fail" (Serdült, 2015, p. 162) and in fact, there have only ever been four recall votes in Switzerland.

Another early adopter of the recall was the US, where it was ruled out during the Constitutional Convention in Philadelphia under the argument that it would "render the senator a slave to all the capricious humours among the people" (Alexander Hamilton, cited by Spivak (2004)). It was not until 1903 that the recall as we know it was introduced at the local level in Los Angeles' new charter, and from there spread to other nearby cities and states. Notably, its introduction was promoted by the progressive movement in an attempt to curb corruption and curtail the influence of powerful interest groups over the policy-making process by allowing "citizens to remove public officials who proved to be "incompetent, unfaithful or corrupt"" (Weinstein, 2005, p. 136). Currently, 18 US states allow the recall of state-level officials, and at least 36 states allow it at the local (city council or school district) level (Beramendi et al., 2008). According to Weinstein,

[1]It is worth noting that "procedures in Switzerland do not allow the revocation of an individual member of government or parliament but generally target the body as a whole" (Serdült, 2015, p. 163), and are only known at the subnational (cantonal and communal) level. Currently, the recall exists in 6 out of 26 cantons. 3 of them have eliminated the procedure since the 1980s.

between 4000 and 5000 recall elections have been held in the US, with the majority of them taking place at the local level (2005).

Since the third wave of democratisation, the recall has been adopted by a number of new democracies throughout the world. In fact, the majority of its adopters are new or unconsolidated democracies, presumably in an attempt to legitimate new democratic regimes by increasing citizen oversight of elected officials and promoting citizen participation (ONPE, 2010). Indeed, direct recalls are allowed at the subnational or national levels in countries such as: Bolivia, Ecuador, Venezuela, Peru, Colombia, Argentina, Mexico, Cuba, USA, Canada, Poland, Slovakia, Belarus, Kyrgyzstan, Ethiopia, Gambia, Nigeria, Kenya, Kiribati, South Korea, Taiwan, Japan, Palau and some states of Micronesia (Beramendi et al., 2008).[2][3][4]

Regarding its effects, specialists have highlighted a number of potential benefits of the recall, such as increased accountability and control, better communication between voters and politicians and a reduction in political alienation and apathy (Cronin, 1989; Welp, 2014; Twomey, 2011). On the other hand, some drawbacks have also been noted, including the fact that it turns elected officials into delegates incapable of making unpopular decisions, it is disruptive and destabilizing and may accentuate political conflict and polarization (Cronin, 1989; Welp, 2014; Twomey, 2011).

In practice, assessing the extent to which the hypothesized features of the recall have materialized has proven difficult. One aspect that hampers comparative analyses is the fact that procedural requirements vary by country (in some cases also by state), and play an important role in determining how and when the recall is actually used.[5] These high levels of variation in institutional design have meant that research on the actual usage of the recall is scarce and has remained mostly limited to descriptive case studies (Qvortrup, 2011).

A considerable portion of the existing research has focused on the experience in the US, leading to the erroneous impression that "the recall is predominantly an American phenomenon" (Qvortrup, 2011, p. 163). Findings in this literature seem to be very

[2]Countries where the recall applies to an entire national or subnational legislature, such as Switzerland, Liecthenstein, and some German states are excluded from this list. Likewise, countries where the recall is either initiated (Austria, Germany, Iceland, Palau, Romania, Serbia, Turkmenistan) or decided (Uganda, Thailand) by parliament are also excluded. So is Panama, where recalls are decided by political parties with respect to their elected representatives.

[3]Countries that include provisions for national or federal level officials are Bolivia, Ecuador, Venezuela, Mexico, Belarus, Kyrgyzstan, Ethiopia, Nigeria, Kiribati, Palau and some states of Micronesia.

[4]In British Columbia the recall is somewhat different from other countries: once the signature threshold is reached, the authority in question must resign, without need for a recall election (Qvortrup, 2011). This is also the case in Ethiopia.

[5]Some of the most important variations are found in the offices subjected to the recall, the time period during which a recall can be called, the causes for calling it, the magnitude of citizen support required to initiate the process, the quorum required for the recall election to be valid, the majority required for the recall to pass, and the procedure for replacing a recalled authority.

general, focusing on what determines how frequently recalls are used and what its effects are on turnout, incumbent power, legislative representation and the influence of special interest groups (Bowler and Cain, 2004; Weinstein, 2005; Qvortrup, 2011; Siegel, 2015; Garrett, 2004; Amar, 2004). Regarding when it is used, the possibility that "sore loser" recall campaigns could be encouraged has been discussed (Amar, 2004).

A different strand of research focuses on the experience with the recall in Latin America, a region where it is quite widespread, often used and, in some cases, highly visible. The type of recall we are interested in (the individualised, full recall) exists in Bolivia, Colombia, Cuba, Ecuador, Peru, Venezuela, some Argentinean provinces and some Mexican states[6] and it is actually "one of the most intensively used mechanisms of citizen participation in South America" (Welp, 2015, p. 2). In Peru, the number of officials subjected to recall votes surpasses 5,300, followed by Ecuador (79), Colombia (45) and Venezuela (10).[7] If we take into account not only the number of actual recalls voted upon but also attempts to activate recalls in each country, we can see that it is actively used throughout (see Welp (2015)).

However, despite these considerable levels of use, the recall has until recently been largely ignored by scholars (Welp, 2015). Some attention has been paid to the determinants of the adoption of direct democracy institutions generally, highlighting the role played by weak representative systems and excluded political interests (Barczak, 2001), but little to the determinants of their actual activation or usage, which is the focus of this paper. Furthermore, existing publications are mostly descriptive country studies, detailing the context of introduction of the recall, its procedural features and the number of times it has been activated, and offering plausible explanations for its level of use. Two noteworthy exceptions are Holland and Incio (2019) and Artiles et al. (2021), who adopt a quantitative approach to study both the determinants and effects of subnational recall elections in Peru. Finally, comparative approaches are mainly exploratory and mainly focus on discussing potential explanations for Peru's unusually high level of activation (see for example Tuesta Soldevilla (2014b) or Serrafero and Eberhardt (2020)).

The related question of how the use of the recall spreads has not been systematically studied. This question is of particular relevance given its increasing levels of usage and a growing realization that the recall may not be fulfilling its intended role of strengthening the democratic system (ONPE, 2010). In order to assess the mechanisms through which recall elections diffuse I focus on the Peruvian case, which has a relatively long and

[6]Provisions for the recall also exist in Panama, but as was already mentioned, it is controlled by parties and therefore not a full recall (Verdugo Silva, 2014).

[7]Neither Bolivia, Mexico nor Argentina have experienced any full subnational recalls to date. The 2008 recall election of Bolivia's president, Evo Morales, and 8 departmental prefects was in fact a mixed recall, given that it was initiated by the President himself. Similarly, all the recalls called in Argentina have been initiated by local councils (Arques, 2014). In the three Mexican states that allow the recall (Chihuahua, Sinaloa, Zacatecas) there have been none so far, although there was recently a presidential recall election in 2022. Data regarding recall use in Cuba is not available (Guzmán Hernández, 2014).

intensive experience with this institution.

2 Recall Elections in Peru

Since their regulation in the 1994 Law of Participation and Citizen Control Rights (Law 26300), recall procedures in Peru can be initiated against all members of the executive or legislative branches of subnational governments (i.e., at the district, province and regional levels). While no recalls have taken place at the regional level and very few at the provincial level, at the district level more than 6,000 officials (between mayors and council members) have been subjected to the recall since 1994.

During my period of study, 1994-2014, recalls could take place after an official's first year in office and before their last, out of a 4 year term. In order to trigger a recall any citizen residing in the targeted official's district could buy a "recall kit"[8] from the electoral management body (ONPE) by filling in a form stating the name of the official they wanted to recall and the reason, which did not need to be proven. This citizen was then known as the promoter of the recall and was responsible for gathering the signatures of at least 25% of registered voters in the official's district (up to a maximum of 400,000 signatures) in support of the recall. If sufficient signatures were gathered and verified, a recall election took place on a date predetermined by the electoral management body. In this election, citizens had to cast one vote (Yes/No) for every official on the ballot (mayor and/or council members). In order for the recall election to be valid, at least 50% of registered voters in the district had to participate and voting was mandatory. For the recall to pass, it had to be supported by an absolute majority (i.e. 50% + 1) of the votes. Finally, if the recall passed and less than a third of the council members were recalled, the mayor (if recalled) was replaced by the deputy mayor (the council member who was second in the party list) and any recalled council members were replaced by their substitutes. If more than a third of the council was recalled, new elections were called to replace recalled officials.

This procedural design helped make the recall a very popular institution. In 2015, after a very contentious and disruptive attempt to recall the mayor of the capital city of Lima, these procedures were reformed with the intention of making the recall less attractive. The reform eliminated the possibility of calling new elections by stipulating that recalled mayors would be replaced by the first substitute council member in their party list, and postponed any recalls until the third year out of a four-year term.[9] In the seven years that have elapsed since this reform only 143 officials have been subjected to recall votes, compared to 5,902 in the prior 15 years. This paper thus focuses on the

[8]Consisting mainly of the forms needed to gather signatures, with a cost of approximately $35.

[9]The reform also eliminated the cap of 400,000 signatures to initiate a recall (which was only binding for Lima) and required recall promoters to disclose their campaign contributions and expenses.

period between 1996 and 2015, when the bulk of recalls took place.

During this period, the procedural design of the recall combined with the features of electoral institutions and dynamics of political competition to make the recall both attractive and undemanding. At the institutional level, closed list plurality elections (in which the party with the most votes wins both the mayor's office and at least 50% +1 of the seats in the council), meant mayors could win with a relatively small percentage of votes and yet have an absolute majority in the council. At the political level, the recall took place in a context of extreme party fluidity, as expressed in high levels of volatility, fragmentation and personalism (Tanaka, 1998; Roberts and Wibbels, 1999). In practice, parties were (and continue to be) little more than electoral platforms politicians use to run for office, with low levels of ideological or organizational cohesion (ONPE, 2010). This situation was made worse by the 2003 Law of Political Parties, which lowered the requirements to register new parties and allowed the creation of subnational political organizations with even lower requisites. Finally, the process of decentralization initiated in 2002 increased the competences and resources of district governments, making them more attractive and contributing to the dispersion of votes.[10] As a result in many districts mayors are elected by a small margin and with fewer votes than the number of signatures required to initiate a recall (i.e., less than 25% of able voters) (Remy, 2005).

Since the regulation of the recall in 1994 every subnational government term has witnessed a recall election. In fact, the share of districts with recall elections increased continuously during our period of study, from under 4% in the 1996-1998 term to almost 24% in the 2011-2014 term, as shown in figure 1.[11] In total, 5902 officials were subjected to recall votes during this period, with their numbers growing every term.[12] In all, 98.5% of the officials subjected to a recall have been members of district-level local governments, with 658 different districts experiencing recall elections but only 9 provinces, and no regional governments.

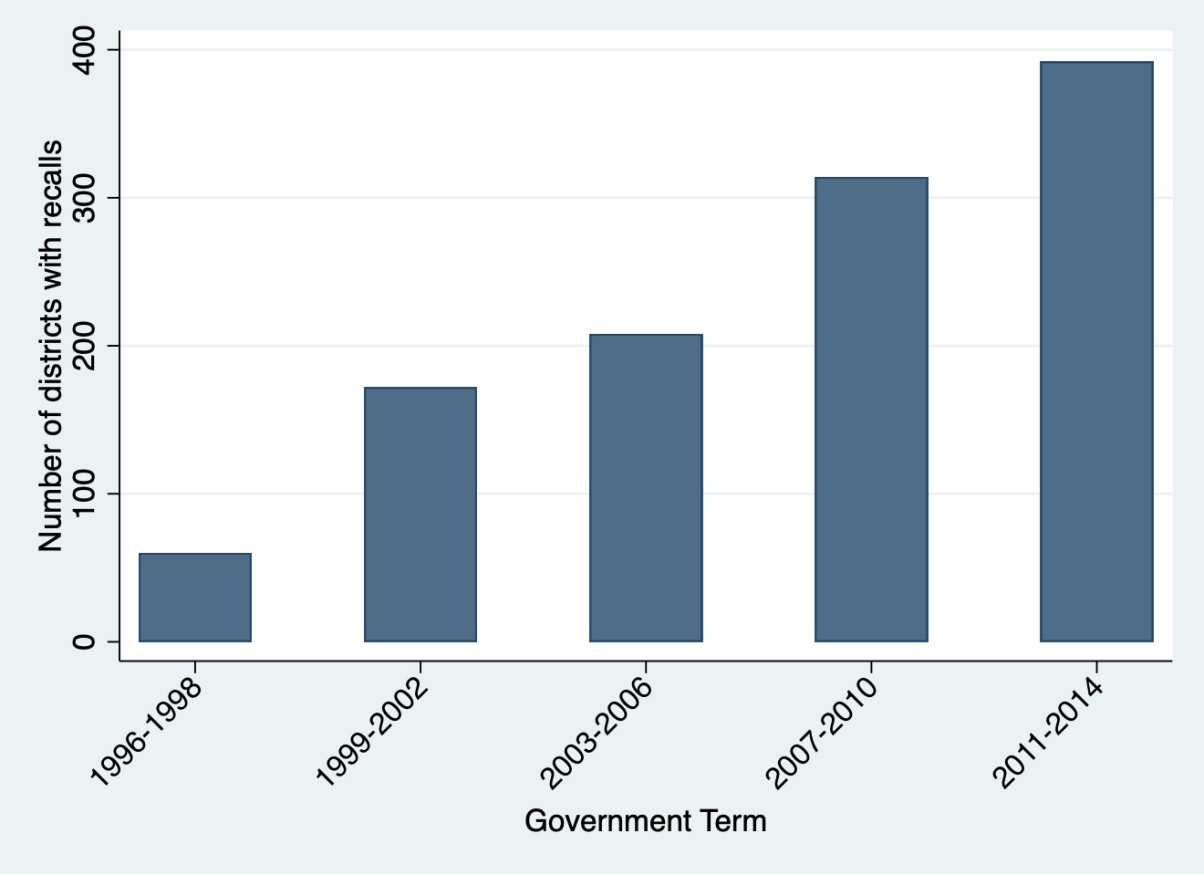
This remarkable expansion in the use of the recall calls for an explanation, and existing studies —mostly descriptive— have indeed sought to propose hypotheses explaining why, where and to what effect the recall is used (Tuesta Soldevilla, 2014a,c; Welp, 2013, 2015; Quintanilla, 2013). Reasons advanced for why the recall is so intensively used include: high levels of citizen dissatisfaction, weak parties and an unconsolidated party system, and low procedural thresholds. Regarding where recalls take place, answers include: in small districts, in districts with large budgets, in conflictive districts, and in districts where mayors win with a small percentage of votes or by a small margin. In terms of

[10] In fact, between 1995 and 2009, transfers from the central government to local —provincial and district— governments increased tenfold, going from a little over one billion new soles, to over 10 billion new soles (ONPE, 2010).

[11] Districts are the smallest level of subnational government in Peru. There are currently 1874 districts embedded in 196 provinces, which are embedded in 24 regions.

[12] See figure 3 in the SI for the number of officials subjected to recalls each term.

Figure 1: Number of districts with recalls by term, Peru 1996-2014



Data source: ONPE.

their effects, most studies highlight that recalls have a negative effect on competition, distract officials from their tasks and contribute to citizens' distrust in politicians.

Two recent articles test some of these hypotheses in a systematic manner. In the first, Holland and Incio study the determinants of recalls between 2002 and 2015 and argue that during this period "losing politicians organize recall referenda, but office performance matters when citizens vote to retain their politicians" (Holland and Incio, 2019, p. 779). They show that recall organizers were candidates in the previous election in 18% of cases and that recalls are more likely to occur when politicians win by narrow margins or are female. Finally, once a recall election takes place, politicians who spend less of their budget and build fewer public works are more likely to be replaced. For their part, Artiles et al. (2021) argue that the political use of recalls has a negative effect on candidate selection. They show that in districts where mayors were recalled by a small margin candidates in the next round of elections are of lower quality —in terms of education and prior experience— than in districts where recalls failed by a small margin.

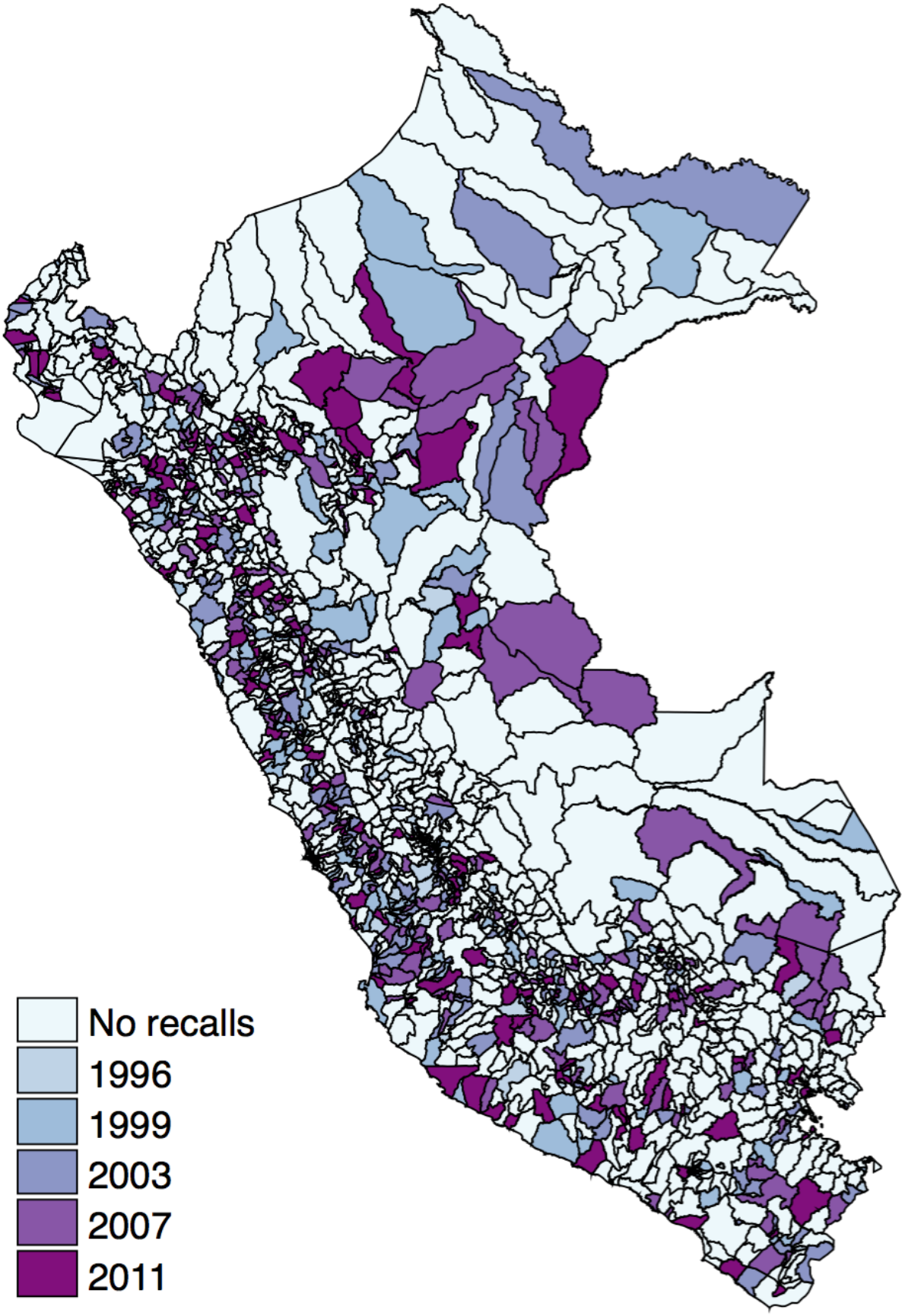


Figure 2: Peruvian districts by initial year of term with first recall election

This paper seeks to expand upon these contributions by asking: how do recall elections disseminate in Peru? Is there spatial diffusion going on? If so, is diffusion explained by homophily or is there social learning involved? If the latter, what exactly is it that diffuses and who are the actors driving this process?

Regarding the first question, figure 2 shows the term in which each district experienced its first recall election and provides a first indication that spatial diffusion may be at play. The existence of spatial autocorrelation in the use of recalls is confirmed by a positive and significant Moran's I, except for the first round of recall elections in the 1996-1998 term. In what follows I will try to explain this spatial pattern of diffusion.

3 Hypotheses

Literature on the diffusion of direct democracy mechanisms focuses on the dissemination of initiatives promoting specific policies, and is therefore framed in the wider policy diffusion literature (Seljan and Weller, 2011). This literature has a long tradition in the US, exploring cross-state policy diffusion (Karch, 2007), defined as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers Everett, 1962, p. 5). The rich literature on diffusion has addressed the related questions of why diffusion occurs, what is being diffused and which political actors facilitate diffusion (Karch, 2007). In what follows I will try to address all three of these questions with regards to the diffusion of recall elections in Peru.

In terms of why diffusion occurs, four possibilities have been raised: (i) the first one, known as homophily, focuses on the independent adoption of a policy that can take place at the same time in specific regions as similar units respond to similar incentives; (ii) the second one, known as imitation, focuses on processes wherein units adopt policies adopted by other units with similar attributes; (iii) the third one, known as emulation, focuses on processes wherein units adopt policies that have proven successful in other units; (iv) the fourth one, known as competition, focuses on processes wherein units feel constrained to adopt policies adopted by similar units in order to maintain their relative attractiveness.

In the context of this paper, competition can be ruled out as a reason for diffusion, as it makes little sense for districts to compete over recalls, particularly if we consider that their effects appear to be systematically negative (Welp, 2015; Tuesta Soldevilla, 2014c; Artiles et al., 2021). The question then is whether the spread of recalls is explained by homophily or some form of social learning (imitation or emulation). We can attempt to disentangle these causes by looking at how recalls spread. If it is a matter of homophily, we would expect to observe recalls propagating spatially (assuming proximity proxies for similarity), so that the existence of a recall in one district may be correlated with the existence of a recall in a nearby district. However, neither the number of neighbors

experiencing recalls, nor the results of recalls in nearby districts should matter, given that districts are activating recalls independently of their neighbors.

Hypothesis 1. *If homophily is driving the propagation of recalls, the existence of recalls in neighboring districts will increase the probability of a recall taking place in a given district, but neither the number of neighbors with recalls nor the result of their recalls should have an effect.*

In terms of what is being diffused, two possibilities have been raised regarding the content of the information that is communicated: (i) the first one focuses on policy information regarding the existence or availability of a given policy; (ii) the second one focuses on political information regarding the political viability, attractiveness and potential (ensuing) electoral benefits associated with a given policy (Seljan and Weller, 2011). Similarly, in our context of study the mere occurrence of a recall (regardless of whether it passes or not) provides policy information in the sense of raising awareness of its availability. In contrast, the fact that a recall is successful (and a mayor is removed) provides political information regarding the viability and potential benefits of calling a recall. Thus, we can use the differential effects of recall elections and recalled mayors to disentangle these mechanisms.

Hypothesis 2. *If policy information is communicated, the existence of recall elections in neighboring districts will increase the probability of a recall taking place in a given district, regardless of its results.*

Hypothesis 3. *If political information is communicated, only successful recalls in neighboring districts will have an effect on the probability of a recall taking place in a given district, while unsuccessful ones will not.*

Table 1 summarizes the empirical implications of hypotheses 1 to 3.

Table 1: Empirical Implications of Hypotheses

Variable	**H1**	**H2**	**H3**
At least one neighbor with recall	+	+	no prediction
Share of neighbors with recalls	no effect	+	no prediction
Share of neighbors with successful recalls	no effect	+	+
All neighbors with failed recalls	no prediction	+	no effect

In terms of which political actors or forces facilitate diffusion, Karch (2007) highlights the role of political forces that operate in multiple states such as policy entrepreneurs, the national government and other national organizations (e.g., interest groups or professional associations). In the context of this paper the relevant political actors are (i) policy entrepreneurs who can traverse a certain region offering their services as recall promoters,

(ii) political parties who can adopt recalls as a strategy to debilitate or remove opponents, (iii) local politicians who can use recalls to try to re-do elections in which they lost, and (iv) citizens looking to remove unsatisfactory politicians. Unfortunately, objective measures of the existence and/or activity of policy entrepreneurs are not available, making it impossible to gauge their effect. However, given variation in the set of parties competing in local level elections both across districts and within districts over time, I can assess whether the presence of particular national parties among the election losers in a given district is associated with an increase in the probability of a recall taking place. This would indicate that party hierarchies have adopted the recall as a strategy for contesting and re-doing unfavorable elections.

Hypothesis 4. *If the diffusion of the recall takes place through party networks, the presence of particular parties among the election losers in a given district will be associated with an increase in the probability of a recall.*

Similarly, I can build on prior work to examine whether beyond party structures, losing politicians are driving the diffusion of recalls.[13] Prior descriptive and empirical evidence suggest this is the case. Welp argues that in a context of low party system institutionalization "in which neither political leaders nor their parties have any guarantee of survival beyond the next election, recall procedures create unexpected incentives for politicians to use them as an extension to "normal" electoral competition" (Welp, 2015, p. 11). She therefore claims that the incentive to bring about a new election through the use of recall procedures, combined with unstable patterns of political competition, facilitates the formation of an alliance of electoral losers in the hope of triggering a do-over election. However, she does not attempt to test this hypothesis. In their article, Holland and Incio (2019) provide a first test and show that across districts, recalls are more likely to occur when mayors win with a small margin of victory and fragmentation is low. Nonetheless, their analyses do not account for (nor exploit) the panel structure of the data and are thus subject to endogeneity. For example, it may be the case that district size determines how difficult it is both to initiate a recall and register an electoral list, increasing electoral competitiveness.

I propose a somewhat different test of the role of politicians. Politicians' incentives to call a recall will be determined by the dynamics of local political competition: whenever the winner's vote share is small and the margin of victory is also small, politicians may perceive election results to be uncertain, or reversible, in the sense that they could easily have been different. In these cases they have a strong incentive to try to redo the election with the expectation that in this occasion results will be in their favour.

[13] In Peru, politicians competing in district-level elections need not be affiliated with national parties. In fact, most of them usually belong to regional or local political organizations.

Hypothesis 5. *If the diffusion of the recall is driven by losing politicians, recalls will be more likely in the presence of uncertain electoral results.*

Finally, the influence of parties, politicians and voters are not mutually exclusive, which means citizens may also play a role in recall diffusion. This is a point also considered by Holland and Incio (2019), who find that recalls are more likely in district-terms where budget execution and public investments are both higher. In light of the limitations in their analyses mentioned above, I also undertake the question of whether recalls are associated with —somewhat different— objective measures of mayor quality.

Hypothesis 6. *If the diffusion of the recall is driven by citizens' actions, recalls will be more likely in the presence of incapable, unpopular or inexperienced mayors.*

4 Empirical Strategy and Data

I use data on district-level recall elections in Peru between 1996 (the starting year of the first term with recalls) and 2014 to test my hypotheses. Using data collected from a number of different official sources I have constructed a balanced panel data set in which the unit of analysis is the district-subnational government term. I therefore have 1632 districts[14] observed five times: once for each of the 1996-1998, 1999-2002, 2003-2006, 2007-2010 and 2011-2014 terms.

Data on the officials subjected to a recall vote and the recall's results, by district and term, comes from the electoral management body (ONPE), and was used to construct my dependent variable: a dummy for the occurrence of a recall election in a district-government term. This data is also used to construct my main independent variables: a dummy for the occurrence of a (successful or failed) recall in neighboring districts in the previous period, and the proportion of neighbors with (successful or failed) recall elections in the previous period. GIS data from the Ministry of the Environment was used to identify neighboring districts, defined as contiguous districts.[15] Data on the parties competing in each election, the distribution of votes and the identity of the winner in each district and election also come from ONPE.[16] This data was used to construct the following independent variables: the winner's vote share, the margin of victory, the

[14]In 1996 there were 1829 districts in Peru. However, districts that are provincial capitals do not have a district government, as its functions are taken over by the provincial government. Thus, of the 1829 districts, 195 provincial capitals and 2 islands are excluded, leaving 1632 observations. Since 2002 around 40 new districts have been created, but these are not included to maintain a balanced data set. Moreover, there have not been any recalls in these districts.

[15]For robustness, the (straight line) distance to the centroid of the nearest district with a recall in the previous period was also used as a measure of proximity.

[16]In districts in which elections were annulled, data from the supplementary elections was used. The annulment of elections usually results either from social unrest that prevented votes from being counted, or from the fact that more than two thirds of the ballots were either blank or null.

effective number of electoral parties (ENEP) and indicators for losing parties in each district-government term.

In order to test my first three hypotheses the following baseline model is used to run fixed effects panel regressions:

$$Recall_{dt} = \beta Recall_{-dt-1} + \lambda_d + \eta_t + \epsilon_{dt} \quad (1)$$

The dependent variable is an indicator for the occurrence of a recall election in district d at time t. The coefficient of interest is β, which captures the effect of recalls taking place in the previous term $(t-1)$ in neighboring districts (not d). Depending on the hypothesis being tested, the independent variable will measure the occurrence of at least one recall in a neighboring district or the proportion of neighbors with (successful/failed) recalls. λ_d are district fixed effects, which control for time-invariant district-level characteristics (e.g., slow-moving socio-economic characteristics) that may affect the probability of a recall taking place. η_t are time fixed effects, controlling for the influence of period-specific shocks that may affect the probability of a recall in all districts at the same time (e.g., the overall level of recalls in a given term). ϵ_{dt} is a district and term-specific disturbance term. This model is expected to be a quite consistent estimator, as it assesses how the probability of a recall changes over time for a given district, as the behavior of its neighbors changes. It therefore eliminates the need to account for district-level time-invariant covariates, while time varying covariates such as the quality of mayors or the features of political competition are tested below.

Hypotheses 4 to 6 —examining the role of parties, politicians and voters in driving recall diffusion— are tested using variations on the following model:

$$Recall_{dt} = \beta X_{dt} + Z'_{dt}\gamma + \lambda_d + \eta_t + \epsilon_{dt} \quad (2)$$

This model is analogous to the previous one in that it estimates the effect of the independent variables (X_{dt}) on the probability of a recall taking place by leveraging variation within districts, over time. Time-invariant district-level features and exogenous time-shocks are again controlled for using fixed effects. Plus, this model adds a vector of covariates (Z'_{dt}) for relevant time-varying district-level characteristics that may affect both the independent variables and the probability of a recall taking place. These include two indicator variables for whether the district mayor comes from the same party as the provincial mayor or the regional president, the ENEP in the most recent election[17] and the number of past recall elections.[18] The same party dummies are intended to account for the possibility that higher-level authorities may benefit or hurt mayors depending on their party affiliation, thus affecting the likelihood that a recall will take place. Moreover,

[17] I used Laakso and Taagepera's formula for the effective number of electoral parties (1979).

[18] Recall events are counted here, regardless of the number of district officials on the recall ballot.

sharing the same party as higher-level officials may affect the level of ability needed to be elected (i.e., candidates can compensate for less ability with political support from these authorities and their parties). The number of parties is included because it will determine the dynamics of competition affecting both politicians' incentives to promote a recall (through its effect on vote shares) and the quality of elected representatives. The number of recall elections that have taken place in district d before t seeks to control for the negative effect of past recalls on the candidate pool. Furthermore, experience with the occurrence of recalls in the past may also affect the probability that recalls will take place by lowering informational costs and/or increasing citizens' opposition to recalls.

To test hypotheses 4, 5 and 6 I use data for the period between 2002 and 2014. I thus exclude the first two terms with recall elections (1996-1998 and 1999-2002) with the purpose of maintaining institutional features (and their effects) as constant as possible. These two recall elections took place before (i) the Decentralisation Law was passed, which means the structure and competences of subnational governments was different; (ii) the Law of Political Parties was passed, which means the type of political organisations in competition (and the requirements to create them) were different and; (iii) the Municipal Elections Law was reformed, which means the electoral rules governing municipal elections were different (namely, there was a run-off election if no party got at least 20% of the vote). These institutional differences are expected to have a non-negligible effect on the dynamics of local political competition (and therefore on politicians' incentives), raising issues about their comparability with later periods. Indeed, as a result of these reforms, while in the 1995 and 1998 elections the number of national political parties competing at the district level was 2 and 5, respectively, in 2002 this number jumped up to 14.

To test hypothesis 4, regarding the role of party networks, I use as independent variables a set of indicators of all the national parties who participated and lost in the prior election. I thus leverage within-district variation in the pool of parties competing electorally. This is made possible by the unique features of Peruvian party regulations, which allow political competition at the district level to take place between national parties, regional movements and local political organisations. National parties are those that can compete in all elections throughout the country and are the most stable over time, while regional movements can compete only in elections within the region in which they were created.[19] Local political organisations can exist at the provincial or district levels, the former can compete in all elections within the province of their creation and the latter can only compete in the districts in which they were created. These types of organizations are highly volatile and new ones tend to appear and disappear for each election cycle. In practice all of this means that each district has its own set of political

[19]While national parties are the most stable over time, there is still significant volatility. In the three election cycles studied (2002, 2006, 2010) a total of 17 national parties presented candidates at the district level, however only 7 of these participated in all three elections.

organizations competing for power in any given election.

To test hypothesis 5 I create a dummy variable that indicates the presence of uncertain electoral results in district d at time t. Uncertain results are defined as those in which the margin of victory is smaller than 5 percentage points and the winner's vote share is below 35% of valid votes.[20] I also attempt to capture this electoral uncertainty with a variable measuring the ENEP in district d at time t. The idea here is that at higher levels of fragmentation both the winner's vote shares and margins of victory are expected to be smaller. If losing politicians are more likely to attempt to re-do elections via a recall when results are more uncertain, both the uncertainty dummy and the ENEP variable will have positive coefficients.

To test hypothesis 6 I examine whether recalls take place when politicians are inexperienced, incapable, or unpopular.[21] Experience is assessed using a variable that records the number of times the current mayor previously held different types of elected office. If a mayor's experience does not affect the probability of a recall (or it is not the least experienced mayors that are subjected to the recall), its coefficient is expected to be zero (or positive). Data on mayors' experience comes from the National Jury of Elections (JNE), whose webpage offers information on all elected officials, including the history of elective offices they have held. On the basis of information collected by scraping this website I constructed ratio variables measuring different types of previous elected positions held by mayors (executive and legislative positions at the provincial or district levels).[22]

To assess mayor's popularity I use a dummy variable indicating the presence of conflicts caused by dissatisfaction with district authorities. If recalls are not associated with this form of dissatisfaction with authorities (or recalled authorities are not the least popular ones), its coefficient is also expected to be zero (or negative). Data on social unrest comes from the Office of the Ombudsman's monthly report on social conflicts. This document, available since March 2004, documents the occurrence of social conflicts throughout the country, including a description of the location, causes and actors involved in the conflict, on the basis of reports from decentralised state agencies, NGOs, the media and participants' reports.[23] Using these reports I hand coded dummies indicating the existence of conflicts caused by dissatisfaction with district authorities. I only

[20] I also show that results are robust to different thresholds of margin of victory and the winner's vote share.

[21] Strictly speaking this test should use as dependent variable a dummy for the occurrence of a recall election targeted specifically against the mayor, rather than one indicating the occurrence of any recall election in district d at time t. In practice, the difference between these two dummies is small: out of 904 district-government terms with recall elections, only 20 of them (2%) did not include the mayor among the officials subjected to the recall.

[22] Regional experience was not considered because only one mayor had ever been elected to a regional-level position.

[23] Social conflicts are defined as contentious collective actions that involved at least one of the following: threats to people's life, integrity or health; damages to public or private property; limitations to free movement; obstruction of an official in the exercise of his duties; paralysation of public service provision.

considered conflicts that took place during the first year of the district government's term (when recall processes cannot be initiated) to exclude conflicts that could result from the recall campaign itself. Since conflict data is only available since 2004, these analyses only include two terms (2007-2010 and 2011-2014).

Capacity is assessed on the basis of two aspects: mayor's political ability to manage social conflicts in their jurisdictions and their managerial ability to execute the municipality's budget. To test the former I include dummies for the presence of two types of conflicts in the district: non electoral and electoral conflicts. If recalls are not associated with social unrest in the district (or at least recalls do not take place in more conflictive districts), the coefficient on non-electoral conflicts is expected to be zero (or negative). The dummy for electoral conflicts is included separately to allow for the possibility that recalls are a way of solving conflicts caused by citizen's dissatisfaction with electoral results, in which case its coefficient would be positive. Data source and periods covered remain the same as above.

Finally, to test the role of managerial ability I use a variable measuring the percentage of progress in the execution of the municipal budget. Data on municipal government's budget management comes from the Ministry of Economy and Finance, which reports each district's percentage of progress in the execution of its annual budget since 2009.[24] On the basis of this information I constructed a variable recording progress in the execution of the municipal budget during the first year of the term, to avoid reverse causality due to the recall campaign's effect on the management of the municipal government. Because this information is only available since 2009, I only have data for the 2011-2014 term which means this analysis relies only on cross-sectional variation.[25] If the mayor's capacity to execute the budget is not associated with the occurrence of a recall (or at least it is not the governments that are less capable of executing their budget that are faced with a recall), the coefficient of interest is expected to be zero (or positive). Since I am now looking at the effect of variation in budget execution across districts, it is important to account for relevant differences between districts that may affect both budget execution and the occurrence of a recall. Thus, my vector of controls now includes additional covariates. To control for socio-economic differences across districts I include variables measuring (i) the percentage of rural population in the district; (ii) the percentage of illiterate adults in the district; (iii) the infant mortality rate in the district; and (iv) the percentage of population in the district with at least two unsatisfied basic needs.[26] These data come from the 2007 census, the only source available with data at the district level.

[24]The measure is constructed as the ratio of accrued expenses to the annual amended budget, expressed as a percentage.

[25]Formally, the regression model I estimate is $Recall_{dp} = \beta ExecBudg_{dp} + Z'_{dp}\gamma + \lambda_p + \epsilon_{dp}$.

[26]The basic needs considered are: dwellings with inadequate physical characteristics, overcrowded dwellings, dwellings with no connection to a water network, households with at least one child aged 6 to 12 that does not attend school, households with high economic dependency (household head has incomplete primary education and more than three dependents).

Finally, I also include a variable measuring the per capita annual budget in each district during the first year of the term. This variable is intended to control, on the one hand, for an alternative political incentive to promote a recall, and on the other, for varying levels of administrative capacity that may affect budget execution. Since districts are embedded in provinces in some models I also include province fixed effects to avoid potential confounding due to province-level features that may affect the relationship between budget execution and the probability of a recall.

5 Results

This section presents results from linear probability models. In light of the fact that OLS estimates are expected to be reliable as long as the model specification is correct, the interpretability of OLS is preferred to logit or probit specifications, despite the risk of non-sensical predictions (under 0 or above 1). Finally, cluster robust standard errors (clustered at the district level) are used to account for repeated observations.

Table 2 presents the results of the tests of hypotheses 1 to 3. Starting with whether homophily or some form of learning is driving the propagation of recalls (H1), the fact that the existence of a recall in a neighboring district has no effect on the probability of a recall once term fixed effects are included (as shown in column 2), while the proportion of neighbors with recalls and the success of recalls in neighboring districts do have a positive (and increasing) effect (as shown in columns 4 and 6) suggests that homophily is not the driving force behind recalls. As mentioned above, if that were the case, the number of neighbors with recalls and the success of neighbors' recalls should have no effect on the probability of a recall, since districts decide to activate the recall independently from one another and only their similarity (proxied by contiguity) should matter for diffusion. These results therefore suggests that recalls diffuse through social learning.

Table 2: Why and What Diffuses?

	Probability of a Recall							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
At least one neighbor had recall	0.060***	0.019						
	[0.011]	[0.012]						
Proportion of neighbors with recall			0.232***	0.078*				
			[0.040]	[0.043]				
Proportion of neighbors with successful recall					0.428***	0.259***		
					[0.076]	[0.078]		
All neighbors with failed recalls							0.010	-0.015
							[0.012]	[0.013]
Observations	6,528	6,528	6,528	6,528	6,528	6,528	6,528	6,528
Districts	1,632	1,632	1,632	1,632	1,632	1,632	1,632	1,632
R-squared	0.006	0.031	0.009	0.031	0.009	0.033	0.000	0.031
Term Fixed Effects	NO	YES	NO	YES	NO	YES	NO	YES

NOTES. Results from OLS panel regressions with district fixed effects. Cluster robust standard errors (clustered by district) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which a recall election took place and 0 for those in which it did not.
*** p<0.01, ** p<0.05, * p<0.1.

Regarding whether policy or political information is being diffused (H2 and H3), the fact that the existence of successful recalls in neighboring districts increases the probability of a recall but failed recalls do not is inconsistent with H2 and the diffusion of policy information. If what was being communicated was simply information about the availability of recalls, *any* recall, successful or failed, would increase the probability of a recall taking place. Rather, the fact that only successful recalls have an effect on the probability of a recall, while unsuccessful ones do not, is congruent with H3 and the diffusion of political information regarding its viability and potential benefits.

The magnitude of the coefficients in table 2 is worth noting. Results in column 4 suggest that each additional neighbor experiencing a recall increases the probability that a district will experience a recall in the next period by almost 8%. However, each additional neighbor experiencing a successful recall increases the probability that a district will experience a recall in the next period by an impressive 26%. Given that the average probability of a recall in the sample is 14%, the diffusion effects found are substantial.

Thus far we know diffusion is taking place through a process of social learning in which information about the political viability and potential payoffs of activating recalls is being communicated. The question now is: who are the actors driving this diffusion?

Table 3 presents the results of the test of H4, regarding the role of national political parties in facilitating the diffusion of the recall. Column 2 shows that some parties do have an effect on the probability of a recall taking place, suggesting party hierarchies adopt a position regarding the use of the recall that is followed by their losing candidates throughout the country. The positive effect of the party *Alianza para el Progreso* is consistent with the fact that during the period of study it was both one of the most organized and clientelistic parties in the country, which likely made possible this type of top-down strategy (Carpio, 2014). The other party with a positive coefficient, *Movimiento Amplio Pais Unido* is a small party that only participated in the 2002 election and even then, only fielded candidates in 10% of the districts. Interestingly, both parties with negative coefficients identify with religious values (catholic in the case of the *Partido Popular Cristiano* and evangelical in the case of *Restauracion Nacional*).

Table 3: Who drives diffusion? The Role of Parties

	Probability of a Recall	
	(1)	(2)
Acción Popular	-0.018	-0.007
	[0.014]	[0.014]
Alianza por el Progreso	0.053***	0.028*
	[0.017]	[0.017]
Partido Fujimorista	0.018	0.003
	[0.017]	[0.018]
Partido Aprista	-0.004	0.005
	[0.015]	[0.015]
Somos Perú	-0.036**	-0.021
	[0.015]	[0.016]
Partido Popular Cristiano	-0.052***	-0.027*
	[0.015]	[0.016]
Perú Posible	-0.027*	0.003
	[0.014]	[0.016]
Restauración Nacional	-0.032	-0.036*
	[0.020]	[0.021]
Unión por el Perú	0.014	0.022
	[0.015]	[0.015]
Fuerza Democrática	-0.021	-0.005
	[0.020]	[0.020]
Movimiento Nueva Izquierda	-0.019	-0.001
	[0.019]	[0.019]
Frente Independiente Moralizador	-0.041	-0.027
	[0.035]	[0.035]
Movimiento Amplio País Unido	0.050	0.062**
	[0.031]	[0.031]
Primero Perú	-0.019	-0.003
	[0.028]	[0.029]
Partido Reconstrucción Democrática	0.030	0.036
	[0.037]	[0.037]
Partido Renacimiento Andino	0.025	0.040
	[0.025]	[0.025]
Partido Nacionalista Peruano	-0.021	-0.005
	[0.017]	[0.021]
Observations	4,896	4,896
Districts	1,632	1,632
R-squared	0.024	0.030
Term Fixed Effects	NO	YES

NOTES. Results from OLS panel regressions with district fixed effects. Cluster robust standard errors (clustered by district) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which a recall election took place and 0 for those in which it did not.
*** p<0.01, ** p<0.05, * p<0.1.

Table 4 presents the results of the fixed effects panel regression assessing H5. Both the dummy for elections with uncertain results (small margins of victory and winner's vote shares) and the variable measuring fragmentation have positive and significant coefficients. Substantively, these results mean that in any given district the probability of

having a recall increases by about 5 percentage points on average in terms in which election results are uncertain, as compared to terms in which either the winner's vote share or the margin of victory were large. These results are consistent with losing politicians driving the diffusion of the recall by learning about their political viability from their neighbors and using them when conditions are favourable. They are also consistent with the notorious reduction in the number of recalls following the 2015 reform that eliminated the possibility of calling new elections.

Table 4: Who Drives Diffusion? The Role of Politicians

	Probability of a Recall			
Variables	(1)	(2)	(3)	(4)
Uncertain electoral results			0.032**	0.047***
(margin<5 & vote share<35)			[0.013]	[0.012]
ENEP	-0.017***	0.019***		
	[0.004]	[0.005]		
Same party as provincial mayor	0.016	-0.011	0.025*	-0.011
	[0.014]	[0.013]	[0.014]	[0.013]
Same party as regional president	0.018	0.010	0.021	0.010
	[0.016]	[0.015]	[0.016]	[0.015]
Previous recalls in district	-0.347***	-0.514***	-0.335***	-0.509***
	[0.021]	[0.022]	[0.021]	[0.022]
Observations	4,902	4,902	4,902	4,902
Districts	1,634	1,634	1,634	1,634
R-squared	0.114	0.229	0.112	0.229
Term Fixed Effects	NO	YES	NO	YES

NOTES. Results from OLS panel regressions with district fixed effects. Cluster robust standard errors (clustered by district) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which a recall election took place and 0 for those in which there was no recall.
*** p<0.01, ** p<0.05, * p<0.1.

Let's turn now to the potential role of citizens in driving recalls. Column 1 in table 5 shows that in models not including term fixed effects, mayors' prior experience in elected positions is actually associated with a higher probability of a recall taking place. However, once term fixed effects are included in the model the coefficient loses significance (column 2). These results indicate that it is not the least experienced mayors that are being recalled. In fact, if anything, it is the more experienced ones that are subjected to recall votes.[27]

[27]Table 9 in the SI presents results using different types of experience: at the district and provincial level, and in executive and legislative positions. Coefficients are consistently small and insignificant in all models with term fixed effects.

Columns 3 and 4 assess the role of elected officials' popularity, as measured by the existence of social conflicts against district authorities. Column 4 shows that districts with conflicts expressing opposition to district authorities during their first year in office are less likely to experience a recall. Columns 5 and 6 examine the role of mayor's capacity as measured by the level of social unrest in the first year of their term. They show that while electoral conflicts have no effect on the probability of a recall, other social conflicts do. Districts with non-electoral conflicts are found to be less likely to have a recall.These results are the opposite of what we would find if citizens were recalling authorities that are unpopular or unable to manage social conflicts in their jurisdiction. In that sense, they are consistent with the idea that recalls are not used to get rid of incapable officials. Table 8 in the SI presents further evidence of this, as it shows that at least in the 2011-2014 term, recalls were not associated with officials' incapacity to execute the budget.

Table 5: Who Drives Diffusion? The Role of Citizens

	Probability of a Recall					
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Experience: any	0.016**	0.003				
elected position	[0.007]	[0.007]				
Conflicts against			-0.159	-0.190*		
district authorities			[0.105]	[0.101]		
Non-electoral conflicts					0.030	-0.093***
					[0.035]	[0.033]
Electoral conflicts					-0.084	-0.074
					[0.090]	[0.092]
Same party as	0.015	-0.011	-0.024	-0.021	-0.025	-0.021
provincial mayor	[0.014]	[0.013]	[0.019]	[0.017]	[0.019]	[0.017]
Same party as	0.017	0.010	0.035*	0.043**	0.034*	0.044**
regional president	[0.016]	[0.015]	[0.020]	[0.019]	[0.020]	[0.019]
ENEP	-0.016***	0.019***	0.003	0.017**	0.003	0.016**
	[0.004]	[0.005]	[0.007]	[0.007]	[0.007]	[0.007]
Previous recalls	-0.348***	-0.514***	-0.613***	-0.813***	-0.615***	-0.816***
	[0.021]	[0.022]	[0.028]	[0.031]	[0.028]	[0.031]
Observations	4,902	4,902	3,268	3,268	3,268	3,268
Districts	1,634	1,634	1,634	1,634	1,634	1,634
R-squared	0.116	0.229	0.260	0.378	0.260	0.381
Term Fixed Effects	NO	YES	NO	YES	NO	YES

NOTES. Results from OLS panel regressions with district fixed effects. Cluster robust standard errors (clustered by district) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which the mayor was subjected to a recall vote and 0 for those in which she was not.
*** p<0.01, ** p<0.05, * p<0.1.

These findings indicate that the agents driving the diffusion of recalls are losing politicians and some national parties, but not voters. Recalls are more likely when specific national parties lose local elections, and whenever local politicians expect to be able to reverse electoral results. On the other hand, they are not associated with unpopular, incapable or inexperienced district officials.

6 Robustness Tests

This section discusses the robustness of my findings to alternative definitions of both the dependent and independent variables.

In terms of the dependent variable, I re-estimated all models using the dummy indicating the occurrence of a recall vote targeted specifically at the mayor instead of any recall vote. Results were unchanged.

For the spatial models, table 10 in the SI presents the results of a series of regressions using distance to the nearest district with a recall in the previous period as a proxy for proximity (or similarity), instead of contiguity. Maximum distance in this table refers to the maximum distance to the nearest district with a recall, which can be the full maximum distance (645 kms.) or a threshold set at the 95th and 90th percentiles (107 and 77 kms., respectively). As we can see, once term fixed effects are included, distance only has the expected negative effect in districts within the 90th percentile of distance, which means recalls in other districts will only have an effect if they are close enough.

In terms of the tests of H5, table 11 in the SI presents the results of a series of alternative models exploring the effect of uncertain electoral results. First, I used different specifications for what qualifies as an uncertain electoral result, varying the thresholds used for the winner's vote share (between 30 and 40%) and margin of victory (between 3 and 8 percentage points). The main results remained unchanged. I then tried using the margin of victory and the winner's vote share as independent variables, both in separate models and combined. In all cases, the effect of both variables was negative, which is consistent with the idea that recalls are more likely when elections results are close (the margin of victory is small) and the winner is perceived as weak (her vote share is small), creating incentives for losers to challenge them.

Finally, I also assessed the sensitivity of the results to the variable measuring the number of previous recalls in a district. Results remained essentially the same in the models without it.

7 Conclusion

Subnational governments are often considered to function as laboratories in which policy innovations can be tested and, if successful, replicated. This paper suggests that what counts as success may not always be evident. It shows that social learning can lend itself to perverse dynamics. In the case presented here, politicians learn to (ab)use participatory institutions in a way that furthers their interests —or at least is perceived by them to do so— at the cost of government stability, effectiveness and very likely, citizen trust.

Results indicate that in Peru recalls diffuse through a process of social learning, such that districts (or more accurately, politicians in districts) learn about the use of the recall

from their neighbors (either literally or in the sense of proximate). In particular, they learn about the recall's political viability and payoffs. Beyond individual politicians, party networks are also found to be relevant in explaining the diffusion of the recall, as some parties seem to adopt the strategy of promoting recalls whenever they lose a local election. On the other hand, there is no indication that recalls are activated in response to citizen demands.

Anecdotal evidence suggests that recalls in Peru are disruptive, destabilizing and contribute to citizens' distrust of politicians. Empirical research has shown that they lower the quality of the pool of political candidates in subsequent elections (Artiles et al., 2021). Even if voters are able to use recalls to remove lower performing politicians (as argued by Holland and Incio (2019)), it would be hard to argue that they have served to improve representation, accountability or any aspect of democracy. In light of these negative effects, and of the increasing use of recalls in Latin America and beyond, understanding their diffusion is of great relevance.

In that sense, one question that future research should try to address is the specific channel through which geographical proximity matters. It might operate through the existence of policy entrepreneurs traversing specific regions and offering their services, it might be that overlapping media markets mean politicians are more likely to learn about recalls occurring in their vicinity, or it might just be that information from neighboring districts travels through alternative, informal channels. A combination of quantitative and qualitative research may prove valuable in shedding light on these different alternatives.

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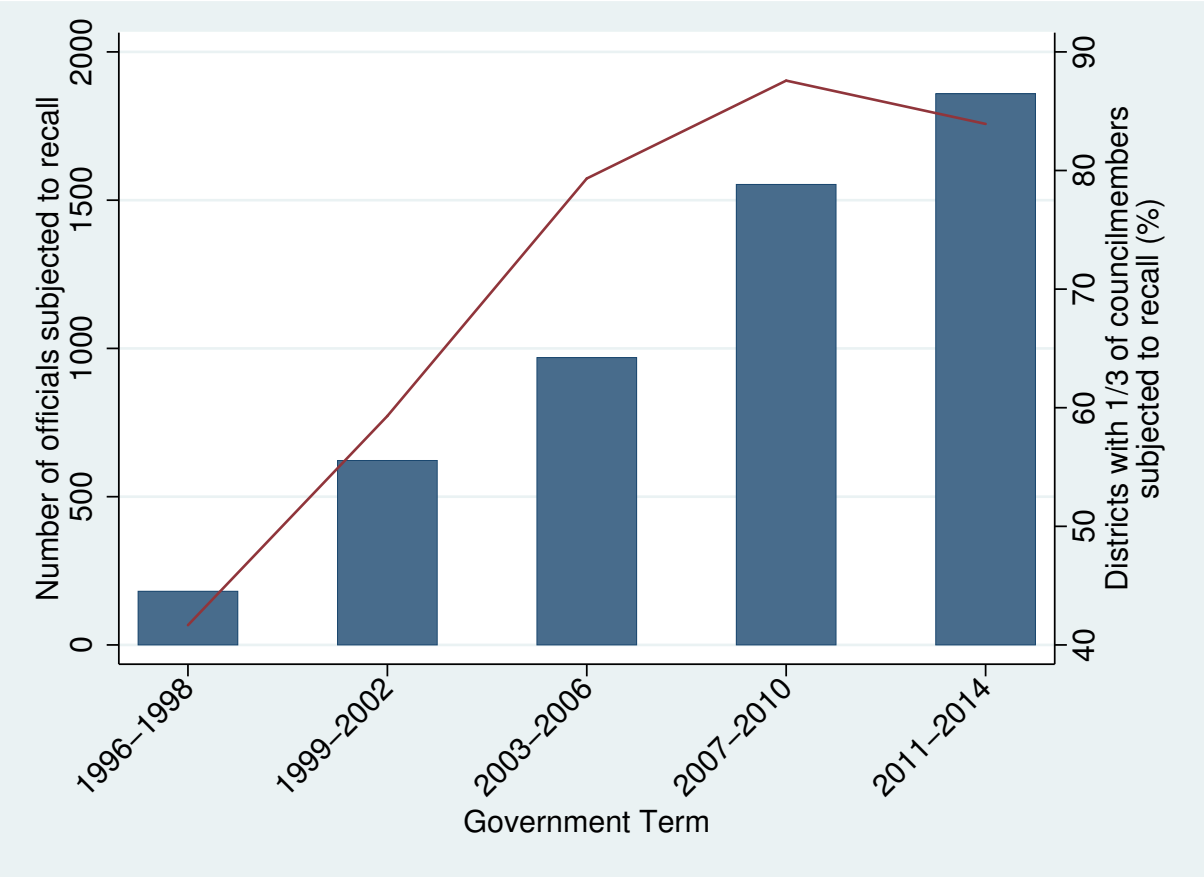
A Supplementary Information

A.1 Number of Officials Subjected to Recalls

Figure 3: Recalls by Subnational Government Term



Data source: ONPE. Red line indicates the share of districts with recalls in which new elections could be triggered (at least 1/3 of council members are subjected to the recall).

A.2 Descriptive Statistics

Table 6: Descriptive Statistics: H1-H3 (1996-2014)

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Dummy for district with recall	8,160	0.139	0.346	0	1
At least one neighbor had recall	6,528	0.394	0.489	0	1
Proportion of neighbors with recall	6,528	0.0984	0.149	0	1
Proportion of neighbors with successful recall	6,528	0.0277	0.0779	0	0.800
All neighbors with failed recalls	6,528	0.256	0.437	0	1
Distance to nearest district with recall	6,528	40.43	44.94	1.707	645.4
Number of districts	1,632	1,632	1,632	1,632	1,632

Table 7: Descriptive Statistics: H4-H6 (2002-2014)

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Recall in district	4,902	0.184	0.388	0	1
Mayor subjected to recall in district	4,902	0.180	0.385	0	1
At least 1/3 of council members subjected to recall	4,902	0.156	0.363	0	1
Less than 1/3 of council members subjected to recall	4,902	0.0279	0.165	0	1
Experience: any elected position	4,902	0.636	0.899	0	7
Experience: district-level positions	4,902	0.615	0.876	0	6
Experience: provincial positions	4,902	0.0190	0.144	0	2
Experience: executive positions	4,902	0.382	0.699	0	5
Experience: legislative positions	4,902	0.254	0.558	0	5
Non-electoral conflicts	3,268	0.0652	0.247	0	1
Electoral conflicts	3,268	0.00887	0.0938	0	1
Conflicts against district authorities	3,268	0.00306	0.0552	0	1
% Annual budget executed	1,634	73.95	15.68	11.42	99.50
Number of voters	4,902	7,209	26,537	95	577,178
Winner's vote share	4,902	33.97	10.39	12.38	100
Margin of victory	4,902	9.177	9.093	0	100
Uncertain election results	4,902	0.341	0.474	0	1
ENEP	4,902	4.650	1.632	1	14.04
Same party as provincial mayor	4,902	0.248	0.432	0	1
Same party as regional president	4,902	0.168	0.374	0	1
Previous recalls in district	4,902	0.290	0.577	0	4
% Illiterate	4,902	13.95	8.970	0.220	50.41
% with at least 2 UBN	4,902	25.08	15.37	0	92.41
Infant mortality rate	4,902	23.88	8.082	9.100	53.90
% Rural	4,902	53.92	30.36	0	98.69
Per capita district budget (original)	1,634	741.2	830.2	50.34	14,284
Per capita district budget (amended)	1,634	1,538	2,523	66.09	62,766
Acción Popular	4,896	0.418	0.493	0	1
Alianza por el Progreso	4,896	0.222	0.416	0	1
Partido Fujimorista	4,896	0.176	0.381	0	1
Partido Aprista	4,896	0.704	0.456	0	1
Somos Perú	4,896	0.271	0.444	0	1
Partido Popular Cristiano	4,896	0.308	0.462	0	1
Perú Posible	4,896	0.391	0.488	0	1
Restauración Nacional	4,896	0.123	0.328	0	1
Unión por el Perú	4,896	0.280	0.449	0	1
Fuerza Democrática	4,896	0.0958	0.294	0	1
Movimiento Nueva Izquierda	4,896	0.119	0.324	0	1
Frente Independiente Moralizador	4,896	0.0366	0.188	0	1
Movimiento Amplio País Unido	4,896	0.0315	0.175	0	1
Primero Perú	4,896	0.0366	0.188	0	1
Partido Reconstrucción Democrática	4,896	0.0251	0.157	0	1
Partido Renacimiento Andino	4,896	0.0660	0.248	0	1
Partido Nacionalista Peruano	4,896	0.168	0.374	0	1

Table 7 presents summary statistics for the variables used to test hypotheses 5 and 6. It is worth noting that during this period (2002-2014) almost 20% of district-government terms in Peru experienced recalls. The majority of these districts subjected at least one third of the council to the recall —the lower bound for triggering a new election—, with their overall distribution in the data reaching almost 16%. The number of previous recalls in a district has a maximum value of 4, indicating that by 2011 some districts (3, to be precise) had experienced a recall every term since 1996. Another aspect that stands out is the great variation in budget execution across districts, ranging from under 12% to almost 100% of the annual budget. Similarly, the winner's vote share ranges from only 12% to 100%, and the margin of victory can be as small as 0%, which is the case in districts in which there was a tie and the winner was decided by a coin toss.

A.3 Additional Results

Table 8 presents the results of the pooled OLS regression assessing the link between subnational governments' capacity in the management of the district's budget and the probability that a recall takes place.[28] As expected, the full model shows no association between these variables once political covariates are accounted for.[29]

[28]This table reports 194 provinces because even though 195 provinces existed in Peru at this time, one of them -Purus- does not have any district-level governments.

[29]The following alternative model specifications were also tested but did not significantly alter the results: (i) using the amended per capita annual budget instead of the original per capita annual budget; (ii) dropping the variable measuring illiteracy (it is correlated with the other socioeconomic controls and may be inflating the standard errors); and (iii) using regional fixed effects instead of provincial ones.

Table 8: Who Drives Diffusion? The Role of Citizens II

	Probability of a Recall		
Variables	(1)	(2)	(3)
Percent annual budget executed	0.002**	0.001	0.001
	[0.001]	[0.001]	[0.001]
Percent rural	0.000	0.000	-0.000
	[0.001]	[0.001]	[0.001]
Infant mortality rate	-0.001	-0.001	0.031**
	[0.002]	[0.002]	[0.015]
Percent with at least 2 UBN	0.000	-0.000	-0.001
	[0.001]	[0.001]	[0.001]
Percent illiterate	-0.003	-0.002	-0.001
	[0.002]	[0.002]	[0.003]
District budget per capita	0.000**	0.000*	0.000
	[0.000]	[0.000]	[0.000]
Same party as provincial mayor		-0.046**	-0.061**
		[0.022]	[0.025]
Same party as regional president		-0.001	-0.001
		[0.027]	[0.030]
ENEP		-0.006	0.007
		[0.007]	[0.008]
Previous recalls in district		0.119***	0.076***
		[0.017]	[0.018]
Observations	1,634	1,634	1,634
Provinces	194	194	194
R-squared	0.011	0.054	0.213
Province Fixed Effects	NO	NO	YES

NOTES. Results from pooled OLS regressions. Cluster robust standard errors (clustered by province) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which a recall election took place and 0 for those in which there was no recall.
*** p<0.01, ** p<0.05, * p<0.1.

Table 9: Unpacking mayor experience

	Probability of a Recall								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Experience: any	0.014*	0.018**	0.005						
elected position	[0.008]	[0.007]	[0.007]						
Experience:				0.014*	0.018**	0.005			
district-level positions				[0.008]	[0.007]	[0.007]			
Experience:				0.015	0.024	0.028			
provincial positions				[0.038]	[0.037]	[0.035]			
Experience:							0.024**	0.027***	0.011
executive positions							[0.010]	[0.009]	[0.008]
Experience:							-0.006	0.002	-0.006
legislative positions							[0.012]	[0.011]	[0.011]
Same party as		0.019	-0.006		0.019	-0.007		0.020	-0.005
provincial mayor		[0.014]	[0.013]		[0.014]	[0.013]		[0.014]	[0.013]
Same party as		0.019	0.012		0.019	0.012		0.019	0.012
regional president		[0.016]	[0.015]		[0.016]	[0.015]		[0.016]	[0.015]
ENEP		-0.013***	0.021***		-0.013***	0.021***		-0.013***	0.022***
		[0.004]	[0.005]		[0.004]	[0.005]		[0.004]	[0.005]
Previous recalls		-0.344***	-0.508***		-0.344***	-0.508***		-0.344***	-0.507***
in district		[0.021]	[0.022]		[0.021]	[0.022]		[0.021]	[0.022]
Observations	4,902	4,902	4,902	4,902	4,902	4,902	4,902	4,902	4,902
Districts	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634
R-squared	0.001	0.114	0.225	0.001	0.114	0.226	0.002	0.115	0.226
Term Fixed Effects	NO	NO	YES	NO	NO	YES	NO	NO	YES

NOTES. Results from OLS panel regressions with district fixed effects. Cluster robust standard errors (clustered by district) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which the mayor was subjected to a recall vote and 0 for those in which she was not.
*** p<0.01, ** p<0.05, * p<0.1.

A.4 Robustness Tests

Table 10: Robustness test: distance to nearest recall

	Probability of a Recall			
	(1)	(2)	(3)	(4)
Distance to nearest district with recall	-0.001*** [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.001* [0.000]
Observations	6,528	6,528	6,199	5,869
R-squared	0.006	0.031	0.030	0.030
Districts	1,632	1,632	1,613	1,606
Term Fixed Effects	NO	YES	YES	YES
Maximum distance	Full	Full	95%	90%

NOTES. Results from an OLS panel regression with district fixed effects. Cluster robust standard errors (clustered by district) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which a recall election took place and 0 for those in which it did not.
*** p<0.01, ** p<0.05, * p<0.1.

Table 11: Robustness test: uncertain electoral results

	Probability of a Recall						
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Margin of victory	-0.004***	-0.004***			-0.002**		
	[0.001]	[0.001]			[0.001]		
Winner's vote share			-0.001	-0.004***	-0.003**		
			[0.001]	[0.001]	[0.001]		
Uncertain electoral results 2						0.038**	
(margin<3 & vote share<30)						[0.015]	
Uncertain electoral results 3							0.057***
(margin<8 & vote share<40)							[0.011]
Same party as provincial mayor	0.028**	-0.008	0.024*	-0.007	-0.006	-0.013	-0.009
	[0.014]	[0.013]	[0.014]	[0.013]	[0.013]	[0.013]	[0.013]
Same party as regional president	0.020	0.009	0.020	0.010	0.010	0.010	0.009
	[0.016]	[0.015]	[0.016]	[0.015]	[0.015]	[0.015]	[0.015]
Previous recalls in district	-0.335***	-0.509***	-0.337***	-0.511***	-0.510***	-0.510***	-0.509***
	[0.020]	[0.022]	[0.021]	[0.022]	[0.022]	[0.022]	[0.022]
Observations	4,902	4,902	4,902	4,902	4,902	4,902	4,902
Districts	1,634	1,634	1,634	1,634	1,634	1,634	1,634
R-squared	0.118	0.234	0.111	0.234	0.236	0.227	0.231
Term Fixed Effects	NO	YES	NO	YES	YES	YES	YES

NOTES. Results from OLS panel regressions with district fixed effects. Cluster robust standard errors (clustered by district) are reported in brackets. The dependent variable is a binary indicator coded as 1 for districts in which a recall election took place and 0 for those in which there was no recall.
*** p<0.01, ** p<0.05, * p<0.1.