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Testing Selectorate Theory: Local Government Recall Elections and Political Survival Strategies in Peru

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PRESENTED BY:
NORC at the University of Chicago
55 East Monroe Street
30th Floor
Chicago, IL 60603
Ph. (312) 759-4000

AUTHORS:
Luis A. Camacho
Research Scientist, International Programs
Camacho-Luis@norc.org

AUTHOR INFORMATION

Luis A. Camacho
Senior Research Scientist
NORC University of Chicago
4350 East-West Highway
7th Floor
Bethesda, MD 20814
Camacho-Luis@norc.org
301-634-9517

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Abstract

'Selectorate theory' is one of the most ambitious and influential explanations of why democracies outperform autocracies in bringing about development. Due to a number of methodological limitations, the central tenet of the theory, namely, that as the size of the winning coalition (W) increases so do the incentives for incumbents to provide public rather than private goods to retain office, has not yet been properly tested. Processes to recall mayors in Peru provide a setting to test this hypothesis cleanly. Therein, incumbents are embedded in a context where W varies while other regime features remain constant. During the time when citizens can petition for a recall election, W is small; the winning coalition comprises the small group of political entrepreneurs that can bear the costs associated with filing a petition. If a petition is successful, and a recall election is called, W is large; the winning coalition comprises the majority of voters. The results support selectorate theory: Challenged mayors react to the initiation of petitions by increasing spending on private goods while those facing recall elections increase spending on public goods.

1. Introduction

To be voted into office, politicians must offer proposals that meet voters' needs and wants, and once in office, incumbents should be inclined to fulfill their campaign promises, given that they will face voters again in the next electoral contest. According to this stylized view of democratic accountability, catering to voters' needs and wants should improve the provision of public goods, such as basic infrastructure, education, and health care, and the well-being of the citizenry, more generally. These basic ideas provide a plausible causal mechanism linking democracy and development centering on free and fair elections with universal suffrage.

Perhaps the most well-known formalization of these ideas is the 'selectorate theory' developed by Bueno de Mesquita el al. (2003). The theory proceeds from the premise that, regardless of political regime, rulers must secure the support of a winning coalition if they want to stay in power. The winning coalition (W) is a subset of all individuals who have a say in choosing rulers and keeping them in power; altogether these individuals are the selectorate (S). Incumbents can secure the support of relatively small W by transferring private goods. However, as the size of W increases, the distribution of public goods becomes a more cost-effective strategy. Because elections with universal suffrage increase the size of both S and W, they create incentives for those in power to provide goods that everyone can benefit from, such as education and health services, roads, and functioning judiciary systems, and this in turn, contributes to development.

Alternative causal mechanisms emphasize institutions that divide powers and create horizontal checks and balances, on the one hand, and civil liberties and political rights, on the other. The first set of institutions encourages development by credibly committing government to upholding property rights or limiting its ability to engage in predatory behavior (e.g., North & Weingast, 1989; North, 1990; Olson, 2000, 187-195), while civil liberties and political rights do so by affording citizens with various avenues to influence politics and policymaking (e.g., Rodrik, 1999; Sen, 1999). While numerous studies have established that democracy produces improvements on a number of economic and social indicators,[1] clear empirical evidence regarding the causal mechanisms at work remains scarce. Standard empirical strategies relying on time-series cross-sectional regressions are ill-equipped to pin down which causal mechanisms are at play for at least two reasons. First, identification is problematic because elections with universal suffrage, institutions that divide powers and create checks and balances, and civil liberties and political rights were

[1] See, for example, Besley and Kudamatsu (2006), Blaydes and Kayser (2011), Brown (1999), Gerring, Tacker, and Alfaro (2012), Pinto and Timmons (2005), Przeworski, Alvarez, Cheibub, and Limongi (2000), Rodrik (2000), Tavares and Wacziarg (2001), and Tsai (2006).

introduced closely together in most political systems. Second, reliably measuring these features across political systems remains challenging.

Previous attempts at specifically testing – or rebuffing – selectorate theory suffer from the same limitation (e.g., Bueno de Mesquita et al., 2003; Clarke & Stone, 2008, Morrow et al. 2008; Kennedy, 2009; Cao & Ward, 2015). In lieu of direct measures of W and S, studies have relied on crude, proxy indicators derived from a commonly used regime characteristics scoring project, Polity IV. These measures are then included in time-series cross-section regressions along with other measures of overall levels of democracy, regime characteristics distinct from W and S, or regime durability. While the use of this approach is understandable given data limitations, such an approach can only provide an initial probe of selectorate theory.

This paper aims to improve our understanding of the links between democracy and development by testing the central tenet of selectorate theory, namely, that as W increases so do the incentives for incumbents to provide public rather than private goods to retain office. To do so, it exploits the unique opportunity afforded by processes to recall local government officials in Peru. Recall elections allow voters to decide the fate of incumbents before the expiration of their terms and are called in response to citizen petitions.

The rules governing the recall process in Peru create a context in which W varies while other institutional features remain constant. Indeed, the time leading up to a recall election could be conceived of as being divided in two distinct periods: a small-W period during which support for a petition is being gathered and a large-W period that starts with the successful filing of a petition and the resulting call for a recall election in which all registered citizens must participate. In the first period, the winning coalition comprises the small group of political entrepreneurs that can bear the costs associated with filing a petition and incumbents should defuse the threat of early dismissal by transferring private goods to these entrepreneurs. In the second period, the winning coalition comprises the majority of voters and incumbents should turn to public goods distribution as their preferred strategy for political survival.

The analysis centers on the 2012 recall election cycle, in which 864 recall petition processes were initiated and 252 mayors faced recall elections and the possibility of early dismissal.[2] This relatively large number of recall petitions and elections, combined with the availability of municipal-level

[2] Unlike other countries in which recall elections have been introduced, their use is not rare in Peru. Other countries where recalling officials at the local or subnational levels is a possibility are Argentina, Colombia, Japan, the Philippines, Poland, Switzerland, and the United States. In Bolivia, Ecuador, and Venezuela all elected officials, including the president and members of the legislative branch, are subject to recalls (Welp, 2013, 54-55; Welp & Serdült, 2012, 173-177). Peru is by far the country where more recall elections have taken place (Welp & Serdült, 2012, 186).

expenditure data that can be used as proxies for the distribution of private and public goods, allows for using a plausible and straightforward identification strategy, difference in differences (DD). The results indicate that challenged mayors reacted to the initiation of a recall petition by increasing expenditures on municipal administration personnel, non-durable goods and services, and debt repayment. In turn, mayors facing recall elections increased expenditures on basic infrastructure and human capital accumulation in an effort to secure the broad support needed to remain in office.

To the best of my knowledge, this is the first paper to examine the effects of recall petition processes and calls for recall elections on public and private good provision and budget execution, more generally. This speaks to the larger issue of whether this participatory democracy mechanism lives up to proponents' views regarding its potential to improve accountability and government responsiveness. This is important in its own right because in the last two decades several Latin American countries have adopted this institution as part of a broader move toward participatory democracy (Welp, 2013, 54). Moreover, recall elections are arguably more consequential than the other participatory democracy mechanisms; legislative initiatives, participatory budgeting, and referenda. Up to date, however, they have received little attention.

The remainder of this paper is divided as follows. The next section provides an overview of the political and fiscal context in which local governments and recall elections are embedded. The third section discusses the paper's empirical strategy; it presents the data and measures of government spending as well as the strategy employed to identify the effects of recall elections on government spending. The fourth section presents and discusses the results. The fifth section serves as a conclusion.

2. Local Government in Peru

2.1 Recall elections and local politics

Peru's territory is hierarchically divided into regions, provinces, and districts. Politically, the lowest level of subnational government is the local or municipal one, which governs both provinces and districts. As of 2014, there are 196 provincial municipalities and 1650 district municipalities in the country.[3] Municipal governments consist of a mayor and a council. The number of council members is determined by population size according to legal regulations established by the national government and ranges from five to 15.[4] All local government officials are elected in single closed lists using a simple majority system. Council seats are in principle assigned proportionally to vote shares, but winning lists are guaranteed an absolute majority in the council. All officials serve four-year terms, can be immediately and indefinitely reelected, and can be subjected to recall elections. [5]

Recall elections are called for if requested by a citizen petition signed by at least 25% of the electoral circumscription's registered voters, with a cap of 400,000 signatures. Signatures must be collected using a standardized set of documents and forms called *kit electoral.* These kits are sold by the Oficina Nacional de Procesos Electorales (ONPE), the national office in charge of conducting elections, which is also the one in charge of receiving and processing petitions. The law requires the petition to identify the authority or authorities who are to face recall elections and to provide the reasons motivating the request, although these need not be proven. If petitions fulfill all requirements, the Jurado Nacional de Elecciones (JNE), the national electoral court, issues a formal call for recall elections. Petitions can only be filed during the second or third year of the four-year subnational government term and a given official can only be subjected to a recall election once per term.

For an official to be ousted, more than 50% of the voters must support the recall, although the interpretation of this requirement has changed throughout the years. For the 1997 recalls, the electoral tribunal ruled that the majority had to be calculated out of the total number of votes; for the 2001 and 2004 recalls, the court determined that it had to be calculated out of the total number of registered voters;

[3] Officially, the territory is divided into 196 provinces and 1846 districts. Districts in which provincial seats of government are located are governed by their respective province's municipality (i.e., they do not have their own district municipality). Because of this, there are only 1650 district municipalities.

[4] The exception is the municipality of Peru's capital city, Lima, whose council has 39 members.

[5] The right to recall elected officials was first recognized in the 1993 Constitution, which continues to be in force with some amendments. It limited recalls to local government officials (as well as judges appointed by popular vote). The 2002 constitutional amendment that reintroduced the regional level of government suppressed in 1993 also extended the right to recall elected officials to this level. After the 2018 municipal elections, the immediate reelection of mayors will not be allowed.

and since 2005, it has been calculated out of the total number of validly cast votes – i.e., total votes minus blank or voided ballots. Since 2009, a minimum turnout of 50% has also been required for recall elections to be considered valid. This turnout requirement has not had any major effects, however, as voting is compulsory in all elections.[6]

Recall elections are quite frequent. Table 1 contains information about contests that targeted mayors. Up until 2012, 997 mayors had faced recall elections, with 281 (28.77%) being ousted from office. The table highlights the effects that the interpretation of the 50% requirement had on recall success rates, with more stringent rules clearly resulting in fewer successful recalls (2001 and 2004). In 2013, an additional 120 mayors faced recall elections. The most prominent of these contests, the one corresponding to the mayor of Lima, took place in March. The incumbent narrowly managed to hold the office, although all the council members from her party were ousted. Of the remaining 119 mayors, 24 were ousted.

Table 1. Recall Election Processes in Peru, 19997-2012

Year	Mayors Facing Recall	Mayors Recalled	Recall Rate (%)
1997	61	42	68.85
2001	166	12	7.23
2004	187	30	16.04
2005	19	11	57.89
2008	237	95	40.08
2009	67	22	32.84
2012	260	69	26.54
Total	997	281	28.18

Source: Oficina National de Procesos Electorales (ONPE).

The frequent use of recall elections is first and foremost one of the symptoms of the high levels of political fragmentation at the local level.[7] In most instances, recalls seem to be used as an additional tool

[6] The rules governing how recalled authorities are replaced are complex. In general, a mayor is replaced by the first council member of his or her list; a council member is replaced by the first council member candidate on his or her list who was not awarded a seat. Only if more than a third of the council is ousted are all officials including mayors replaced in new elections. Ousted officials are not allowed to participate in these contests. The replacing authorities serve only for the remainder of the original four-year term.

[7] For the most part, this fragmentation is due to the imposition of electoral rules that incentivize factionalism in a context already characterized by low levels of social cohesion and high levels of social conflict (Meléndez & Vera, 2006; Muñoz, 2008; Arellano-Yanguas, 2011). First, entry requirements to run for local office are low and essentially entail the collection of a small number of signatures by any group of citizens wishing to participate. Low entry requirements also encourage the continual

of political competition between, but also within political groups (F. Tuesta Soldevilla, personal communication, April 30, 2013; Wiener Bravo, 2004). In both cases, the main objective of recall promoters is to sack incumbent mayors in order to gain access to this office without the need to wait until the end of their four-year terms. Recalls pursued by opposition groups generally seek to oust the mayor along with at least a third of council members so that elections to select the replacing officials take place. By contrast, recalls pursued by factions within mayors' political groups, target only this office – perhaps along with specific council members of their own party – so that the ousted mayor is replaced by a member of the rival faction within his or her own group.[8]

Recall promoters play a leading role during the recall petition period. In a context in which the citizenry is naturally inclined to distrust officials and suspect them of corruption (Wiener Bravo, 2004), promoters must focus on gathering the necessary number of signatures for a valid petition. As described by Remy (2013), while in small circumscriptions it is feasible to collect signatures to support a petition using only the network of acquaintances of the recall promoter, signature collection in larger circumscriptions requires relatively complex organizations comprising signature-collection, data-entry, and coordinating personnel, along with considerable resources to fund this operation and a minimum of propaganda. Once a petition is successfully filed and recall elections are called for, a short yet intense period of campaigning ensues. During this time, incumbents and recall promoters compete for the support of the voting population.

As argued in the introduction, analyzing the evolution of budget execution at the two main stages of the recall elections process – i.e., signature collection and open campaign – offers the possibility to evaluate whether incumbents' strategies to remain in power are influenced by the size of the winning coalition (W). During the period between the time when *kits electorales* first become available and the day by which petitions must be filed, politically-motivated recall promoters become part of a relatively small group who has sway over the political fate of incumbent mayors in between regularly scheduled elections. Additional members of this selectorate include council members, as they can dismiss mayors with a qualified vote under certain circumstances, and genuinely concerned citizens who might have the

creation of political groups or movements that amount to no more than short-lived vehicles to run for office. Second, when so many groups are competing, the plurality system makes it possible to win with relatively small pluralities. Finally, the small population of several districts creates additional fragmentation, as it results in even lower bars for running and getting voted into office. This situation is compounded by the relative weakness of national and even regional political parties at the municipal level outside the largest cities of their respective regional strongholds (Muñoz & García, 2011; Tanaka & Guibert, 2001).

[8] While recalling council members and not mayors is allowed by existing regulations, such initiatives are rare in practice. This is because the mayors' office is the prize that most recall promoters are after. An additional observation supporting this claim is that new elections to choose replacements for ousted council members – as opposed to those in which the mayor's office is also in play – often cannot take place due to a lack of competing lists (F. Tuesta Soldevilla, personal communication, April 30, 2013).

resources to promote a recall petition. All of these individuals constitute the winning coalition; only one dissatisfied member of the selectorate can bring about a recall challenge to the incumbent with enough resources.

Given the small S and W during the signature collection period, incumbents should resort to distributing private goods in order to defuse recall petition initiatives and thus increase their chances of remaining in office. During the open campaign stage, both S and W increase; the selectorate now comprises all the voting population of a municipality and the winning coalition 50% of all those casting valid votes. Accordingly, incumbents should step up public good provision in an effort to secure the necessary citizen support to survive the recall election.

2.2 Local Government Performance

Peruvian local governments have two fundamental attributions: to promote sustainable development in their respective territories and to provide public services to its citizens. To achieve this end, municipalities are given autonomy to issue legal dispositions, to collect property taxes and fees for the services they provide, and to prepare and spend their budgets. The law does not establish distinct attributions for provincial and district municipalities and thus creates an overlap between these two levels of government (Muñoz, 2005).

Despite their attributions, until well into the 1990s, the bulk of municipalities were not able to do much beyond providing street cleaning, road maintenance, trash collection, and street lighting services. This was due to their inability to generate their own revenues and the unwillingness of the national government to transfer them monies. District and provincial municipalities overlapping the largest cities were the exception to this rule because of their large property tax bases and their greater capacity to collect revenues.

During the second half of the 1990s, the national government started transferring revenue to municipalities, especially those at the district level. The resources available for municipal governments increased further with the launch of an aggressive fiscal decentralization process in 2001. This process entailed massive transfers from the national government to both regional and municipal governments through existing and newly created transfer schemes. The national government also delegated to municipalities some aspects of service delivery.

Overall, existing balances of local government performance in recent years are quite negative. Municipalities have generally not made good use of their new resources and attributions, failing to use all the funds at their disposal as well as devoting non-negligible amounts to the construction and maintenance of white elephants. There are two contradictory views on what explains this state of affairs. One blames municipal governments. In particular, it points at the lack of technical capacities in municipalities to design and execute spending projects, a situation that predates the decentralization reforms, but that has been exacerbated by the unprecedented influx of resources. This shortcoming in compounded by the high levels of turnover in municipal personnel, a product of a weak civil service and low rates of reelection at the municipal level (Aragón & Casas, 2008; GTZ, 2008).

The other view points the finger at the top-down approach to decentralization. The increase in transfers was accompanied by a practice of earmarking funds for investments on infrastructure and other nonfinancial assets. At the same time, a system in charge of overseeing the quality of public investments, the Sistema Nacional de Inversion Pública (SNIP), was set in place. This office set rather complex technical requirements to authorize investment spending, which were usually hard to navigate and meet for most municipalities.[9] As a result, while increased resources have granted municipalities some degree of spending initiative, central government regulations imposed significant limitations on their ability to make use of these funds. Central government mandated caps on municipal staff and salaries also contributed to this, as they precluded the hiring of qualified professionals to administer the newly available funds and develop projects in accordance with SNIP's specifications (Neyra, 2012, 139-149).

[9] As summarized by Aragón and Casas (2008, 5), investment projects require a detailed design, an estimation of the demand for the proposed investment, and a feasibility study before being approved. Beyond the SNIP requirements, this type of investment also requires additional skills in long-term forecasting and budgeting, because their development may last several years. This feature makes the planning process more complex. Finally, due to the overlapping competences of district municipalities and other governmental entities, investment projects usually require additional coordination efforts.

3. Empirical Strategy

The analysis focuses on a subset of 1459 district municipalities; it excludes provincial ones as well as district ones that are officially classified as 'municipalities of principal cities.'[10] Because of the hierarchy between provincial and district municipalities, the two types are very different. For example, provincial electoral contests attract more attention from national political parties and provinces have larger populations and budgets. Moreover, given their larger electoral populations and the correspondingly more complex logistics required to collect signatures for petitions, recall elections are a rare occurrence at the provincial level (Remy, 2013; ONPE, 2013). There are similar differences between district municipalities of principal cities and those that do not belong to this group. Centering the analysis on the subset of smaller, more comparable district municipalities in which recall elections are more likely to take place makes the identification strategy described below more plausible.

3.1 Data and Measures

Data pertaining the recall election cycle of 2012 were made available by the ONPE and INFOgob, a virtual information system of the JNE. Recall petition processes were started in 864 municipalities – processes targeted the mayor plus a given number of council members in 791 municipalities; only the mayor in 70 municipalities; and only a given number of council members in three municipalities. Recall elections were called for in 257 municipalities – 229 contests involved the mayor plus a given number of council members; 23, only the mayor; and the remaining five, only a given number of council members.

I use monthly expenditure and yearly budget data from the financial administration system of the Ministry of Economy and Finance (MEF) to construct the outcome variables. I calculate quarterly budget execution ratios by dividing the sum of disbursements during a quarter by the total yearly budget for various types of expenditures for 2011 and 2012. The budget execution ratio for type of expenditure g in municipality m and quarter t of year y is defined as:

$$R_{gmt} = \frac{\sum Disbursements_{gmt}}{Budget_{gmy}} \qquad (1).$$

Monthly expenditures are aggregated into quarters and normalized using yearly budgets to smooth out the high level of variation in expenditures across months and municipalities, and thus create a unit free outcome variable that is easily comparable. While there is likely to be a gap between expenditures and

[10] The group of principal-city municipalities comprises 249 district and provincial municipalities that are located in the 30 largest cities or in provincial capital cities and have a population of over 20,000 inhabitants, 75% of which reside in urban areas.

budget execution ratios, and the actual provision of goods and services, data limitations preclude analyzing the latter.[11]

I calculate budget execution ratios for six types of expenditures. First, I classify expenditures into three sectors: basic infrastructure and human capital formation, other infrastructure and services, and municipal administration.[12] Within each sector, I then further classify expenditures into two kinds: investments on infrastructure and other non-financial assets, and running expenses – i.e., personnel costs, costs of goods and services, and debt service. Expenditures are classified into these various categories with the aim of pinning down those that are closest to private and public goods distribution. To this end, it is worth noting that expenditures not only create benefits for the users of the goods and services they fund but also for those selected to provide them – e.g., a contractor that is hired to carry out public works or a person that is given public employment.

The sector classification is particularly useful to identify the expenditures with the greatest potential to improve the living standards of users and enhance development prospects, more generally. Expenditures of this sort are thus considered to be closest to public goods distribution. Expenditures on basic infrastructure and human capital formation rank highest on this scale; expenditures on municipal administration rank the lowest; and expenditures on other infrastructure and services lie in between.[13]

In turn, distinguishing between investments and running expenses is useful because of their distinct 'reversibility' (Diaz-Cayeros, Estévez, & Magaloni, 2012, 20), that is, the level of control that officials have over the flow of benefits these expenditures create. The higher the reversibility of a given expenditure, the more easily it can be allocated according to strategic political considerations. Reversibility is low for investments because completed public works or asset acquisitions – as well as contracts awarded for these purposes – cannot be easily undone. Reversibility is high for running

[11] Self-reported goods and services output data from municipalities are collected by the INEI on an annual basis and thus is not suitable for the purposes of this paper. It is important to note that in using budget execution ratios, I follow the standard practices of the MEF, nongovernmental organizations, and researchers that monitor government performance in Peru. These standard practices also include separate analyses of investments and running expenses to get at the 'quality of expenditures,' given the various requirements imposed by the SNIP on investments.

[12] The financial administration system of the MEF classifies municipal spending in 20 sectors. These were reclassified into the three sectors as follows: (a) basic infrastructure and human capital formation includes spending in education, electricity, health, housing and urban development, telecommunications, transportation, and water and sanitation; (b) other infrastructure and services, spending in agriculture, commerce, culture and sports, environment, fishing, industry, judicial services, order and security, social assistance, and tourism; and (c) municipal administration, spending in debt services, municipal administration, and retirement contributions.

[13] This of course does not mean that expenditures on municipal administration do not have the potential to improve collective living standards and enhance development prospects or that they should be equated with the distribution of private goods.

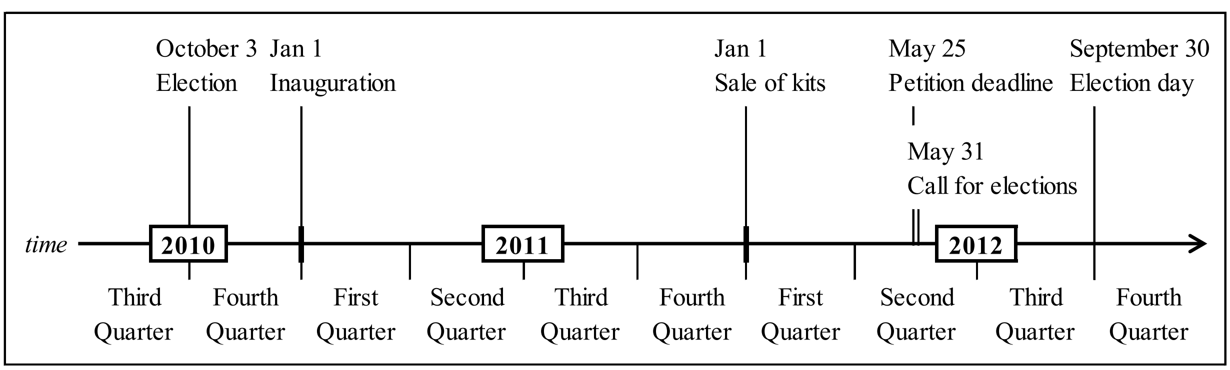
expenses because officials have a lot of discretion over the amount of nonessential services that municipalities provide, the hiring of municipal staff, and the award of small contracts to suppliers.

Taking into account both classification criteria, on one extreme, running expenses on municipal administration emerge as the type of expenditure that is closest to private goods distribution. At the other extreme, investments on basic infrastructure and human capital accumulation emerge as the one closest to public goods distribution. According to the expectations discussed in the preceding section, the first type of expenditure should increase during the recall petition period, while the second one should do so during the open campaign period leading to the recall election day.

3.2 Identification Strategy

Figure 1 provides a timeline of the 2012 recall election cycle and the period leading up to it. Local government officials were elected in October 2010 and inaugurated on January 1 of the following year. *Kits electorales* went on sale on January 1, 2012 and the last day to submit petitions to call for recall elections was May 25 of the same year. The official call for recall elections was issued on May 31 and all contests were scheduled to take place on September 30. Given this schedule, officials in districts in which the petition process was started should have tried to sway recall promoters into abandoning their efforts between January and May 2012. In those districts in which recall elections were called for, officials should have tried to increase their support among the citizenry between June and September 2012. When it comes to the periodicity of the budget execution, the first period overlaps with the first and second quarters of the year and the second one, with the second and third quarters.

Figure 1. Timeline of the 2012 Recall Election Process



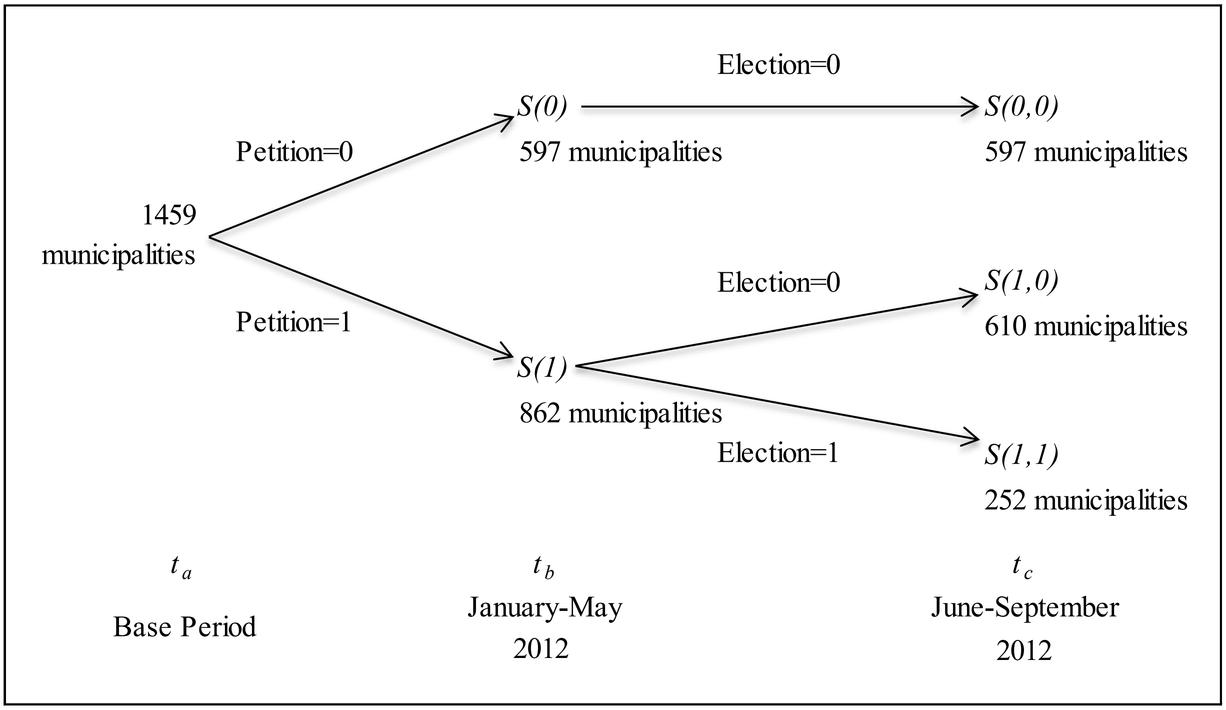
The initiation of a recall petition is conceived of as a treatment that can be followed by a second treatment, the call for a recall election. I focus on petitions and elections that target mayors, either on their own or along with a given number of council members, because those targeting only council members cannot be expected to have an effect on the distribution of private and public goods in light of mayors' prominent role in executive matters. The analysis does not differentiate between petitions or elections according to the authorities they target because the small number of observations available for those targeting only mayors and only council members does not allow for developing a plausible strategy to identify their own causal effects.[14]

Figure 2 provides the tree of treatment sequences resulting from the combination of the two treatments. At t_b there are two treatment sequences: receiving the recall petition treatment and not receiving this treatment; $S(1)$ and $S(0)$, respectively. At t_c there are three sequences: receiving the recall petition treatment followed by the recall election treatment, $S(1,1)$; receiving the recall petition treatment but not the recall election treatment, $S(1,0)$; and not receiving any treatment, $S(0,0)$. As indicated in the figure, of the subset of 1459 municipalities, 597 were assigned to the no treatment condition and 862 were assigned to the recall petition treatment; 252 of this last group of municipalities received the recall election treatment and the remaining 610 did not.

Four causal effects can be identified: (a) the effects of receiving the recall petition treatment relative to receiving no treatment – i.e., comparison of outcomes corresponding to $S(1)$ and $S(0)$; (b) the effects of receiving the recall petition treatment followed by the recall election treatment relative to receiving no treatment – i.e., comparison of outcomes corresponding to $S(1,1)$ and $S(0,0)$; (c) the effects of receiving the recall petition treatment not followed by the recall election treatment relative to receiving no treatment – i.e., comparison of outcomes corresponding to $S(1,0)$ and $S(0,0)$; and (d) the effects of receiving the petition treatment followed by the recall election treatment relative to receiving the recall election treatment not followed by the recall election treatment – i.e., comparison of outcomes corresponding to $S(1,1)$ and $S(1,0)$. The first effect is identified at t_b and the other three at t_c. Since the goal of the analysis is to identify whether changes in the size of the winning coalition induced by the recall election cycle produce departures from 'normal' budget execution, only effects (a) and (b) are of interest. Hereafter, I refer to the first as the effects of the recall election treatment and to the second as the effect of the recall election treatment.

[14] Note that distinguishing recall petitions and recall elections according to the number of council members they target would complicate identification even further.

Figure 2. Tree of Treatment Sequences



I employ a difference-in-differences (DD) strategy to identify these effects. This strategy subtracts the difference in the outcome variables before and after the treatment sequences of interest in the group of untreated municipalities from the before and after difference in the group of treated municipalities. Following Angrist and Krueger (1999), for the case of the recall petition treatment, let R_{0m} be the budget execution ratio for a generic type of expenditure corresponding to the m-th municipality in the absence of treatment and R_{1m} be this ratio if the treatment is present. The ratio in group g and quarter t if the treatment absent is $E[R_{0m}|g,t]$ and $E[R_{1m}|g,t]$ if it is present.

Since it is not possible to observe the outcome in the absence of treatment for treated municipalities, this counterfactual is constructed by assuming that, in the absence of treatment, the outcome is equal to a group effect that captures the initial differences between treated and untreated municipalities – e.g., outcomes of the 2010 election and the unobserved managerial abilities and political skills of officials – plus a quarter effect that is common to all municipalities:

$$E[R_{0m}|g,t] = \alpha_g + \tau_t \quad (2),$$

where α_g and τ_t are group fixed effects and quarter fixed effects, respectively. Next, it is also assumed that the effect of a petition is constant, δ, and it follows that:

$$E[R_{1m}|g,t] = \alpha_g + \tau_t + \delta \qquad (3).$$

The observed budget execution ratio in treated and untreated municipalities can be written as:

$$R_m = \alpha_g + \tau_t + \delta RP_{gt} + \varepsilon_m \qquad (4),$$

where RP_{gt} is a dichotomous 'policy variable' that equals one after the first quarter of 2012 if a recall petition was started in the m-th municipality and ε_m is a transitory shock that has an expected value of zero given the group and quarter fixed effects ($E[\varepsilon_m|g,t] = 0$). For the case of two quarters, pre-treatment ($t = t_{-4}$, first quarter of 2011) and post-treatment ($t = t_0$, first quarter of 2012), differencing the outcome variable across groups and quarters yields the causal effect of receiving the recall petition treatment (relative to not receiving a treatment):

$$E[Y_m|g = petition, t = t_0] - E[Y_m|g = petition, t = t_{-4}] -$$
$$E[Y_m|g = untreated, t = t_0] - E[Y_m|g = untreated, t = t_{-4}] = \delta \qquad (5).$$

For the case of the recall election treatment, an analogous procedure can be followed to arrive at the following equation:

$$R_m = \alpha_g + \tau_t + \beta RE_{gt} + \varepsilon_m \qquad (6),$$

where RE_{gt} equals one after the second quarter of 2012 if a recall election was called for in the m-th municipality on May 31. As before, the causal effect of receiving the recall election treatment relative to not receiving a treatment, β, can be obtained by differencing the outcome variable across groups and the second quarters of 2011 and of 2012.

The key assumption to identify the causal effects of each of the two treatments is that the evolution of the budget execution ratios over time would have been the same in the treated and untreated groups had the treatment not taken place. It is possible to assess the plausibility of this 'common trends' assumption by analyzing data for more than two periods and checking that budget execution ratios in fact followed parallel trajectories before the introduction of the treatment. This can be done by including leads of the policy variable in the estimating equation to verify whether a treatment that is taking place in the future predicts the outcome variable (Angrist & Pischke, 2009, 237-238). Lags of the policy variable can also be included in the equation to examine the evolution of the causal effect over time.

For the recall petition treatment, the equation including leads and lags would be:

$$R_m = \alpha_g + \tau_t + \sum_{a=0}^{3} \delta_{+a} URP_{g,t+a} + \sum_{a=0}^{4} \delta_{-a} URP_{g,t-a} + \varepsilon_m \qquad (7),$$

where δ_0 is the contemporaneous effect of the treatment and equivalent to δ in the two-period case; δ_{+1} through δ_{+3}, are the leads or anticipatory effects; and δ_{-1} through δ_{-4} are the lags or post-treatment effects. Finding that the coefficients accompanying the leads are significant would question the plausibility of the common trends assumption. The coefficients of the lags are of substantive importance because the periods during which the treatments are expected to have effects span more than a single quarter. In the case of the recall petition treatment, given that the window to initiate and file petitions lasts from January to May 2012, it is reasonable to expect that its effect would be felt not only during the first quarter of that year but also during its second quarter. In the case of the recall election treatment, given that elections are called for on May 31, 2012, two-thirds of the way into the second quarter, and elections take place on September 30, its effect is more likely to materialize during the third quarter.

Since equations (4) and (6) are subsumed under (7) and its analogous for the recall election treatment, respectively, only estimation results of the last two equations are reported. Estimates of the parameters, along with their standard errors, are produced using regression.

4. Results

Table 2 presents the estimates of the effects of the recall petition treatment on the six budget execution ratios. First, the table shows that at the base period, the first quarter of 2011, the treatment group indicator is statistically significant only in the case of the ratio corresponding to running expenses on other infrastructure and services. This indicates that, for the most part, there were no substantial initial differences between the groups of treated and untreated municipalities.

Next, the coefficients of the anticipatory effects – i.e., policy variable leads – are only significant in three instances; investments on other infrastructure and services at the second quarter of 2011, running expenses on other infrastructure and services at the same quarter, and investments on municipal administration at the fourth quarter of 2011. The fact that most of these coefficients are not significant indicates that the budget execution ratios followed similar trajectories in treated and untreated municipalities before treatment assignment. This in turn suggests that the common trends assumption is plausible and that this is especially the case for investments and running expenses on basic infrastructure and human capital formation, and running expenses on municipal administration. Thus, the contemporaneous effects of the recall petition treatment – i.e., the estimated coefficients of the policy variable in the first and second quarters of 2012 – can be interpreted as causal.

Table 2. Effects of the Recall Petition Treatment

	Basic Infrastructure and Human Capital Accumulation		Other Infrastructure and Services		Municipal Administration	
	Investments	Running expenses	Investments	Running expenses	Investments	Running expenses
Fixed Effect						
Treatment Group	0.085	0.019	0.161	0.827*	0.502	-0.303
	(0.245)	(0.909)	(0.465)	(0.490)	(0.489)	(0.253)
Anticipatory Effects						
Policy Variable$_{t+3}$	-0.250	1.121	-2.289**	-2.869***	-0.709	0.141
	(0.613)	(1.202)	(0.900)	(0.827)	(0.895)	(0.438)
Policy Variable$_{t+2}$	0.008	-0.632	0.398	-0.928	-0.873	0.383
	(0.821)	(1.458)	(1.043)	(0.775)	(1.050)	(0.411)
Policy Variable$_{t+1}$	-1.846	-1.651	-1.997	-0.928	-3.812***	0.532
	(1.184)	(2.056)	(1.407)	(0.817)	(1.412)	(0.501)
Contemporaneous Effects						
Policy Variable$_{t0}$	-0.121	0.156	0.162	0.677	-0.899	0.340
	(0.696)	(1.333)	(1.198)	(0.736)	(1.077)	(0.411)
Policy Variable$_{t-1}$	0.008	1.653	0.913	-1.143	-0.800	0.850**
	(0.836)	(1.213)	(0.944)	(0.820)	(1.082)	(0.409)
Post-treatment Effects						
Policy Variable$_{t-2}$	2.958***	0.995	1.286	-1.087	0.199	1.152***
	(0.957)	(1.361)	(1.100)	(0.783)	(1.149)	(0.428)
Policy Variable$_{t-3}$	-2.513**	-3.279*	-3.137**	-2.964***	-2.022	-1.111**
	(1.076)	(1.857)	(1.479)	(0.841)	(1.269)	(0.541)
Observations	11672	11672	11672	11672	11672	11672
Municipalities	1459	1459	1459	1459	1459	1459
R-squared	0.379	0.114	0.201	0.252	0.181	0.292

Robust standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01.
Base quarter is the first quarter of 2011. Constant and estimated quarter fixed effects are omitted to economize space.
Policy Variable equals one for treated municipalities in the following quarters: t+3 = second quarter of 2011; t+2 = third quarter of 2011; t+1 = fourth quarter of 2011; t0 = first quarter of 2012; t-1 = second quarter of 2012; t-2 = third quarter of 2012; and t-3 = fourth quarter of 2012.

The only statistically significant contemporaneous effect is the one on the budget execution ratio of running expenses on municipal administration during the second quarter of 2012. In comparison to the base period, the ratio increased by 0.85 points more in the treated group than in the control group. This amounts to a 6.31% increase with respect to the average ratio in the treated group at the base period, 13.46, which is quite substantial given that running expenses can only be modified incrementally in the short term. The finding that recall petitions only result in increases in this type of expenditure is in line with the expectation that incumbent mayors should resort to distributing private goods in order to defuse recall petition initiatives given the relatively small size of the selectorate and winning coalition during the signature collection period (January-May 2012).

Lastly, the estimated post-treatments effects – i.e., policy variable lags – indicate that budget execution ratios in treated municipalities differed from those in untreated municipalities in systematic ways after the call for recall elections (May 31, 2012) and the recall election day (September 30, 2012). During the third quarter of 2012, the budget execution of investments on basic infrastructure and human capital formation and of running expenses on municipal administration increased more in the treated group than in the untreated group. This likely reflects the efforts of campaigning mayors to remain in office. In the fourth quarter, budget execution ratios increased less in the group of treated municipalities in five out of six types of expenditures. Among other hypotheses, this is consistent with recall elections, resulting in the dismissal of experienced officials and their replacement with temporary authorities lacking expertise in administrative issues as well as an electoral mandate. These negative effects might also be capturing declines in budget execution in municipalities whose mayors survived the recall. It is important to note that these estimates cannot be interpreted as causal effects of the recall petition treatment as they also reflect the effects of the recall election treatment and the results of the elections – i.e., whether mayors were dismissed where elections were held.

Table 3 presents the estimates of the effects of the recall election treatment. In this case, the base period is the second quarter of 2011 and a lead for policy variable in the first quarter of 2012 is not included because the treatment sequence of interest – i.e., recall petition followed by recall election – had not been completed by then. As in the case of the recall petition treatment, there were not large initial differences between the groups of treated and untreated municipalities as the treatment group indicator is statistically significant only in the case of the ratios corresponding to investments and running expenses on other infrastructure and services.

Table 3. Effects of the Recall Election Treatment

	Basic Infrastructure and Human Capital Accumulation		Other Infrastructure and Services		Municipal Administration	
	Investments	Running expenses	Investments	Running expenses	Investments	Running expenses
Fixed Effect						
Treatment Group	0.033	0.192	-3.164***	-2.249**	0.853	0.075
	(0.792)	(1.176)	(1.014)	(0.959)	(1.149)	(0.501)
Anticipatory Effects						
Policy Variable$_{t+1}$	1.623	-2.052	4.484**	1.895	-0.295	-0.152
	(1.433)	(2.771)	(1.773)	(1.300)	(1.729)	(0.671)
Policy Variable$_{t+2}$	-0.009	-5.352*	0.265	2.318*	-5.733***	-0.659
	(1.810)	(2.778)	(2.201)	(1.357)	(2.112)	(0.804)
Contemporaneous Effects						
Policy Variable$_{t0}$	-1.038	1.000	1.691	0.784	-1.795	0.204
	(1.296)	(1.694)	(1.450)	(1.326)	(1.815)	(0.691)
Policy Variable$_{t-1}$	6.731***	1.021	8.964***	3.401**	4.832**	1.476**
	(1.562)	(1.911)	(1.872)	(1.336)	(1.958)	(0.702)
Post-treatment Effects						
Policy Variable$_{t-2}$	-4.129**	-5.537**	-4.267**	-0.493	-6.361***	-2.604***
	(1.683)	(2.565)	(1.838)	(1.357)	(1.910)	(0.891)
Observations	5943	5943	5943	5943	5943	5943
Municipalities	849	849	849	849	849	849
R-squared	0.400	0.110	0.253	0.224	0.195	0.272

Robust standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01.
Base quarter is the second quarter of 2011. Constant and estimated quarter fixed effects are omitted to economize space. Policy Variable equals one for treated municipalities in the following quarters: t+2 = third quarter of 2011; t+1 = fourth quarter of 2011; t0 = second quarter of 2012; t-1 = third quarter of 2012; and t-2 = fourth quarter of 2012. First quarter of 2012 is omitted because the treatment sequence of interest – i.e., recall petition followed by recall election – had not been completed at that stage.

With regard to the policy variable leads, four out of 12 coefficients are significant; the only types of expenditures with no significant coefficients are investments on basic infrastructure and human capital formation and running expenses on municipal administration. As before, these results indicate that, for the most part, the budget execution ratios follow the same trajectories in treated and untreated municipalities before treatment assignment and that, therefore, the common trends assumption is not implausible. Making this assumption is particularly reasonable when it comes to investments on basic infrastructure and human capital formation and to running expenses on municipal administration, the types of expenditures that are closer to public and private goods distribution, respectively.

The recall election treatment has statistically significant effects on the ratios corresponding to investments on basic infrastructure and human capital formation, on other infrastructure and services, and on municipal administration, and to running expenses on other infrastructure and services, and on municipal administration during the third quarter of 2012. For example, in comparison to the base period, the ratio corresponding to investments on basic infrastructure and services increased by 6.731 points more in the treated group than in the control group. This amounts to a whopping 69.39% increase with respect to the average ratio in the treated group at the base period, 9.70. For the ratio corresponding to running expenses on municipal administration, the two increases are 1.48 points and 7.24%, respectively.

The results pertaining to expenditures that are indicative of public goods distribution is in line with the expectation that mayors should resort to distributing this type of goods during the large-winning-coalition period leading up to recall election day. The results pertaining to expenditures that are closer to private goods distribution suggest that incumbents might also employ this strategy at the high point of the recall election campaign in an effort to buy off key opponents or reward core supporters. The fact that all these effects are only statistically significant during the third quarter of 2012 makes sense given that recall elections are called for on May 31, 2012, two-thirds of the way into the second quarter. In comparison, the campaign period fully contained that year's third quarter (June-September 2012).

Finally, as in the case of the recall petition treatment, the estimated post-treatments effects at the third quarter of 2012 are negative and statistically significant in five out of six types of expenditures. The estimated effects of the recall election treatment are larger than those of the recall petition treatment, however. This indicates that budget execution experienced substantial declines in the municipalities where recall elections took place – regardless of their outcomes. The call made earlier for not interpreting post-treatment effects as causal also applies here.

Altogether, these results provide support for the main arguments of selectorate theory (Bueno de Mesquita et al., 2003) and the elections-increase-public-goods-provision causal mechanism linking democracy and development, more generally. The period during which support for a recall petition is being gathered can be conceived of as one where the selectorate and winning coalition are small. The selectorate and the winning coalition are substantially expanded during the period that follows the call for a recall election and that last until election day. As expected, during the first period, incumbents under challenge turned to private goods distribution – in the form of larger running expenses on municipal administration – to defuse recall petition initiatives. By contrast, during the second period, incumbents stepped up public goods provision in an effort to gather the popular support needed to remain in power.

Conclusion

This paper set out to test the central hypothesis of selectorate theory, namely, that as the size of the winning coalition (W) increases so do the incentives for incumbents to provide public rather than private goods to retain office. To do so, I used the unique opportunity afforded by recall elections of local government officials in Peru. This participatory democracy mechanism allows voters to determine the fate of local government officials before the expiration of their terms and is activated in response to citizen petitions. Given that incumbents facing the possibility of a recall election are embedded in a context where W varies while other institutional features remain constant, this setting can be used to isolate the effects of such a change on politicians' strategies to secure power.

I employed a DD strategy to identify the causal effects of the initiation of a recall petitions – i.e., the recall petition treatment – and of the initiation of a petition followed by the call for a recall election – i.e., the recall election treatment – on various budget execution ratios used as proxies for private and public goods distribution. In line with expectations, the results indicate that challenged mayors reacted to the initiation of a recall petition by distributing private goods and that those facing recall elections turned to public goods distribution in an effort to secure the broad popular support needed to remain in office. Thus, this paper provides solid evidence suggesting that politicians' incentives to provide public goods are proportional to the size of the selectorate and the winning coalition.

Finally, to the best of my knowledge, this is the first paper to examine the effects of recall petition processes and calls for recall elections on government performance. This speaks to the larger issue of whether this participatory democracy mechanism lives up to proponents' views regarding its potential to improve accountability and government responsiveness. This is important on its own right because in the last two decades several Latin American countries have adopted this institution as part of a broader move toward participatory democracy (Welp, 2013, 54). Moreover, recall elections are arguably more consequential than the other participatory democracy mechanisms; legislative initiatives, participatory budgeting, and referenda. Up to date, however, they have received little attention.

I have shown that politically-savvy incumbents wishing to remain in power step up spending in public goods provision during the period leading to recall elections. This is an encouraging result. However, since the evidence also suggests that these changes are short-lived, they will likely not enhance development prospects and improve the well-being of the citizenry in the long run.

Having said this, it should be made clear that what is provided here is only a fraction of the evidence that would allow for an overall judgment on the merits of the recall election institution. It would be necessary, for example, to examine systematically what happens after recall elections take place, as the dismissal of experienced officials might lead to – hopefully temporary – dips in budget execution and other aspects of government performance, and to analyze additional outcomes such as electoral violence, political fragmentation, and stability. In conclusion, it is important to point out that focusing on the effects of a particular recall election cycle, as I have done here, does not shed light on any permanent changes that the initial introduction of the recall election institution might have produced.

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