

# Land Without Masters: local political competition since the Peruvian Land Reform (1969-1980)<sup>‡</sup>

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## Abstract

Can the historical exposure to redistribution spur local political competition and electoral participation in later elections? This study analyzes the massive land expropriation process executed under military rule in Peru from 1969 to 1980 and its effects over local politics with the return to democracy. The implementation of the reform was based on the creation of Agrarian Reform Zones (ARZ) and the use of regional offices for local execution located in high-priority reform areas within each ARZ. These zones were conceived and delimited for entirely different purposes a decade prior to the reform. Using the distance from a district to an ARZ office as an instrument, I show changes towards a more politically competitive local environment in land reform affected districts. In line with strategic responses to political competition, post-reform elections boost the participation of candidates with specific attributes: more educated, older and with indigenous background. Furthermore, candidates report more partisan experience but are also less associated with traditional politics. Evidence on driving mechanisms such as a dampened capacity of local elites for political capture, the growth of peasant-based social organization, and changes in voters' preferences towards redistribution go in line with this interpretation.

**Keywords:** *land reform; political competition; voting; Peru.*

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"From this day on, the peasants of Peru will no longer be pariahs or the disinherited, living in poverty from birth to death and viewing themselves as powerless in the face of a future that appears equally dismal for their children. From the time of this fortuitous day, June 24th, the peasants of Peru will truly be free citizens."

— General Velasco's national speech announcing the 1969 Agrarian Reform

## 1 Introduction

The XXth century was a period of intense political struggles across Latin America, with an unequal access to land and coerced labor structures viewed as the main issue about wealth redistribution and political rights of the time (Albertus, 2015; Cant, 2021). Land reforms emerged as an essential demand to mitigate these tensions. However, despite a recognized potential to foster efficiency and rural welfare gains, a mostly mild or incomplete implementation was the final outcome, raising unresolved questions about their overall economic and political legacies (De Janvry, 2011).

A large literature studies the short-run and long-run economic impacts of land reforms. On the one hand, by highlighting the role of property rights for efficient land use, the potential of these reforms to promote tenure security, agricultural growth and rural welfare has been highlighted (Deininger & Chamorro, 2004; Goldstein & Udry, 2008; Keswell & Carter, 2014). On the other, evaluations of historical experiences using microdata suggest mixed effects on agricultural productivity (Adamopoulos & Restuccia, 2020; Banerjee & Iyer, 2005), growth (Deininger, 2003), poverty reduction (Besley & Burgess, 2000) and other development outcomes (Brooke & Koehler-Derrick, 2020). In contrast to the economic effects, the political legacies of land reforms have received far less attention. On the theoretical side, most of the available models have focused in explaining the likelihood of land reforms under specific political conditions rather than its political effects and the potential mechanisms at play (Albertus, 2015; Bardhan & Mookherjee, 2010a)<sup>2</sup>. On the empirical side, measurement challenges have limited the scope of discussion to electoral outcomes and the use of these reforms to promote clientelism (Albertus, 2013; Caprettini, Casaburi, & Venturini, 2021), paying less attention to other outcomes of the political process such as competition structures or candidate selection. This is an important gap in our understanding, particularly of Latin America, where land concentration and political power throughout the XXth century were strongly intertwined (Acemoglu, Bautista, Querubín, & Robinson, 2007). Moreover, land redistribution in the region was proposed as a way to enhance the political representation of historically marginalized groups, similar to the implementation of universal suffrage or political term limits.

By the time the historically powerful hacienda landlords in rural Peru realized the army was coming for their estates, it was already too late. Throughout the first half of the XXth century, land had been the main source of economic inequalities and social hierarchies in the country. By 1961, the top 1% of landowners held 80% of private land with a mostly semi-feudal established setting of property and labor relations. A precarious transition towards democracy abruptly ended in 1968, when military forces led by the army General Juan Velasco Alvarado established a junta-led revolutionary government, denouncing the obsolescence of the oligarchic state and corruption of partisan politics. Between 1969 and 1980, the country experienced one of the largest land expropriation processes of elite landholdings in favor of rural laborers in Latin America. In the aftermath of the military rule, 10 million hectares of private landholdings were expropriated (half of all agri-

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<sup>1</sup>Translation by Seligmann (1995).

<sup>2</sup>Meinzen-Dick (2021), studying land governance decentralization in Burkina Faso is a recent exception.

cultural land in the country) and more than four hundred thousand families were spread among 1,800 new agricultural units, mostly under cooperative schemes (Albertus, 2013; Cleaves & Scurrah, 1980). As stated by Mayer (2009), it was“( . . . ) a momentous shift in the history of the Andes, akin to the abolition of slavery in the Americas”While almost 50 years have passed since its proclamation, the legacy of the reform over the Peruvian society is still a subject of heated debate both in academia and politics.

The Peruvian case is paradigmatic. It was implemented by a military government with a progressive ideological orientation (Cant, 2021). Its implementation was drastic and far-reaching, but without significant civil conflict (Mayer, 2009). Although scholars disagree on its long-term development impacts (Albertus & Popescu, 2020; Mayer, 2009), its role in promoting a drastic reduction of landholding inequality is widely-recognized. Depending on the side of the political spectrum, the reform is evoked either as a disastrous autocratic experiment or as one of the few central policies in favor of historically marginalized populations in a society of great inequalities. The aim of this study is to analyze how the historical exposure to the reform affected local levels of political competition and electoral participation in later elections, and the mechanisms behind these impacts.

The political effects of land redistribution could run through several channels. On the side of political competitors, the reform can directly affect the ability of landed elites to exercise political capture. In agrarian societies, with an incumbent political ruler (or landed elite class) historically dominating local politics, land redistribution is expected to level the costs of contesting elections between incumbents and potential challengers (Meinzen-Dick, 2021)<sup>3</sup>. Second, by tackling not only land redistribution but by also removing coerced labor relations, the landed elite’s capacity to leverage the economic dependency of hacienda workers for political success is also undermined (Beg, 2021). In line with the “opening” of the political competition space, strategic candidate selection in more competitive constituencies would be expected (Shaukat, 2019). On the voters’ side, the reform laid the foundations for a national peasant movement articulated around a demand for access to an effective citizenship status, with the rural poor emerging as an important constituency (Monge, 1989)<sup>4</sup>. However, historical exposure to the reform could also have had persistent effects on citizens’ attitudes/preferences towards redistribution (Chen, 2017) or its memory can be used to shape political behavior through political campaigning, especially when competing parties argue that incoming events can parallel any prior about the reform voters may have (Ochsner & Rösler, 2017).

The implementation of the reform was based on a unique design feature: it was conducted through regionally based Agrarian Reform Zones (ARZ) conceived and delimited for entirely different purposes a decade prior the reform and the installation of regional offices for local execution located in high-priority reform areas within each ARZ (Albertus, 2020). As suggested by historical accounts, the reform’s implementation through the ARZ’s institutional infrastructure resulted in a de facto determination of “peripheral” districts: those that were less proximate to the ARZ’s regional offices for local execution, even when these zones didn’t exhibit striking differences in local characteristics or the intensity of haciendas. Based on an original dataset on the reform’s territorial deployment (1969-1980) and the construction of a set of political competition outcomes and characteristics of the pool of local candidates in post-reform elections (2002-2014), the identification strategy exploits the distance from a district to an ARZ office as an instrument to study the effects of the reform on local levels of political competition, electoral participation, and the profile of the

<sup>3</sup>This is certainly the case of rural settings where land tenure (as opposed to other assets) is the main determinant of wealth accumulation and labor opportunities.

<sup>4</sup>As described by Cant (2021), for many peasants, elections within the agricultural cooperatives (open to all members irrespective of any literacy requirements) provided their first experience of voting.

contesting candidates (education, experience, sociodemographics).

The results are consistent with changes towards a more politically competitive local environment in land reform affected areas. Districts with higher historical exposure to land reform are found to have a higher number of contesting parties in later elections (weighted by their respective voting shares) and higher electoral participation (turnout). In line with strategic responses to political competition, post-land reform elections boost the participation of candidates with specific attributes: on average, more educated, older and with indigenous background. Furthermore, these candidates report more partisan experience but are also less associated with traditional politics. Supporting evidence about mechanisms driving these results include a reduction in the capacity of the local elite to capture the political process, increased agrarian-based incentives for social organization, and potential long-term effects on voters' preferences for redistribution, not necessarily driven by changes in general trust in public institutions, working democracy or political parties.

To address validity concerns about the instrument, a falsification test is implemented<sup>5</sup>. In particular, the instrument is found to explain land reform exposure only in central ARZs (those where haciendas were effectively targeted) but to have no effect in other areas considered peripheral (those with ARZ of ces but a marginal targeting of haciendas from land reform of cials). Complementary robustness checks, including placebo instruments and treatment measures, rule out the possibility that the proximity to ARZ of ces is capturing the extent of a district's urbanization or state presence/capacity beyond what is relevant to explain higher land reform exposure. In addition, results from a fuzzy regression discontinuity specification that exploits the fact that the demarcation of ARZs do not fully map onto regional administrative borders addresses any remaining concerns about the exogeneity of the instrument.

The paper speaks to several literatures. By focusing on the long-run political effects of land redistribution, my results are closely related to the literature on the political economy of land reforms (Albertus, 2015; Bardhan & Mookherjee, 2010b; Caprettini et al., 2021; de Janvry, Gonzalez-Navarro, & Sadoulet, 2014; Meinzen-Dick, 2021). The main focus of this literature can be framed within what De Janvry (2011) called the puzzle of land reforms: why their implementation is more likely under autocracy than democracy? Further, despite well-recognized potential benefits, why have they mostly resulted in mild or incomplete implementations? Albertus (2013) and de Janvry et al. (2014), for instance, explain the incomplete implementation of the Mexican land reform as a political strategy of the incumbent party to secure reelection based on a network of clients (i.e. political support in exchange of land transfers and public investments). Caprettini et al. (2021) reach a similar conclusion for the 1950's Italian land reform leading to the emergence of a long-lasting clientelist system of political brokers, patronage and targeted benefits. Meinzen-Dick (2021) discusses a set of party competition responses, motivated by a trade-off between private rents and concerns about constituent welfare, in the more contemporary context of land governance decentralization in Burkina Faso. Unlike these studies, I highlight that even without an incumbent using land transfers to preserve a network of clients, persistent political effects can be identified, driven through alternative mechanisms, and with impacts over candidates' selection into politics in a very precise way.

More broadly, by providing evidence on the link between historical wealth redistribution with local political competition and participation, this paper expands the relatively small literature on the economic drivers of political inequality (Acemoglu et al., 2007; Houle, 2018; Rosset, Giger, & Bernauer, 2013). Most of this literature has focused on the elite capture of public goods (Banerjee

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<sup>5</sup>This to account for the possibility that the proximity to the closest ARZ's of ce could have a direct impact over local conditions correlated with political competition and participation through other channels than land reform exposure.

& Somanathan, 2007; Foster & Rosenzweig, 2004). However, as pointed out by Acemoglu et al. (2007), neither existing theoretical nor existing empirical studies have effectively distinguished the potentially different roles of economic and political inequality for long-term development. Based on XIXth century micro data on land ownership and political office holding in the state of Cundinamarca (Colombia), the authors provide historical correlations supporting that early land unequal municipalities are those that supply more public goods and are more educated and urbanized later on. In contrast, an inverse relationship is found between early political inequality and contemporary economic outcomes. In the authors' view, these results suggest that economic inequality may be a useful counterbalance against rapacious policies pursued by political elites, particularly in weakly institutionalized contexts. However, the Peruvian case seems to defy this interpretation: under a plausibly comparable institutional setting, severe land concentration not only didn't counterbalance but rather contributed to the capture of local politics<sup>6</sup>. It is not until a coalitional split between political and landed elites emerged that significant redistribution was pursued, promoting specific conditions for a less unequal setting of political competition.

Relatedly, an interesting parallel between my results and the literature on franchise extensions can be established (Berlinski & Dewan, 2011; Berlinski, Dewan, & Van Coppenolle, 2014; Cassan, Iyer, & Mirza, 2020). Mostly studied outside developing countries (which typically underwent progressive democratization), this literature has documented the limitations of specific political reforms to promote effective political change, when they do not simultaneously tackle underlying unequal economic conditions. Berlinski and Dewan (2011), for instance, by studying the case of the U.K.'s Second Reform Act of 1867, find that franchise extension led to greater candidate participation and political competition but no electoral gains for the Liberal party. Moreover, Berlinski et al. (2014) finds that aristocrats were equally likely to be elected after the reform. Larcinese (2014) similarly shows that the 1912 enfranchisement reform in Italy didn't lead to a change in the profile of legislators nor to an increase in political competition. Corvalan, Querubín, and Vicente (2018)' conclusions align with this result, suggesting that suffrage extension is insufficient to explain changes in the composition of elected politicians. Cassan et al. (2020), in analyzing two class-based extension of the franchise in XXth century rural India, conclude that these extensions resulted in decreased voter turnout rates, suggesting less engaged newly enfranchised voters. My results add an economic dimension to this discussion, with evidence suggesting that changes in underlying economic conditions can be particularly effective at changing the political equilibrium, potentially by having a direct effect on the ability of elites to exert political capture<sup>7</sup>.

The remainder of the paper is organized as follows. Section 2 presents a brief historical background of the land reform process in Peru. Section 3 discusses core theoretical elements about the expected impacts and driving mechanisms. Section 4 describes the data. Section 5 discusses the empirical strategy, the main identification challenges, present the results and robustness checks. Section 6 provides evidence on the proposed mechanisms. Section 7 concludes.

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<sup>6</sup>This result is consistent with studies discussing the political control of landed elites in India (Anderson, Francois, & Kotwal, 2015) or the case of land rights determining the political order in Africa, where rural property institutions create relationships of political dependency and authority (Boone, 2014)

<sup>7</sup>Other related strands of literature include: political dynasties (Asako, Iida, Matsubayashi, & Ueda, 2015; Eapen, 2019), electoral competition and political selection (Banerjee & Pande, 2018; Galasso & Nannicini, 2011; Paola & Scoppa, 2011); and how electoral institutions determine political selection (Caselli & Morelli, 2004; Ferraz & Finan, 2009).

## 2 Background

### 2.1 The pre-reform scenario

By the first half of the XXth century, land was the main source of economic inequalities and social hierarchies in rural Peru. By 1965, 50% of the economically active population in the country was involved in agriculture in a context of severe inequality in landholdings: the top 1% of landowners held 80% of private land while 83% of farmers held properties of five hectares or less, representing 6% of total agricultural land nationwide (Albertus, 2013). Despite some degree of regional variation, particularly in the highlands, this concentration led to semi-feudal working relations, where indigenous peasants were allowed to grow small-scale plots for subsistence inside extensive landholdings -the haciendas- in exchange of labor at the landlord's discretion. Authors such as Montoya and Gorman (1978) pointed out that this regime generated (...) a class of sierra landlords, seigniorial rentiers appropriating for themselves rent in the form of labor, principally, from serfs, semiserfs and, eventually, parcelarios (smallholders) in semi-feudal agricultural and livestock. In that sense, according to Palmer (1973), the stagnancy of the country on a set of social and economic dimensions in the 1960s in relation to its income per-capita peers can largely be attributed to the prevalence of an archaic agrarian structure.

Previous attempts of implementing even mild versions of an agrarian reform under democracy were continuously blocked by the influence of the preexisting landowning elite over the military until the election of Fernando Belaunde Terry in 1963 (Albertus, 2013). One of the main promises of Belaunde's campaign was the implementation of an agrarian reform. Unsurprisingly, only a few months after him running office, peasant-based mobilizations started a wide spreading in the country (Eguren, 2006b). In response to this social upheaval, Belaunde's administration promoted an agrarian reform law that passed through the Congress in 1964 but due to the political influence of landlords over the two main opposition parties in Congress -the 'Union Nacional Odrista' and the 'Alianza Popular Revolucionaria Americana APRA'- the project was severely modified until the point that became useless for its initial purpose (Cleaves & Scurrah, 1980; Eguren, 2006a). The scope of application of this reform, in consequence, was extremely limited. The upcoming of economic crisis, social unrest associated to land invasions and leftist rebellions in the highlands, and a broad public perception of an oligarchic and corrupted state signed the last period of Belaunde's presidency.

### 2.2 The military coup and the "revolution from above"

In October 1968, denouncing the obsolescence of the oligarchic state and corruption of partisan politics, military forces led by the General Juan Velasco Alvarado established a junta-led "revolutionary government", setting the beginning of a set of radical reform processes known as the "revolution from above" (Albertus, 2013; Puente, 2019). Under the military rule, these reforms explicitly aimed at bringing a "structural transformation" of the Peruvian economy and society, emphasizing a nationalist stance. These reforms included the expropriation of foreign and privately owned companies (industrial, banks, mining, petroleum, among others), the reorganization of the public administration and the creation of public enterprises with monopolistic privileges in "strategic sectors" as energy and key agricultural exports, and an industrial labor legislation stating workers participation in profit distribution, shareholding and company management (Thorp and Bertram 1978; Saulniers 1988). As stated by Schydowsky and Wicht (1978): "From 1969 to 1974 the military enjoyed strong political power, as the old political parties (including [Belaunde's] Accion Popular

and the APRA) were discredited as 'derechistas' [right-wing] and widely viewed as incapable of carrying out the necessary reforms that their leaders had promised for so many years"

Among these reforms, the agrarian one had particular importance for the military. Despite the lack of a cohesive ideological orientation within Velasco's support coalition, the imperative consensus was the unity against economic elites in the country, in agriculture but also in industry, finance and export sectors, where redistributive initiatives were also promoted (Albertus, 2013). Authors as Kruijt (1994) have suggested the origin of the military administration as a determinant of their inclination towards the implementation of a land reform. As stated by Albertus (2013) 'threats to political stability in Peru in the late 1950s and 1960s brought the military in direct contact with Peru's backward agrarian structure and the landed elites that dominated it, deepening its sense that landed elites must be eliminated and its resentment of manipulation at the hand of these same elites'. Southern Highlands, Hugo Blanco's revolution required army intervention, and this implied the revelation of the land problematic in the country. In fact, the rise of a rural guerrilla in 1965 and the lack of government response from Belaunde's administration solidified the ideas of officers surrounding Velasco regarding land reform. The experience of the army as it dealt with the waves of mobilization and the guerrillas of the 1960s, particularly in Cusco, persuaded the military that a serious land reform was needed to guarantee national security (Lowenthal, 1974; Thorp & Bertram, 1978).

### 2.3 Land redistribution under military rule and the transition towards democracy

The Agrarian Reform Law of 1969 stipulated that all landholdings above 150 hectares in coastal regions and between 15 to 55 hectares -depending on specific location- in the Highlands were subject to expropriation. In addition, those under violation of labor laws were subject to expropriation regardless of property size and all the expropriations included the redistribution of productive assets: agricultural equipment, animals, etc. (Albertus, 2013). For the Coast, the Cooperativas Agrarias del Peru (CAPs) were designed as units of self-managed production under the control of workers, while for the traditional haciendas of the Highlands -concentrating a higher number of indigenous communities-, conditional to terrain feasibility, a set of large-scale groupings called Sociedades Agrarias de Interés Social (SAIS) were created including the workers of the ex-hacienda (Thorp & Bertram, 1978). The expropriation process included a compensation scheme based on the land value previously declared for tax purposes -typically below market value- and long-term government bonds that lost almost all its value after the inflationary process of the following years. Mayer (2009) estimates that land was compensated approximately at 10% of its 1967 market value, 73% through the emission of government bonds.

The implementation of the reform was diligent: the same day of its proclamation, the massive agro-industrial conglomerates in the northern coast, whose influential owners were called 'sugar barons', were among the first of being expropriated (Eguren, 2006a). The areas most affected by the reform were the northern coast and the southern highlands of the country, while the eastern side remained practically untouched. As shown by Figure 3, which displays the yearly number of expropriation decrees from 1969 to 1980, the timing of the reform varied significantly: started in 1969 by the northern coast (sugar conglomerates), followed that same year with large-scale landholdings in the southern highlands, and increase its pace in 1972 and remain high during Velasco's tenure (Albertus, 2013). As stated by McClintock (1983), by the time the expropriation rate declined, 'all coastal landholdings of more than fifty hectares and highland holdings of more than thirty hectares had been

expropriated'

During the implementation process, to ensure political support, the government dismantled the National Agrarian Society, a guild of large-scale landowners created by the end of the XIXth century with a strong political influence against previous efforts of agrarian reform under democracy. At the same time, Velasco created the National Agrarian Confederation (CNA), an agricultural-based organization that joined the reform beneficiaries to support the regime.

As [Thorp and Bertram \(1978\)](#) state, by 1974, the implementation of the reform in addition to Velasco's policies in the agrarian cooperatives diminished the rural support to the government among non-beneficiaries: for instance, 'only 9% of the lands were distributed among indigenous peasant communities, and 13% among other groups in the countryside, while the newly created SAIS received 43%' ([Thorp & Paredes, 2010](#)). A context of social discontent, the upcoming of economic crisis, a bilateral dispute with Chile and Velasco's health deterioration signed the fractionalization of the military and the push of Velasco out of office by the General Morales Bermudez in 1975 with the support of many insiders ([Albertus, 2013](#); [McClintock, 1983](#)). While Morales at first continued the agrarian reform, it lowered its pace substantially and was unable to control the strikes against the implemented agrarian policies. At the same time, the reversal of economic policies in other sectors returned some power to the elites and pressured Morales against the maintenance of progressive members of the military coalition. In 1977, with a highly fractionalized military, Morales announced upcoming elections.

Although historical accounts specifically centered in local politics in the aftermath of the reform are relatively scarce, anthropology literature has identified deep transformations in the way political power and representation were exercised, highlighting the role of the reform in undermining landed elite's ability to capture the political process:

"Prior to the 1969 reform, the majority of political positions, particularly at the district and prefectural levels had been occupied mainly by members of the landed elite, who frequently remained in them for more than a decade. (...) only in 1980 did a peasant come to hold the position of a district mayor". ([Seligmann \(1995\)](#), p.147)

"Before the 1968 coup, Peruvian electoral politics were dominated by elite interests, and the majority of the rural population was unable to vote due to the literacy requirement. For many peasants, elections within the agricultural cooperatives (open to all members irrespective of literacy) provided their first experience of voting". ([Cant \(2021\)](#), p.178)

For the next decades, following [Muñoz \(2005\)](#), we can distinguish three stages in the legal design of local governments in Peru, differentiated by the underlying Constitutions and associated political processes: (1) 1979 Constitution set the basis for the consideration of municipalities as local government bodies (until then, they had essentially played a role limited to local services administration), (2) 1993 constitutional change defined Peru as a unitary state exercised decentrally, eliminated the faculty delimitations between subnational government levels and therefore the pre-eminence maintained by province municipalities over districts, (3) with the democratic transition after the fall of Fujimori's regime in early 2000s, a minimum agreement between political actors were achieved for the impulse of the decentralization process, unfortunately, prioritizing faculty transfers without management support and fiscal resources. While a balance is hard, it can be stated that the political landscape at the local level inherited by this process is one of extreme fragmentation, with a large number of candidates running for independent parties (i.e. citizen candidates), with very few links outside the district and often seen as election vehicles centered around the candidate, rather



than an ideology or political program. For instance, in the 2014 municipal elections, the average district had 7.26 candidates running for office, and only 36.9 percent of them represented a national political party (Artiles, Kleine-Rueschkamp, & León-Ciliotta, 2021).

### 3 Theoretical framework: the local political impacts of land redistribution

In democracies with high inequality, pro-redistribution median voters should constitute a fertile ground for redistributive policies such as land reforms. However, historical accounts show these have been predominantly implemented by autocratic governments (Bhattacharya, Mitra, & Ulubaşoglu, 2019; De Janvry, 2011). As first discussed by De Janvry (2011) and later formalized by Albertus (2015), this observation can be rationalized based on the fewer institutional constraints autocratic governments face and a coalitional split between ruling and landed elites<sup>8</sup>. The Peruvian experience under Velasco's military rule fits this characterization quite well. Although alternative hypotheses have been discussed about the main drivers of the reform, the case for a dual-pronged strategy to undercut the military rivals (landed elites) and solidify its support base (peasant-based social organizations) seems to be the emerging consensus (Albertus, 2013). This initial characterization is key. The targeting of landed elites as political rivals and the explicit motivation of the reform in promoting political participation (through voting and social organization) is the starting point to rationalize its expected impacts on local politics<sup>10</sup>. More precisely, through a set of mechanisms leading to more contested local elections and strategic partisan responses in the selection of candidates.

Theoretically, we are interested in the channels that mediate the impact of land redistribution over local political competition, electoral participation and candidates' incentives for selection into politics. This section, building on models of regime transitions and party competition, outlines a theoretical framework. The highlighted mechanisms include a reduction in the capacity of the landed elites to capture the political process, increased incentives for social organization, and potential effects on voters' preferences for redistribution. The mechanisms at play are summarized in Figure 2 and discussed next.

#### 3.1 Land redistribution as a determinant of political competition

It's useful to differentiate the mechanisms behind the political impacts of land redistribution between those that run through political competitors (incumbents, challengers) and voters (preferences, organization) (Figure 2). The outcomes we are interested in are determined jointly by changes at the supply and demand sides of the political process. On the side of political competitors, a main stated mechanism works through the reform reducing the capacity of landed elites to capture the political process. On the voters' side, through increasing levels of political participation in the form of voting and peasant-based social organization.

<sup>8</sup>Albertus (2015)' model builds over two models proposed by Robinson and Acemoglu (2006) and Boix, Bates, and Lange (2003) on the redistributive implications of regime changes.

<sup>9</sup>Other hypotheses include the left-wing ideological orientation of Velasco's military coalition (Masterson, 1991; Philip, 1978), the adoption of a 'father of the poor' strategy, distributing land to the poor to cultivate lower-class support (Cotler, 1971), and the reform as a response to concerns over the scaling-up of leftist rebellions in the 1960s (Malloy, 1974).

<sup>10</sup>This contrasts with the experience of other land reforms where their long-term political effects are justified from the capacity of the incumbent to build and maintain a clientelist network based on land transfers (e.g. Caprettini et al. (2021) for Italy or de Janvry et al. (2014) for Mexico),

## Political competitors: landed elites' capacity for political capture

The link between land concentration and political capture is well documented. Authors such as [Anderson et al. \(2015\)](#) have modeled the political control of landed elites in India. Others have discussed the case of land rights determining the political order in Africa, where rural property institutions create relationships of political dependency and authority ([Boone, 2014](#)). With an incumbent (or landed elite class) historically dominating local politics, as is the case of rural settings with severe land concentration, land redistribution is expected to reduce the capacity of the landed elite to capture the political process.

A first way is through changes in election contesting costs. Under these settings, characterized by incumbents and challengers facing asymmetric costs, land redistribution is expected to drastically increase the election contesting costs for the incumbent, while reducing the contesting costs for potential challengers ([Meinzen-Dick, 2021](#)). This is certainly the case for agrarian societies where land tenure (as opposed to other assets) is the main determinant of wealth accumulation and labor opportunities. Interacting the role of election contesting costs with politicians' rent-seeking, [Meinzen-Dick \(2021\)](#)'s party competition model under land governance decentralization predicts a higher number parties contesting local elections. This as a result of the increased incentives local governments face in response to land redistribution in the form of private rents and the opportunity to attend constituents through land policy-setting. Moreover, after implementation, when land uses have been created and policy (determining to whom newly-united land rights will be allocated) has been set, her model predicts that if private rents are the primary driver, party competition will continue, but if policy-setting is important, fewer parties will contest. Further, the model anticipates regional heterogeneous responses based on differences in local demands or social pressure for land redistribution.

A second way land redistribution can reduce the capacity of landed elites for political capture is by removing coerced labor relations and, as a consequence, the economic dependency of workers. As discussed by [Beg \(2021\)](#), existing literature documents strong patron-client networks that enable elites to leverage the economic dependency of their clients for political success (Scott 1972; Popkin 1979; Bardhan et al 2009; Mohmand 2019). Baland and Robinson (2008), for instance, study the landlords' use of workers' rent to control their voting choices in Chile, while [Anderson et al. \(2015\)](#) discuss a similar practice in India with elites offering insurance to workers facing negative income shocks. [Beg \(2021\)](#) studies the case of Pakistan, showing that economic transitions rising the costs of sharecropping for landowners can reduce their prospects for political capture (electoral competition is greater and landowners are less likely to be elected). Building over this idea, by tackling not only land concentration but by also removing coerced labor relations (increasing labor contracting costs), land redistribution is expected to reduce the landed elite's capacity to leverage the economic dependency of hacienda workers for political success.

## Voters: participation, preferences and the salience of history

On the voters' side, a redistributive policy such as land reforms, particularly when motivated as a way to expand the political rights of the rural poor, is expected to promote changes in electoral participation and political engagement. Here an interesting parallel with the literature on franchise extensions can be established ([Berlinski & Dewan, 2011](#); [Berlinski et al., 2014](#); [Cassan et al., 2020](#)). Mostly studied outside developing countries (which typically underwent progressive democratization), this literature has documented the limitations of specific political reforms to promote effective political change, when not tackling at the same time underlying unequal economic

conditions. [Berlinski and Dewan \(2011\)](#), for instance, by studying the case of the U.K.'s Second Reform Act of 1867, find that franchise extension led to greater candidate participation and political competition but no electoral gains for the Liberal party. However, [Berlinski et al. \(2014\)](#) finds that aristocrats were equally likely to be elected after the reform. [Larcinese \(2014\)](#) shows the 1912 enfranchisement reform in Italy didn't lead to a change in the profile of legislators nor to an increase in political competition. [Corvalan et al. \(2018\)](#)'s conclusions align with this result, suggesting that suffrage extension is insufficient to explain changes in the composition of elected politicians. [Cassan et al. \(2020\)](#), in analyzing two class-based extensions of the franchise in XXth century rural India, conclude that these extensions resulted in decreased voter turnout rates, suggesting less engaged newly enfranchised voters. Unlike reforms exclusively affecting political rules, the efficacy of land redistribution at changing the political equilibrium can be understood from its direct impact on the underlying economic conditions that allow voters to exercise an effective participation.

But these expected effects are not limited to participation: the historical salience of these reforms can shape the political behavior of voters in the long run. [Chen \(2017\)](#), for instance, study the wealth equalization movements in China during the Communist Revolution (1947-1956). By reminding a random subset of respondents of these movements what their ancestors went through (generating historical salience), significant and persistent effects are identified in respondents more favorable answers towards redistribution. The study emphasizes the inter-generational transmission of redistributive preferences, particularly linking this perception with social identity concerns. Other studies have pointed out how the salience of historical events can be used to shape political behavior if triggered by political campaigning, especially when competing parties argue that incoming events can parallel any prior about the reform voters may have ([Ochsner & Rösel, 2017](#)).

### 3.2 Political competition and candidate selection

In line with the expected expansion of the political competition space described above, a strategic candidate selection in more competitive constituencies can be expected. Specific empirical studies have focused on analyzing how electoral competition affects political selection, most of them relying on institutional features to identify the targeted impacts<sup>11</sup>. [Paola and Scoppa \(2011\)](#) and [Galasso and Nannicini \(2011\)](#), for instance, find that competition improves the quality of elected politicians in Italy. [Banerjee and Pande \(2018\)](#), for India, document that stronger group identity worsen candidates' quality. Also for India, [Banerjee, Du o, Imbert, and Pande \(2017\)](#) show the negative link between incumbency advantage and the political experience of candidates entering politics.

[Shaukat \(2019\)](#) provides a recent adaptation of [Banerjee and Pande \(2018\)](#)'s model of political competition and candidate selection. At analyzing how electoral competition can affect selection, two periods are considered: (1) prior to an election, when political parties are choosing a campaign strategy, and (2) after an election, when elected politicians are in office. Aligned with empirical findings in the literature, the model predicts strategic candidate selection based on the expected levels of political competition. Parties have little incentives to place high-valence types (e.g. more educated or experienced candidates) in constituencies already biased towards them (there party loyalty can be enough to ensure a win). Similarly, parties have low incentives to place this type of candidates in constituencies biased against them. Therefore, if high-valence candidates are limited, the model predicts that parties will place them in the most competitive constituencies.

<sup>11</sup>For instance, the number of ruling families in Sierra Leone ([Acemoglu, Reed, & Robinson, 2014](#)), the introduction of voting rights legislation in the US ([Besley, Persson, & Sturm, 2010](#)), or the change in constituency reservation status in India ([Nath et al., 2015](#))

Discussed in the context of agrarian-based societies, the presented set of mechanisms highlight the role of land redistribution as a determinant of local political competition and a strategic candidate selection. Running both through political competitors and voters, key channels relate with a reduction in the capacity of the landed elites to capture the political process, increased incentives for social organization, and potential effects on voters' preferences for redistribution.

## 4 Data

The data compiled for the study comes from alternative sources. The exposure of a district to land reform relies on original district-level data on land transfers from 1969 to 1985 compiled by [Albertus, Espinoza, and Fort \(2020\)](#). The district-level measures of electoral competition are published by INFOGOB, an official Peruvian Governance Observatory, and covers the results of 4 municipal elections (2002,2006,2010,2014). The data on candidates' characteristics were compiled also from INFOGOB by [Artiles et al. \(2021\)](#). Most of the complementary district-level historical data comes from [Albertus et al. \(2020\)](#), [Dell \(2010\)](#), [Kammann \(1982\)](#) and Peru's 1961-1972 Census.

### 4.1 Land reform exposure

[Albertus et al. \(2020\)](#)'s dataset documents approximately 15 thousand expropriation decrees covering 10 million hectares of land in active private use, abandoned or long-fallowed private land, and agriculturally unproductive land. The data collection was done by a research team based in Lima through publications of the official government daily, *El Peruano* as part of a joint project between the Group for the Analysis for Development (GRADE) in Peru and the Center for Latin American Studies of the University of Chicago (CLAS). By law, *El Peruano* published all supreme decrees, supreme resolutions, and ministerial resolutions that expropriated individual properties during the reform. The information contained on each publication included each district's location and the amount of land expropriated to be allocated to former hacienda workers.

The land reform exposure measure I use accounts for the total extension of expropriated hectares of land on each district via the main land reform legislation from 1969 to 1985 as a share of each district's total area. On average, 14% of a district's total area was expropriated, accounting for an average of 41% of total agricultural land. Figure ?? shows the spatial distribution of the land reform intensity employed by [Albertus et al. \(2020\)](#) <sup>12</sup>. As shown, the intensity of the reform is more pronounced in coastal and highland (sierra) regions. In the average district, the reform started in 1973 and ended in 1975, with a median duration of 2 years.

The implementation of the reform was based on the demarcation of 13 Agrarian Reform Zones (ARZ) and the installation of regional offices for local execution located in high-priority reform areas within each ARZ (conceived and delimited for entirely different purposes a decade prior the reform). The instrument employed for the analyses below measures the distance from each district centroid to the closest Agrarian Reform Zone office. This distance is computed with the command `geodist` in Stata, which calculates geographical distances by measuring the length of the shortest path between two points along the surface of a mathematical model of the earth.

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<sup>12</sup>The authors restrict their measure of land reform exposure to actively used private agricultural land as a share of total agricultural land on each district.

## 4.2 Electoral competition

The district-level electoral competition outcomes, published by INFOGOB, cover the results of 4 post-reform municipal elections (2002,2006,2010,2014). These include: turnout, the Number of Effective Parties (NEP), and the voting shares Herndahl-Hirschman (HH), Total Volatility (TV) and Hyperfragmentation (HP) indexes <sup>13</sup>.

## 4.3 Candidates' characteristics

The data on candidates' characteristics were compiled from INFOGOB by [Artiles et al. \(2021\)](#). INFOGOB publishes all candidates' curriculum vitae, allowing to scrap the website to assemble a dataset with a set of characteristics and background of all candidates running for mayor in the 2002-2014 elections. Based on this information, a series of consistent variables related to the candidates' schooling are computed (educational dummies) to construct an estimate of years of education. Additionally, the dataset includes information on the candidates' work and political experience as well as political party service from where is possible to compute the number of years of experience in (i) elected public office (mayor, councilor or regional counselor), (ii) the position of mayor, (iii) service in party office, as well as (vi) whether a candidate is a member of a national political party, (v) has work experience in the public sector or (vi) private sector. In addition, based on text analysis of all candidates' surnames, it's possible to recover the authors' ethnicity classification of candidates as indigenous (Quechua or Aymara) or other (Spanish or foreign) by matching the linguistic roots of all surnames with a set of dictionaries containing native roots <sup>14</sup>.

## 4.4 Geographic, institutional and state capacity controls

For several specifications, I include three sets of controls. Geographic controls include district elevation, slope, its total area, the share of cultivable land, and its centroid latitude and longitude. Following [Albertus \(2020\)](#), data on district elevation, slope, and cultivable land are from the FAO's Global Agro-Ecological Zones database: Food and Agriculture Organization of the United Nations. "Global Agro-Ecological Zones." Version 3.0. Institutional controls include if the district is inside a mita zone, the forced mining labor system in effect in Peru and Bolivia between 1573 and 1812, a documented measure of colonial extractive institutions in the long-run ([Dell, 2010](#)). To further account for institutional extractivism, I follow [Albertus \(2020\)](#) by including the number of conflictive social movements and autonomous communal uprisings prior to the late 1960's to account for the possibility of the reform targeting areas with greater propensity for violent conflict, as well as a measure of "caudillo" presence based on the number of episodes of local authorities forcibly rebuilding central authority up to the 1960s based on [Kammann \(1982\)](#). State capacity controls include Agrarian reform personnel from the Ministry of Agriculture in 1971 and the illiteracy rates (lack of basic primary school education) from the 1961 Census. For candidate-level specifications, sociodemographic controls include age, gender and indigenous/native ethnicity.

## 5 Analysis

In this section, I discuss the IV strategy and estimation results. The strategy exploits the implementation of the reform, based on the conformation of Agrarian Reform Zones (ARZ) and the

<sup>13</sup>The detail of their construction can be consulted here: <https://infogob.jne.gob.pe/Analisis>.

<sup>14</sup>This classification is based on the procedure and data in [Artiles \(2022\)](#)

installation of regional offices for local execution located in high-priority reform areas within each ARZ. The results are discussed at two levels: (1) electoral competition indicators at a district level, and (2) local candidate-level characteristics. In both cases, analyzing the impacts of the historical exposure to the reform over contemporary elections (starting in 2002, roughly two decades after the reform). The remainder of the section discusses alternative robustness and validity checks to provide evidence against key identification threats.

## 5.1 Electoral competition

I start by examining the correlation between land reform exposure and district-level electoral competition measures by estimating the following equation:

$$y_{dt} = \beta_1 \text{LandReform}_{dt} + X_d^0 \beta + \alpha_z + \alpha_t + \epsilon_{dt} \quad (1)$$

where  $y_{dt}$  is the outcome of interest for district  $d$  in election  $t$ : district's turnout, the number of effective parties contesting in election  $t$  (NEP), a voting concentration Herfindahl-Hirschman index (HH), a voting hyperfractionalization index (HP) and a total volatility index (TV).  $\text{LandReform}_{dt}$  accounts for the total extension of expropriated hectares of land on each district via the main land reform legislation from 1969 to 1985 as a share of each district's total area. The vector  $X_d^0$  accounts for a set of district-level covariates including geographic, institutional and state capacity controls. Geographic controls include district elevation, slope, its total area, the share of cultivable land, and its centroid latitude and longitude. Institutional controls includes if the district is inside a mita zone, the number of conflictive social movements and autonomous communal uprisings prior to the late 1960's and a measure of "caudillo" presence based on the number of episodes of local authorities forcibly rebuilding central authority up to the 1960s. State capacity controls include Agrarian reform personnel from the Ministry of Agriculture in 1971 and 1961 district's illiteracy rates (lack of primary school education). The standard errors are clustered at the district level. Alternative specifications include Agrarian Reform Zone and election fixed effects ( $\alpha_z$  and  $\alpha_t$ , respectively).

### 5.1.1 OLS estimates

I first examine the correlation between land reform exposure and contemporary measures of local political competition. Figure 5 shows a binscatter of district's land exposure 1969-1980 and (Panel A) the number of effective parties and (Panel B) turnout in municipal elections 2002-2014<sup>15</sup>. As observed, in both cases districts more exposed to land reform during 1969-1980 are correlated with a higher contemporary number of effective parties and local political participation in municipal (district) elections.

I present the OLS estimates for the impact of the reform exposure on the number of effective parties in Table 2. The coefficient in column 1 suggests that, the transit from null to full historical exposure of a district area to land reform increases the number of effective parties in 0.85 (the number of parties weighted by their respective voting shares). A 18% increase relative to an average of 4.71 parties per district. Column 1 controls for geographic and institutional covariates. Geographic controls include elevation, slope, cultivable land, district's area, latitude and longitude. Institutional controls include if the district is inside a mita zone, the number of conflict social movements and autonomous communal uprisings prior to the late 1960's to account for the possibility of the re-

<sup>15</sup>A binscatter is a nonparametric way of visualizing the relationship between two variables by plotting the average  $y$ -value for each  $x$ -value bin (Lowes & Montero, 2021)

form targeting areas with greater propensity for violent conflict, as well as a measure of “caudillo” presence based on the number of episodes of local authorities forcibly rebuffing central authority up to the 1960s. Columns 2 and 3 adds state capacity controls and Agrarian Reform Zone and election fixed effects. State capacity controls include Agrarian reform personnel from the Ministry of Agriculture in 1971 and the illiteracy rates (lack of basic primary school education) from the 1961 Census. In the most demanding specification (column 3), the coefficient is still positive although not statistically significant and it reduces in magnitude approximately by a third. However, as shown by column 4, which presents the results using lasso methods from [Belloni, Chernozhukov, and Hansen \(2014\)](#) to select controls from the full set of alternatives<sup>16</sup>, a positive and statistically significant effect can be recovered.

Table 3 presents the same structure of results for the impact of the reform on the electoral participation in municipal elections (2002-2014). Here the estimated effects are positive and statistically significant for all the four specifications: full exposure increase of a district to land reform increase the district's turnout in posterior elections in 0.02 percentage points in the most demanding one (column 3), a 2.5% increase with respect to a mean district-election turnout of 0.845. Taken together, these results suggests a significant correlation between the historical exposure to the reform and more contemporary measures of political competition and electoral participation<sup>17</sup>.

### 5.1.2 Instrumental Variable Estimates

The results presented in Tables 2 and 3 suggests that there is a positive correlation between historical exposure to the reform and contemporary measures of political competition and electoral participation. However, this is not enough to identify a causal effect of exposure to the reform on any of those outcomes, as it's possible to have an omitted variable determining both exposure to the reform and local outcomes correlated with political competition and participation. To address this concern, I present results derived from an instrumental variable approach.

An ideal instrument would predict historical land reform exposure of a district, without affecting local conditions determining the political outcomes of interest through other channels. To approximate this is possible to exploit a unique design feature of the Reform: it was conducted through 13 regionally based Agrarian Reform Zones (ARZ) (conceived and delimited for entirely different purposes a decade prior the reform) and the installation of regional offices for local execution located in high-priority reform areas within each ARZ ([Albertus, 2020](#)). I propose to use as instrument the distance from each district to the closest Agrarian Reform Zone office. Here I will present in more detail the logic of the instrument and discuss potential concerns in section 5.3.

On the source for identification: ARZs and of offices for local execution

The demarcation of the ARZs can be traced back to 1960 by Peru's Agrarian Research and Promotion Service (SIPA), a convention to promote agricultural development with technical support from the Organization for American States and USAID. As noted by [Albertus \(2020\)](#), SIPA delineated these zones based on “ecological conditions, social conditions, transportation routes, and access to markets” ([SIPA, 1967](#)) (Figure 4). Almost a decade after, General Velasco's reform was grafted over

<sup>16</sup>Coefficients are chosen to minimize the sum of the squared residuals plus a penalty term that penalizes the size of the model through the sum of absolute values of the coefficients. In practice, to balance the potential for omitted variable bias and the risk of overfitting the model.

<sup>17</sup>The Appendix include equivalent OLS results for alternative measures of local political competition: the voting shares Herfindahl-Hirschman (HH), Total Volatility (TV) and Hyperfragmentation (HP) indexes.

these existing zones and regional offices due to strategic considerations: (1) the need for a rapid reform rollout to prevent landowners resistance (Albertus, 2015), (2) the small number of zones had development and planning advantages for Velasco's goal of promoting peasant-based social organization through cooperatives (García, 1970), and (3) the mandate of top-down control of regional managers (Cleaves & Scurrah, 1980).

As documented by Echevarría (1978) and Matos and Mejía (1980), the reform's implementation through the ARZ's institutional infrastructure resulted in a *de facto* determination of “peripheral” districts: those that were less proximate to the ARZ's regional offices for local execution, even when these zones didn't exhibit striking differences in local characteristics or the intensity of haciendas. This uneven territorial attention was also recognized in internal documentation from the Ministry of Agriculture of the time and justified in terms of budget constraints for the training and allocation of land reform officials in “peripheral” zones (MINAG, 1971; WB, 1975)<sup>18</sup>. The distance from a district to an ARZ office should therefore capture the lower intensity of land reform exposure in districts further away from these offices, without capturing local differences beyond this lower public capacity to allocate land reform's resources and personnel.

Following Lowes and Montero (2021), to demonstrate that the distance to the ARZs regional offices is a reasonable instrument, I first conduct a “zero-th” stage analysis. Specifically, to test whether the instrument predicts, consistent with available historical accounts, a lower allocation of land reform officials in “peripheral” districts, using as a proxy the regional distribution of state personnel reported in the 1961 Census. I present the estimation in Table 4. As observed, a larger distance from a district to the closest ARZ office predicts a lower allocation of state personnel as we would expect if it reduces the state capacity to implement land reform more intensively. While this correlation is reassuring, it may be the case that the allocation of state personnel directly affects the contemporary political outcomes of interest (or indirectly as a proxy of institutional capacity). To mitigate this possibility, I control for this same measure of state presence across all the presented specifications.

Table 5 presents the first stage results for the instrument. As in the previous estimates, four specifications are included adding geographic, institutional, state capacity and lasso-selected controls, and Agrarian Reform Zones fixed effects. In all cases, with clustered standard errors at the district level. For all cases, the distance to the closest ARZ office predicts a lower exposure to land reform measured as the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area with F-stats of 20 or higher. Figure 6 presents this result graphically on a binscatter (Panel A), showing that this reduction in land reform exposure for districts further away from ARZ offices can also be identified in terms of its duration (years) (Panel B).

Table 6 presents the second-stage results for the Number of Effective Parties and Turnout. In column 3, the specification with full controls and ARZ and election fixed effects, and additional 50% of a district's historical exposure to land reform increases the number of effective parties contesting in subsequent elections in 1.3. The equivalent specification in Table 7 shows that a 1 percentage point increase in a district area to land reform exposure increases turnout in contemporary elections in 0.24, a 28% increase relative to the district-election average. The magnitude of both point estimates are significantly higher than their OLS benchmarks, suggesting a downward bias of the latter. The direction of this bias is consistent with a territorial deployment of the reform avoiding areas with initial conditions already less prone to political competition and participation. Table 8 presents the second stage estimates for the simple number of parties (columns 1), the Herfindahl-Hirschman

<sup>18</sup>Albertus (2020)'s Online Appendix review these internal records providing further evidence on this budget and personnel allocation constraints.



Index of voting shares (column 3), a Volatility Index measured with respect to previous elections (column 4) and an additional voting fragmentation index (column 5). Taken together, these results are consistent with a historical exposure to land reform inducing a more competitive local political environment, measured by the number of meaningful competitors (the number of parties weighted by their respective voting shares) and a less concentrated and volatile voting structure.

## 5.2 Candidate selection

If the historical exposure to the reform induced changes in contemporary measures of political competition and participation, changes in the incentives of local candidates for selection into politics are also expected. Shaukat (2019) model, for instance, predicts that, as a result of more contested/competitive elections, parties strategically place high valence candidates<sup>19</sup> in more competitive constituencies, will allocate more resources prior to an election, and this will result in better performance at of ce through a selection (high valence type positively correlated with quality) or moral hazard effect (a response from politicians anticipating future competition).

I examine the correlation between land reform exposure and candidate-level characteristics by estimating the following equation:

$$y_{ct} = \beta_1 \text{LandReform}_d + X_c^0 + X_d^0 + \beta_z + \beta_t + \epsilon_{ct} \quad (2)$$

where  $y_{ct}$  includes outcomes such as education, experience and sociodemographic characteristics for candidate  $c$  in election  $t$ . As in equation 1,  $\text{LandReform}_d$  accounts for the total extension of expropriated hectares of land on each district via the main land reform legislation from 1969 to 1985 as a share of each district's total area. The vector  $X_c$  includes candidate-level controls such as age, gender and ethnicity. The vector  $X_d$  includes district-level geographic, institutional and state capacity controls. The standard errors are clustered at the district level. All specifications include Agrarian Reform Zone and election fixed effects ( $\beta_z$  and  $\beta_t$ , respectively).

### 5.2.1 OLS estimates

Table 9 shows the correlation between historical land reform exposure (1969-1980) and the average number of years of education of candidates running for of ce in later elections (2002-2014). For almost all specifications, a positive and statistically significant correlation is observed, with point estimates suggesting that, on average, a 1 percentage point increase in land reform exposure increases the number of years of education of contesting candidates in later elections in 0.01. Column 1 includes sociodemographic, geographic and institutional controls. Columns 2 and 3 add Agrarian Reform Zones and election fixed effects. Land reform exposure don't show a significant correlation with candidate's education under this more demanding specification. This positive statistical significance is recovered once lasso is applied as a screening method for control selection (column 4). Table 10 show analogous specifications with candidate's party experience as the outcome variable. In this case, not statistically significant correlations are found.

### 5.2.2 Instrumental Variable Estimates

These initial correlations, as expected, cannot be interpreted as causal effects as land reform exposure could be correlated with an omitted variable determining more land reform exposure in

<sup>19</sup>A function of observable characteristics such as education, past experience, criminal background, etc. valued positively regardless of a candidate's ideology.

districts less educated or with specific local characteristics (e.g. social capital) making them less prone to local opportunities to develop a career in politics (leading to candidates with less party experience, on average). To account for this possibility, I present the IV results for both outcomes next.

Table 11 presents the IV results for candidate's years of education. As shown in column 3, the specification with full set of controls and fixed effects, an increase in the historical exposure of district to land reform in 1 percentage point increases the average number of years of education of candidates contesting in later elections in 0.106. A 0.75% increase relative to an average contesting candidate with 14 years of education. Table 12, which disentangle this effect by estimating the same equation with education level dummies for secondary, technical and university education as dependent variables shows that the estimated effect is entirely driven by a higher proportion of candidates with tertiary educational attainment (the coefficients for secondary and technical education in districts more exposed to land reform are even negative).

Table 13 presents the IV results for candidate's years of party experience. Here, unlike the initial OLS estimations, the coefficients are positive and statistically significant for all specifications: districts more exposed to land reform in 1 percentage point of its extension have candidates contesting later elections, on average, with 0.026 more years of party experience (column 3). Table 14 includes alternative measures of candidate's working experience as dependent variables. Columns 1 and 2 show no statistically significant effects for candidate's years of experience at office (both as an elected authority or specific experience as mayor), but statistically significant effects on the likelihood of candidates contesting elections with no prior public but private experience and coming from a national party. In line with strategic responses to political competition, taken together these results point toward a boost in historically land reform affected districts in later elections for candidates with more partisan experience but also less associated with traditional politics (more independent or regionally-based). Historical accounts of the post-reform local political environment goes in line with these set of effects (e.g. Seligmann (1995)). Furthermore, the higher valence found at a candidate level in education and experience as a result of a more intense land reform exposure is consistent with these same districts being able at attracting higher national budget allocations (Table 25). But the incentives induced by a plausibly higher local political competition could go beyond candidate's features directly related with their on-the-job valence. In the end, the likelihood of being successful at a local race is most of the time determined by less objective features reflecting an intricate combination of prestige, representation, communication, among others.

Due to the nature of the reform, for instance, a key aspect is related with the redistribution of land as a vindication of the indigenous heritage. A key feature of both the national political narrative, the motivation and the implemented government propaganda during Velasco's administration set an equalized access to land as central aspect of the transition from the traditionally exploited figure of the "indigena" to the "campesino", an empowered figure of a peasant, now with land owning rights as a considered necessary condition for the exercise of an effective citizenship status.

I test the link between land reform exposure and indigenous representation in two ways, presented in Table 15. First, based on Artiles (2022)'s last-name matching procedure, column 1 presents an IV estimate using as outcome a categorical variable that identifies if a candidate running for office has an indigenous/native last name. Column 2 restricts the sample to the pool of elected candidates only. The results show that comparing districts with zero to full historical exposure to land reform, the latter are not more likely to have a candidate with indigenous background running for office (column 1), but makes 0.3 pp more likely that this type of candidate ended up elected.

This result, in magnitude and statistical significance, is robust to an alternative measure of indigenous representation, identifying candidates with indigenous/native last names in districts where at least 75% of its population speaks an indigenous language (2007 Population Census). Again, land reform exposure increases the likelihood of finding an indigenous-representative candidate among the election winners.

Two complementary features I examine are gender and age in land reform exposed districts. Historical accounts and rural studies typically pay attention to these variables highlighting its link with land ownership: in general, females being excluded from governance positions that require land tenure (e.g. agrarian cooperatives/associations) and a pattern of low rural mobility as urban and intermediate cities attract younger migration at a higher pace. Table 16 is consistent with a more likely participation of females contesting local elections: a 0.194 pp increase comparing district with zero to full land reform exposure (columns 1 and 2). Additionally, both candidates and elected mayors are older in districts historically exposed to land reform.

### 5.3 Robustness checks

A key concern about the results described so far is that the proposed instrument might be correlated with initial local conditions of a district relevant to explain changes in political competition and participation through other channels than its historical exposure to land reform. For instance, if the proximity towards ARZ's offices is approximating a higher extent of urbanization or state presence/capacity beyond the one relevant to explain a higher land reform exposure, the exclusion restriction would be violated, leading to a non-valid instrument.

Falsification test: central and peripheral Agrozones

Although it is not possible to test this assumption directly, to address this concern, I run a placebo test of the instrument's predictive power in regions where land reform officials entered scarcely and specifically not oriented to the expropriation of privately-owned landholdings<sup>20</sup>. In practice, the proximity to ARZ's offices should only explain land reform exposure in areas where land reform officials effectively entered targeting haciendas. The regional coverage of the 1969's land reform decree law provides a regional comparison for this test: land reform in Agrozones 8 and 9, sparsely populated Amazon jungle areas, as pointed out by Albertus (2020), wasn't covered by the initial 1969 Decree Law and was centered in colonizing public lands. Table 17 presents reduced form estimates splitting the sample between Agrozones 8 and 9 (peripheral) and the rest (central). As observed, including both geographical controls and ARZ and election fixed effects<sup>21</sup>, the instrument is positively correlated with a higher number of effective parties contesting in later elections in central agrozones only (columns 1 and 2). This same relation for peripheral agrozones shows a correlation not statistically different from zero, meaning that the instrument is not correlated with measures of local political competition in areas not exposed to land reform. Additionally, Table 19 presents IV estimates using as land reform exposure the share of uncultivated expropriated land, a measure that should not reflect a meaningful change in private assets in land reform exposed districts. Consistent with this idea, no statistically significant effects are identified.

<sup>20</sup>This follows a standard practice in the literature, such as in Nunn and Wantchekon (2011) or Lowes and Montero (2021).

<sup>21</sup>Only geographic controls are included due to data constraints for institutional and state capacity covariates in agrozones 8 and 9.

### Placebo instruments: proximity to urban centers

A complementary concern is the traction of urban bias the proximity to ARZ'S of ces could be reflecting. Ideally, the estimated impacts based on the proposed instrument shouldn't be confounded by the regional spillovers of proximity to urbanization. For instance, as it could be the case with a higher number of contesting parties and political participation as a result of a more intense presence of national parties in large cities proximate to land reform affected districts, or the possibility of just larger education and party membership opportunities in these areas. To provide evidence against this possibility, Table 18 presents IV estimates with the same full set of controls and fixed effects as in previous subsections for my 4 main outcomes (NEP, turnout, candidates education and experience) using as instruments two placebo measures of proximity to urban centers. To account for regional spillovers, Column 1 uses as instrument the distance (in hundreds of miles) to the nearest city mapped by the 1961 Population Census, weighted by population size. Additionally, to account for within-district connectivity potentially driving the results, column 2 uses as instrument the estimated distance from each district's centroid to its capital. As observed, once accounting for population weights, the placebo distances result in extremely weak instruments (F-statistics no larger than 1) and any statistically significant result is identified for any of the outcomes of interest.

### Alternative clustering and spatially corrected standard errors

A key concern in historical persistence regressions relates to the risk of spatial autocorrelation of residuals leading to artificially low standard errors (Kelly, 2019). If unobserved heterogeneity is correlated across neighboring observations, valid inference can be threatened. I address this concern in two ways. First, I run the IV first-stage clustering the standard error at the agrozone level. As shown by Table 20, the statistical significance of the instrument to predict land reform exposure is robust to this alternative (and more demanding) clustering structure. In addition, following Conley (1999) and Colella, Lalive, Sakalli, and Thoenig (2019), I run the IV estimations (with full controls, ARZ and election fixed effects) incorporating spatially corrected standard errors under alternative distance thresholds. Table 21 shows the results using the number of effective parties as dependent variable. As observed, the adjustment barely affects the point estimates and its statistical significance<sup>22</sup>.

### A fuzzy RDD specification: ARZ's core-periphery boundaries

The choice of the IV setting is based on the plausibly exogenous nature of the ARZ distance instrument, as discussed along the text, but also on the statistical power of the method. This feature could matter in particular for the estimation of causal effects over political outcomes, as their variations typically require a higher ability to detect a difference between the treatment and control conditions for some outcome of interest. However, to tackle remaining concerns about the potential endogeneity of the instrument, I run an alternative specification exploiting discontinuities between the ARZs demarcation and regional administrative borders.

In his study of the impacts of the reform on social conflict, Albertus (2020) proposes that, as the demarcation of ARZs don't fully map onto regional administrative borders, within each ARZ, the location of its offices can define core and periphery treatment areas. Namely, the probability of

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<sup>22</sup>The issue of standard errors' arbitrary clustering is part of an ongoing debate in the literature. Abadie et al (2022), for instance, have recently proposed new variance estimators to deal with intermediate settings where conventional cluster standard errors are unnecessarily conservative and robust standard errors are too small. But these haven't been incorporated yet in standard statistical software.

a district receiving land reform would shift discontinuously around the core-periphery boundary inside each ARZ defined by Peru's regional administrative borders. The author provides evidence supporting the balance of covariates around these core-periphery boundaries, suggesting local average treatment effects can be identified. Adapted to our outcomes of interest, more specifically, this implies the estimation of the following parameter:

$$PC = \frac{ITT}{take\ up} = \frac{\lim_{x \neq 0} E(PC_j | X_j = x) - \lim_{x=0} E(PC_j | X_j = x)}{\lim_{x \neq 0} E(LR_j | X_j = x) - \lim_{x=0} E(LR_j | X_j = x)} \quad (3)$$

Where,

- $PC$ : identifies the effect of land reform exposure on political outcomes.
- $PC_j$ : the political outcome observed in each district.
- $LR_j$ : variable for potential LR treatment.
- $X_j$ : distance from each district centroid to ARZ core-periphery boundary.

Then, the estimated RD effect is calculated as the difference between two separate regression intercepts:

$$Y_j = \alpha + \phi_C C_j + \beta_1 Z_j + \beta_2 X_j + \beta_3 C_j X_j + \epsilon_j \quad (4)$$

- $C_j$ : indicator for LR treatment exposure coded 1 when district is within ARZ core.
- $X_j$  is located within a bandwidth  $b$  of the core-periphery threshold.
- $Z_j$ : vector of covariates.

Table 22 follows this procedure using as dependent variable the number of effective parties for 2002-2010 elections, estimated jointly and by election. Following Dell (2010), geographic controls include a second-order polynomial in district latitude and longitude, the latitude and longitude coordinates of the nearest point along the zonal border cutoff, and boundary segmented effects. First stage results show that, around the core periphery boundaries, a district inside an ARZ's core zone have between 9% and 14% more of its area affected by land reform on average with respect to its peripheral counterpart. Consistent with the set of IV results described in previous subsections and under a specification with lower statistical power, districts barely inside an agrarian reform zonal core, exhibit on average 9.8 more parties contesting in later elections than when it is barely outside the core.

## 6 Mechanisms

The results discussed so far suggest a historical exposure to land reform inducing a more competitive local political environment and a more engaged, less concentrated and volatile voting structure in affected districts. In line with strategic responses to higher political competition, later elections in these districts seem to have bonus the participation of candidates with specific attributes: more educated, with indigenous background; with more partisan experience but also less associated with traditional politics (more independent or regionally-based). In this section, I explore potential mechanisms behind these findings. In particular, the role of the reform in reducing local elites' capacity for political capture, increasing agrarian-based incentives for social organization, and potential long-term effects on voters' preferences and perceptions of the state.

## 6.1 Were expropriated landed elites less able to capture local elections?

We can think on two ways through which land reform is expected to impact the capacity of local landed elites to exercise the political capture of local elections. First, as suggested by [Meinzen-Dick \(2021\)](#), an incumbent political party (or class) historically dominating local politics faces extremely low costs of contesting elections. A potential political challenger can choose to create a political party, but at a significantly higher cost. If these costs are mostly determined by landholding assets, as in pre-reform rural Peruvian districts, the reform would have drastically increase the costs of the landed elite to contest elections, while reducing the costs of creating a party challenger motivated by the impulse of the newly created agrarian cooperatives integrated by former hacienda workers or as a response to this new electoral demand for political representation. Second, by tackling not only land redistribution but by removing semi-feudal labor relations, such as sharecropping tenancy under extremely unfavorable working conditions, the ability of elites to deliver patronage, i.e. building a patron-client network that enable landed elites to leverage the economic dependency of hacienda workers for political success, can also be weakened ([Beg, 2021](#)).

To test for this mechanism I run my baseline IV specification at a candidate level, using as dependent variable an indicator that identifies if the candidate running for office in a specific elections has at least one last name historically linked to main economic groups in the early 1980's Peru. I build this indicator through a last name matching of the candidates' database with the historical records compiled by [Figueroa \(2008\)](#), who listed the last names and mapped the network of social relations among the Peruvian elites measured by the interlocking corporate directorates in Peru's largest firms between 1983 and 2000. [Table 23](#) shows these IV estimates. As observed, for all specifications, historically more land-reform exposed districts are less likely to have elite-related candidates running for office in later elections.

The capacity of specific agents to exert political influence over local elections can be also studied by checking the likelihood of the application of political instruments typically prone to political capture. Local elections with a more intense use of these instruments would proxy a local political environment with agents more able at exercising political influence. In local elections in Peru, the proliferation of recall referenda, a direct democracy institution that allows voters to recall elected mayors from office, has received particular attention. Somewhat paradoxically, recent studies have highlighted its use as a political tool, with candidates who lost the elections in the previous period being the promoters of the recall election, and it's overall pervasive effects over the valence of candidates running for office in following elections ([Artiles et al., 2021](#); [Holland & Incio, 2019](#)). [Table 24](#) show IV estimates linking land reform exposure with the application of recall referenda in later elections. As observed, districts historically exposed to land reform are also less likely to implement this type of mechanisms in any election spanning 2002 and 2014.

Although, taken together, the discussed pieces of evidence go in line with changes in the ability of former landed elites at political capture, tracking down more precisely their reaction to the reform remains as an open question. For instance, the asset losses induced by the reform were strong enough to harm the resource base of these elites or their already diversified investment profiles allow them to maintain their political power? Even if the reduction of political capture at a local level is a robust result, the identified lower capture of local politics can be effectively interpreted as a result of a lower ability in doing so or it could be related with a more intense targeting of national politics? Nonetheless these remain as part of a research agenda, particularly within the scope of the literature on political dynasties, my working hypothesis is that in the aftermath of the reform, the expropriated elites were able to regain political power in the long run based on (i) a reconsid-

ered coalition with ruling political elites, neglected during the military period (Albertus, 2015), (ii) increasingly fragmented agrarian-based social organizations (Brass, 2007), and (iii) the decreasing role of landholdings as a source of political leverage due to industrialization (O'Rourke, 2017).

## 6.2 A driver of peasant-based social organization?

As described by Mayer (2009), the preferred form of land adjudication during the reform was to be in the form of worker-managed cooperatives. For the Coast, the Cooperativas Agrarias del Peru (CAPs) were designed as units of self-managed production under the control of workers, while in the traditional haciendas of the Highlands -concentrating a higher number of indigenous communities-, conditional to terrain feasibility, a set of large-scale groupings called Sociedades Agrarias de Interés Social (SAIS) were created (Thorp & Bertram, 1978). According to Schirmer (1977), the cooperativism played a central role in the concept of agrarian development promoted by the military government: the aimed reform of the sector wasn't only about technical-organizational changes, but was oriented towards the promotion of local collective action and social participation.

As pointed out by Cynthia McClintock in her seminal study of peasant cooperatives and political Change in Peru, the reform seems to have mobilized peasant political energies in defense of local interests, with most substantial changes through the cooperatives (McClintock, 1981). In practice, after the reform, a set of external (e.g. State scal crisis) and internal factors (e.g. management bad practices) determined that only very few cooperatives prospered. However, the political legacy of their creation as a driver of local political change over the following decades are a central issue of discussion (Thorp & Paredes, 2010). Table 26 present IV estimates showing that, almost two decades after the reform, historically exposed districts are found to have more agricultural units participating in associations/cooperatives. For the case of participation in rondas campesinas organized civilian/agrarian self-defense groups with an important role in counterinsurgency in the 1980s in response to the terrorism violence of Shining Path, no statistically significant effects are found (Table 27). This result is somewhat consistent with Albertus (2020)'s estimation about the land reform's civil conflict dampening effects during the same period. In the same line, I found land reform historically exposed districts less likely to be declared an emergency conflict zone in 1990, but heterogeneous impacts that suggests stronger effects on local political competition in more conflict-intense districts (Table 28).

## 6.3 The role of 'activated history': long-lasting changes in voters' preferences and perceptions of the state?

The last mechanism I want to discuss is the potential impact of the reform in changing voters' perceptions about redistribution and the state. Authors such as Ochsner and R ösel (2017) point out that "myths and the collective memories" are important vehicles to convey political messages. Mullainathan (2002) formalizes this idea by constructing a model where these elements can lead to over-reactions when the current scenario parallel a historical narrative. The idea of "activation of local history", according to the authors, relates to how even ancient and plausibly irrelevant events can shape the current political behavior if triggered by political campaigning. More specific to the case of land reforms, authors such as Chen (2017) provide evidence on the link between historical experiences and citizens' preference for redistribution. This in the context of to the historical backdrop of the wealth equalization movements during the Communist Revolution in China (1947-1956). Behind this link, the authors discuss mechanisms such as the role of historical redistribution

exposure in shifting the relative costs and benefits of redistributive policies (e.g. through persistent changes in income and wealth or as part of a citizens' learning process about upward mobility). In addition, historical episodes of redistribution could remind citizens about past achievements of redistributive policies or trigger emotions based on ancestors' exposure (Akerlof & Kranton, 2000). More generally, historical experiences of redistribution can provide citizens with an important mental framework to assess current redistributive policies Chen (2017).

In Peru, extensive accounts from other social sciences discuss the salience of Velasco's reform in current politics (Aguirre & Drinot, 2017; Cant, 2021). This is particularly intense in rural areas with more historical exposure to the reform. Finan (2008), for instance, documents how agricultural producers facing an entirely different process of integration to global value chains still tend to contextualize this development in relation to the 1969 agrarian reform. In another recent example, Pedro Castillo, shortly after being elected president in 2021, announced a "second agrarian reform" to advertise a set of national policies targeting the development constraints of small-scale farming in the country.

Although testing for the persistence of political perceptions is difficult, I address this potential mechanism in two ways. The first is to implement my baseline IV specification taking as a dependent variable the vote shares of the marxist left in the 1980's elections as a proxy of a pro-redistribution impulse in voters in the aftermath of the reform. As shown by Table 29, historically land reform exposed districts had on average higher voting shares for this political option. The second is to use national-representative survey data to implement a cohort-based difference-in-differences specification. Here I follow Albertus et al. (2020) but use measures of trust in public institutions as dependent variables. The idea is that an individual's district of birth and date of birth jointly determine her exposure to land reform. More specifically, by estimating the following equation:

$$Y_{ijt} = \alpha_0 + \sum_{l=0}^{24} (\alpha_l LR_j d_{il}^0) + X_{ijt}^0 + \beta_j + \gamma_t + \rho(t) + \epsilon_{ijt} \quad (5)$$

Where,

- $Y_{ijt}$  : trust index in public institutions, working democracy and political parties completed by individual  $i$  born in district  $j$  in year  $t$ .
- $LR_j$  : a measure of land reform intensity in district  $j$  and
- $d_{il}$  : dummy that indicates whether individual  $i$  is age  $l$  in the year land reform began in their district of birth.
- Individuals aged 24 at the time land reform began form the control group.
- $X$  : vector of individual time-invariant characteristics, such as gender or ethnicity.
- $\beta_j, \gamma_t, \rho(t)$ : district and cohort of birth FE's;  $\rho(t)$ : exible province-specific trends. Clustered SE by district of birth.

Here each coefficient  $\alpha_l$  can be interpreted as an estimate of the impact of full land reform on a given birth cohort. The results are shown in Table 30. As observed, although with mostly negative point estimates, no statistically significant effects are identified. Unlike Albertus et al. (2020), using schooling as their main outcome, inferential threats to the difference-in-differences approach in this case comes from the fact that land reform exposure cannot be clearly delimited by age cohorts



schooling age (older cohorts could have been affected by broader land reform dynamics that spill over across age cohorts). Although exploratory, the discussion opens a path for further research, including the possibility of implementing experimental settings and/or exploit specific campaign strategies to identify more precisely further impacts of the reform on political preferences (as in [Chen \(2017\)](#) or [Ochsner and Rösel \(2017\)](#)).

## 7 Conclusions

The notion of political legacy from an historical perspective relates with how collective memories are constructed. The set of econometric estimations discussed throughout this study aimed at approximating the overall trends behind a set of very complex relations, highlighting the fact that changes in underlying economic conditions can be particularly effective at changing the political equilibrium. From this perspective, the inability of Velasco's reform in fostering agricultural development, even if relevant, is just one side of the story.

The identification strategy of the study is based a unique design feature of the reform: it was conducted based on the conformation of Agrarian Reform Zones (ARZ) and the use of regional offices for local execution located in high-priority reform areas within each ARZ, conceived and delimited for entirely different purposes a decade prior the reform. Based on an original dataset on the reform's territorial deployment (1969-1980) and the construction of a set of characteristics of the pool of local candidates in later elections (2002-2014), the study exploits the distance from a district to an ARZ office as an instrument to study the effects of the reform over local political competition, electoral participation and candidate selection.

The results show changes towards a more politically competitive local environment in land reform affected districts. In line with strategic responses to political competition, post-land reform elections boost the participation of candidates with specific attributes: more educated, older and with indigenous background. These candidates report more partisan experience but are also less associated with traditional politics. Evidence on driving mechanisms such as a dampened capacity of local elites for political capture, increased agrarian-based incentives for social organization, and changes in voters' preferences towards redistribution go in line with this interpretation.

Although a definitive story about the political legacy of the reform is difficult, historical accounts and literature from other social sciences are consistent in highlighting the local political changes discussed throughout the text ([Cant, 2021](#); [Mayer, 2009](#); [Seligmann, 1995](#)). This opens a path for further research, particularly regarding a more precise historical understanding of landed elites' economic and political strategies in response to the reform and the plausible persistent impacts of the reform in voters' preferences for redistribution and perceptions of the state. As suggested by Mayer, no land reform has been conceived without an image of how its political future will be. The Peruvian case is perhaps a good example.

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Table 1: Summary statistics

	(1)	(2)	(3)	(4)	(5)
	N	mean	sd	min	max
<b>Treatment &amp; Instrument</b>					
Land reform exposure 1969-1985 (%district area)	1,570	0.136	0.211	0	1
Distance to closest ARZ of ce (100miles)	1,570	0.772	0.472	0.000355	2.491
<b>Electoral competition outcomes</b>					
Number of Effective Parties	4,710	4.741	1.660	0	14.31
Hiperfragmentation	4,710	5.486	1.978	0	16.84
Her ndahl-Hirschman Index	4,710	0.239	0.0899	0	1
Total Volatility Index	3,140	0.180	0.240	0	1
<b>Candidate characteristics</b>					
Age	35,849	45.68	9.703	18	86
Female	35,849	0.0619	0.241	0	1
Two native surnames	35,078	0.0805	0.272	0	1
Years of Education	31,857	14.11	3.337	0	23
Num. years party experience	34,666	0.750	2.549	0	53
Num. years elected of ce	34,666	1.568	2.935	0	26
Num. years as mayor	34,666	1.022	2.426	0	21
Public Sector Experience	28,454	0.589	0.492	0	1
National Party Af liation	35,849	0.435	0.496	0	1
<b>Geographic controls</b>					
Elevation (thds. of meters)	1,570	2.694	1.447	0.00100	5.118
Slope (degrees)	1,570	5.663	3.671	0	19.53
Cultivable land (%area)	1,570	7.023	9.200	0	90
Land area (hds. sq. km.)	1,570	8.173	27.49	0.0204	516.7
Longitude (district's centroid)	1,570	-75.51	2.788	-81.20	-69.08
Latitude (district's centroid)	1,570	-10.92	3.525	-18.17	-2.105
<b>Institutional controls</b>					
District inside mita zone (pre-colonial)	1,570	0.333	0.471	0	1
Num. previous social movements (up to 1960s)	1,570	0.148	0.752	0	13
Num. autonomous communal uprisings (up to 1960s)	1,570	0.0892	0.468a	0	7
Caudillo presence (up to 1960s)	1,570	0.0236	0.168	0	2
<b>State capacity controls</b>					
State personnel (1971)	1,570	2.682	1.458	0	8.372
Illiteracy (1961)	1,570	0.486	0.220	0.00490	1

The treatment variable relies on original district-level data on land transfers from 1969 to 1985 compiled by [Albertus et al. \(2020\)](#). The instrument, measuring the distance from each district centroid to the closest Agrarian Reform Zone of ce is computed with the command `geodist` in Stata, which calculates geographical distances by measuring the length of the shortest path between two points along the surface of a mathematical model of the earth. Following [Albertus \(2020\)](#), data on district elevation, slope, and cultivable land are from the FAO's Global Agro-Ecological Zones database: Food and Agriculture Organization of the United Nations. "Global Agro-Ecological Zones." Version 3.0. Data on whether districts are inside the colonial mita zone are from [Dell \(2010\)](#). Data on previous social movements, communal uprisings, and historical caudillo presence are from [Kammann \(1982\)](#). Data on state personnel, Spanish language penetration, and illiteracy in 1961 are from Peru's 1961 census.

Table 2: OLS estimates-LR exposure and Number of Effective Parties

	Num. of Effective Parties (2002-2010)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	0.849*** (0.170)	0.563*** (0.186)	0.259 (0.175)	0.303* (0.170)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Clusters	1570	1570	1570	1570
Mean Dep. Var.	4.741	4.741	4.741	4.741
F-Statistic	15.374	16.894	36.501	33.820

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$



Table 3: OLS estimates-LR exposure and Turnout

	District's Turnout (2002-2014)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	0.0312*** (0.00432)	0.0147*** (0.00453)	0.0220*** (0.00442)	0.0249*** (0.00431)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	6,258	6,258	6,258	6,258
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.845	0.845	0.845	0.845
F-Statistic	41.03	56.13	139.6	203.4

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel(1961) and illiteracy rates (1961). \*\*\* p< 0.01, \*\* p< 0.05, \* p< 0.1

Table 4: “Zero-th” Stage IV Estimates–Relationship between Instrument and State personnel presence in 1961

	Log State Personnel in 1961			
	(1)	(2)	(3)	(4)
Distance to closest ARZ of ce (100miles)	-0.416*** (0.0969)	-0.309*** (0.116)	-0.263** (0.114)	-0.351*** (0.107)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Observations	1,570	1,570	1,570	1,570
Clusters	1,570	1,570	1,570	1,570
Mean Dep. Var.	2.682	2.682	2.682	2.682
F-Statistic	7.145	4.191	4.848	6.934

Clustered standard errors at the district level. The instrument, measuring the distance from each district centroid to the closest Agrarian Reform Zone of ce is computed with the command `geodist` in Stata, which calculates geographical distances by measuring the length of the shortest path between two points along the surface of a mathematical model of the earth. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 5: First Stage IV estimates-Land Reform Exposure and Distance to closest ARZ of ce

	Land reform exposure 1969-1980 (%district area)			
	(1)	(2)	(3)	(4)
Distance to closest ARZ of ce (100miles)	-0.123*** (0.0125)	-0.0755*** (0.0130)	-0.0746*** (0.0130)	-0.102*** (0.0127)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Observations	1,570	1,570	1,570	1,570
Clusters	1,570	1,570	1,570	1,570
Mean Dep. Var.	0.136	0.136	0.136	0.136
F-Statistic	24.369	22.884	23.450	31.164

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Distance to closest ARZ is the distance in hundreds of miles from each district centroid to the closest Agrarian Reform Zone of ce. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961).\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table 6: IV estimates-Land Reform exposure and Number of Effective Parties

	Land reform exposure (%district area)			
	(1)	(2)	(3)	(4)
Panel A: First-stage estimates				
Distance to closest ARZ of ce (100miles)	-0.123*** (0.0125)	-0.0755*** (0.0130)	-0.0746*** (0.0129)	-0.102*** (0.0127)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Clusters	1,570	1,570	1,570	1,570
Mean Dep. Var.	0.136	0.136	0.136	0.136
F-Statistic of excluded instrument	96.06	33.88	33.44	63.18
	Number of Effective Parties (2002-2010)			
	(1)	(2)	(3)	(4)
Panel B: Second-stage 2SLS estimates				
Land reform exposure (%district area)	4.184*** (0.706)	3.304*** (1.280)	2.767** (1.240)	2.257*** (0.871)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Clusters	1,570	1,570	1,570	1,570
Mean Dep. Var.	4.741	4.741	4.741	4.741

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 7: IV estimates-Land Reform exposure and District's Turnout

	Land reform exposure (%district area)			
	(1)	(2)	(3)	(4)
Panel A: First-stage estimates				
Distance to closest ARZ of ce (100miles)	-0.122*** (0.0125)	-0.0754*** (0.0130)	-0.0746*** (0.0129)	-0.102*** (0.0127)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	6,259	6,259	6,259	6,259
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.137	0.137	0.137	0.137
F-Statistic of excluded instrument	95.28	33.63	33.26	41.38
	District's Turnout (2002-2014)			
	(1)	(2)	(3)	(4)
Panel B: Second-stage 2SLS estimates				
Land reform exposure (%district area)	0.167*** (0.0233)	0.244*** (0.0554)	0.242*** (0.0525)	0.264*** (0.0479)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	6,258	6,258	6,258	6,258
Clusters	1570	1570	1570	1570
Mean Dep. Var.	84.5	84.5	84.5	84.5

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel(1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 8: IV estimates-Land Reform exposure and Other measures of Political Competition

	Num. Parties (1)	Num.Eff.Parties (2)	HH Index (3)	TV Index (4)	Hyperfrag. Index (5)
Land reform exposure (%district area)	1.433 (0.978)	2.767** (1.240)	-0.118* (0.0657)	-0.683*** (0.209)	4.989*** (1.623)
Geographic controls	Yes	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes	Yes
State capacity controls	Yes	Yes	Yes	Yes	Yes
Agrarian Reform Zone FE	Yes	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes	Yes
Observations	4,710	4,710	4,710	3,140	4,710
Clusters	1570	1570	1570	1570	1570
Mean Dep. Var.	3.641	4.741	0.239	0.180	5.486
F-Statistic of excluded instrument	33.44	33.44	33.44	33.35	33.44

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel(1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 9: OLS estimates-Land Reform exposure and Candidate's Education

	Years of Education (2002-2014)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	1.078*** (0.186)	0.698*** (0.193)	0.233 (0.163)	0.342** (0.160)
Sociodemographic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	31,115	31,115	31,115	31,858
Clusters	1570	1570	1570	1570
Mean Dep. Var.	14.110	14.110	14.110	14.106
F Stat	31.811	19.188	60.669	77.495

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include candidate's age, gender and ethnicity. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 10: OLS estimates-Land Reform exposure and Candidate's Experience

	Party Experience (years) (2002-2014)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	0.147 (0.0985)	-0.0165 (0.115)	-0.125 (0.107)	0.0185 (0.101)
Sociodemographic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	33,904	33,904	33,904	34,666
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.749	0.749	0.749	0.750
F Stat	11.009	7.279	11.326	17.631

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include candidate's age, gender and ethnicity. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$



Table 11: IV estimates-Land Reform exposure and Candidate's Education (years)

	Years of Education (2002-2014)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	9.002*** (1.443)	13.38*** (3.396)	10.63*** (2.787)	6.936*** (1.393)
Sociodemographic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	31,115	31,115	31,115	31,858
Clusters	1570	1570	1570	1570
Mean Dep. Var.	14.11	14.11	14.11	14.11
F-Statistic of excluded instrument	57.43	19.75	20.02	44.60

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include candidate's age, gender and ethnicity. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 12: IV estimates-Land Reform exposure and Candidate's Education (levels)

	Years Edu. (1)	Secondary (2)	Technical (3)	University (4)
Land reform exposure (%district area)	10.63*** (2.787)	-0.998*** (0.279)	-0.518*** (0.188)	1.761*** (0.457)
Sociodemographic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	Yes	Yes	Yes	Yes
Lasso-selected controls	Yes	Yes	Yes	Yes
Agrarian Reform Zone FE	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes
Observations	31,115	31,115	31,115	31,115
Clusters	1570	1570	1570	1570
Mean Dep. Var.	14.11	0.296	0.186	0.464
F-Statistic of excluded instrument	20.02	20.02	20.02	20.02

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include candidate's age, gender and ethnicity. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel(1961) and illiteracy rates (1961). \*\*\* p< 0.01, \*\* p< 0.05, \* p< 0.1

Table 13: IV estimates-Land Reform exposure and Candidate's Experience (years)

	Years of Party Experience (2002-2014)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	2.385*** (0.591)	3.628*** (1.257)	2.655** (1.120)	2.328*** (0.873)
Sociodemographic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	33,904	33,904	33,904	34,666
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.749	0.749	0.749	0.750
F-Statistic of excluded instrument	61.14	20.94	21.06	26.54

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from Belloni et al. (2014) to select controls from the full set of controls. Geographic controls include candidate's age, gender and ethnicity. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel(1961) and illiteracy rates (1961). \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table 14: IV estimates-Land Reform exposure and Other measures of Candidate's Experience

	Years elected	Years mayor	Public Exp.	Private Exp.	National Party
	(1)	(2)	(3)	(4)	(5)
Land reform exposure (%district area)	0.544 (0.810)	-0.249 (0.670)	-0.386** (0.193)	1.745*** (0.409)	0.304* (0.165)
Geographic controls	Yes	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes	Yes
State capacity controls	Yes	Yes	Yes	Yes	Yes
Agrarian Reform Zone FE	Yes	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes	Yes
Observations	33,904	33,904	28,437	28,437	35,078
Clusters	1570	1570	1570	1570	1570
Mean Dep. Var.	1.572	1.024	0.589	0.437	0.435
F-Statistic of excluded instrument	21.06	21.06	19.88	19.88	21.26

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from Belloni et al. (2014) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel(1961) and illiteracy rates (1961). \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table 15: IV estimates-Land Reform exposure and Indigenous Representation

	Native surnames		Representative (p75)	
	Candidate (1)	Elected (2)	Candidate (3)	Elected (4)
Land reform exposure (%district area)	0.164 (0.114)	0.299** (0.151)	0.115 (0.133)	0.285** (0.131)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	Yes	Yes
Agrarian Reform Zone FE	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes
Observations	35,078	5,643	35,045	5,639
Clusters	1570	1570	1569	1569
Mean Dep. Var.	0.0805	0.0797	0.102	0.0966
F-Statistic of excluded instrument	21.24	35.55	45.16	54.96

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include candidate's age, gender and ethnicity. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel(1961) and illiteracy rates (1961). \*\*\* p< 0.01, \*\* p< 0.05, \* p< 0.1

Table 16: IV estimates-Land Reform exposure and Other Demographics

	Female		Age	
	Candidate (1)	Elected (2)	Candidate (3)	Elected (4)
Land reform exposure (%district area)	0.194** (0.0903)	0.164 (0.121)	16.51*** (5.225)	18.71*** (5.849)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	Yes	Yes	Yes	Yes
Agrarian Reform Zone FE	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes
Observations	35,078	5,643	35,078	5,643
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.0614	0.0289	45.62	43.99
F-Statistic of excluded instrument	21.28	35.64	21.23	35.74

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones and election fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include candidate's age, gender and ethnicity. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 17: Falsi cation Test - Central and Peripheral Agrozones

	Num. Effective Parties 2002-2010			
	Central Agrozones (1)	(2)	Peripheral Agrozones (3)	(4)
Distance to closest ARZ of ce (100miles)	3.957*** (0.863)	1.679* (0.929)	-71.41 (62.80)	-60.17 (48.16)
Geographic Controls	Yes	Yes	Yes	Yes
Agrarian Reform Zone FE	No	Yes	No	Yes
Election FE	No	Yes	No	Yes
Observations	4,332	4,332	378	378
Clusters	1444	1444	126	126
Mean Dep. Var.	4.786	4.786	4.224	4.224
F-Statistic	65.07	44.16	1.325	1.646

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Distance to closest ARZ is the distance in hundreds of miles from each district centroid to the closest Agrarian Reform Zone of ce. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 18: IV estimates- Placebo instruments: Proximity to Urban Centers 1961

	Dist. > 100K city (pop. weighted) (1)	Dist. nearest capital (2)
Num. Effective Parties	2.849 (8.826)	39.34 (190.4)
F-Statistic excluded instrument	1.075	0.0434
District's Turnout	0.909 (0.865)	-8.837 (42.72)
F-Statistic excluded instrument	1.079	0.0428
Years of Education	18.12 (20.59)	-90.02 (256.0)
F-Statistic excluded instrument	0.837	0.124
Years of Party Experience	3.942 (5.437)	-14.94 (58.06)
F-Statistic excluded instrument	1.066	0.0665
Sociodemographic controls	Yes	Yes
Geographic controls	Yes	Yes
Institutional controls	Yes	Yes
State capacity controls	Yes	Yes
Agrarian Reform Zone FE	Yes	Yes
Election FE	Yes	Yes

Clustered standard errors at the district level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Distance to closest ARZ is the distance in hundreds of miles from each district centroid to the closest Agrarian Reform Zone of ce. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 19: IV estimates- Placebo treatment: Expropriations of Uncultivated Land

	Num. Effective Parties (2002-2010)			
	(1)	(2)	(3)	(4)
Uncultivated land expropriations (%district area)	-599.3 (2,131)	-117.9 (182.2)	-72.47 (86.82)	-87.06 (93.43)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Clusters	1,570	1,570	1,570	1,570
Mean Dep. Var.	4.741	4.741	4.741	4.741
F-Statistic of excluded instrument	0.0791	0.440	0.764	0.880

Clustered standard errors at the district level. Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls: if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel (1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$



Table 20: First-stage - CLustered Standard Errors at Agrozone-level

	Land reform exposure (%district area)			
	(1)	(2)	(3)	(4)
Distance to closest ARZ of ce (100miles)	-0.123** (0.0492)	-0.0755* (0.0393)	-0.0746* (0.0352)	-0.0775** (0.0305)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Observations	1,570	1,570	1,570	1,570
Clusters	13	13	13	13
Mean Dep. Var.	0.136	0.136	0.136	0.136

Clustered standard errors at the agrozone level. Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Distance to closest ARZ is the distance in hundreds of miles from each district centroid to the closest Agrarian Reform Zone of ce. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 21: IV estimates - Spatially Corrected Standard Errors by proximity thresholds

	Number of Eff. Parties (2002-2010)			
	50km (1)	100km (2)	200km (3)	500km (4)
Distance to closest ARZ of ce (100miles)	2.767* (1.447)	2.767* (1.605)	2.767* (1.477)	2.767** (1.139)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	Yes	Yes	Yes	Yes
Lasso-selected controls	Yes	Yes	Yes	Yes
Agrarian Reform Zone FE	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Kleibergen-Paap F-stat	29.039	22.242	11.691	12.758

Land reform exposure is the share of land reform expropriated hectares in the district 1969-1980 with respect to its total area. Distance to closest ARZ is the distance in hundreds of miles from each district centroid to the closest Agrarian Reform Zone of ce. Regressions control for geographic, institutional, and state capacity covariates, and include Agrarian Reform Zones fixed effects. However, estimates with Lasso-selected controls use lasso methods from [Belloni et al. \(2014\)](#) to select controls from the full set of controls. Geographic controls include elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls include if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillos. State capacity controls include log state personnel (1961) and illiteracy rates (1961).\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 22: Fuzzy RDD Specification - Land reform impact exploiting ARZ's core-boundary discontinuity

	NEP 2002-2010 (1)	NEP 2002-2010 (2)	NEP 2002 (3)	NEP 2006 (4)	NEP 2010 (5)
Conventional	10.79** (4.341)	8.110*** (2.884)	11.25*** (4.323)	6.451** (2.883)	5.450*** (1.129)
Bias-corrected	9.858** (4.341)	8.030*** (2.884)	10.66** (4.323)	5.626* (2.883)	5.099*** (1.129)
Robust	9.858* (5.238)	8.030** (3.741)	10.66* (6.382)	5.626 (3.555)	5.099** (2.092)
Geographic controls	Yes	Yes	Yes	Yes	Yes
Covariates	No	Yes	Yes	Yes	Yes
Observations	3,006	3,006	1,002	1,002	1,002
Bandwidth-left	29.26	30.35	32.19	32.23	30.04
Bandwidth-right	36.98	50.91	48.05	60.16	75.65
Treated Obs.	408	426	149	149	142
Control Obs.	447	609	195	228	269

The specification follows [Albertus \(2020\)](#), taking the number of effective parties for elections 2002-2010 as dependent variable. The running variable is distance from agrarian reform zonal core boundary. Robust p-values in parentheses. Each model reports the main optimal bandwidth on either side of the cutoff, the number of treated observations within the bandwidth, and the number of control observations within the bandwidth. Geographic controls include a second-order polynomial in district latitude and longitude, the latitude and longitude coordinates of the nearest point along the zonal border cutoff, and boundary segment fixed effects.\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

Table 23: IV estimates - Candidates linked to main economic groups

	Economic elite last name (1983-2000)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	-0.0808*** (0.0313)	-0.164** (0.0717)	-0.180** (0.0734)	-0.163*** (0.0546)
Sociodemographic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	35,078	35,078	35,078	35,078
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.0223	0.0223	0.0223	0.0223
F-Statistic of excluded instrument	61.18	21.06	21.26	26.56

Clustered standard errors at the district level. The dependent variable is based on a last-name matching with Figueroa(2001). Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls: if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel(1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014).\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

Table 24: IV estimates - Accountability mechanisms prone to political capture

	Recall Ref. in previous election(2002-2014)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	-0.353*** (0.105)	-0.441** (0.205)	-0.372* (0.204)	-0.190 (0.166)
Sociodemographic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	6,252	6,252	6,252	6,252
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.147	0.147	0.147	0.147
F-Statistic excluded instrument	94.89	33.63	33.23	39.03

Clustered standard errors at the district level. The dependent variable is equal to 1 if a recall referendum was implemented in the previous election. Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel(1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014).\*\*\*p<0.01, \*\*p< 0.05, \* p< 0.1

Table 25: IV estimates - Municipal Budget

	Log. Municipal Budget 2002-2014			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	5.709*** (0.694)	7.567*** (1.500)	6.474*** (1.314)	6.709*** (1.065)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	5,987	5,987	5,987	5,987
Clusters	1570	1570	1570	1570
Mean Dep. Var.	14.72	14.72	14.72	14.72
F Stat	96.11	33.51	33.08	51.30

Clustered standard errors at the district level. Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls: if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel(1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014).\*\*\*-p<0.01, \*\* p< 0.05, \* p< 0.1

Table 26: IV estimates - Agrarian-based social organization

	Particip. in peasant-based organization 1994 (%)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	0.142*** (0.0526)	0.359*** (0.131)	0.319** (0.130)	0.372*** (0.122)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Clusters	1,570	1,570	1,570	1,570
Mean Dep. Var.	0.0563	0.0563	0.0563	0.0563
F-Statistic	96.58	33.94	33.67	46.43

Clustered standard errors at the district level. Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls: if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel (1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 27: IV estimates - Participation in rondas campesinas

	Particip. in ronda campesina 1994 (%)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	0.0965 (0.0809)	0.0190 (0.135)	0.135 (0.135)	0.250** (0.100)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,689	4,689	4,689	4,689
Clusters	1563	1563	1563	1563
Mean Dep. Var.	0.0824	0.0824	0.0824	0.0824
F-Statistic	96.58	33.94	33.67	62.95

Clustered standard errors at the district level. Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls: if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel (1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$



Table 28: IV estimates - Emergency Zone Declaration 1990

	Emergency zone declaration 1990			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	-1.245*** (0.226)	-1.479*** (0.380)	-1.570*** (0.394)	-0.244 (0.265)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Clusters	1570	1570	1570	1570
Mean Dep. Var.	0.565	0.565	0.565	0.565
F-Statistic	96.06	33.88	33.44	53.32

Clustered standard errors at the district level. Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls: if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel (1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 29: IV estimates - Voting Shares Marxist Left (1980)

	Marxist Left Vote Share 1980 (%)			
	(1)	(2)	(3)	(4)
Land reform exposure (%district area)	0.335*** (0.0628)	0.252** (0.107)	0.257** (0.109)	0.322*** (0.0784)
Geographic controls	Yes	Yes	Yes	Yes
Institutional controls	Yes	Yes	Yes	Yes
State capacity controls	No	No	Yes	Yes
Lasso-selected controls	No	No	No	Yes
Agrarian Reform Zone FE	No	Yes	Yes	Yes
Election FE	No	No	Yes	Yes
Observations	4,710	4,710	4,710	4,710
Clusters	1,570	1,570	1,570	1,570
Mean Dep. Var.	0.156	0.156	0.156	0.156
F-Statistic	96.46	33.45	32.81	62.87

Clustered standard errors at the district level. Geographic controls: elevation, slope, cultivable land, district's area, latitude, longitude. Institutional controls: if the district is inside a mita zone, the number of previous social movements, communal uprisings and caudillo presence. State capacity controls: log state personnel(1961) and illiteracy rates (1961). Lasso-selected controls based on Belloni et al (2014).\*\*\*-p<0.01, \*\* p< 0.05, \* p< 0.1

Table 30: Cohort-based difference-in-differences - Public Trust in Institutions (indexes)

	(1)	(2)	(3)	(4)	(5)	(6)
	Public	Public	Working	Working	Political	Political
	Institutions	Institutions	Democracy	Democracy	Parties	Parties
Fully Exposed (0–5)	-0.037 (0.054)	0.015 (0.031)	0.013 (0.041)	-0.034 (0.025)	-0.038 (0.070)	-0.009 (0.040)
Partially Exposed (6–11)	-0.027 (0.054)	0.025 (0.030)	0.034 (0.038)	-0.014 (0.020)	-0.041 (0.069)	-0.012 (0.036)
Weakly Exposed (12–17)	-0.034 (0.053)	0.018 (0.025)	0.053 (0.035)	0.005 (0.018)	-0.045 (0.067)	-0.016 (0.032)
Not Exposed (18–23)	-0.056 (0.049)		0.050 (0.031)		-0.031 (0.061)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	72,412	72,412	64,894	64,894	72,412	72,412
R-squared	0.132	0.132	0.043	0.043	0.110	0.110
Districts	990	990	990	990	990	990
District of birth xed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year of birth xed effects	Yes	Yes	Yes	Yes	Yes	Yes
Province time trends	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by district of birth in parentheses. The sample is composed of individuals aged 0 to 24 at the year land reform (LR) began in their district of birth. The dependent variables are indexes of trust in public institutions, democracy and political parties. The explanatory variables that capture the impact of land reform are interaction terms between dummies indicating age group at the beginning of land reform in their district of birth and the intensity of land reform in the district of birth. District xed effects, year of birth xed effects, and a province level cubic trend are included but not reported. \*\*\* p < 0.01, \*\* p< 0.05, \* p< 0.1

Figure 1: Number of Land Reform Expropriation Decrees 1969-1980

Source: [Albertus \(2013\)](#).

Figure 2: The argument - Land redistribution and local politics

Figure 3: Agrarian Reform Zones and Regional Administrative Borders

Source: [Albertus \(2020\)](#).

Figure 4: District-level Land Reform Intensity

Source: [Albertus et al. \(2020\)](#). Notes: Colored district are those from coastal and highland regions (1,402 districts from 1972).

