

From Targeted Private Benefits to Public Goods: Land, Distributive Politics and Changing Political Conditions in Colombia

Abstract

This paper analyzes how changes in political conditions affect distributive politics. We study the case of Colombia, focusing on the strategic allocation of land in relation to the electoral cycle. Relying on over 55.000 municipality-year observations on land allocations, exogenous timing of elections and sociodemographic controls, we show that there is a political land cycle (PLC), and that this cycle is dependent on the local political conditions in place. We analyze the changes in the PLC derived from the implementation of a deep political reform that increased political competition and the fiscal and administrative capacity of the state, doing so heterogeneously across municipalities. We show that the PLC decreased by half after the reform, with this reduction being stronger in municipalities in which political competition and fiscal and administrative capacity increased the most. The heterogeneous reduction in the PLC does not appear to stem from an aggregate weakening of distributive politics, but rather, from a re-composition of the distributive politics portfolio: away from the allocation of private targeted benefits like land, and towards the strategic allocation of public goods. We discuss the incentive and capacity effects explaining this re-composition likely affecting the relative costs and benefits of different types of distributive politics resources. The results evidence the importance of understanding not only the territorial dimension of distributive politics, but also how the specific traits of resources determine distributive politics strategies and their resilience to contextual changes.

Keywords: Distributive politics; electoral cycles; political reforms; land reform; targeted benefits; Colombia.

JEL: D72, D73, H410, H420, L33, Q15

1. Introduction

The allocation of public resources can be affected by electoral interests leading to deviations from optimal targeting based on objective needs or rights. The literature on distributive politics shows that allocations can be strategically targeted towards certain groups of people or localities (for a review see Golden and Min, 2013), and can also be strategically timed, generating political budget and business cycles (for reviews see Mandon and Cazals, 2018; Dubois, 2016). Part of this literature addresses how political contextual conditions affect distributive politics, with a special focus on the effect of democracy (Eibl and Lynge-Mangueira, 2017; Burgess et al. 2015; González, 2012; Brender and Drazen, 2005), or aspects related to stronger democracies, such as media freedom and government transparency (Akmedov and Zhuavskaya, 2004).

This paper focuses on how changes in political conditions leading to increases in political competition and in the fiscal and administrative capacity of the state, affect distributive politics strategies. We study the case of Colombia, where the drafting of a new constitution at the beginning of the 1990s consolidated a process of deep political reform that increased political competition and fiscal and administrative state capacity. We analyze how these changes affected a particular form of distributive politics: the strategic allocation of land around elections, that is, the political land cycle (PLC). To carry out this analysis, we build a subnational panel dataset for over 1.100 municipalities between 1960 and 2014. We profit from the timing of elections being fixed and pre-determined by law, thus being exogenous to land allocations. We also profit from the political reform being the result of a national level generalized claim, exogenous to specific rural issues around land or other resources, as well as to particular dynamics at the municipality level.

We first provide evidence of the existence of a PLC, showing that land allocations are systematically higher in electoral years, relative to non-electoral ones. We then show that the PLC is dependent on the political conditions in place: after the political reform, its magnitude is reduced by half. We show that this reduction is heterogeneous throughout space, according to the strength of the micro-level (subnational) changes in political conditions. The PLC decreased more in municipalities that experienced a stronger increase in political competition as a result of the political reform; what we term the *incentive effect*. It also decreased more in municipalities that experienced higher post-reform increases in the state's fiscal and administrative capacity; what we term the *capacity effect*.

Regarding the incentive effect, one could expect political competition to overall increase the incentives to engage in distributive politics (i.e. elections become more threatening, increasing the need to mobilize voters via strategic allocations); however, this effect likely depends on the type of distributive politics resource. We argue that political competition weakens the incentives to mobilize voters via targeted private benefits (like land), which are allocated individually to a restricted group of voters; while in contrast, it strengthens the incentives to strategically allocate public goods that appeal to a broader and more heterogeneous set of voters (Diaz-Cayeros et al. 2016), while also being more visible, emitting a stronger competence signal¹, and being reversible. As such, increases in political competition can originate a re-composition of the distributive politics portfolio away from targeted private benefits and towards public goods.

We add to this argument that the re-composition of the distributive politics portfolio requires not only the incentives, but also the fiscal and administrative capacity to effectively allocate one resource or another. This is especially relevant for the strategic allocation of public goods, characterized by being more expensive and complex to provide than private allocations such as a land title. Consistent with this, we show that while the PLC became weaker after the

changes in the local political conditions, the political cycle in spending on public goods became stronger.

We test the robustness of our results to different estimation strategies, to the exclusion of outliers, and to the inclusion of additional socioeconomic controls. We also discard alternative explanations for the reduction in the PLC, showing that it is not explained by increases in land dispossessions associated with the escalation of the armed conflict, nor by negative economic shocks derived from the process of economic liberalization. We also discard the reduction resulting from resource exhaustion, or from modifications in the land reform laws.

This paper contributes to the literature analyzing how political conditions affect distributive politics strategies, in particular the strategic timing of allocations. Most studies analyzing this aspects, rely on cross-country variations in variables capturing dichotomous or composite indexes of democracy (Mandon and Cazals, 2018; Eibl and Lynde-Mangueira, 2017; Klomp and de Haan, 2013; Shi and Svensson, 2006; Brender and Drazen, 2003), while fewer provide evidence on the role of within-country variations in political conditions (Labonne, 2016; Akmedov and Zhuavskaya, 2004; González, 2002). We contribute to this literature by providing evidence on the specific micro-level (subnational) political conditions affecting the strategic timing of resources, in relation to changes in incentives and in the capacity of politicians to strategically allocate different type of resources.

We contribute as well by elaborating a framework aimed at analyzing how the particularities of resources affect their potential costs and benefits as distributive politics resources, an aspect that has received scarce attention in the literature (Albertus, 2013). We also add to the literature by showing that changes in political conditions associated with more democratic settings (e.g. increases in political competition or in the state's fiscal and administrative capacity), can lead to a re-composition of the distributive politics portfolio, rather than to its disappearance.

Our paper also contributes to the emerging literature on the political economy of land (Albertus et al., 2016; Albertus, 2015a; 2015b; Boone, 2011, 2009; Bardhan and Mookherjee, 2010) by characterizing land as a distributive politics resource, and by providing empirical evidence on the PLC, as well as on the determinants of its heterogeneity across time and space.

The remaining of this article is structured as follows: the next section deepens on the theoretical framework linking distributive politics, land and local political conditions. The third section describes the setting, and the fourth details the econometric strategy. Section five presents the results, and section six discusses the robustness tests. In section seven we examine alternative explanations, and in the last section, we conclude.

2. Distributive politics, land and changing political conditions

The literature on distributive politics analyzes how political interests affect the allocation of resources. A strand of this, focuses on the strategic allocation of resources across time, generating political budget cycles and political business cycles (Nordhaus, 1975; Rogoff, 1990; Brender and Drazen, 2005), while another strand analyzes strategic allocations directed towards identifiable groups of voters or localities, depending on ethnic, ideological, or partisan considerations, with the iconic focusing on whether distributive politics targets core vs. swing voters (Dixit and Londregan; 1996; Lindbeck and Weibull; 1987; Cox and McCubbins; 1986). These models have the underlying assumption that voters can be bought, and that some types of voters can be bought at a lower cost than others. In this paper, we focus on other factors that affect the costs (as well as the benefits) of distributive politics strategies: the nature of the resource to be strategically allocated and the contextual political conditions. We discuss these in the following subsections.

2.1 Land as a distributive politics resource

There are relatively few studies in the distributive politics literature analyzing how the specific traits of a resource condition its political use. Albertus (2013) analyzes differences based on how reversible a transfer is, and on the potential long-term benefits it can generate to the recipient. In turn, the study of Drazen and Eslava (2010) analyzes differences in how visible a resource is. To the best of our knowledge, however, there has not been a systematic and detailed analysis of the various resource traits that determine its potential costs and benefits as a distributive politics resource. We elaborate a conceptual framework to address this, and, based on it, we characterize land as a distributive politics resource.

Table 1. Attributes that characterize land as a distributive politics resource

<p>Allocation type</p>	<p>Type of good: Private and particularistic. Land is a rivalrous and excludable good allocated to a particular individual, rather than to a group of individuals or a geographic constituency, as with public goods.</p> <p>Discretionality. High. Rules of who is subject to receiving land are usually discretionary. Even if there are formal allocation criteria (e.g. being landless), these are set subjectively and can be bypassed by bureaucrats or politicians.</p> <p>Visibility: Low. The allocation of land is only visible to the individual recipient. As a result, voting <i>spillovers</i> are potentially low, relative to for example, the allocation of schools, hospitals, or other public services that are visible to the whole community.</p> <p>Durability: Permanent. A land title does not run out, in contrast to, for example, a space in a school for a school year.</p> <p>Reversibility: Non-reversible. The allocation of a land title cannot be reversed (at least in contexts of secure property rights), in contrast to, for example, a space in a school.</p> <p>Signal potential: Unclear. The competence signal (Rogoff, 1990) that politicians project when allocating land is weaker than that of a more complex allocation (e.g. building a hospital or providing another public good). The preference (right vs. left) signal (Drazen and Eslava, 2010) projected is not clear, as it would depend on the nature of land reform: it could signal right-wing preferences (e.g. granting secure property rights) or left-wing ones (e.g. redistributive land reform).</p> <p>Allocation constraints: Medium. There are in general no formal constraints on land allocations, in contrast to, for instance, common fiscal rules constraining public spending. There is, however, a physical constraint: the geographical stock of land, which can entail resource exhaustion.</p>
<p>Cost</p>	<p>Fiscal: Low. Distributive land reforms allocate publicly owned land, not requiring fiscal liquidity. Redistributive land reforms can entail a fiscal cost if the land to be</p>

	<p>redistributed needs to be bought. Anyhow, because of the small impact on the budget deficit, the punishment from fiscal conservative voters (Brender and Drazen, 2005) should be low.</p> <p>Administrative: Low. The allocation process of a land title is relatively simple, in relation to the allocation of other resources, for example, building a hospital.</p> <p>Economic: Low. Land titles allocated through distributive land reforms usually require transferred land to be put to productive use, without disrupting production patterns. Redistributive land reforms relocating land from large landholdings in favor of small ones could entail economic costs (Albertus et al. 2016).</p> <p>Political: Low, in the case of distributive land reform, which does not require politically costly measures such as expropriation.</p>
<p>Benefit</p>	<p>Economic: High. Land is the main productive asset for agricultural activity, generating increases in productivity and income (Keswell and Carter, 2014; Banerjee, Gertler and Ghatak, 2002). Moreover, its value tends to appreciate over time. The above makes the economic benefit of land allocations high for both recipients and the general population, as allocations can generate positive economic spillovers for the community.</p> <p>Social: Access to land can reduce poverty (Besley and Burgess, 2000) and inequality (Faguet et al. 2020), generating positive benefits in terms of social inclusion.</p> <p>Political (for the politician): Potentially high.</p> <ul style="list-style-type: none"> - Turnout: Possible increase. Accessing property rights can increase turnout through a “symbolic effect” of rights recognition that legitimizes claim-making and engagement in politics (Faguet et al., 2020; Kopas, 2018), and entails a payoff in terms of peasant identity and mobilization (Thiesenhusen, 1995). - Ideological position shift: Possible. There is evidence of voter shift to the right in Mexican land beneficiaries as access to property rights can be associated with pro-market behavior (De Janvry et al., 2014). - Reciprocity: Unclear. Land allocations are a one-off permanent transfer that can lead to a credible commitment problem (the voter not voting for the party in future elections). However, given the high benefit it generates to the recipient, and given its durability, land could generate a strong and lasting commitment. Moreover, reciprocity can be achieved and sustained through provisions of complementary services like credit (Albertus et al. 2016), or through a “credible punishment” strategy, with a threat of taking the land away.

The above characterization of land as a distributive politics resource shows that the existence of a political land cycle is not straightforward. On the one hand, politicians have incentives to strategically allocate land, as voters value land highly, and as its allocation can generate spillovers in economic growth and social inclusion. Moreover, land allocations entail low fiscal and administrative costs, relative to allocating more expensive and complex resources like public goods. These positive conditions can explain existing evidence of land being used for

political purposes, for example, land allocations being higher around elections in West Bengal (Bardhan and Mookherjee; 2010) and Mexico (Albertus et al. 2016), or land being strategically allocated to core voters in Venezuela (Albertus 2015a), Chile (Albertus 2015b) as well as in Kenya, Cote d'Ivoire and the Democratic Republic of Congo (Boone, 2009; Boone, 2011).

On the other hand, however, land allocations face physical limits and can only be targeted towards a reduced number of voters. Also, the allocation has a low visibility and the transfer can entail a credible commitment problem (once land is granted, how to assure voter reciprocity?). The above can reduce the incentives of politicians to use land as a distributive politics resource. In any case, the relative costs and benefits of allocating a resource are dynamic, and can be affected by changes in contextual political conditions. We address this issue in the next subsection.

2.2 Changing political conditions and the use of land as a distributive politics strategy

When analyzing how political contextual conditions affect distributive politics, in particular, political budget and business cycles, various studies have focused on the role of democracy. Mandon and Cazals' (2018) meta-regression analysis shows that older and stronger democracies are less prone to political budget cycles, backing Brender and Drazen's (2005) study. There is less clarity, however, regarding the specific mechanisms that account for these reductions. Akmedov and Zhuavskaya (2004) analyze the role of media freedom and government transparency, while Persson and Tabellini (2003) address differences arising from electoral rules. In this paper, we focus on the role of within-country variations in political competition, and in the fiscal and administrative capacity of the state.

The study of Boone and Kriger (2010) in Sub-Saharan Africa relates increases in land patronage to the introduction of multiparty elections that increased political competition, requiring politicians to work harder at mobilizing constituent support. Increased political

competition might overall increase the incentives of politicians to engage in distributive politics, what we term the *incentive effect*. This effect, however, most likely depends on the relative costs and benefits of strategically allocating one type of resource or another. As such, there can be re-compositions of the distributive politics portfolio; that is, decreases in the political use of some resources, accompanied by increases in the use of others.

The re-composition of distributive politics likely depends not only on changes in incentives but also on changes in the fiscal and administrative capacity to effectively allocate different distributive politics resources; what we term the *capacity effect*. Indeed, Boone and Kriger (2010) find as a second explanation for the increase in land patronage in Sub-Saharan Africa, the diminishing fiscal capacity of the state, what made land an attractive patronage resource, as it did not require large fiscal investments. This evidences how the *incentive effect* interacts with the *capacity effect*.

In a context in which political competition increases *together* with fiscal and administrative capacity, land patronage could decrease rather than increase, for instance, if this form of distributive politics is substituted by the strategic allocation of other goods (e.g. public goods). Politicians could choose to re-compose their distributive politics portfolio away from private targeted benefits (like land) and towards public goods for a variety of reasons. Diaz-Cayeros et al. (2016) argue that the “diversification of electoral investments” towards public goods occurs when a party’s core base of support is not sufficient to win elections (as in contexts of stronger political competition), and thus, politicians have incentives to mobilize support from multiple groups of voters with varying political preferences, what is more easily done through allocations of public goods that appeal to a broader and more heterogeneous set of voters. Moreover, the allocation of public goods could yield higher benefits for politicians, as they are more visible and can benefit specific (yet large) groups of voters (Drazen and Eslava, 2010).

In addition to the above, public goods emit a stronger competence signal, are reversible, and generate large economic and social benefits (spillovers) to large groups of people.

Another aspect that might favor the re-composition of distributive politics relates to coordination costs. The allocation of targeted private benefits to individuals is more reliant on specific patronage networks and on political intermediaries required for identifying the specific beneficiaries and allocating the particularistic benefits to these. Coordination costs could increase with political competition, as the demand for political intermediaries increases (Klomp and de Haan, 2013). Note that coordination costs are less relevant for public goods that are directed to a broad set of voters.

It is also worth noting that the re-composition of distributive politics should depend on the value voters give to a particular type of resource, affecting the potential electoral benefit that a politician can derive from strategically allocating it. This implies that responsiveness to the demands of voters should also affect the incentives for engaging in one form of distributive politics or another. One way in which political responsiveness should increase is through political competition.

3. Setting

3.1 Land and politics in Colombia

Land reform in Colombia has mainly consisted of the state allocating public vacant landholdings (*baldíos*) to private hands. During the last century, over 23 million hectares, representing almost 40% of the country's productive land, were allocated through this scheme, aiming at expanding the agricultural frontier and at reducing poverty and social tensions. This paper addresses another relevant, yet understudied purpose of land reform: cultivating political support.

Figure 1 shows the dynamics of land allocations throughout the study period, evidencing a high variance throughout time, and a coincidence of allocation peaks and electoral years (marked on the x-axis).

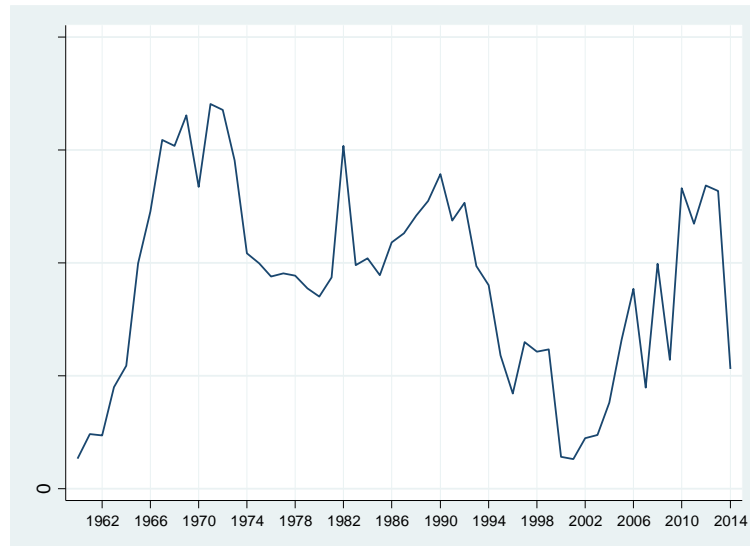


Figure 1. Number of land allocations across time
Source: Incoder.

Variations in land allocations come from both the demand and the supply sides. Land allocations are in principle demand-driven, with a person requesting the formal allocation of a plot of public land to the regional office of the land agency. The supply effect derives from this agency having discretionary power to determine whether or not to allocate the requested land, and when to do so. In theory, this decision is made according to fixed and public rules; in practice, however, political considerations can relegate these. As Deininger (1999) states, the selection of beneficiaries of the Colombian land program has often been arbitrary and ad hoc, *de facto* being based on political pressure. Indeed, hundreds of disciplinary processes have taken place due to corruption in land allocations, as documented in a report of the Attorney General's Office (Procuraduría General de la Nación, 2015). Another source of discretion in land allocations relates to its timing. The land agency decides how long an approval process takes (it can take up to two years) and also decides when and in which areas to promote the

program (e.g. through mass titling campaigns), as well as where to focalize its limited administrative capacity (Proyectamos, 2015).

The political interference in land allocations is facilitated by the operational structure of the land agency², and in particular, by how regional managers were appointed: by the national office, based on a shortlist of candidates proposed by local politicians. As an expert in Colombian land reform puts it “*clearly the Governor is not going to carry out written tests (for the selection of regional managers), he is going to name those who granted him votes*”. To which he adds “*indeed, a gamonal, a landowner, could colonize some (public vacant) land, exploit it and then go to the regional manager, who was probably his friend, and he gave the title to him (...) clearly there is a direct relationship between elections and political issues, and the granting of public lands*”³. Indeed, land experts in the country have long denounced that land and politics are deeply connected (Machado, 2001; Mondragon; 2001).

3.2 Changing political institutions in Colombia

Colombia saw a marked change in political conditions at the beginning of the 1990s, when the drafting of a new constitution consolidated a process of political opening, decentralization, and strengthening of the state’s fiscal and administrative capacity. The political reform stemmed from a national consensus regarding the need for a deep and broad change, being a nationwide demand (Cárdenas et al. 2008). As such, it was exogenous to particular municipality dynamics, as well as to land issues or other peasant/rural specific claims⁴.

The reform introduced multiparty political competition: candidates were now allowed to run for office without the support of a party and also started receiving partial public financing for campaigns and the operation of parties (Bejarano and Pizarro, 2005). This marked a departure from the closed bipartisan system ruled by the hegemonic Liberals and Conservatives, who had even established a formal power-sharing agreement (the National Front⁵), consisting of the

fixed alternation of presidential power every four years and of an equal division of parliamentary seats, ministerial posts, and the judiciary, significantly constraining political competition⁶.

As evidenced in Table 2, after the reform, political competition increased significantly, measured either as the number of political parties, the Effective Number of Political Parties (ENCP)⁷, or the share of municipalities with a majority win.

Table 2. Differences in Means - Political Competition before and after the political reform

Variable	Mean		Difference
	Before	After	
Number of parties	3.748	10.482	***
ENCP	1.712	2.460	***
Share of municipalities with majority win	92.151	68.460	***

Estimates for Presidential elections. *** p<0.01, ** p<0.05, * p<0.1. The number of parties includes political movements. Share estimated for national election runoffs, using data from the electoral database of CEDE.

Political competition increased as well with respect to the competing arena: mayoral and governor elections were introduced, taking political competition to the local level. This ended the previously centralized system in which the elected president named governors, who in turn, named mayors. These changes were accompanied by the introduction of direct participation mechanisms including referendums, revocation of mandate, municipal planning councils, and local administrative councils (JAL), seeking to make politicians more responsive and accountable to the demands of voters.

The political reform not only strengthened the democracy, but also, the state's fiscal and administrative capacity, especially with respect to public good provision. Fiscal decentralization was introduced and municipalities started receiving significantly larger amounts of public funds. As shown in Figure 2, total public investment doubled between 1993

and 1998⁸. Furthermore, the reform determined shares of public investment to be destined to health, education, and other public services at the local level.

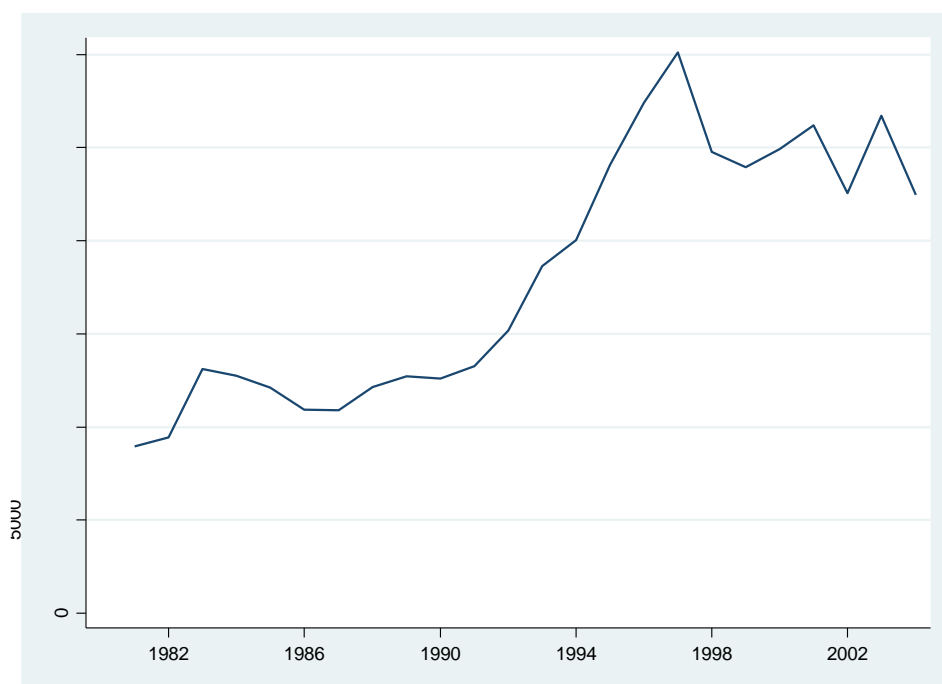


Figure 2. Total public investment (real thousand million COP)

Source: DNP - MHCP.

Table 3 presents the results of the difference in means test of the real per capita expenditure on public goods, evidencing the marked and statistically significant increase between the pre and post-reform periods.

Table 3. Differences in Means – Real per capital spending on public goods before and after the political reform

Variable	Mean		Difference
	Before	After	
Real per capita spending on public goods	0.015	0.395	***

*** p<0.01, ** p<0.05, * p<0.1. Public spending on public goods is equivalent to spending on the net formation of fixed capital (e.g. schools) plus associated spending (e.g. school material). Data from CEDE.

Increases in fiscal capacity were accompanied by increases in the state’s administrative capacity, through training and technical assistance to local governments, and through stricter procedures of meritocratic recruitment and promotion of civil servants (Cárdenas et al. 2008).

The mentioned reforms led to a rapid increase in the provision of public goods. For example, health coverage in rural areas increased from 10% to 70% between 1992 and 2011, and the school enrolment rate raised from 41% to 88%⁹.

4. Econometric Strategy

To identify how electoral interests, in particular, the timing of elections, affect the allocation of land titles, we estimate Equation 1:

$$LT_{i,t} = f(\beta_0 + \beta_1 E_t + \beta_2 E_t * PR_t + \beta_3 X_{i,t-1} + \mu_i + \delta_t + e_{i,t}) \quad Eq. 1$$

Where LT is the number of land titles allocated in municipality i in period t . Data on land titles covers the period 1960-2014 and comes from Incoder. The variable of interest is E_t , an electoral dummy that allows identifying whether land allocations are systematically higher in electoral years relative to non-electoral ones. E_t takes the value of one 12 months before elections¹⁰. Profiting from the monthly frequency of the land data, we build a panel based on electoral years rather than on calendar ones, allowing for a cleaner identification of the political cycle (Labonne, 2016; Akmedov and Zhuravskaya, 2004). The electoral dummy (E_t) is exogenous, given that the timing of elections is fixed and pre-determined by law.

To analyze whether there were changes in the PLC after the political reform was implemented, E_t is interacted with a post-reform dummy (PR_t)¹¹. As discussed previously, the reform was exogenous to land allocation dynamics: it did not respond to land-related or rural-related specific claims, nor to specific traits of any particular municipality, making PR_t an exogenous variable in this estimation.

The equation includes a municipality fixed effect¹² (μ_i) which captures time-invariant observed and unobserved characteristics that affect LT (e.g. geographic traits like area and

altitude). The municipality fixed effects also capture fixed historical variables that can affect land titling dynamics, such as historic land conflicts. We also include a year fixed effect (δ_t), capturing changes that occur during a given period and affect all municipalities (e.g. the macroeconomic cycle).

Equation 1 also controls for a set (X) of municipality time-varying characteristics that can affect LT. Relying on data from the Centre for Economic Development Studies –CEDE, we control for lagged population, as this drives the aggregated demand for land allocations. We also include rainfall shocks, which measure strong deviations from historical month-municipality average rainfall levels, based on data from the Institute of Hydrology, Metrology and Environment Studies (IDEAM). Rainfall can affect the demand for LT as it affects agricultural conditions and thus, the return of land allocations. Due to the availability of annual data at the municipality level for the extended period of analysis, we are not able to control for other sociodemographic conditions in the main specification. However, in the robustness section, we control for additional variables accounting for fiscal conditions, state capacity, and poverty, for the set of years for which this information is available. We show that the results are robust to the inclusion of covariates.

The last term is the error ($e_{i,t}$), clustered at the municipality level to control for potential serial and spatial correlation. The model is estimated through a conditional fixed effect Poisson regression, as the number of *LT* allocated in municipality i during period t is a count variable (i.e. non-negative and integer), and is censored at zero (as not all municipalities receive land titles in every period). Alternative estimation strategies are presented in the robustness tests section. Summary statistics are shown in Table A1 in the Appendix¹³.

5. Results

The political land cycle

The main results are presented in Table 4, providing evidence of a political land cycle: the number of land allocations is systematically higher in electoral years relative to non-electoral ones. The results further show that the PLC is dependent on the political conditions in place: its magnitude is reduced by half after the political reform (the Incidence Rate Ratio¹⁴ drops from 8.8 to 4.3).

Table 4. The Political Land Cycle

Dependent Variable: Number of Land Titles allocated (LT)		
	(1)	(2)
Pre Electoral year (E)	2.099*** [0.140]	2.174*** [0.141]
E* Post Reform	-0.723** [0.176]	-0.708** [0.178]
Population		-0.00007 [0.000]
Rainfall shocks		0.004 [0.010]
Observations	56,430	55,510
Number of Municipalities	1,026	1,025
Municipality FE	YES	YES
Year FE	YES	YES
Municipal Controls	NO	YES
Log-Likelihood	-528827	-516351
Mean Land Titles	8.234	8.234

Regressions estimated through a Fixed Effect Poisson model¹⁵. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Controls include lagged population and lagged rainfall shocks. Year Fixed Effects coefficients are plotted in Figure A1 in the Appendix.

To analyze whether the PLC is driven by a partisan effect, we estimate, in Table A2 in the Appendix, the PLC according to party rule (Liberal and Conservative). We find that the cycle exists during the rule of either party, being stronger during periods of Liberal rule. This is

consistent with land reform in Colombia traditionally being a bastion of this party. In both estimations we observe a decrease in the size of the PLC after the political reform. In this same table we estimate whether the cycle exists during periods of third-party rule (observed in the post reform period after the opening of the political system) and find that while there is a PLC, it is of smaller magnitude.

The existence of a PLC implies that the potential benefits of strategically allocating land outweigh its costs, making land an attractive distributive politics resource, specially before the implementation of the political reform. We now present evidence of the incentive and capacity effects that can explain the observed reduction in the PLC.

The incentive and capacity effects

As discussed in section 2.2, changes in the distributive politics portfolio can result from two complementary effects: the *incentive effect*, related to increases in political competition; and the *capacity effect*, related to the state's fiscal and administrative capacity. Both of these mechanisms affect the relative costs and benefits of employing different resources for distributive politics, and both aspects were affected by the implementation of the political reform.

In line with our theoretical propositions, we should observe a stronger reduction in the PLC in municipalities in which political competition increased the most, and in which fiscal and administrative capacity increased the most. To test the incentive effect, we compare the PLC among municipalities that experienced a low vs. a high increase in political competition after the political reform¹⁶. In turn, to test the capacity effect, we use three different measures relating to fiscal and administrative state capacity: i) municipalities that experienced a low vs. a high increase in fiscal spending on public goods; ii) municipalities with a low vs. a high number of public agencies per capita; and iii) municipalities with low vs. high levels of efficiency in public

good provision. The results in Table 5 show that, in line with the above, the reduction in the PLC was stronger in the municipalities that experienced a higher increase in political competition, and a higher increase in fiscal and administrative capacity to provide public goods. The table includes the test of coefficient equality for the *E*Post Reform* indicator between each pair of municipalities, evidencing that the coefficients are statistically different in all of the estimations.

Table 5. The PLC – Municipalities with low vs. high incentive and capacity effects

Dependent Variable: Number of Land Titles allocated (LT)								
	The Incentive Effect				The Capacity Effect			
	Increase in political competition		Increase in fiscal spending on public goods		Number of public agencies per capita		Level of efficiency in public good provision	
	Low	High	Low	High	Low	High	Low	High
Pre Electoral year (E)	2.047*** [0.206]	2.251*** [0.197]	1.993*** [0.158]	2.841*** [0.277]	2.227*** [0.157]	1.820*** [0.305]	2.145*** [0.211]	2.173*** [0.185]
E* Post Reform	-0.800*** [0.190]	-1.136*** [0.259]	-0.575*** [0.211]	-1.080*** [0.257]	-0.712*** [0.199]	-1.456*** [0.299]	-0.232 [0.236]	-1.556*** [0.181]
Observations	26,147	25,273	38,120	17,325	35,920	17,573	27,105	28,405
No. of municipalities	481	466	700	320	663	322	504	521
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Municipal Controls	YES	YES	YES	YES	YES	YES	YES	YES
Log-Likelihood	-248628	-231832	-388961	-124150	-409422	- 92320	-278660	-232774
Test of coefficient equality (E*Post Reform indicator)								
P-value	0.000		0.050		0.013		0.000	

Regressions estimated through a Fixed Effect Poisson model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Controls include lagged population and lagged rainfall shocks. High and Low are defined as being above and below the national average. Increases in political competition are measured as the difference between the post and pre-reform average ENCP, based on data from the electoral database of CEDE. For increases in fiscal spending, the pre-reform period starts in 1984, as information is not available for earlier years. The number of public agencies per capita in a municipality estimated using World Bank data. The efficiency in public good provision measure comes from the Integral Performance Index of the National Planning Department (DNP) and refers to the provision of a maximum level of output (in health, education, and public services) given a level of input. For number of public agencies and level of efficiency, information is only available for the post period, thus it is measured in average levels, rather than in pre-post changes.

Finally, note that, as shown in Table A3 in the Appendix, there is a significant variation in ENCP across municipalities, but only during the post reform period. This evidences the heterogeneous effects of the political reform across municipalities¹⁷, heterogeneity which, in turn, should generate heterogeneous changes in the PLC. We observe a similar situation when analyzing differences in average spending on public goods.

The political budget cycle

We now show that consistent with the theoretical propositions around the incentive and capacity effects, we find that while the PLC decreased, the political cycle in spending on public goods increased after the political reform¹⁸. This provides evidence of a re-composition of the distributive politics portfolio away from the allocation of private targeted benefits like land and towards the allocation of public goods. Table 6 shows that the increase in the political budget cycles is significantly stronger for spending on public goods relative to other types of spending (current spending on salaries and other administrative inputs), which are not as broad, visible, or valued by voters¹⁹, and thus, are not as attractive as distributive politics resources.

Table 6. The Political Budget Cycle

Dependent Variable: (Log) spending		
	(1) Spending on public goods	(2) Current spending
Pre Electoral year (E)	0.462*** [0.042]	0.125*** [0.009]
E* Post Reform	2.634*** [0.068]	0.633*** [0.028]
Lag spending	0.404*** [0.012]	0.497*** [0.019]
Observations	28,700	29,142
R-Squared	0.902	0.659
Number of Municipalities	1,097	1,097

Municipality FE	YES	YES
Year FE	YES	YES
<u>Municipal Controls</u>	<u>YES</u>	<u>YES</u>

Regressions estimated through a Fixed Effect model. Robust standard errors in brackets. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Controls include lagged population and lagged rainfall shocks. Public spending on public goods is per capita and in real terms, information for 1984 onwards. Public spending on public goods is equivalent to spending on the net formation of fixed capital (e.g. schools) plus associated spending (e.g. school material). The post-reform IRR is 22.1 for spending on public goods and 2.1 for current spending.

The above result shows that changes in political conditions associated with more democratic settings (i.e. settings with stronger political competition and state fiscal and administrative capacity) lead not only to aggregate increases in the provision and expenditure of public goods, as previous studies have shown (Kroth et al. 2016; Bueno de Mesquita et al. 2003), but also lead to increases in the politically motivated allocation of these. The above implies that public good allocations can follow political considerations, rather than being fully programmatic (i.e. universally allocated irrespective of political considerations, Golden and Min, 2013). This result is consistent with the study of Thachil (2011) documenting how politicians in India have been successful in winning the support of voters through the strategic provision of public goods in a context in which the government fails to universally provide them.

6. Robustness tests

We now check for the robustness of the results. In Table 7, we show that the main results are robust to six alternative estimation methods. In column (1), we estimate a dynamic fixed effects Poisson model, including a lag of the dependent variable as a regressor. This approach is common in the political budget cycle literature, as it captures the dynamics of the dependent variable more parsimoniously²⁰. In column (2) we estimate a Poisson model logging the number of land titles to incorporate some of the level changes (aggregate decreases) that occurred in land allocations after the 1990s. We also estimate the model including a region-specific time trend (column 3) to control for heterogeneous time dynamics across regions,

capturing for instance, different geographical limits to the agricultural frontier (Albertus, 2019). In the last two columns, we allow for alternative distributional assumptions in the count data, using a Negative Binomial²¹ and a standard FE model. The results are qualitatively unchanged in all of the specifications.

Table 7. Robustness to alternative estimation strategies

	(1) Dynamic Poisson	(2) Log Poisson	(3) Poisson – Region time trend	(4) Negative Binomial	(5) FE
Pre Electoral year (E)	2.013*** [0.131]	1.402*** [0.081]	2.479*** [0.194]	2.036*** [0.155]	8.913*** [0.850]
E* Post Reform	-0.788** [0.153]	-0.585*** [0.069]	-2.009*** [0.251]	-0.811*** [0.186]	-4.748*** [1.076]
Lagged land titles	0.005*** [0.0004]				
Observations	55,510	55,510	55,510	60,224	60,224
Number of Municipalities	1,025	1,025	1,025	N.A	1,117
Municipality FE	YES	YES	YES	N.A	YES
Year FE	YES	YES	NO	YES	YES
Municipal Controls	YES	YES	YES	YES	YES
Log-Likelihood	-476480	- 51959	-491091	-110721	N.A

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Controls include lagged population and lagged rainfall shocks. The number of observations in log Poisson is low because it drops zeros. Cubic time trend is interacted with the five regions in Colombia.

We also test for the robustness of the results to omitted variable bias. To do so, we estimate the PLC including additional economic and social covariates for the sub-period (1999-2014), sub-period for which yearly municipality level data is available. Data comes from the municipality panel of CEDE. Covariates include transfers from the central and departmental government, to control for public investment that could affect the demand for land. We also control for local tax revenues as a measure of the dynamism of the local economy, capturing, for instance, specific price shocks that affect municipalities differently²². Poverty data at the municipality-year level is not available; however, as a proxy, we include subsidized health

coverage. Finally, to account for changes in government performance, we include the Municipal Fiscal Performance Index from DNP. The results in Table 8 evidence robustness to the inclusion of additional controls, suggesting that if we could include these for the whole set of years, the main results would remain robust²³.

Table 8. Robustness to additional covariates

Dependent Variable: Number of Land Titles allocated			
	(1)	(2)	(3)
Pre Electoral year	1.324** [0.230]	1.235*** [0.232]	1.023*** [0.270]
Population		0.000 [0.000]	0.000 [0.000]
Rainfall shocks		0.014 [0.018]	0.011 [0.019]
Lag Local fiscal revenue			-0.136 [0.401]
Lag National transfers			-0.251 [0.716]
Lag Subsidized health coverage share			0.281 [0.197]
Lag Mun. Fiscal Performance Index			0.006 [0.005]
Observations	12,660	12,559	11,298
Number of Municipalities	844	844	834
Municipality FE	YES	YES	YES
Year FE	YES	YES	YES
Log-Likelihood	-92608	-91638	-86107

Regressions estimated through a Fixed Effect Poisson model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Local fiscal revenue and national transfers in real per capita terms. Information comes from Panel municipal CEDE. Covariates are lagged to lessen potential simultaneity, nonetheless, regressors can be endogenous; thus, the results should be interpreted with caution. Information comes from Panel Municipal CEDE.

We also test for the robustness to exclusion of outliers. Table A6 in the Appendix presents the results excluding municipalities with an extreme number of land titles allocated during the whole period of study, as well as excluding municipality-year observations with abnormally high land allocations. We also exclude elections one by one, and discard the effects being driven by any particular race.

Now, to test whether despite the fact that land allocations are carried out through a national program, local elections could affect the timing of allocations, we estimate the PLC including

a dummy for local elections rather than for presidential ones. The results in Table A7 in the Appendix show that while the effect is significant, it is considerably lower than that of presidential races (IRR of 2.8 vs 8.8). This suggests that the effect captured by the original electoral dummy for presidential races is the relevant one to focus on²⁴.

7. Ruling out alternative explanations

We now analyze whether the observed reduction in the PLC could be explained by alternative causes. We first explore the possibility that it is due to the escalation of the armed conflict experienced in Colombia during the 1990s, displacing rural inhabitants and forcing them to abandon over 7 million hectares of land. The surge in violence and in tenure insecurity could have reduced the demand for land allocations, and as a result, the expected benefit from this distributive politics resource (i.e. reducing the incentives to employ land as a distributive politics resource). Insecurity could have also affected the land agency's capacity to operate in a region, increasing the cost of employing this resource for distributive politics. This, rather than changes in political competition and fiscal and administrative state capacity derived from the political reform, could explain the reduction in the PLC.

A second potential explanation for the reduction in the PLC could be the agricultural crisis experienced at the start of the 1990s. The crisis derived from the economic liberalization process that eliminated protectionist policies such as price controls, tariffs, quotas, and state commercialization (Ocampo, 2017), particularly harming the agricultural sector (Ocampo and Perry, 1995). This negative economic shock could have decreased the demand for land allocations, and as such, the potential benefit (i.e. incentives) of using land as a distributive politics resource.

If the reduction in the PLC was explained by either of the above hypothesis, we should find the reduction to be stronger in municipalities that experienced a higher number of land

dispossessions, or a higher exposure to trade liberalization. In Table 9 we show this was not the case: the test of coefficient equality for the *E*Post Reform* indicator shows that the coefficients between each pair of municipalities are not statistically different.

Table 9. The PLC -Municipalities with high vs. low land dispossessions and low vs. high exposure to the economic liberalization

	Level of land dispossessions derived from armed conflict		Level of exposure to economic liberalization	
	Low (1)	High (2)	Low (3)	High (4)
Pre Electoral year (E)	2.252*** [0.219]	2.104*** [0.189]	2.308*** [0.223]	2.110*** [0.175]
E* Post Reform	-0.775*** [0.174]	-0.664*** [0.286]	-0.964*** [0.230]	-0.608*** [0.226]
Observations	43,339	12,171	25,858	29,652
Number of Municipalities	800	225	475	550
Municipality FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Municipal Controls	YES	YES	YES	YES
Log-Likelihood	-302315	-210828	-193862	-318743
Test of coefficient equality (E*Post-reform indicator)				
P-value	0.697		0.116	

Regressions estimated through a Fixed Effect model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Information on land dispossessions comes from the Land Restitution Unit. High means above the national average. A municipality is considered to have had a high exposure to the economic liberalization if it produced at least two of the products which were hit the most by the liberalization (cotton, wheat, rice, barley, sugar, soy, and maize) (Padilla, 2005; Ocampo and Perry, 1995). Information comes from the Agriculture Evaluations from the Ministry of Agriculture. This information is only available after 2007, however, land suitability and land use are not expected to change dramatically within a relatively short period, and as such, areas with the potential to produce these products should remain relatively constant. Note that because of this limitation in data, we do not use a threshold on tons or area cultivated, but rather whether a product is cultivated in a certain municipality.

Another potential explanation for the reduction in the PLC is that it resulted from specific changes in the land reform law, rather than from changes in political conditions derived from the political reform. A new land law (Law 160) was indeed approved in 1994, defining stricter criteria for land titling and shifting the government's efforts towards market-based land

reform²⁵. These aspects could have reduced both the demand for public land allocations and the capacity to supply these, affecting both the incentives and the capacity to use land as a distributive politics strategy. While aggregate land allocations did decrease after the implementation of Law 160, this does not imply the existence of reductions in the PLC (i.e. allocations around elections). To test for this alternative explanation, we estimate the PLC excluding post-1994 elections (i.e. those affected by the new land reform law). Column 1 in Table 10 shows that the results hold: the PLC continues to decrease in the post-reform period. As an additional test, in Column 2, we also run the results excluding only the period of lowest aggregate land allocations (1995 to 2004), and again, the results hold.

Table 10. Excluding elections on sub-periods of low land allocations

Dependent Variable: Number of Land Titles allocated (LT)		
	(1) Excluding post-1994 elections	(2) Excluding elections during the low aggregate allocation period
Pre Electoral year (E)	2.177*** [0.141]	2.176*** [0.141]
E* Post Reform	-0.189** [0.093]	-0.706*** [0.179]
Observations	50,021	46,955
Number of Municipalities	1,016	1,016
Municipality FE	YES	YES
Year FE	YES	YES
Municipal Controls	YES	YES
Log-Likelihood	-459169	-459931

Regressions estimated through a Fixed Effect Poisson model. Robust standard errors in brackets.
*** p<0.01, ** p<0.05, * p<0.1

Another possibility is that the PLC became lower due to resource exhaustion: if public vacant land was running out, voters would have to be mobilized via another resource. The resource exhaustion hypothesis is, however, unlikely, as land allocations increased significantly after 2010, reaching 1970s levels. Finally, the reduction in the PLC could result from a re-composition of distributive politics among targeted private benefits (i.e. from one

type of targeted private benefit to another). One possible private targeted resource could be credit. However, in a recent study on Colombia, Benson et al. (2021) discard a relation between credit allocation and the electoral cycle. A re-composition towards direct subsidies is also unlikely, as several of these were dismantled with the economic liberalization²⁶. Private transfers such as fertilizer subsidies, which Banful (2011) shows have been used for political purposes in Ghana, have not been systematically used in Colombia. either It is also unlikely that the results are explained by a re-composition towards Conditional Cash Transfers (CCTs), as these began to be granted a decade after the observed reduction in the PLC. Moreover, as Garay et al. (2020) show, CCTs have in general helped reduce the political manipulation of public allocations, as they are largely non-discretionary.

8. Conclusion

The results in this paper evidence how political contextual conditions affect distributive politics strategies. We study the political land cycle in Colombia and show how it became weaker after the implementation of a political reform that increased political competition and the fiscal and administrative capacity of the state. The weakening of the PLC does not appear to be explained by an aggregate weakening of distributive politics in a more democratic setting, but rather, by the re-composition of the distributive politics portfolio away from targeted private benefits and towards the provision of public goods. We show that while the PLC decreased after the reform, the political cycle in spending on public goods increased. These results are consistent with theories of the systematic resilience of clientelism (Roniger, 2004; Gay, 1998).

We analyze, from a theoretical and empirical perspective, the incentive and capacity effects that can explain this re-composition. We discuss how these relate to the potential costs and benefits of using a particular distributive politics resource, and discuss how these costs and benefits are configured by the specific traits of different types of resources, an aspect that has

received scarce attention in the literature, although it can provide useful insights for understanding the nature of different distributive politics strategies, and thus the potential solutions to this practice.

Our results also contribute to the literature by showing how distributive politics strategies depend on local contextual political conditions. Potential solutions to distributive politics should be tailored to characteristics at the micro (subnational), rather than the national level. This requires further research relying on subnational data and covering extended periods, in order to obtain robust inferences that can advance our understanding of the territorial dimension of distributive politics.

Our results also shed light on the nature of the political manipulation of land, an asset that remains crucial for rural development across the world. A more thorough understanding of the forces deviating land allocations from their potential as social and productive inclusion strategies is pertinent and requires understanding the sources of heterogeneity in its use as a distributive politics resource.

Future research should assess the developmental implications of the changes in distributive politics strategies and should quantify its electoral pay-offs. These answers will shed light on how to effectively reduce distributive politics so that allocations of public resources respond to developmental, rather than political interests, a policy objective that remains relevant in numerous countries around the world.

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Appendix

Table A1. Summary Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
Total Population	60,543	19,154	41,460	65.66	978,600
Abnormal rain (cms)	61,111	1.169	1.246	0	67.384
Bipartisan violence 1948-1953 (% mun)	61,050	0.133	0.340	0	1
Spanish colonial settlements	61,050	0.368	0.482	0.000	1
Distance to Department capital below department mean (% mun)	61,447	0.554	0.497	0.000	1
Land titles (municipality -year)	61,435	8.212	30.106	0.000	765
Large land titles (municipality -year)	61,435	1.126	6.430	0	228
Small land titles (municipality -year)	61,435	7.087	27.576	0	765
Local fiscal revenue (per capita) -COP	32,759	0.048	0.089	0	3.457
National transfers (per capita) - COP	32,759	0.076	0.132	0	10.652
Integral Performance Index (IPI)	14,917	60.357	9.387	0	94.19
Efficiency public good provision	60,335	50.669	9.899	16.852	79.564
Transparency and Accountability	60,280	53.744	15.849	2.250	91.350
Number of public organizations (per 100.000 inhabitants)	58,300	1.819	1.698	0	30.070
Education coverage 1964	47,467	0.337	0.151	0.045	1.454
Gini Index	2,076	0.455	0.361	0.568	
Land Gini Index	11,016	0.689	0.110	0.998	
Property tax 1964 - COP	41,580	87,491	332,469	5.771	5393083
ENCP	14,183	2.112	0.776	1	5.586

Note: monetary variables in real terms

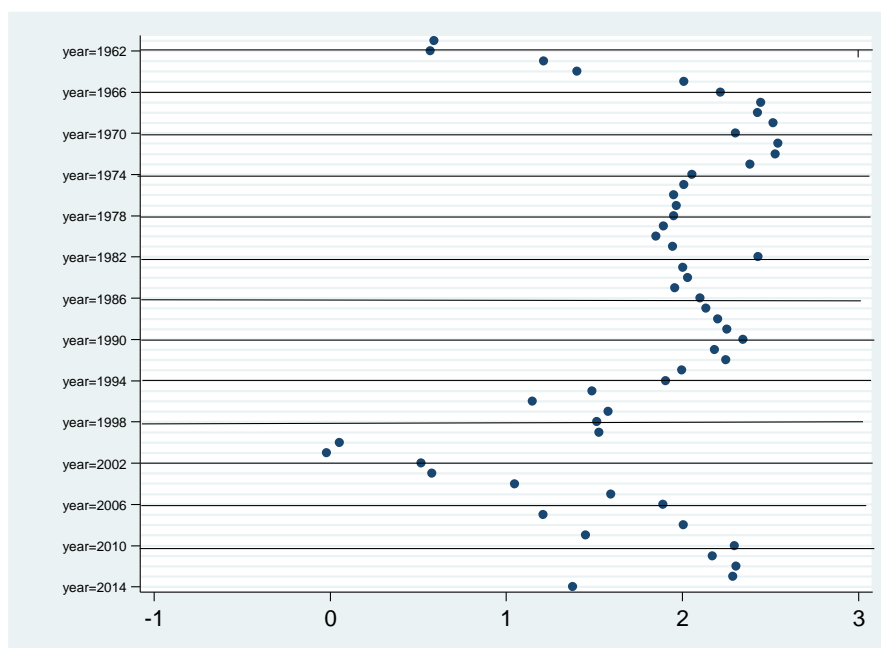


Figure A1. Year Fixed effects coefficient plot

Table A2. The PLC by political party in rule

Dependent Variable: Number of Land Titles allocated			
	(1) Liberal Rule	(2) Conservative Rule	(3) Third Party Rule
Pre Electoral year (E)	2.376*** [0.143]	0.922*** [0.162]	0.722*** [0.204]
E* Post Reform	-0.852*** [0.154]	-1.556*** [0.132]	
Observations	16,665	19,493	9,845
Number of Municipalities	891	823	827
Municipality FE	YES	YES	YES
Year FE	YES	YES	YES
Municipal Controls	YES	YES	YES
Log-Likelihood	-142205	-176541	-81711

Regressions estimated through a Fixed Effect model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Controls include lagged population and lagged rainfall shocks. Note that the specification in column (3) does not include an interaction with the post reform dummy, as third parties only rule during the post-reform period, when the political system was opened to multiparty competition. Rule refers to the party being in office at the national level.

Table A3. Differences in Means before and after the reform - across municipalities

	ENCP		Difference	Spending on public goods		Difference
	Low increase mun.	High increase mun.		Low increase mun.	High increase mun.	
Pre	1.706	1.717		0.141	0.178	**
Post	2.181	2.769	***	0.282	0.629	***

*** p<0.01, ** p<0.05, * p<0.1.

Table A4. The PLC – Municipalities with low vs. high inequality

	Gini Index	
	Low (1)	High (2)
Pre Electoral year (E)	2.304*** [0.161]	1.589*** [0.275]
E* Post Reform	-0.655*** [0.194]	-1.179*** [0.320]
Observations	36,588	18,922
Number of Municipalities	679	346
Municipality FE	YES	YES
Year FE	YES	YES
Municipal Controls	YES	YES
Log-Likelihood	-418515.03	-303447
Test of coefficient equality (E*Post-reform indicator)		
P-value	0.1001	

Regressions estimated through a Fixed Effect model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Information on Gini Index comes from the 1993 census.

Table A5. The PLC – Municipalities with low vs. high land inequality

	Land Gini Index	
	Low (1)	High (2)
Pre Electoral year (E)	2.248*** [0.198]	2.147*** [0.187]
E* Post Reform	-0.953*** [0.195]	-0.587*** [0.243]
Observations	22,297	33,213
Number of Municipalities	415	610
Municipality FE	YES	YES
Year FE	YES	YES
Municipal Controls	YES	YES

Log-Likelihood	-210227	-303447
Test of coefficient equality (E*Post-reform indicator)		
P-value	0.1340	

Regressions estimated through a Fixed Effect model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Information on Land Gini Index comes from CEDE.

Table A6. Robustness to exclusion of outliers

Dependent Variable: Number of Land Titles allocated		
	(1) Excluding municipality outliers	(2) Excluding municipality-year outliers
Pre Electoral year (E)	2.167*** [0.143]	2.180*** [0.141]
E* Post Reform	-0.685*** [0.178]	-0.703*** [0.178]
Observations	55,345	55,503
Number of Municipalities	1,022	1,025
Municipality FE	YES	YES
Year FE	YES	YES
Municipal Controls	YES	YES
Log-Likelihood	-507221	-507085

Regressions estimated through a Fixed Effect model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Controls include lagged population and lagged rainfall shocks. Municipality year outliers are those over 600 titles per year, three outliers. Municipality outliers are those with average yearly land allocations of over 142. There are 18 outliers.

Table A7. The local political land cycle

Dependent Variable: Number of Land Titles allocated	
	(1)
Pre Local Electoral year (LE)	1.015*** [0.192]
Observations	26,226
Number of Municipalities	980
Municipality FE	YES
Year FE	YES
Municipal Controls	YES
Log-Likelihood	-209904

Note: Estimated on the post period. Elections take place between presidential elections, in October. Regressions estimated through a Fixed Effect Poisson model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Note that this specification does not include an interaction with the post

reform dummy, as local elections only take place during the post-reform period. Elections take place in October. The first elections were held in 1988, the second in 1990 (together with presidential ones).

Table A8. The PLC – Excluding the elections in which both presidential and local races take place

	(1)
Pre Electoral year (E)	2.172*** [0.141]
E* Post Reform	-0.709*** [0.179]
Observations	53,323
Number of Municipalities	1,022
Municipality FE	YES
Year FE	YES
Municipal Controls	YES
Log-Likelihood	-497813

Regressions estimated through a Fixed Effect Poisson model. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1. Controls include lagged population and lagged rainfall shocks. Estimated excluding 1990 and 1994 elections.

¹ Refers to the signal politicians project when allocating resources regarding their general capabilities of implementing public policies (Rogoff, 1990).

² At the time of the study, INCODER.

³ While researching for this paper, the author informally spoke with land experts in Colombia. The person quoted requested to remain anonymous. The discussion took place in Bogotá – July 2016.

⁴ For instance, the new constitution did not directly modify land allocation laws. Of the 380 new constitutional articles, only one (Article 64) relates to land, being a broad declaration of the responsibility of the state in providing peasants progressive access to land and other services.

⁵The agreement was formally in place between 1958 and 1974, although de facto, many of its practices remained in place for years. For instance, partisan parity was extended until 1978 and was practiced informally until 1986 (Bejarano and Pizarro, 2005).

⁶ During the National Front, political competition was restricted, but it existed: anti-National Front candidates did run, albeit obtaining marginal vote shares, except in 1970 when an anti-National Front candidate (Gustavo Rojas Pinilla) nearly won the elections.

⁷ $ENCP_i = \frac{1}{\sum_{k=1}^K P_i^2}$ where P is the vote share of each party.

⁸ Partly due to a re-composition of spending away from direct subsidies and infrastructure.

⁹ Numbers estimated using data from DNP, Ministry of Education and DANE databases.

¹⁰ Presidential elections take place in May. Only a couple of races took place a month prior to or after this month.

The focus on presidential elections takes into account that land allocations are carried out through a national program and thus, strategic considerations should mainly respond to the national executive's political interests.

It is less probable that legislative elections affect land allocation dynamics; nonetheless, if this was the case, these take place a couple of months before presidential ones, and thus the electoral dummy would capture both effects.

Local elections, which take place between national ones, could affect land allocations. This is addressed in the robustness tests section.

¹¹ As mentioned before, the drafting of the new constitution consolidated and formalized a process of political change that began shortly before the new constitution. To account for the first changes that took place, PR is defined as post-1988, the year during which local elections were introduced. Results are robust when defining PR as post-1991.

¹² Fixed effects models are standard in the political budget cycle literature (see Mandon and Cazals, 2018; Labonne, 2016). Fixed effects are more flexible than random effects models, and tend to outperform these, especially when estimating Poisson regressions or other non-linear models (Majo and Van Soest, 2011).

¹³ The complete database is available to the public, upon request

¹⁴ IRR for a Poisson model is the exponential of the coefficient. In this case, it indicates how many times larger the number of land allocations is in electoral years relative to non-electoral ones.

¹⁵ Estimates are not altered when using random effects.

¹⁶ This analysis separates the sample based on outcomes of the political reform. While this generates problems for identifying causal links, in this case, the aim is to illustrate differential effects of the reform, seeking to illuminate the mechanisms acting.

¹⁷ While the political reform took place at the national level, the *de facto* effects should vary across the territory, depending on pre-existing institutional conditions that determine the scope of effective institutional changes, as the theoretical and empirical literature on institutional change points out (Clark and Ghandi, 2015; Haber and Menaldo, 2011; Acemoglu, Johnson and Robinson, 2005).

¹⁸ The existence of a political cycle in spending on public goods in Colombia is consistent with the study of Drazen and Eslava (2003), showing a cycle for local elections between 1987 and 2002.

¹⁹ From the demand side, a re-composition of distributive politics should relate to the type of resources that voters value most. As noted in Faguet and Sánchez (2014), at the time of the political reform, voters indeed demanded increases in public good provision.

²⁰ This is more important when studying budget variables with a high serial autocorrelation than for land allocation, which exhibits high volatility. Dynamic models are often estimated with GMM as the lag introduces bias. However, in this case, the number of periods is large ($T=55$), and thus the bias should be marginal (Beck and Katz, 2011). Considering this, we estimate a regular FE model.

²¹ The Negative Binomial is a generalization of Poisson regression that can be used for over-dispersed count data (i.e. the conditional variance is larger than the conditional mean).

²² This would capture, for instance, coffee price shocks, which Albertus (2019) shows affect the allocation of land in Colombia.

²³ We are not able to include the Gini index as a control, as this information is only available for two years (census years 1993 and 2005), which are not electoral years. As such, we are not able to estimate the PLC. However, in Table A4 in the appendix, we carry out a test comparing the dynamic PLC between municipalities with a high (higher than average) vs. a low Gini Index. As shown, the difference between the coefficients of both estimations is not statistically significant, indicating that the Gini is not driving the results, and thus we do not believe including it as a control (if the data existed) would modify the results. We do the same for the Land Gini Index. The results in Table A5 in the appendix, show this control is not driving the results either.

²⁴ Local elections take place between presidential elections (in October). As an additional test, we run the main PLC estimation excluding two years during which both presidential and local elections took place (1990 and 1994). Table A8 in the Annex shows that the results hold.

²⁵ Based on granting a subsidy for the plot of land the farmer has directly negotiated with a buyer. This form of land reform remained, however, marginal.

²⁶ We cannot test for this, as information on direct subsidy allocation at the municipality level for the period of the analysis is not available.