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Public Good Provision and Traditional Governance in
Indigenous Communities in Oaxaca, Mexico.*

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Abstract

Can ethnically distinct communities ruled through “traditional” assemblies provide public goods and services better than when they are ruled by leaders elected through “modern” multiparty elections? We exploit a unique institutional feature in the state of Oaxaca, Mexico, where municipalities are ruled by traditional governance institutions, in order to explore the effect of these forms of governance on the provision of public goods. Using locality level census data, we study the provision of local public goods through a geographic discontinuity approach. We demonstrate that communities ruled by traditional governance practices offer more effective provision of local public goods than equally poor communities ruled by political parties. Relying on qualitative fieldwork and household surveys, we argue that the significant differences in the provision of public goods according to governance regime derive from community practices that solve collective action problems, enhance citizen participation in public decisions, and restrain elite capture.

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1 Introduction

States in developing countries wield uneven authority over their territories. Tribes, clans, religious groups, and other traditional leaders often control parallel governance zones beyond the reach of the state. African chiefs continue to play important roles in local government (Baldwin, 2015); and in some countries “traditional”¹ political authority mechanisms have been accorded greater status in local and regional administration (Holzinger, Kern and Kromrey, 2016). An all too common view is that traditional authorities should be understood as historic relics, waiting to be replaced as nation-states gradually pave the road to institutional modernity.²

In recent years, however, there is increasing awareness of the pervasive role that traditional governance structures may play in development (Acemoglu, Reed and Robinson (2014); Díaz-Cayeros, Magaloni and Ruiz-Euler (2014)). When the centralized nation-state is unable to improve people’s lives substantially, because of weak or dysfunctional “modern” institutions, societies often tap into cultural traditions usually preserved by some distinct ethnic communities to offer alternative forms of governance. This paper explores whether traditional governance may actually be better able to shape an equitable provision of local public services and prevent the all too common propensity for political parties and privileged elites to seize the benefits of development projects. In the political science literature communities with distinct ethnic identities have often been studied as prone to clientelism and even political violence (Posner, 2005; Chandra, 2007). Here we explore, instead, the role of such distinctiveness as a source of alternative forms of governance that lead to greater accountability and well-being.

We explore this question through the case of Oaxaca, Mexico, where a constitutional reform in 1995 formally validated traditional governance structures, in what is known as *usos*

¹In what follows we adopt the conventional use of this term contrasted to “modern” governance structures, but it is important to note that we do not share a view drawing from modernization theory that implicitly views these arrangements as normatively inferior.

²There are some dissenting voices, including the intriguing possibility that these traditional forms of governance are the last bastions of the “art of escaping from the state” (Scott, 2014). Nonetheless, policymakers, economists and political scientists tend to view these institutions as pre-modern burdens undermining democratic accountability.

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4 *y costumbres*. In Mexican regions with a strong indigenous presence, traditional governance
5 practices coexist in parallel to formal institutions. Holzinger, Kern and Kromrey (2016)
6 suggest that such coexistence is not unusual, but that in fact more than half of the countries
7 in the world have “dual polities” embedded in traditional governance arrangements. The
8 Mexican “first polity” establishes democratic multiparty elections as the prime mechanism
9 for selecting local leaders; and the court systems as the main form of adjudication of conflicts.
10 However, in indigenous places like Oaxaca, a “second polity” exists, where assemblies, rather
11 than mayors or local councils, make the most important budgetary decisions, citizens are
12 compelled to carry out tasks or duties for the provision of public goods, and local leadership
13 itself can take various forms including rotating appointments. Conflicts are solved through
14 informal community mediation, rather than resorting to courts.

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16 The greatest challenge in the research agenda of dual polities lies in the difficulty untan-
17 gling the effects of those practices -which are usually informal- tolerated or even sanctioned by
18 the state, from the general social, economic and political conditions of the places where they
19 are used. We exploit a constitutional reform in 1995 in the state of Oaxaca, Mexico, where
20 municipalities were assigned to be either ruled by traditional *usos y costumbres* institutions
21 or by mayors elected through multiparty elections.³

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23 It is important to note that the choice of governance institution did not change the fiscal
24 relations of local governments with the federal government: municipalities kept identical sys-
25 tems of intergovernmental transfers, public debt, public finance accounting and auditing rules,
26 and in general, the administration of public expenditure and investment projects. Such unique
27 setting provides an opportunity to tease out the effect of traditional governance institutions
28 on public goods and services provision, controlling for the fiscal conditions and administrative
29 processes, that in this instance remain constant across governance types.

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31 To explore how traditional governance in indigenous Mexico determines the provision
32 of public goods, we use a multi-method research strategy based on qualitative ethnographic
33 work,⁴ a household survey that sheds light on differing patterns of local political accountability

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54 ³Below we discuss whether such assignment was a decision made by municipalities themselves or the higher
55 levels of government.

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60 ⁴Qualitative fieldwork was carried out in the Zapotec, Mixtec and Mixe regions of Oaxaca. Accompanied

and citizen participation in public affairs; and a statistical analysis that models the provision of basic local public goods like sewerage and drinking water through a Geographic Discontinuity (GD) approach, relying on census data. The statistical approach aims to address problems of causal identification by allowing us to study the provision of public goods in villages that are very similar in terms of their socio-demographic features and geographic location, except that they differ by governance type.

We demonstrate that the allocation of local public goods is more effective and equitable in *usos y costumbres* municipalities. Survey and ethnographic evidence suggest, moreover, that traditional institutions distribute local public goods in a relatively egalitarian fashion, and tending to favor the poor. In communities governed by political parties through elections, in contrast, water and other public good provision are more inequitable in their distribution and their allocation is politically mediated, tending to favor households aligned to the mayor's party.

The multiple method approach (Seawright, 2016; Humphreys and Jacobs, 2015; Dunning, 2012; Box-Steffensmeier, Brady and Collier, 2008) allows us to better interpret our statistical findings and to understand mechanisms. By triangulating inferences emerging from qualitative field work, secondary ethnographic materials, a carefully designed field survey, and statistical analysis mindful of selection bias problems, we provide insight into forms of governance that are often elusive to outside observers.

Our approach stresses that the profound institutional differences among governance forms affect the provision of public goods through three mechanisms: 1) stronger social embeddedness of municipal presidents leading to greater local government accountability in *usos y costumbres* municipalities; 2) broader civic engagement in collective-decision making, which produces more informed citizens and decisions that are more representative of the median voter preference; and 3) an effective system of community service enforced through credible sanctions, that allows for widespread cooperation with activities that promote the well-being

by teams of students and trained researchers, between 2009 and 2014 we visited two dozen sites. Our research team collected over one hundred semi-structured qualitative interviews. Those included conversations with state, municipal and local officials, but most important, the men and women who use and live under these governance institutions every day. We should also mention that two of the authors interviewed state officials in 1995, when the institutional reform allowing for governance through *usos y costumbres* was being implemented.

of the community.⁵

Our findings are related to the literature on direct participatory democracy and public good provision. In a seminal study, Olken (2008) used an experimental setting to evaluate the impact of direct democracy on the provision of public goods in villages in Indonesia. Projects were decided through either representative-based meetings or direct election-based plebiscites. His results suggest that direct participation in political decision-making substantially increased satisfaction and legitimacy, but it had little effects on the actual types of projects that were chosen. Although our study uses observational data, our results reveal more profound differences between direct and representative democracy that go beyond perceptions of government legitimacy to include patterns of distribution of public goods and citizen engagement.⁶

Our study also sheds light on the quality of Mexico’s local democracy in the context of fiscal decentralization. Diaz-Cayeros, Estevez and Magaloni (2016) demonstrate that the decentralization of federal transfers for financing public goods in Mexico had positive effects on development, as measured by improvements in the provision of local public services and ultimately an improvement in the quality of life by reducing infant mortality rates. However, fiscal decentralization is no panacea, given the high levels of political corruption and lack of electoral accountability that have prevailed in Mexico that are in part the result of a constitutional prohibition of reelection at all levels of government.⁷

To explore if local government corruption could be restrained through increases in citizen information, Ana de la O and her co-authors randomly assigned information to voters on political corruption and the misuse of decentralized federal funds in various municipalities in Mexico (Chong et al., 2014). In their study, exposing rampant corruption leads to incumbents’

⁵We understand that these systems of governance might show some limitations in other realms. A common criticism is that they tend to exclude women (Danielson and Eisenstadt, 2009). But Díaz-Cayeros, Magaloni and Euler (2015) find that women participate more in these traditional governance settings.

⁶Our study is also relevant for the literature on community-driven development. (Stiglitz, 2002; World Bank, 2003). Perhaps the dominant theme in the literature is the problem of elite capture, or that local elites tend to use public funds to serve their own interests rather than those of the poor (Bardhan (2002); Bardhan and Mookherjee (2005); Miguel (2011); Ensminger (2012)). The community driven approach is based upon the premise that if villagers get to decide their own projects this will increase the likelihood that projects will satisfy local needs, that they will choose better local leaders to oversee their development projects, and that villagers have better information to monitor the implementation of projects (Ensminger, 2012).

⁷The reelection at the local level will be allowed for the first time in the coming electoral cycles of 2018.

vote erosion, but also to a decrease in political participation as measured by electoral turnout. Thus, their study demonstrates that, under some circumstances, exogenously provided information about local government corruption disengages voters from the political process and can potentially be counterproductive.

Our study complements Chong et al. (2014), suggesting that we need to pay more attention to the way citizen information is *endogenously* produced. Our work in Oaxaca reveals that preexisting levels of citizen information about public affairs differ in important ways between party and *usos y costumbres* municipalities. Only in the later do citizens appear to be better informed about public affairs. Citizen information results from the system of government, based on active participation in community assemblies and deliberation involving the allocation of public funds. Better informed citizens, in turn, appear to be associated with more accountable local leaders.

The paper is organized as follows. Drawing from extensive qualitative and quantitative field work, in the following section we discuss the institution of *usos y costumbres* in Oaxaca. The section provides insights into how to understand citizen participation, information, and perceptions of legitimacy, as well as the distribution of services and degree of elite capture in each of these governance types. Section three presents the geographic discontinuity design, contrasting the effect of governance regimes on community level indicators of public goods coverage. A final section concludes.

2 The Origins of *Usos y Costumbres* in Oaxaca.

Southern Mexico is primarily populated by indigenous peoples.⁸ Municipalities in that region are governed by a combination of informal indigenous forms of self rule, dating back to the colonial times, and formal institutional rules, where candidates nominated by political parties compete for political authority in democratic elections. Indigenous governance varies across

⁸Strictly speaking the majority of the inhabitants in Mexican Southern states no longer speak an indigenous language, and hence do not retain that linguistic distinctiveness. However, other indicators, including self-adscription, the makeup of households where at least one member is indigenous, and the genetic admixture, all point towards an indigenous majority. If the large cities are excluded, all southern states have indigenous majorities. We thank an anonymous referee for asking us to clarify this point.

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states, from one ethnic group to the other, and among communities within any given region.

Traditional governance institutions are not static, but always evolving according to the formal institutional environment indigenous communities interact with (Stephen, 2013; Recondo, 2007). However, some general patterns can be highlighted, including participatory democracy practices, mandatory unpaid community work which ranges from short- to long-term commitments, strong systems of social control that put the community above the individual, and a parallel system of conflict resolution that is essentially conciliatory.

During the colonial period indigenous towns were granted significant autonomy provided they converted to Catholicism and submitted to the powers of Crown and Church. After Mexico's independence, the autonomy of these indigenous communities was increasingly challenged. Liberal politicians interested in expanding the powers of the central state imposed stronger military control over the territory. Hacienda landowners despoiled Indian towns from their ancestral lands. Indigenous communities often rebelled to keep their land, and sometimes succeeded in escaping the reach of a dominant non-indigenous state.

In the aftermath of a bloody civil war at the beginning of the 20th century, that included many elements of indigenous rebellion, the Mexican Constitution of 1917 paradoxically undermined the autonomy of indigenous communities. Although the Constitution incorporated reforms to enact land reform and assert peasant rights, it did not truly recognize indigenous communities. The new Constitution sought to assert a peasant identity, rather than an ethnic, linguistic or cultural distinctiveness for rural communities. Although communal land and collective ownership became recognized, this was sanctioned by federal laws (within the *ejido* structure), rather than any significant form of local indigenous autonomy. Furthermore, municipal governments and the *Comisariado Ejidal*, a collective body overseeing communal landholding arrangements, were under the firm control of the Partido Revolucionario Institucional (PRI). Hence, indigenous traditional governance practices were only tolerated by the hegemonic party as long as they refrained from challenging the party's central political monopoly and the corporatist intermediation of peasant organizations affiliated to the party.

This accommodation of the indigenous communities to PRI hegemonic rule changed dra-

matically in 1994, when the Ejército Zapatista de Liberación Nacional (EZLN) erupted in the Southernmost state of Chiapas (Trejo, 2009, 2012). Less well known than the Zapatista rebellion, the neighboring state of Oaxaca was discussing a constitutional reform that allowed its municipalities to adopt an alternative governance structure: *usos y costumbres*, an umbrella that encompasses various governance forms, but in which political parties are not allowed to formally endorse candidates to run for municipal office (Eisenstadt, 2011). The 1995 reform of the Constitution of that state recognized *usos y costumbres*, a complex and unique mixture of traditional practices where local authorities are selected in assembly elections according to indigenous practices instead of regular multiparty elections. Of the 570 municipalities in that state, 418 adopted *usos y costumbres*.⁹ Although there is some controversy over this point, we believe municipalities were allowed to select themselves into the traditional form of governance. No other state in Mexico has officially recognized such an overarching right to indigenous self-determination.¹⁰

Mayors are in charge of making decisions over investments in local public good provision: provision of drinking water, public lighting, sewerage, street pavement, markets, slaughter houses, parks, graveyards, and local public safety, among other. Both party and *usos y costumbres* municipalities have to abide by the federal Constitution that forbid, up to 20-18, immediate reelection. It was not uncommon, however, for mayors in *usos y costumbres* to serve for more than one term, although normally not in consecutive terms. Citizens ruled for municipal affairs under *usos y costumbres* still hold the constitutional right to vote for political parties and their candidates in all state and federal level elections, but do not allow political parties to take over local government decision making, including the allocation of public goods and services.

⁹Eight of those municipalities initially chose political parties, but by 1997 the municipalities ruled by *Usos y Costumbres* had become fixed at 418 (Díaz Montes, 2002). The number of municipalities that have switched between regimes is too small to provide a coherent account of what determined the initial transitions across regimes. Citizens have made legal challenges claiming they were not represented by the traditional governance, but the electoral courts have upheld the right of communities to keep this traditional system of governance. In 2013 San Andres Cabecera Nueva switched back to political parties, reducing the number of municipalities ruled by *Usos y Costumbres* to 417. We thank an anonymous reviewer for urging us to explore the transitions in governance systems.

¹⁰López Bárcenas (2005) notes that the local electoral legislation, establishes that *usos y costumbres* municipalities will be those that: “recognize the general community assembly for the municipal inhabitants as the main organization for consultation and appointment of members of the local government.”

In contrast to the struggles in the state of Chiapas after the Zapatista rebellion, Oaxaca effectively preempted explosive social and political conflicts by granting an important degree of autonomy to indigenous communities through the validation of practices they were already following in the selection of municipal authorities. Several authors, however, believe that the institutional reform in fact enhanced conflicts, particularly in the electoral arena (see Eisenstadt (2007, 2011); Ríos (2006); Eisenstadt and Ríos (2014)).¹¹ Allison Benton (2016a,b, 2012) has argued that the selection into these system of governance is mostly a reflection of the authoritarian entrenchment of the PRI at the local level. In contrast, Díaz-Cayeros, Magaloni and Ruiz-Euler (2014) and Recondo (2007) (chapter 8) find that electoral competition at the federal level is more prevalent in places ruled by *usos y costumbres*.¹²

David Recondo (2007) discusses the origins of those reforms (p. 213 to 215) as an impetus spearheaded by a group of anthropologists that became the main advisors of the incoming governor at the time, Dióodoro Carrasco. Recondo’s nuanced view of the dynamics of political accommodation between the imperatives of the PRI (the party to which the governor belonged) and the capacity of indigenous communities to assert their rights, is often lost in some superficial reading of his book. Eisenstadt (2007) suggests that the reform was motivated by the Zapatista uprising in Chiapas. But it is important to note that the state of Oaxaca was on a very different political trajectory compared to Chiapas before the rebellion. Oaxaca was not governed by white or ladino elites or landowners, but rather by an ascendant indigenous political class, well represented by Heladio Ramirez, governor from 1986 to 1992. Land conflicts were important, but they were mostly related to disputes between indigenous communities that already had communal land rights, rather than involving landless peasants demanding reform. We believe the state Constitution was reformed in 1995 allowing for traditional governance mostly due to internal processes in the state, rather than a demonstration

¹¹While the issue of electoral contestation is not central to this paper, it is not altogether clear whether a greater use of electoral court proceedings means that the reform of *usos y costumbres* actually made Oaxaca more politically unstable. Other indicators of conflict, such as crime, homicides or land invasions, appear to have been reduced after the institutional reform.

¹²The issue of electoral competition is not central to this paper. However, the overwhelming electoral dominance of the PRI in the era before 1995, and its entrenchment in state politics since, does not mean that indigenous towns are authoritarian enclaves. If anything, the discussion in the next sections suggests that in many of these places there are vibrant forms of participatory democracy practices, with a high degree of volunteerism characteristic of tightly knit communities with strong social ties.

effect from events in Chiapas.

We do not believe this system of governance is an authoritarian imposition. Survey data collected in rural and semi-rural municipalities in the state of Oaxaca shows that in places ruled by *usos y costumbres* a vast majority prefers these traditional forms of governance over the alternative of being ruled by political parties.¹³ An overwhelming 90.8 percent of respondents told us they prefer to be ruled by *usos y costumbres* than political parties. In contrast, 65.5 percent of respondents under party governance believe political parties divide their community and provoke conflict, while 54.7 percent feel that public benefits are captured by partisanship. Granting that there is considerable debate among scholars regarding the political motivations behind the reform of 1995, we should note that there is a general consensus suggesting that the shift had momentous implications for local governance in the state.

¹³The survey was collected through a stratified random sample of 568 questionnaires applied to men and women over 18 years old in August 2009. Strata were established for size of municipality (governance type of parties and *usos y costumbres*, and a size threshold of less than 2500 and less than 5000 inhabitants in the municipal *cabecera*. The sample excludes all large metropolitan areas. Sample points were randomly generated on the basis of electoral precincts from the *Instituto Federal Electoral - IFE*, now known as the *Instituto Nacional Electoral - INE*. INE divides the national territory into equiprobable tracts comprising 50 to 1499 adult voters. The questionnaire was designed after three focus groups organized in municipalities in the valley of Oaxaca. The number of questionnaires collected in each sample point was determined through power calculations across governance structures, using a clustered design, through the Optimal Design software (Spybrook et al., 2008). With greater heterogeneity between clusters than within them, survey costs were minimized collecting 8 questionnaires in rural villages and 16 in semi-rural ones. This design produced a highly dispersed sample with oversampling of localities outside of the *cabecera* and municipalities governed by *usos y costumbres*. To our knowledge ours is the only survey that makes such an effort to correct for the urban bias of most public opinion surveys collected in the state of Oaxaca. IRB approval was obtained from the Human Research Protection Program at the University of California, San Diego (no. 091574). Additional safeguards were considered in order to ensure ethical standards in dealing with indigenous communities and seeking to minimize risks to enumerators and local respondents. Interviews were conducted at home, in Spanish (although in 18 cases a translator was used, given that the respondent only spoke an indigenous language). In addition to conventional safeguards and protections to human subjects (like oral consent and removing all identifying information from the final dataset), permission was requested in order to enter the communities surveyed. This was a necessary precaution because traditional indigenous communities protect their territory from outside visitors. In a third of the sample mayors only granted permission after having the survey discussed in a community assembly. Data collection was carried out by Opina S.A. de C.V. Vidal Romero at the Instituto Tecnológico Autónomo de México supervised fieldwork. In addition, qualitative interviews were conducted in the town square and the marketplace, collecting water samples to test for chlorination, and interviewing the mayor or the relevant local authority in around a third of the sample points. Even deeper ethnographic work was done in some polling points in the central valley region close to Oaxaca City and in the Mixe region in the highlands.

3 Traditional Governance Institutions

The key institutional difference between *usos y costumbres* governance municipalities and those ruled by political party competition are: 1) the form of selection of municipal presidents; 2) participatory democracy practices; 3) existing sanctioning mechanisms to solve coordination problems; and 4) alternative forms of conflict resolution. We discuss each element in detail. At the end of this section we also discuss intergovernmental fiscal relations, highlighting that municipalities, regardless of governance type, share the same administrative framework and equivalent financial resources for financing of the provision of public goods. Thus, variations in public good provision can not emerge from differences in funding or financial flows, but are determined by institutional variation in governance forms.

3.1 Leader selection.

Usos y costumbres municipalities choose leaders in community assemblies. This is the most distinguishing trait that determined, when the reform was approved in 1995, which municipalities would be assigned to the traditional governance regime. Our ethnographic and survey work show that for the most part municipal presidents in *usos y costumbres* places tend to be elected after climbing the ladder of community service or having a known record of performing volunteer services (*cargos*) in the community. Moreover, these leaders often tend to remain in their communities, performing other *cargos* after their terms are over (e.g., they might join the Elders Council or become Regidores).

This means that leaders in *usos y costumbres* municipalities not only tend to have a proven record of servicing their community, but are also more constrained to abuse their powers, because they will most likely remain in their communities afterwards. There are, of course, exceptions. In interviews we identified cases wherein local leaders could not go back to live in their communities after they served their terms because they had abused their powers or stolen from the public coffers. But when a local leader is to continue living in the community after serving his or her term, the threat of expulsion is probably a strong enough incentive to induce greater accountability.

Municipal President	Usos	Party
Does not care for people's problems	32%	43%
Works to serve the community	68%	50%
Handles money honestly	63%	49%
Consults citizens to make decisions	67%	52%

Table 1: Perceived Accountability of Municipal President

In party municipalities the nomination of candidates for the mayor's office, and their promotion to future political positions respond to the political game at the state level. Given that reelection was not allowed, party elites and governors decided if mayors got promoted to higher office after their term was over. There are little incentives for municipal presidents that are embedded in party politics to serve their constituencies, especially because mayors often do not stay in their localities after they finish their term. Our field research revealed that municipal presidents in party municipalities more often than not climb the ladder of progressive ambition by becoming state officials (e.g. local deputies, state bureaucrats, or even federal senators). Political parties appear to be a vehicle for upward mobility that breaks the political relationship of mayors to their communities, and enhance agency control problems for the community.

Our survey asked perceptions of how accountable municipal president are perceived to be. Table 1 compares these responses across governance types. Respondents in *usos y costumbres* are more likely to believe that the mayor cares about people's problems, works to serve the community, handles money honestly, and consults citizens to make decisions. These differences are all statistically significant.

3.2 Participatory democracy.

A second important difference between party and *usos y costumbres* municipalities relates to participatory democratic practices. In *usos y costumbres* municipal presidents actively consult community assemblies for making decisions. Many collective decisions concerning the everyday actions of government are taken item by item, mostly in assemblies where there is a process of collective deliberation. In most cases attendance to community assemblies is

mandatory. Most of the time a long deliberation takes place -some assemblies can even last up to ten hours- and citizens often raise their hands to vote. Traditionally women were excluded from participating in many assemblies, although our field research revealed that this practice has changed.¹⁴

In party municipalities, executives usually make political decisions without much public scrutiny once in office. Formally, party municipalities are composed of a president (the executive) and a separate *cabildo* (assembly), although by design the largest party has a majority and the government is always unified.¹⁵ In theory, the municipal president should consult the *cabildo* for making decisions and open assembly meetings could be held, where citizens may be called to participate. In reality we found little of such participatory practices taking place. This means that in party municipalities, executives usually make decisions without much public scrutiny once in office, which stands in sharp contrast to *usos y costumbres* municipalities, where community assemblies take place regularly.

Regarding public goods projects, our field work showed that *usos y costumbres* municipalities tend to hold either biannual or yearly assembly meetings to set priorities as to how to spend these resources. In *usos y costumbres* municipalities the leaders of the *agencias*, who are also elected by community assemblies in the surrounding villages, are often called to form part of what is sometimes called a Committee of Development (*Comité de Desarrollo*), where they discuss with the municipal president and with some of the traditional authorities how infrastructure budgets (primarily financed by a federal transfer, the *Fondo de Aportaciones para la Infraestructura Social Municipal*, FAISM) should be spent.¹⁶ Moreover, there are often egalitarian rules regarding how projects should be distributed among villages (an example of such rule is that each village receives a large project every other year and a small project every year).

¹⁴We also found places where women perform important community *cargos* and dominate assembly meetings.
¹⁵The ballot to elect the mayor is fused with the assembly candidates in a party list where the winning party gets an automatic majority of the council.
¹⁶Before the decentralization reforms of 1997, federal transfers for social infrastructure were distributed in a discretionary top down fashion, basically from the President's office. The *Partido Revolucionario Institucional* (PRI), in power from 1929 until 2000, manipulated financial transfers to reward loyal municipalities and punish disloyal ones and to sustain its electoral hegemony (Magaloni, 2006). But reforms in 1997 created FAISM, which allocates significant resources to municipalities according to a redistributive formula based on objective indicators of lack of public services and poverty conditions (Díaz-Cayeros, Estevez and Magaloni, 2016).

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4 The visibility and publicness of assembly deliberations about what to do with public
5 money is a fundamental difference between *usos y costumbres* and parties, which sets off
6 control mechanisms that produce variation in terms of responsiveness and accountability
7 towards the community. In party municipalities, decisions about project type, location and
8 benefited population are done within the municipal president's inner circle, with little to no
9 consultation among the population –except for the nominally public *cabildo* (town meeting)
10 sessions, which citizens rarely attend.
11

12 Furthermore, *usos y costumbres* municipalities have mechanisms to broadcast information
13 about public affairs that are absent in party representative systems. The process of direct
14 democracy and deliberation that takes place in the assemblies reinforces a social network
15 where individuals share information and deliberate. Preferences over public spending are
16 deliberated openly both inside and out of the assemblies and the allocation of projects (type
17 and population target) is done visibly for the community. Of course that participation varies
18 across places. In the municipality of Diaz Ordaz, for example, we were told that: “the majority
19 does not attend the assembly, if for example we are supposed to be 500, only 100 show up.” In
20 other places, however, almost everyone participates and citizens -especially the young- even
21 complain that when meetings last for hours, the obligation can be taxing.
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23 A crucial problem with these traditional institutions is that they require a substantial
24 commitment from citizens to participate and volunteer. Such public mindedness is less preva-
25 lent among the youth. An elderly man in San Juan Guelavia told us: “Our children want
26 another way of life”, referring to the gradual erosion in the practices of *usos y costumbres*.
27 In his view there were more leftover “customs” rather than the original governance by *usos y*
28 *costumbres*: “People no longer cooperate in *tequio* and *servicio*, so they were often fined 200
29 pesos [20 USD at the time] for not participating, or, rarely, they lock you up. People fail to
30 go to the assemblies, they participate less than before”.
31

32 Our survey asked questions about whether citizens participate in collective decision making
33 and how informed they are about public matters. Our survey found that 44 percent of the
34 respondents find out about the government actions in town meetings, while only 8 percent of
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the inhabitants ruled by political parties report that they learn about how government is being run by going to these meetings. Moreover, 62 percent of the respondents ruled by traditional governments report being informed about public decisions, including investments in public goods. This number is significantly lower, 38 percent, among citizens in party municipalities.

The typical voting method in community assemblies, according to our survey work, is 78 percent of the time through lifting hands in public. There is an additional 10 percent that our respondents report make decisions through secret ballot, and another 10 percent that count votes on a blackboard.

3.3 Mechanisms to solve collective action.

A third important distinctive trait of *usos y costumbres* municipalities is their system of *cargos* or *tequio* that allows these municipalities to solve coordination problems and sanction those who refuse to collaborate with activities that promote the well-being of the community.

In *usos y costumbres* municipalities, members of the community are expected to perform public services which are usually mandatory. Traditionally none of the *cargos* are for pay, although field research reveals that gradually many *usos y costumbres* municipalities are paying some *cargos*, most notably that of municipal President. Because of the system of *cargos* or *tequio* citizens become deeply involved in the life of the community, either organizing religious festivities, coordinating public works, cleaning the roads, policing the streets, rural roads and fields, repairing the school, organizing the public market, decorating the church, etc. According to our survey data, 60 percent of respondents had held a cargo of various types in the past. An almost universal 92 percent of respondents carried out a form of volunteer service (*tequio*) in the prior year.

Cargos can be exceedingly taxing. For example, *Mayoles* organize regular religious festivities and keep the local Church. The Water Committee monitors water use and the wells' reserves, sanctions wasteful practices, and fixes water pipes. Members of the education committee organize school-related activities, repair the classrooms, fix the school toilets, and make sure that school teachers show up to teach the children. In one remote municipality, for

instance, we found that parents organized in a committee that was rotated weekly to oversee the assistance and behavior of the school teacher. A mother of four told us they had problems with the previous teacher who gave classes drunk. This committee took the case to the assembly and they decided to expel the teacher from the community. After some bureaucratic hurdles with the state government, they were assigned a new teacher of better quality.

Policing is another cargo done by the *Topiles* (community police), in charge of paroling the streets and rural roads, often without vehicles. In Teotitlán del Valle a critical perspective on cargos came from this observation: “for me it is a little bit of a problem the matter of having to sometimes fulfill a duty, it is true, very true, that as part of our community it is our duty, right? Because we live here and we rule ourselves by *usos y costumbres*, but on the other hand I can see that in most cases for the young men, particularly when they decide to marry, they are affected.” This man went on to tell us that “when he got married the community started to have its eye on me and told me I had to perform my duty, starting from the lowest one.” This was discussed in the context of him being chosen to serve as *topil*.

Tequio is used for a wide range of small and short-term public works projects. In our field work we have reports of *tequio* being used for fixing the local school, church, or health clinic, digging a well, filling potholes, expanding the market, garbage collection, cleaning the town and the graveyard, fixing the gardens, planting trees, caring for the elderly or unclogging the sewers. Larger public works projects –including street pavement, road construction, building health a clinic, or laying water or sewerage systems– are constructed through a mix of resources: FAISM funds for the bulk of the material and assorted construction equipment, while local men and women donate their labor to the community.

Cargos and *tequio* are a precondition to acquire community rights. Those who refuse to perform their *cargos* or *tequio* are sanctioned. Traditionally, sanctions include monetary punishment, imprisonment, disruption in the supply of water, physical punishment, or in extreme cases, banishment from the community. In our ethnographic work we found evidence of a gradual abandonment of the latter sanctions. Some of our informants attributed the gradual abandonment of physical punishment to the presence of the Human Rights Commissions,

which receive complains of human rights violations from members of the communities. Our qualitative field research revealed that the mandatory character of these public services is so binding that men living illegally in the United States are also summoned to participate in a *cargo*, and they (or most often someone in their families) usually comply to avoid sanctions.

Women are also responsible for many *cargos*, and they increasingly seem to play roles of greater responsibility. In our field interviews we found women engaged in caring for the public library, being in charge of the *cooperativa* store, providing community kitchens, taking care of the community phone, participating in committees for feasts (both civic and religious); all the way to serving as policewomen (*topiles*), treasurers, members of the municipal council, *regidores* in charge of various public services and even mayors.

Compulsory, non-remunerated labor in these communities can be thought of as form of taxation where the community decides tax structures, which most prominently include these non-pecuniary contributions, endogenous to the level of public goods provision. In party municipalities, by contrast, taxation is mostly exogenous to the provision of public goods: political leaders at the national level decide tax bases and rates, and investment decisions at the local level are often made independent of these.

3.4 Dispute resolution.

Problems often arise within the communities when some families find the burden too high or unacceptable for some reason, including religion. Lynn Stephen (2005) provides a vivid account of a protestant family in a Zapoteco community Oaxaca who refused to perform *cargos* due to religious beliefs. The community sanctioned them by denying their right to burial within the community cemetery when one family member died. After days of negotiations and an obvious health hazard, they arrived to a middle-ground agreement by which partial participation was promised.

This exemplifies how *cargos* and *tequio* are bundled to other political and community rights. Our field interviews give some insight into the forms of social control implicit in this system. In Villa Diaz Ordaz a man told us, shrugging, that if one does not provide *tequio*,

then you will not get paid work in the construction of public works, or be allowed to use the communal lands. Discussing the temptation to shirk from those responsibilities he told us that “lies do not work here, because if you continue lying or not collaborating, you will lose the right to your land”.

A fourth institutional difference between party municipalities and *usos y costumbres* municipalities is that the former have a professional armed police force and deal with conflicts through the judiciary. Conflict resolution and adjudication takes the regular judicial channels, which are often located outside of the communities, and are administered by judges that have little knowledge of the locality. *Usos y costumbres* municipalities have a parallel system of conflict resolution and adjudication and a parallel security system. The community charges *topiles* with the task of protecting the security of its people, although they are seldom armed. The assembly, a counsel of elders, an indigenous tribunal, and/or the municipal president can hear conflicts and impose sanctions. The mechanisms for dispute resolution lie within the community, and are exercised by its members who presumably enjoy a high level of legitimacy. By contrast, in party municipalities law enforcement and conflict resolution is done through the armed police and the judiciary, delegitimized almost throughout Mexico.

3.5 Fiscal flows for public good provision.

Regardless of whether they are ruled by parties or *usos y costumbres*, all municipalities in Oaxaca share the same fiscal relationship with the federal governments. The most important federal transfer used by municipalities to fund public works, the *Fondo de Aportaciones para la Infraestructura Social Municipal* (FAISM) is granted directly to the municipal government, regardless of form of governance. The distribution of these resources is determined by a federal formula, based on poverty indicators, and its allocation cannot be modified by governors. Although municipalities sometimes fail to use all the available funds, there is no evidence of political manipulation in their allocation (Diaz-Cayeros, Estevez and Magaloni, 2016).¹⁷

Once resources arrive to the municipality, the municipal president has ample discretion

¹⁷However, for one of the most interesting studies of the politics of these funds, in the context of malfeasance and citizen accountability, see Chong et al. (2014).

to select projects and distribute transfers among villages. Hence, mayors in both systems possesses great leeway in deciding how these considerable financial resources get distributed within the municipality. But in *usos y costumbres* places they are more likely to consult citizens through the assemblies for those decisions. Since federal transfers for social infrastructure projects within the FAISM have significantly increased since 1997, municipal governments have played an increasingly larger role in the provision and distribution of local public goods.¹⁸ Thus, the budget for the provision of public goods such as sewerage or drinking water does not really depend on local taxation, and the possible effects of local governance on that revenue, but on predetermined federal transfers.

Municipalities in Mexico are administrative territories composed of both a central *cabecera*, the main town where the government seats, and a periphery of smaller villages. In Oaxaca these outlying villages are referred to as “agencias.” Regardless of governance type, *agencias* often retain traditional governance forms, including assemblies and other direct participatory methods. It is not uncommon for FAISM funds to be primarily allocated to the *cabecera* towns, even though the most serious poverty and public service needs are concentrated in *agencias* (Fox and Aranda, 1996).

The administrative structure of Mexico’s fiscal federalism provides a unique research design opportunity because financial transfers are clearly exogenous: they are identically distributed to places with similar poverty levels. But there is significant institutional variation in the way formal local authority is selected and governance exercised. Parties and electoral competition governance prevails in some municipalities, while traditional assembly-based, participatory rules of governance are found in other jurisdictions.

In the remainder of the paper we exploit this institutional variation to generate inferences about the effects of governance on the provision of public goods. To understand how the budgetary process works in *usos y costumbres* municipalities, we quote an interviewee who explaining this most lucidly:

¹⁸Local infrastructure projects that require heavy investment –such as the provision of drinking water– are usually developed with mixed funding from the federal and state levels, but municipalities do have a substantial legal and financial independence in the allocation of these goods. Municipalities collect very little own revenue, and almost all the funds to pay for these local public goods come from these federal transfers (see Díaz-Cayeros and Silva Castañeda (2004).

Before we had no control of budgeting, as I explained, but this time we were stricter on how we elected the mayor, because we wanted him to work hard. Before construction companies would come and do the public works and take over most of the money, at most two or three projects were done, and the money would vanish. Since it was impossible to please the whole town that way, now the public works are given priority through the assemblies that say, the people say: How many works for the first section? Two or three, then, how much did the first section get? Now, on to the second section; then the third; and so on. Then priorities are being set. People approved that ranking, and then there were thirteen projects that were approved in that year, and the thirteen of them are being carried out. But as I was explaining, with the budget that is limited.

The quote suggests that assembly meetings play an important role in how projects are decided in *usos y costumbres* municipalities. There is little research on the dynamics of governance between *agencias* and the core towns in the *cabecera*. An exception is Eisenstadt and Ríos (2014) who suggest an important mechanism explaining conflicts in places ruled by *usos y costumbres* as a consequence of the disempowerment of *agencias* in the informal structure of decision making. We agree with them that this is a critical component of the way public resources are allocated in municipalities in Mexico, but differ in that our field work suggests that *agencias* in municipalities ruled by political parties are even more disenfranchised, than those ruled by *usos y costumbres*, through the lack of territorial representation in the rules for election of municipal councils.

A final difference highlighted by our qualitative interviews in party localities is that citizens believe resources inevitably get allocated to party supporters. In some localities, partisan divisions are so entrenched that our informants reported that water could be cut off from areas of towns where opponents lived. A man told us “here you can’t get any service if you do not support the party of the municipal president. All this section of the town –pointing to a hill with many small houses - now does not get any water because the mayor is from the PRI and this section of the town is *PRDista*. Can you imagine that they do this?” One

woman told us in a village from a party municipality: “Here even water is political. Those in that barrio who went with the PRD got removed from the service and now they have to get water by hiring *pipas* (private water trucks)”

4 Traditional Governance and the provision of public goods and services.

We hypothesize that traditional systems of *usos y costumbres* impact the provision of public goods because in this form of governance there is greater participation in decision making, more accountability in the use of public funds, and community resources are leveraged through various forms of volunteering. Mayors have incentives to be more responsive to citizens than in municipalities ruled by political parties. However, this form of governance may not impact different types of public goods in the same way. In particular, education and health services in Mexico are provided primarily by the federal (and sometimes state) governments with little input from municipalities. And even electricity provision is primarily determined by the expansion of the public grid by the Federal Electoral Commission.

Hence we will concentrate on two public goods that are crucial for development, and happen to be under the direct jurisdiction of municipal governments. Drinking water and sewerage are crucial local public goods that do not just enhance household well being, but impact public health decisively. In our field work we witnessed how municipal governments under both *usos y costumbres* and multiparty competition emphasize these goods as local priorities and a good metric to evaluate their own performance. In almost every municipality we visited there was a water committee or a member of the *cabildo* (municipal assembly) in charge of supervising and overseeing the delivery of drinking water. And mayors proudly inaugurate sewerage systems (or expansions) as the hallmark of their good performance in office.

These public goods may be delivered with more or less coverage, but may also be biased in favor of some citizens over others. In particular, a critical question regarding the impact of *usos y costumbres* on governance is to ask whether the poor are more or less likely to benefit from public goods under this form of governance. There is an additional question as

to whether indigenous ethnic households are more likely to receive benefits vis-a-vis others. And a final concern is whether the core town of the so-called *cabecera* is more likely to receive benefits than the peripheral villages called, in the case of Oaxaca, *agencias*.¹⁹

Our ethnographic accounts suggest that traditional governance may have some advantages in the provision of local public goods. However, statistically evaluating the impact of *usos y costumbres* institutions is challenging because governance is not produced by an accident of nature. The complex historical, economic, social and political processes that gave rise to this institution also confound efforts to assess a causal impact. And the institutional forms themselves have important differences in the way each particular town or village has adopted them. Notwithstanding those differences, Appendix 1 shows that there is enough commonality among these forms of governance to make a statistical analysis, complementary to the ethnographic evidence, a valid exercise.

A naive statistical model of the effect of the variation in these forms of governance on public good provision is not a reliable indicator from which one may infer causal effects. A frequency table can be built comparing public good provision according to governance types, using household level data from the sample of the 2010 Mexican census. The census sample descriptive statistics would lead us to believe that *usos y costumbres* is unambiguously worse in the provision of public goods than political parties. The descriptive data is particularly striking for sewerage, where four fifths of the people living under *usos y costumbres* do not have access to sewerage, almost double the figure corresponding to parties.

This purely descriptive data would suggest that traditional governance does not seem to perform well in public service provision: less drinking water, less electrification, as well as larger gaps in basic schooling and health insurance, and a greater share of dwellings with dirt floors. However, from an inferential point of view, the descriptive table does not provide insight into the role of governance institutions. Sociodemographic conditions are widely different across these two groups: inhabitants who live under political parties also tend to dwell in cities, for example, with much lower poverty rates and higher incomes.

¹⁹Eisenstadt and Ríos (2014) have found that one of the most important mechanisms behind their findings related to conflict in municipalities with traditional forms of governance is due to grievances from the *agencias*

	Parties	Usos y Costumbres
No water	31.6	42.4
No sewerage	43.1	79.6
No electricity	8.9	20.5
No basic schooling	40.8	56.1
No health insurance	70.1	85.9
Dirt floors	30.9	60.1
n	2,156,759	1,217,585

Table 2: Comparison of *usos y costumbres* and Party Service Delivery in 2010.

4.1 Survey data evidence

Our survey was designed to allows us to explore some of the differences in how public services are distributed to citizens highlighting smaller municipalities and controlling for differences between the *cabecera* and *agencias*, under different governance types, and between households with different characteristics. The survey was stratified in its design to ensure a better coverage of places with traditional governance institutions. We are also better able to tease out household level differences that may be correlated with the provision of goods and services (such as income and ethnicity), allowing us to assess the distributional allocations of public services within the municipality.²⁰

We asked respondents to report if their household had access to water inside the house, from a faucet in the yard or from other sources, including a nearby river, a well, or a private water truck. We code as 1 those who report having water at home or in their yard and 0 otherwise. We also asked respondents if they had access to sewage in their homes. We code as 1 those who report that their sewer is connected to the public sewerage system and as 0 those who report that they do not have connection. 48 percent of our sample has water and 31 percent have sewerage.

To begin understanding how these public services are distributed, we perform a simple analysis in Table 3, which shows coefficients of two logit models, one for access to water and

that fail to be redressed by the municipal authorities.
²⁰We attempted to run these estimations with the 2010 census sample. However, due to the way the census sample is design to protect the anonymity of respondents, we do not have information on the location of households within a municipality.

	Water	Party	Usos	Sewerage	Party	Usos
	<i>Cabecera</i>	1.60***	-0.25		3.97***	1.42***
		(0.27)	(0.24)		(0.49)	(0.36)
	Poverty	-0.69***	-0.15		-0.68*	0.43
		(0.30)	(0.23)		(0.39)	(0.27)
	Indigenous	0.38	0.45*		0.69*	0.15
		(0.29)	(0.24)		(0.36)	(0.29)
	Constant	-1.36***	-0.03		-3.52***	-2.29***
		(0.32)	(0.27)		(0.55)	(0.40)
	N	278	335		278	335

Table 3: Household level provision of public goods

the other to the sewerage system. The table report coefficients for three relevant correlates: 1) if the locality is a *cabecera*; 2) household extreme poverty and 3) if respondent self ascribes as indigenous.²¹

Coefficients in Table 3 suggest that in party municipalities provision of both water and sewerage is strongly skewed in favor of the *cabecera* in detriment of the *agencias*. The table also suggest that in party municipalities, provision of water is highly unequal, not reaching the poor. Moreover, those who self-identify as indigenous tend to be strongly disfavored in that they do not receive sewerage where parties rule. In *usos y costumbres* municipalities, by contrast, water is not skewed in favor of the *cabecera*. Importantly, provision of water does not disfavor the poor. Respondents who self-identify as indigenous appear to be better served with water in *usos y costumbres* municipalities.

This preliminary exercise suggests that there are differing patterns in the way public services are distributed in party and *usos y costumbres* municipalities. Distribution of public services in the later appear to be less skewed in favor of the ruling *cabecera* and to be more egalitarian, favoring provision to the poor and the indigenous. Suggestive as these findings are, it is important to recognize that there is a fundamental problem of inference related to the fact that, in spite of the careful sampling strategy in our survey, we cannot be sure that these differences are attributable to the form of governance, due to potential selection bias

²¹We define a household as poor when respondents self-reported earning one of the two lowest income brackets (below 3000 pesos a month). Indigenous comes from a question that asks if the respondent self-identifies as indigenous. 60 percent of our sample answer yes to this question; while roughly 30 percent are extreme poor.

problems. In an attempt to offer a causal identification strategy, the next section uses census data from villages, providing a more robust empirical estimation of the significant difference between governance institutions on the provision of public goods.

4.2 A geographic discontinuity approach.

Whether traditional governance impacts public good provision is about showing evidence of a causal story, not simply an empirical regularity arising from correlations. The econometric identification challenge is to find a way to separate the effect of the governance type on public goods provision from modernization variables that are highly correlated with governance. In terms of the potential outcomes framework, the problem is that the performance in public good provision of a place ruled by *usos y costumbres*, cannot be compared with itself under political parties, since both states are not observed simultaneously. We need a counterfactual scenario to *usos y costumbres* that is credible, in which almost identical communities are compared, only varying governance institutions.

The academic literature proposes several strategies to deal with these issues, including instrumental variables and matching (Angrist and Pischke, 2008, 2014). Díaz-Cayeros, Magaloni and Ruiz-Euler (2014) used propensity score matching to study public good provision in Oaxaca. Matching on observables allowed them to explore the effect of *usos y costumbres* at the municipal level, analyzing the coverage of public goods and the degree of political competition. We delve into the impact of governance type on the provision of public goods by using an empirical strategy that is more robust to selection on unobservables and studies conditions at the village and town level, namely a geographic regression discontinuity design. This is a form of regression discontinuity design (Lee and Lemieux, 2010) in which a geographic boundary or threshold is used as a strategy for identification. The assumption in such design is that the boundary provides something akin to a "natural experiment" in which observations close to the municipal boundary behave "as if" randomly assigned.

Figure 1 shows boundaries between municipalities ruled by *usos y costumbres* and those governed through political parties. The figure shows 5 and 10 kilometer buffers along the

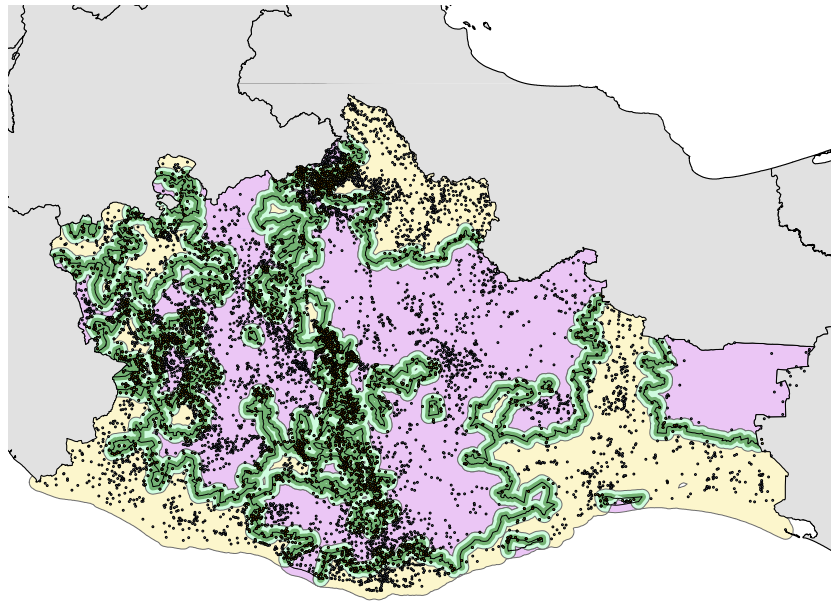


Figure 1: Geographic Discontinuity Between Usos and Partidos Municipalities

boundary, and the 7,721 localities with more than 2 households that existed in the state of Oaxaca at the time of collection of the 2010 census. Oaxaca municipalities are relatively small, so the threshold for comparison on the geographic discontinuity should be small. There is a large concentration of towns in the Central valley around Oaxaca city, which is the densely settled region at the center of the state. There are many areas in the mountains which are sparsely populated, with only a few villages close to each other along the discontinuity.

The figure suggests that most of the peripheral areas of the state, by the Coast and neighboring states, are ruled by political parties. The core of the Mixtec and Zapotec speaking regions are predominantly ruled by *usos y costumbres*. The geographic regression discontinuity design compares villages and towns (localities) within a buffer zone around the border that divides *usos y costumbres* from party governance. Neighboring villages would be treated as randomly assigned: from a statistical standpoint, their basic socioeconomic makeup should be undistinguishable, but some will fall in the party governance side while others would be governed by *usos y costumbres*.

Keele and Titiunik (2015) provide a careful critique of some of the reasons why geographic

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4 regression discontinuity designs should be used with some care. In particular, they note that
5 potential threats to identification may come from sorting behavior along political borders,
6 since households might actually make efforts precisely to move onto either side of the discon-
7 tinuity, in order to take advantage of the “treatment”. In the context of the indigenous towns
8 in Oaxaca we study, however, this sorting behavior is unlikely. For our identification strategy
9 to be credible, the choice of *usos y costumbres* among localities close to the boundary between
10 the regions characterized by each governance regime should be exogenous. This is not just
11 a matter of finding a statistically balanced set of variables characterizing the “treated” and
12 “control” groups of villages, but also about knowing something regarding the way in which
13 settlement patterns in Oaxaca have historically come about.

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15 Rules of communal land-tenure prevailing in most of Southern Mexico impose restrictions
16 to movement across municipal jurisdictions. There are stringent requirements to buy or sell
17 land within communities. These requirements arise both from the legal system of communal
18 land tenure developed historically, as well as from informal community rules that tie land
19 ownership rights to broader patterns of civic engagement. Our ethnographic work suggests
20 that communities are highly stable in their membership and the inhabitants sense of belonging.
21 It is not easy for someone to simply move to another municipality to own land.²² Furthermore,
22 linguistic diversity creates barriers to entry into communities other than one’s own language
23 group.

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25 In villages that are not part of the *cabecera*, sorting effects are unlikely given that the key
26 decision regarding the form of governance was taken in the core town of the municipality,
27 while communities in the periphery took that choice as given. Interestingly, our qualitative
28 field work revealed that there are actually many villages that are internally ruled by *usos y*
29 *costumbres*, but are “stuck” in party municipalities. For these villages defecting to the nearest
30 *usos y costumbres* municipality is generally not possible because municipal boundaries are
31 rarely, if ever, renegotiated. Such decisions depend on the state Congress, so the definition of

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²²The 2010 census reports whether household members have migrated across municipalities, states and countries. On average, only about 2% of households had members who migrated within Oaxaca across municipalities in the prior 5 years, including inflows into the capital city. Hence, although Oaxaca is characterized by important flows of international migration, there is little movement across municipal boundaries.

the boundaries is exogenous to the choices of inhabitants in localities around them.

From a technical perspective, the credibility of this strategy of causal inference still hinges on demonstrating balance across the observations that fall under each governance type. Balance tests are conventionally done to have a sense of the degree to which the groups of localities assigned to each governance type are comparable. The standard way of doing this is to calculate difference in means tests between treatment and control groups over observable variables, excluding quite naturally outcome variables that may be affected by the “treatment”.

We use Mexican 2010 census data at the locality level. Variables include demographic data, household characteristics and economic structure. An advantage of the data we use is the level detail. For example, demographic data includes a measure of the total population, disaggregated by gender and five or more sub-population categories (children under two years, over three years, over five years, over fifteen years, over eighteen years old, and so on). The data also disaggregates all previous combinations combinations by gender. The same is done for example for data about ethnicity, whether people speak an indigenous language, whether they also speak Spanish or both, disaggregated by age groups and gender. The data we have is extremely rich, which allows us to perform balance tests on each one of these population subgroups rather than just on the general groups.

An important decision in this discontinuity design is to determine what constitutes a small enough neighborhood close to the border between treated and control observations. If the neighborhood is too small the statistical test might be underpowered to detect effects; but too large a neighborhood is likely to fail to achieve balance. A quarter of the localities in the state of Oaxaca are within a 5 kilometer band of this border, which means that the threshold will be small. We set the smallest neighborhood at 250 meters from the boundary, testing balance every additional 250 meters, until reaching around 6972 meters (a maximum band of around 14 kilometers). Appendix 2 shows that these neighborhoods are well within an “optimal” bandwidth that can be estimated, taking into account a tradeoff between the precision and the potential bias of the estimates.

For the sake of brevity, Tables 4 and 5 show balance tests for 500 and 2500 meters on

Variable	Parties	Usos y Costumbres	Difference	p-value
Population	476.2	496.8	20.5	0.88
Econ. Active	181.8	193.4	11.6	0.85
Men	235.2	246.2	11.0	0.87
Women	256.5	274.4	18.0	0.81
Households (HH)	119.8	128.3	8.5	0.81
Avg. HH Size	4.33	4.26	-0.07	0.22
Fertility	3.11	3.14	0.03	0.56
Male / Female Ratio	.964	.961	-.004	0.81
Male Head of HH	0.786	0.765	-0.020	0.01 *
Age < 12	0.406	0.408	0.002	0.68
Age 12 to 18	0.143	0.141	-0.003	0.49
Age > 65	0.124	0.124	0.0002	0.97
Married	0.543	0.544	0.001	0.84
Catholic	0.853	0.847	-.006	0.68
Indian	0.359	0.359	-0.0007	0.97
Indian HH	0.431	0.456	0.024	0.39
Employed	0.967	0.959	-0.007	0.27
Illiteracy	0.230	0.229	-0.001	0.88
Incomplete basic	0.449	0.446	-0.003	0.79
Localities (N)	456	432	888	

Note: *Balance Test* for discontinuity of 1km
* Significantly different from 0 in a two tailed test

Table 4: Balance Test at Geographic Discontinuity Between Usos and Partidos Municipalities (500 m from border)

Variable	Parties	Usos y Costumbres	Difference	p-value
Population	798.7	398.9	399.8	0.12
Econ. Active	326.0	148.9	177.2	0.15
Men	391.7	198.9	192.8	0.12
Women	436.1	220.7	215.4	0.14
Households (HH)	203.9	102.7	101.2	0.14
Avg. HH Size	4.33	4.25	-0.07	0.07 *
Fertility	3.09	3.21	0.11	0.001 *
Male / Female Ratio	0.959	0.956	-0.004	0.71
Male Head of HH	0.784	0.773	-0.011	0.03 *
Age < 12	0.408	0.411	0.002	0.54
Age 12 to 18	0.145	0.141	-0.003	0.11
Age > 65	0.125	0.131	0.006	0.13
Married	0.545	0.551	0.006	0.13
Catholic	0.848	0.849	0.001	0.87
Indian Language	0.362	0.393	0.031	0.08 *
Indian HH	0.432	0.484	0.051	0.01 *
Employed	0.964	0.960	-0.005	0.28
Illiteracy	0.234	0.233	-0.008	0.90
Incomplete Schooling	0.447	0.450	-0.003	0.69
Localities (N)	1066	1057	2123	

Note: *Balance Test* for discontinuity of 5 km
* Significantly different from 0 in a two tailed test

Table 5: Balance Test at Geographic Discontinuity Between Usos and Partidos Municipalities (2500 m from border)

either side of the boundary. Balance is reasonably good in small neighborhoods around the boundary. In a band of 1000 meters around the discontinuity, only one variable (male head of household) shows a statically significant difference between *usos y costumbres* and parties. In the wider band that includes localities within a 5 km band, in contrast, several variables are imbalanced, including the average household size, fertility rates, the male to female ratio and the share of population or households that can be considered indian. This is to be expected, since as the band becomes wider, the localities included in the comparison increasingly look more similar to the overall patterns of the poorly identified universe of all Oaxacan localities. In what regards political variables, it is not possible to carry out a similar balance test at the village level, simply because the level of aggregation of electoral data is higher. However, an online appendix provides evidence, drawing from electoral precincts in 1991 and 1994, suggesting that our identification strategy is not threatened by political biases.²³

To obtain some insight into the empirical strategy, figures 2 and 3 provide a visualization of the difference in the provision of drinking water and sewerage under the two types of governance structure. The peculiar feature of the graphs is that localities are not ordered by a conventional metric of level of development or other attribute related to their sociodemographic makeup, but rather the distance in meters to the geographic boundary that separates *usos y costumbres* from political party governance. The parties are arrayed to the left according to the distance to the boundary, starting from a relatively small buffer or 3 kilometers, while *usos y costumbres* localities are ordered to the right. The figures also include a lowess regression line that fits the provision of public services according to the distance metric.

The sharp difference in provision of water and sewerage across the boundary is the geographic discontinuity we seek to estimate. To estimate a causal effect of governance types over the discontinuity, taking into account the potential threats to inference, we present our results every 250 meters, until reaching 1500 meters. We then present results every 500 meters until reaching 3 kilometers (on each side). And a final maximum boundary is set according to the MSE optimal bandwidth (described in Appendix 2). We know from Table 5 that at the

²³We thank an anonymous reviewer for insisting on finding alternative ways to check balance on political variables, even though this was not possible at the locality level.

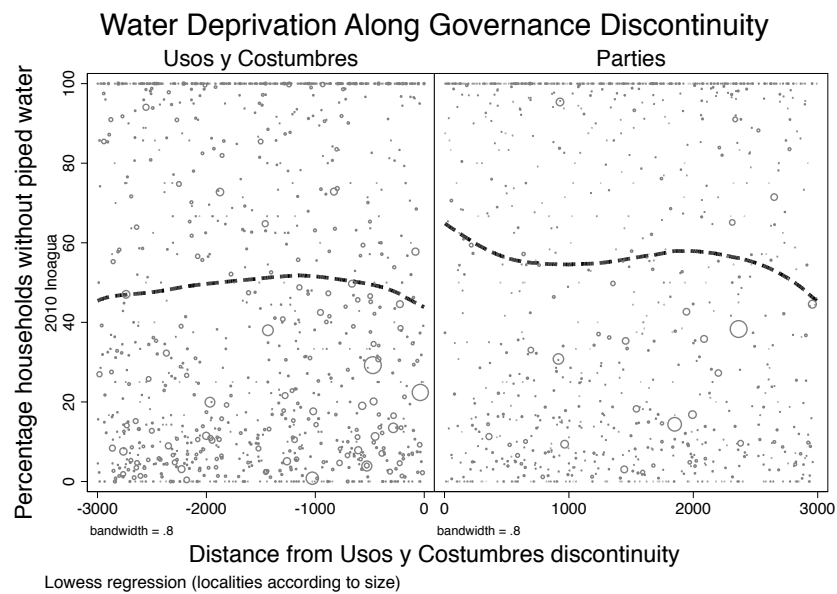


Figure 2: Water Provision Along Geographic Discontinuity

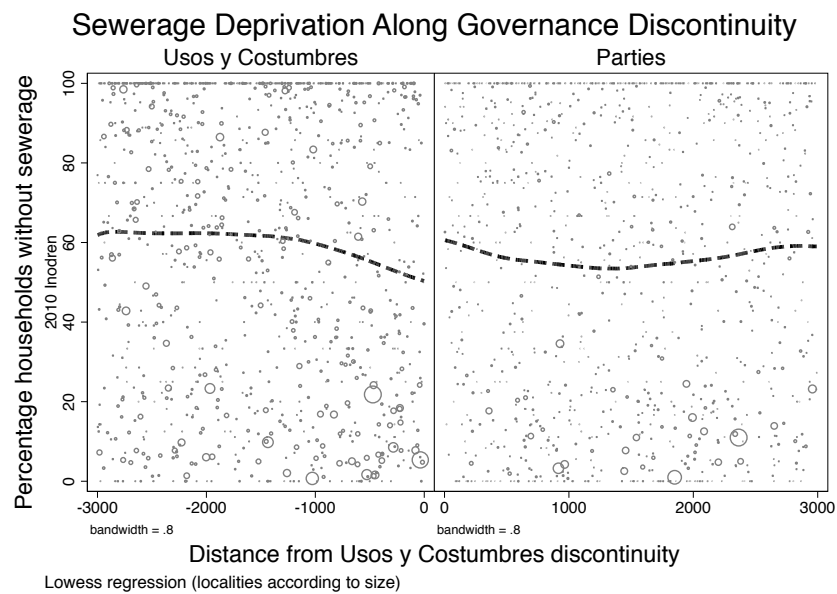


Figure 3: Sewerage Provision Along Geographic Discontinuity

threshold of 2500 meters we start running into less balanced samples, so this strategy for the presentation of findings provides a more transparent description of the size of the governance effects as we move towards less robustly identified comparisons of means.

The dependent variable is hence the percentage of households in a given locality that do

not have access either to drinking water or sewerage. In keeping with the recommendations of Keele and Titiunik (2015) we move beyond a test of a regression coefficient or a difference of means, estimating a Local Average Treatment Effect (LATE). We do this through a matching procedure, controlling for geographic location. The literature on geographic regression discontinuity warns that treatment effects may be different along the length of the border. Specifically we calculate a LATE matching every observation with the three closest localities to the boundary, controlling for geographic space, with a polynomial of order 2 for longitude and latitude.²⁴ The estimates were calculated using the **rdrobust** routine in STATA (Calonico et al., 2017).

The results are presented in Table 6. The first column in the table presents the distance to the discontinuity. The second column provides the estimate of the size of the difference in means, where *usos y costumbres* is the treatment. The third and fourth columns present the standard error and the t-test statistic, while the last column indicates the number of localities included in each comparison. The first block of estimates corresponds to lack of water and the second one to lack of sewerage. After the LATE estimates, the table also presents hypothesis tests with no matching, for each public good. Those second set of estimates can be interpreted as the summary statistics of testing hypotheses over various bands on figures 2 and 3.

The hypothesis tests for the difference in the provision of public goods along the geographic discontinuity are striking. Water provision is much worse in localities that fall under the jurisdiction of political party governance than in *usos y costumbres*. The effect is rather large, of more than 10 percentage points in thresholds below 500 meters, and of around 6 points in wider bands. The results on the geographic discontinuity design support the conclusion that *usos y costumbres* municipalities are better than party municipalities at delivering drinking water, one of the scarcest and most valuable goods with important public health impacts. We find no significant effects on the coverage of sewerage.

That is, households living under *usos y costumbres* do not seem to be at a disadvantage in the provision of sewerage. This is contrary to the huge gap that was observed in the

²⁴We tested several specifications, including altitude and other geographic variables, but saw no advantage in such models, as compared to the rather parsimonious approach of only including the xy coordinates.

No Water	distance <	Coefficient	Std. Error	t-test	n
Exact Matching (3 closest)	250	-34.23	11.16	-3.07	181
	500	-23.91	8.08	-2.96	355
	750	-20.62	6.75	-3.05	554
	1000	-20.88	6.01	-3.48	722
	1250	-19.42	5.43	-3.58	907
	1500	-16.80	4.97	-3.38	1087
	2000	-12.62	4.32	-2.92	1427
	3000	-8.00	3.55	-2.26	2112
	6097	-5.69	2.57	-2.22	3828
	250	-14.05	5.96	-2.36	181
	500	-12.37	4.20	-2.94	355
	750	-9.33	3.41	-2.74	554
	1000	-5.39	2.99	-1.80	722
	1250	-5.57	2.66	-2.10	907
	1500	-4.71	2.43	-1.94	1087
	2000	-5.06	2.12	-2.38	1427
	3000	-6.35	1.74	-3.65	2112
	6097	-7.12	1.29	-5.51	3828
	All	-7.85	0.96	-8.22	7154
No Sewerage	distance <	Coefficient	Std. Error	t-test	n
Exact Matching (3 closest)	250	-37.97	10.99	-3.46	181
	500	-10.61	8.15	-1.30	355
	750	-8.50	6.61	-1.29	554
	1000	-9.46	5.82	-1.62	722
	1250	-9.44	5.24	-1.80	907
	1500	-8.77	4.78	-1.83	1087
	2000	-7.27	4.16	-1.75	1427
	3000	-2.94	3.38	-0.87	2112
	6972	-0.46	2.26	-0.20	3828
	250	-2.01	5.31	-0.38	181
	500	-6.61	3.76	-1.76	355
	750	-3.28	3.03	-1.08	554
	1000	-0.46	2.67	-0.17	722
	1250	2.01	2.38	0.84	907
	1500	2.29	2.16	1.06	1087
	2000	4.54	1.88	2.42	1427
	3000	4.50	1.54	2.92	2112
	6972	6.72	1.23	5.45	4223
	All	20.77	0.84	24.63	7154

Table 6: Effect of Traditional Governance of Lack of Public Services (Water and Sewerage)

descriptive statistics. Only when the discontinuity is extended to 3000 meters or more (which as we have mentioned, is less well identified) does a difference in the provisions of sewerage emerge, but as previously discussed, this is not generated by the governance type, but rather by the fact that the communities compared in that universe are no longer similar in terms of modernization and levels of development.²⁵

5 Conclusion

The results in this paper suggest that political parties in poor indigenous municipalities are a source of elite capture. Given the long history of electoral authoritarianism in Mexico, in party municipalities poor citizens appear to interact with local party elites according to entrenched and vertical patron-client relationships.

By contrast, the conclusion that emerges from our study is that indigenous communities, when ruled by traditional leaders, norms and practices, fare better in the provision of essential local public goods. The paper argued that the profound institutional differences among governance forms affect the provision of public goods through three mechanisms: greater local government accountability, broader civic engagement in collective-decision making, and an effective system of community service that allows for widespread cooperation with activities that promote the well-being of the community. Citizens in these communities are better informed and more participatory, and hence appear to be more capable of restraining elites from capturing resources.

Our findings are relevant for the debate about indigenous autonomies, an important theme in Mexico and in many Latin American countries such as Bolivia, Guatemala, Peru, Ecuador, and Colombia. After the Zapatista rebellion in 1994 in the Southern state of Chiapas, there was a renewed debate about indigenous autonomies. As part of the peace accords in San Andrés Larráinzar, the federal government committed to grant autonomy to indigenous municipalities like in Oaxaca, but later refused to enact the laws arguing that democratization

²⁵ *Usos y costumbres* municipalities are similarly able to provide the same provision of electricity, have the same proportion of households with dirt floors and show the same education indicators for no schooling and illiteracy. In short, for most public goods there is no disadvantage for inhabitants living under the traditional governance type.

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made the demands unnecessary and that Indian practices go against the constitution. To the contrary, our study highlights some of the limits of democratization in the context of indigenous Mexico, where electoral competition is more prone to capture government and distribute public goods along partisan lines.

The almost universal prevalence of political parties as vehicles for citizen representation imposes a tension between democratization and the provision public services that are essential for development. If political parties are more prone to capture the provision of these goods and subject their distribution to political allegiance, both the quality of democracy and the proper foundations for long-term development are reduced. It seems plausible that these inherent tensions of partisan distribution of benefits are at the center of a broader crisis of representation of political parties Mainwaring, Bejarano and Leongómez (2006). Support for democracy requires a minimal flow of benefits to citizens.

Our study suggests that decentralized community-led development is more likely to work where strong civic communities are already present (Putnam, 1995). Our results echo old wisdom about the importance of citizen engagement, participation, information and overall awareness and empowerment in public affairs. Democracy captured is democracy denied, which appears to be a more serious problem in localities governed by political parties. Traditional governance practices, for some indigenous communities with strong organizational resources and a history of social collaboration, offer a way out of this serious accountability deficit that can be deployed to enhance development and better serve the poorest citizens.

6 Appendixes.

6.1 Appendix 1: Variation in Traditional Governance Institutions.

Although usos y costumbres can be considered a distinct form of governance, we should note that there is variation in the way the specific institutions take hold in various places. When we collected our survey in Oaxaca we also convinced the Social Development Ministry in Mexico to include a small module within a survey to Mayors (the Encuesta Nacional de Gobierno 2009 - Seguridad Publica y Justicia Municipal (ENGSPJM)) to gather data on the institutional variation in usos y costumbres.²⁶

Table 7 shows some of the basic institutional variation in the voting method, ballot structure, competition, female participation, and punishment for non compliance. *Usos y Costumbres* normative systems often select mayors through competition among several candidates; they are more or less evenly divided in using fused ballots with closed lists or voting for each individual local official; majorities are usually tallied publicly (rather than in secret); non compliance is rarely punished through expulsions; and women can generally attend assemblies and vote, and they often participate in the municipal administration.

²⁶The only other systematic study available was carried out by CIESAS in collaboration with the State Electoral Institute (IEE), documenting the institutional variation in this form of governance in 1996. The IEE of Oaxaca continued updating that catalogue, providing comprehensive documentation for each municipality (as of November, 2017) at the following link: <http://www.ieepco.org.mx/sistemas-normativos/catalogo-municipal>. These IEE Catalogos should be studied to understand the evolution in the normative structures of Usos y Costumbres, but such task far exceeds the scope of this paper. We thank an anonymous referee for reminding us of this data source and asking us to clarify this point.

Voting Method			
Secret ballot	126	30.1%	
Communicate secretly to representative	5	1.2%	
Raised hand	211	50.5%	
Aclamation	5	1.2%	
Blackboard	108	25.8%	
Other	16	3.8%	
Ballot Structure			
Closed List	194	46.4%	
Single posts	214	51.2%	
Not know	10	2.4%	
Competition in Mayor Selection			
Multiple candidates	377	90.2%	
Single candidate	33	7.9%	
Do not know	8	1.9%	
Punishment for Noncompliance			
Expulsion	19	4.5%	
Lost reputation	93	22.2%	
Fine	56	13.4%	
Other	245	58.6%	
Not know	13	3.1%	
Women can vote in assembly			
Yes	361	86.4%	
No	48	11.5%	
Not know	9	2.2%	
Women in the municipal administration			
Yes	350	83.7%	
No	60	14.4%	
Not know	8	1.9%	

Table 7: Characteristics of Usos y Costumbres Institutions

6.2 Appendix 2: Optimal Bandwidth for Regression Discontinuity.

The choice of local bandwidth in the regression discontinuity design is an important problem that may undermine the credibility of the local comparisons being treated as if assignment had been random.²⁷ A common critique to RD designs is that there is no clear criterion for how small the neighborhood over which comparisons should be made. In recent years this has led to several recommendations on how to measure optimal bandwidths (Imbens and Kalyanaraman, 2012; Calonico, Cattaneo and Titiunik, 2014). It is important to note that such exercise is using the distribution of the observed variables in order to figure out where the measure effects, taking into account that there is a tradeoff between precision in the estimates and potential bias. We performed an optimal bandwidth exercise with a triangular kernel function, nearest neighbor, with 3 matches using the **rdrobust** routine in STATA (Calonico et al., 2017).

Table 6 presents this exercise. the columns show the estimated optimal bandwidth in meters, including alternatives that estimate an asymmetric bandwidth on the left and the right of the cutoff point. It also reports the estimated bias, also in meters. It shows first the estimations for water followed by sewerage. The alternative methods included are a mean square error (MSD-RD) bandwidth selector, one that uses the sum, rather than the difference of the regression estimates (MSE-sum), and a third one that calculates different bandwidths to the right and the left of the cutoff (MSE-two). In addition, a coverage error-rate (CER) selector is calculated, also in those three versions. The CER selector estimates are smaller, with bandwidths of around 3 kilometers; while the MSE ones are in the 7 kilometer range.

²⁷We thank an anonymous reviewer for the suggestion and pointing us towards the relevant literature.

	BW est. (h)		BW bias (b)	
	Left of c	Right of c	Left of c	Right of c
SEWERAGE				
MSE-RD	7031		12755	
MSE-sum	5596		13633	
CER-RD	4511		12755	
CER-sum	3590		13633	
MSE- two	4968	6260	10912	12710
CER-two	3187	4017	10912	12710
WATER				
MSE-RD	7239		13715	
MSE-sum	6003		11807	
CER-RD	4645		13715	
CER-sum	3852		11807	
MSE-two	9978	5741	17864	11080
CER-two	6402	3683	17864	11080
Descriptive Statistics				
Number of obs	3999	3155		
Min of running	-70900	4		
Max of running	-2	59788		
Order est. (p)	1	1		
Order bias (q)	2	2		
number of obs	7154			

Table 8: Optimal Bandwidth Calculations for Regression Discontinuity (meters)

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Supplementary Material. Online appendix to Public Good
Provision and Traditional Governance in Indigenous
Communities in Oaxaca, Mexico.

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August 30, 2018

0.1 Online Appendix: Balance Tests for Electoral Precincts

An additional concern regarding balance is to test within small electoral jurisdictions whether treatment and control groups are comparable. The concern is the likelihood of partisan manipulation of the *Usos y Costumbres* institutional reform. If partisanship varied across treatment and control units, some funds from the state and federal governments could have been allocated by PRI governors towards places where their partisan support was declining. If governance type was selected due to partisanship it could constitute a threat to the econometric identification strategy (this would be mostly relevant for state sponsored public goods projects, since FAISM would probably not be vulnerable to partisan discretion). This appendix provides evidence suggesting this should not be a cause of concern.

We find balance in pre-treatment for variables related to electoral processes. However, a straightforward locality level balance test like the one carried out with the census data is not possible. The lowest level of territorial aggregation of electoral data in Mexico is the *seccion electoral*, a precinct drawn by the National Electoral Institute (INE, that used to be the Federal Electoral Institute, IFE) to include a fixed number of voters. Precincts are not comparable to localities, particularly when examining small villages along the governance geographic discontinuity. Precinct boundaries in Mexico have been drawn seeking to incorporate towns and villages towards the center of the municipality, to make up a somewhat ordered territorial mosaic (North to South and West to East without crossing municipal boundaries) of voronoi polygons, comprised, in principle, of equally sized voter rosters (a precinct is supposed to have between 50 and 1499 voters, with a mode of 750).

An additional complexity is that there was an important process of redistricting and redrawing of precincts between the 1991 and 1994 elections. The 1991 precinct identifiers are not consistent with the current electoral cartography at the precinct level. This is an important check balance since 1991 (rather than restricting the examination to 1994) because the Zapatista uprising in Chiapas and the mobilization of indigenous communities to discuss the institutional reform in Oaxaca started well *before* the 1994 federal elections held in July. Although the state reform enacting traditional governance was approved in May 1995 (and incorporated in the state constitution at the end of the year), the governor and his team of

anthropologists and advisors were already working and discussing the governance reform since the beginning of that administration, that which taken office in December 1992.

Notwithstanding these issues, figures 1 and 2 provide a visualization of the balance in electoral outcomes in electoral precincts in the 1991 and 1994 federal elections at the geographic discontinuity. The horizontal axis displays the distance to the governance threshold, distinguishing electoral precincts (*secciones*) inside or outside the *Usos y Costumbres* jurisdictions. The variable on the vertical axis is the share of PRI vote in either the 1991 or the 1994 federal elections. We also tested balance for the other political parties, and spoiled ballots (turnout data was not available for that year, since voter rosters have only started to be publicly released at this level of aggregation since 2006).¹ The lowess regression line in the figures suggests that there is no difference in PRI support across the geographic discontinuity.

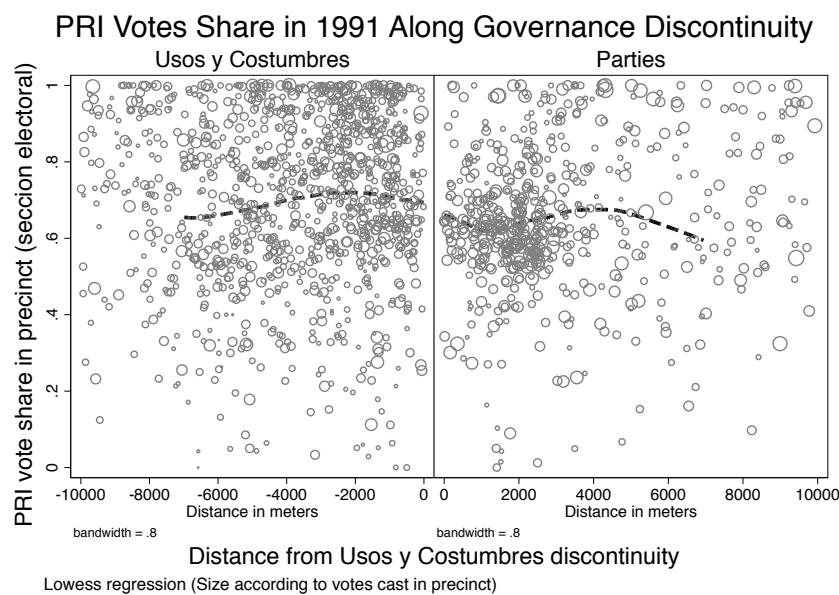


Figure 1: PRI Vote Share in 1991 Along Geographic Discontinuity

The procedure for georeferencing the precincts of 1994 and 1991 was the following. We use the Estadísticas Censales a Escalas Geoelectorales (?) state level GIS shapefile from the joint project of the Mexican Statistical Bureau INEGI and the National Electoral Institute INE, to establish the current location of the 2450 *secciones electorales* in the state of Oaxaca. These precincts are sometimes quite large in territorial terms, when they comprise several localities in sparsely populated areas, where one locality might be very close to the geographic discontinuity, but another one might be relatively far. Since precincts are polygons, we can adopt the centroids to establish the distance of a precinct to the governance discontinuity. The 1994 electoral data is readily matched to the shapefile of 2012, according to the INE codes of the *secciones electorales*. It is important to note that municipal ids in INE do not correspond with those conventionally used by INEGI. Some observations are lost when an urban precinct

¹Some scholars have found that, using municipal level aggregation of vote shares, PRI support in elections before 1995 provides a predictor of the assignment of municipalities into *Usos y Costumbres*. This correlation has been interpreted as an indicator of the entrenchment of PRI bosses. In this view, local PRI leaders sought to use the *Usos y Costumbres* reform as a way to insulate themselves from electoral competition.

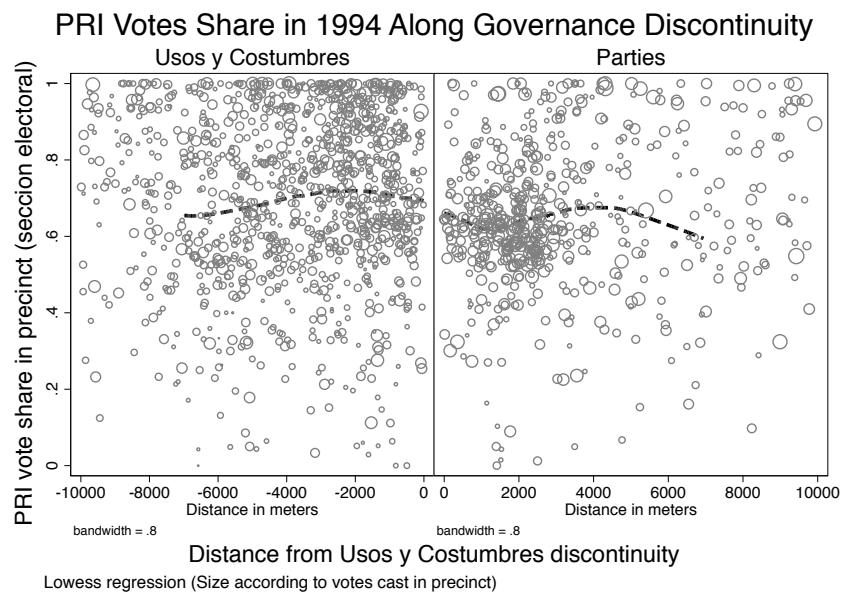


Figure 2: PRI Vote Share in 1994 Along Geographic Discontinuity

has been divided into more precincts, due to demographic change. INE constantly updates the electoral precincts and its corresponding cartography. In the case of the state of Oaxaca, that has experienced slow urban demographic change, this mismatch is only relevant for 5 precincts in large cities. Those precincts are replaced by new precincts numbered consecutively at the end of the list, and their codes are not reallocated. A small number of precincts have also disappeared, usually because they fell below 50 voter threshold. In all, 15 precincts from 1994 were not included in the analysis.

For 1991 precincts were matched with a different procedure. In the 182 precincts where there was only one precinct per municipality, we are very confident that we can simply assign the current georeferenced INE coding to that unique precinct. Other municipalities in Oaxaca only have a small number of precincts (two to five), and the number of precincts did not change between 1994 and 1991. We have assumed that the rank order in which municipal codes were assigned in 1991 is also the order for their 1994 coding. It is highly unlikely that electoral cartography would be redrawn in those cases, nor should we expect a new numbering convention, given that the electoral maps did not change. Finally, there are 232 precincts (9.5 percent of the data) where we are uncertain about the exact geocoding each individual *seccion electoral* should have. In those places additional precincts were created, but it is not possible to know where voters were extracted to create these new precincts. The distance from the discontinuity cannot have a very large error, since all these precincts are in urban areas within the same municipality. So we rank precincts in alphabetical order, even though we are aware it is possible that there are some errors. We verified the reliability of these coding decisions by correlating the 1994 and 1991 electoral returns according to each type of precinct (unique in a municipality, with no changes, or with new precincts added), and found no statistical difference in the observed electoral patterns.