

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.

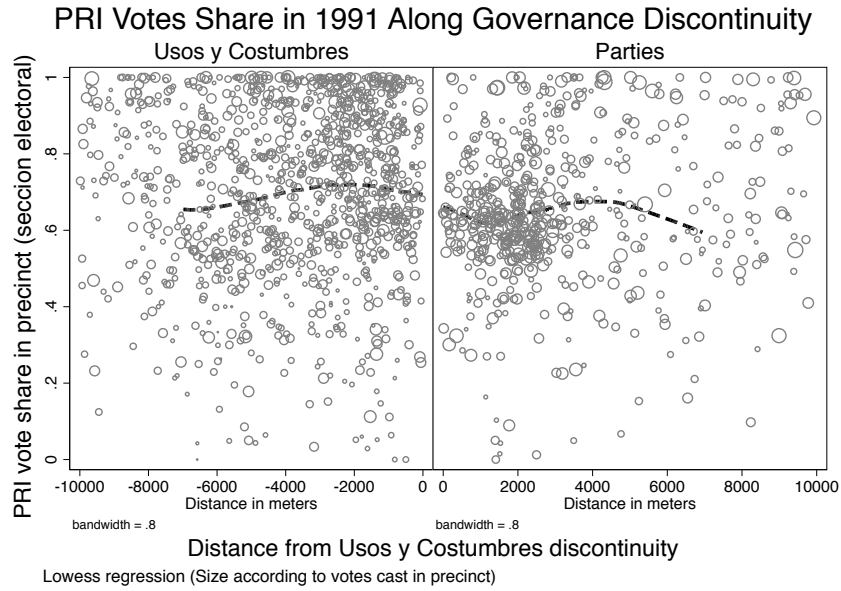


Figure 1: PRI Vote Share in 1991 Along Geographic Discontinuity

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.

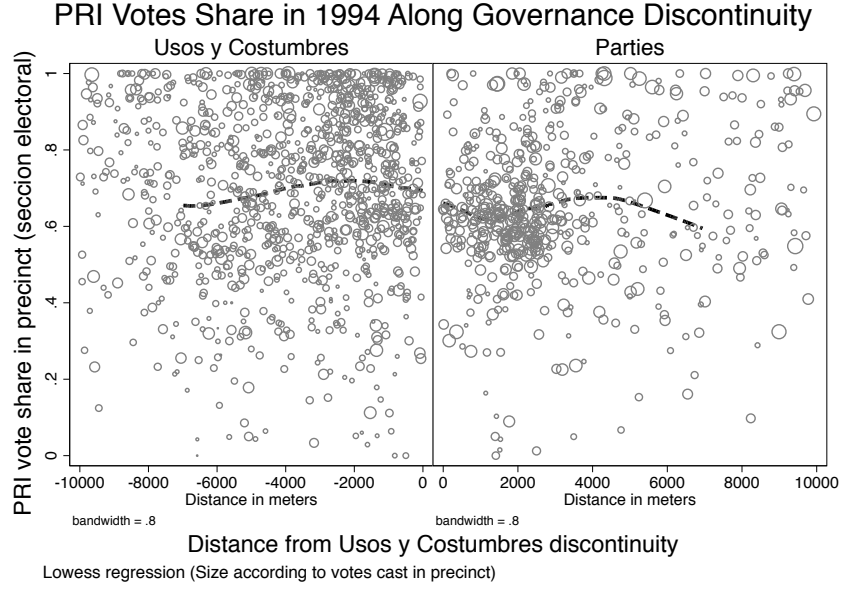


Figure 2: PRI Vote Share in 1994 Along Geographic Discontinuity

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.