The Dark Side of Election Reform

The geography of public goods

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Motivation: geographic redistribution of political power

Urban v. rural

Three perspectives

Electoral systems Rogoswski&Kaiser 2002, Persson&Tabellini 2003, Jusko 2015

Descentralization and local capture Reinikka&Svensson 2004, Banerjee et al 2017, Rizzo 2018

Malapportionment Beramendi&Jensen 2015, Ansolaberhere et al 2002, Samuels&Snyder 2001

Municipal electoral rules in Mexico

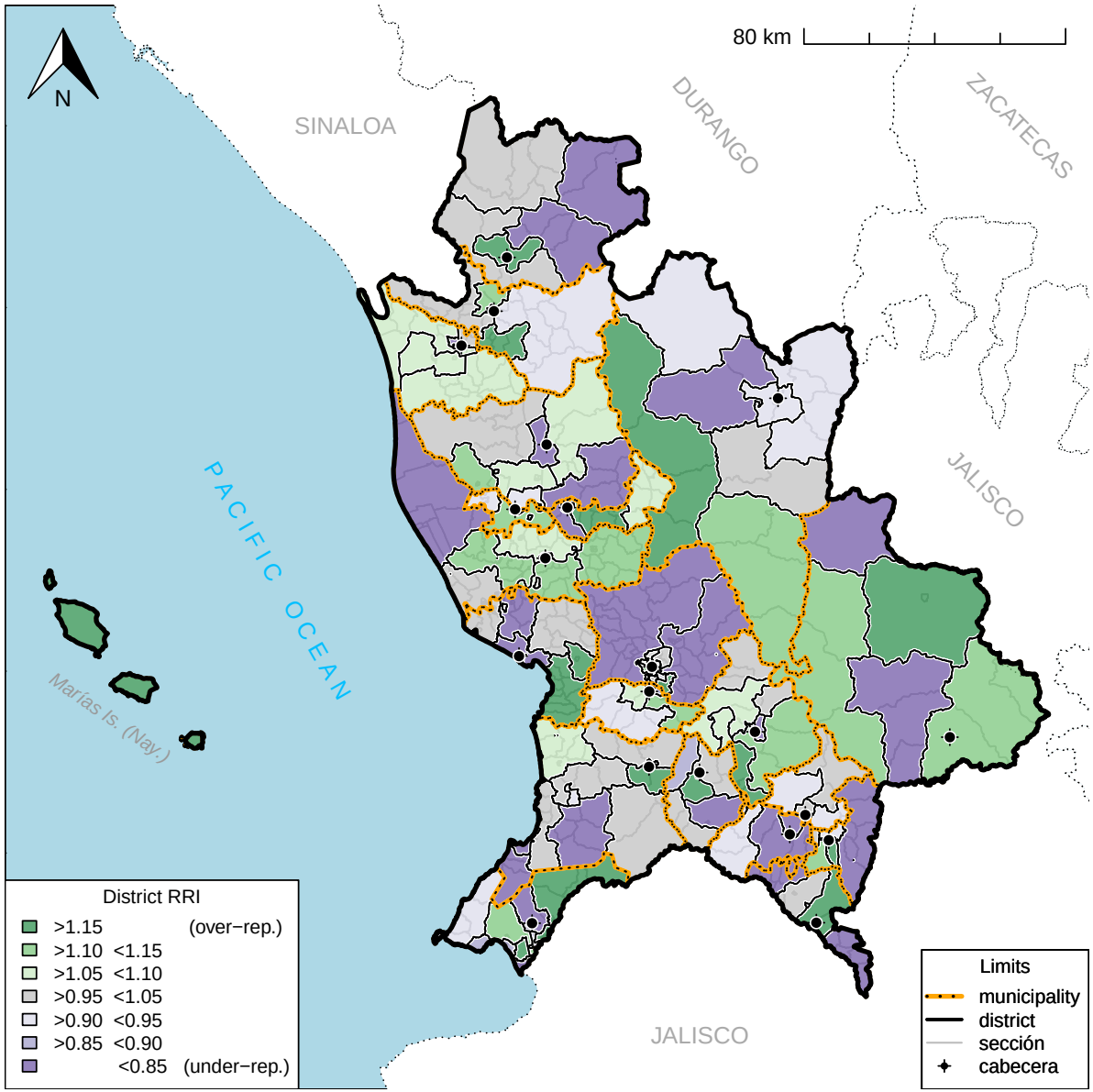
Electoral system	Number of municipalities	Cases	Vote needed for council majority
SP-SMD	20	Nayarit post-reform	(varies)
Proportional	46	Guanajuato	~ 40
	132	Durango, Morelos, Tlaxcala	~ 35
	57	San Luis Potosí	~ 25
Winner-gets-bonus	1,624	Rest	(plurality)
Total	1,879	Thirty states	

Nayarit $\rightarrow$ reform in 2008

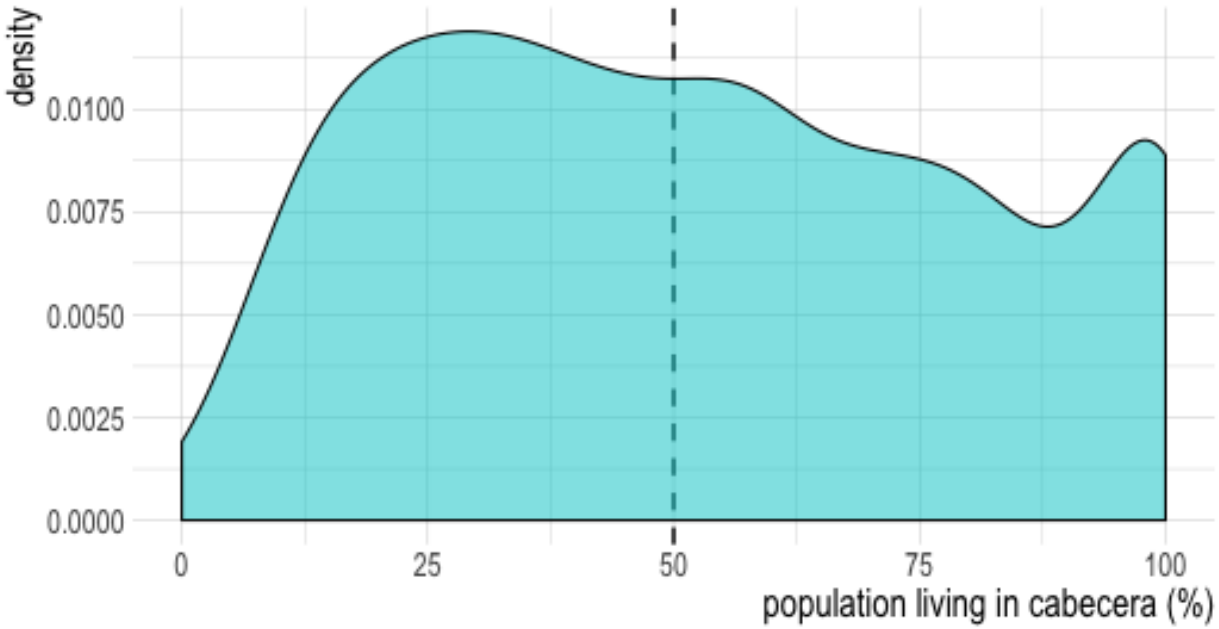
Territorial structure

- States (32)
- Municipalities (2,500+)
  - *Cabeceras* = "City Halls"
- *Secciones* (65,000+)
  - Basic units of electoral administration
  - No other political/administrative role
  - Population $\in [50, 2,500]$

The state of Nayarit since 2008



Are *cabeceras* dominant?



- Díaz Cayeros (2006): bulk of spending in *cabeceras*
- Urban areas easier to reach are electorally more attractive
- Reform in Nayarit predicated on these grounds

Data

Census for 2005 and 2010; sección-level

Infrastructure for 2006, 2009, and 2012; geo-located

Federal elections for 2006, 2009, and 2012; sección-level

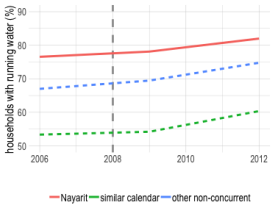
Satellite lights for 2006–2013; $< 1km^2$ cells

Calendars

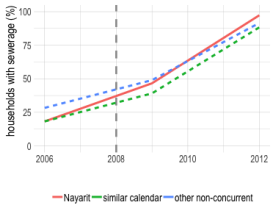
Nayarita:	2005, 2008, 2011, 2014
Non-concurrent:	2004, 2007, 2010, 2013
Federal:	2006, 2009, 2012, 2015

DV thru time: rural

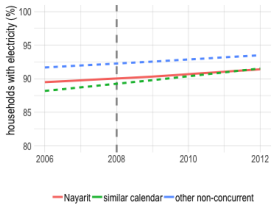
Running water (%)



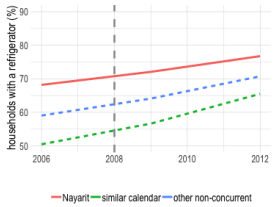
Sewerage (%)



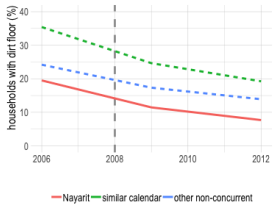
Electricity (%)



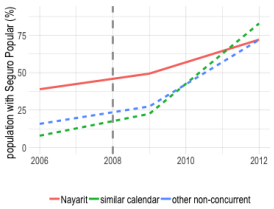
Refrigerator (%)



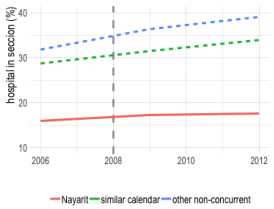
Dirt floor (%)



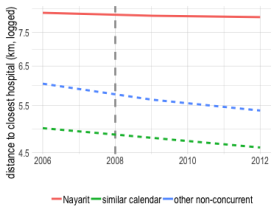
Seguro Popular (%)



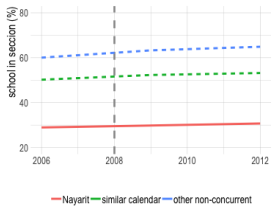
Hospital (0/100)



Nearest hospital (km, log)



School (0/100)



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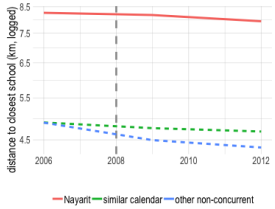
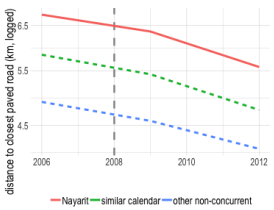
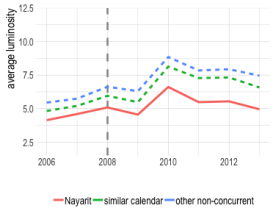


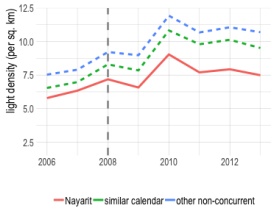
Nearest paved road (km, log)



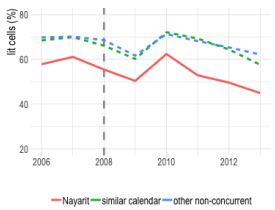
Average luminosity



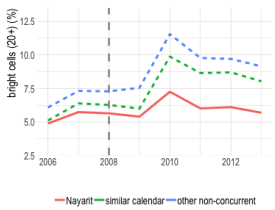
Light density (km^2)



Lit cells (%)

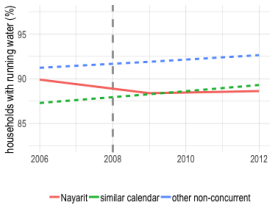


Bright cells (20+) (%)



DV thru time: urban

Running water (%)



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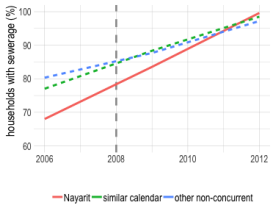
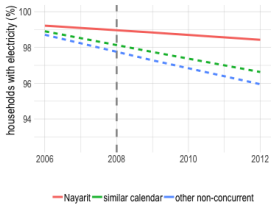


Electricity (%)



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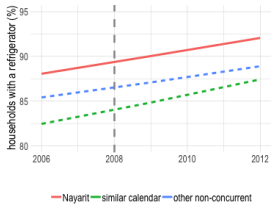

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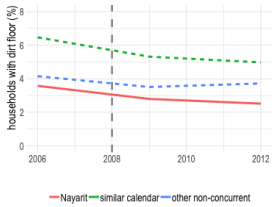

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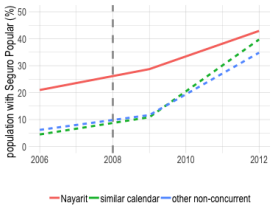

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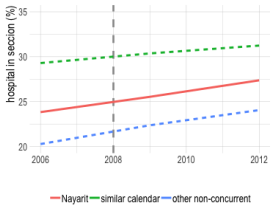

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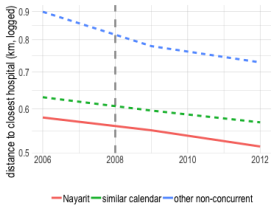

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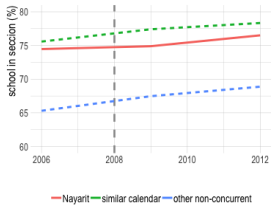

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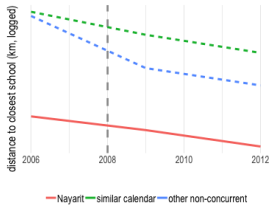

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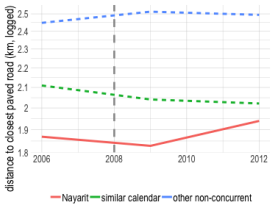
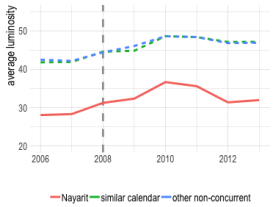


Average luminosity



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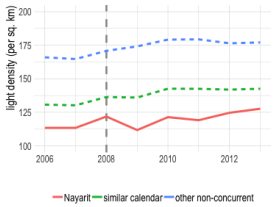
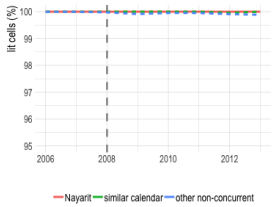
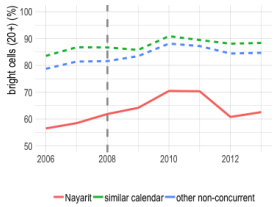


Lit cells (%)



Bright cells (20+) (%)



Empirical strategy

Compare rural v. urban before and after reform

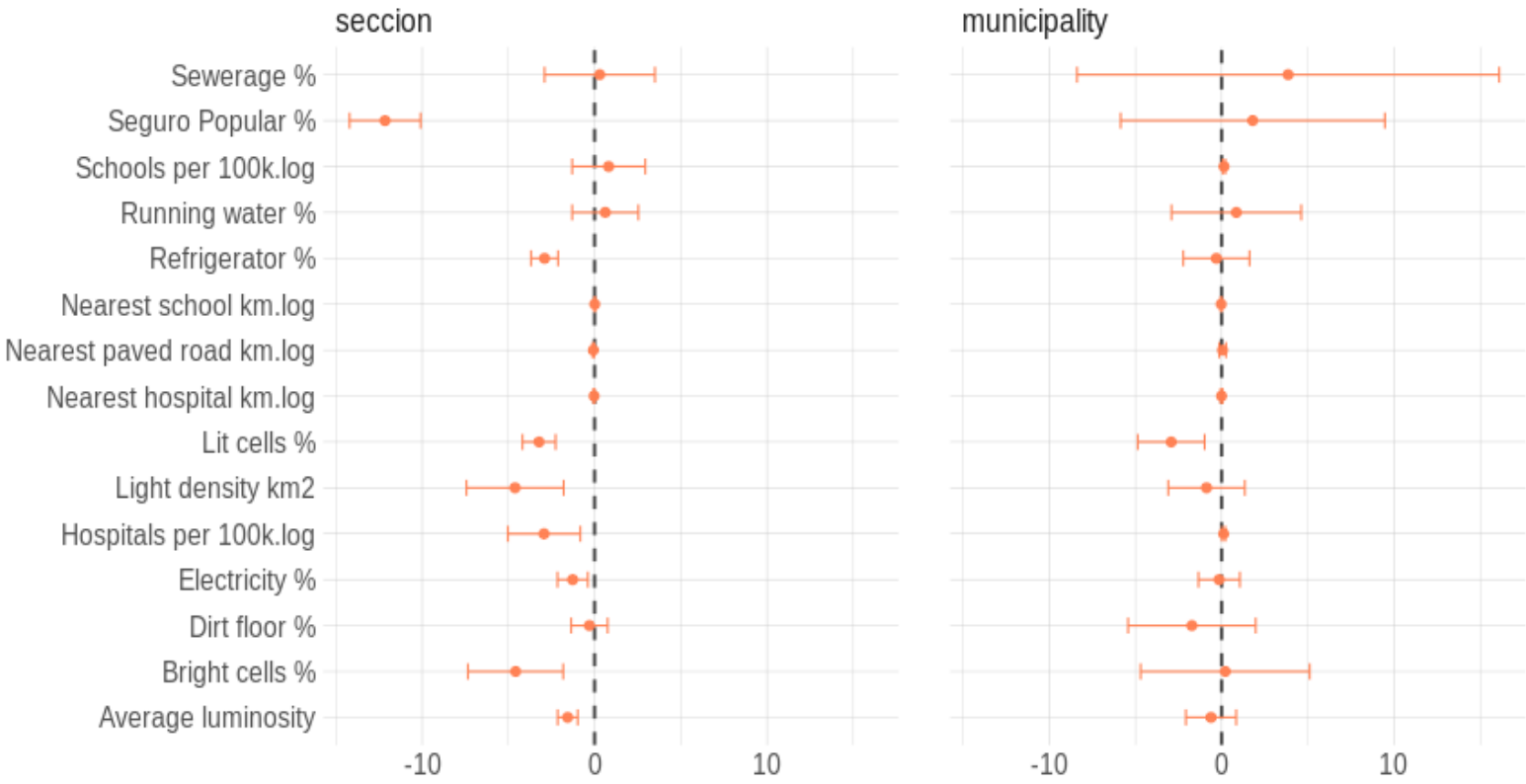
Aggregation at two levels:

1. sección
2. municipality subsets (rural/urban)

Dif-in-dif

- Separate urban and rural samples
- Bootstrap $\hat{\beta}_{\text{rural}} - \hat{\beta}_{\text{urban}}$
- SEs clustered by state

Results (bootstrapped $\hat{\beta}_{\text{rural}} - \hat{\beta}_{\text{urban}}$)



What's next?

- Conditional on electoral competitiveness (PRI strength)
- Δ turnout
- Exploit PR thresholds
- Measure treatment as "pivotalness"
- More data? 2020 census

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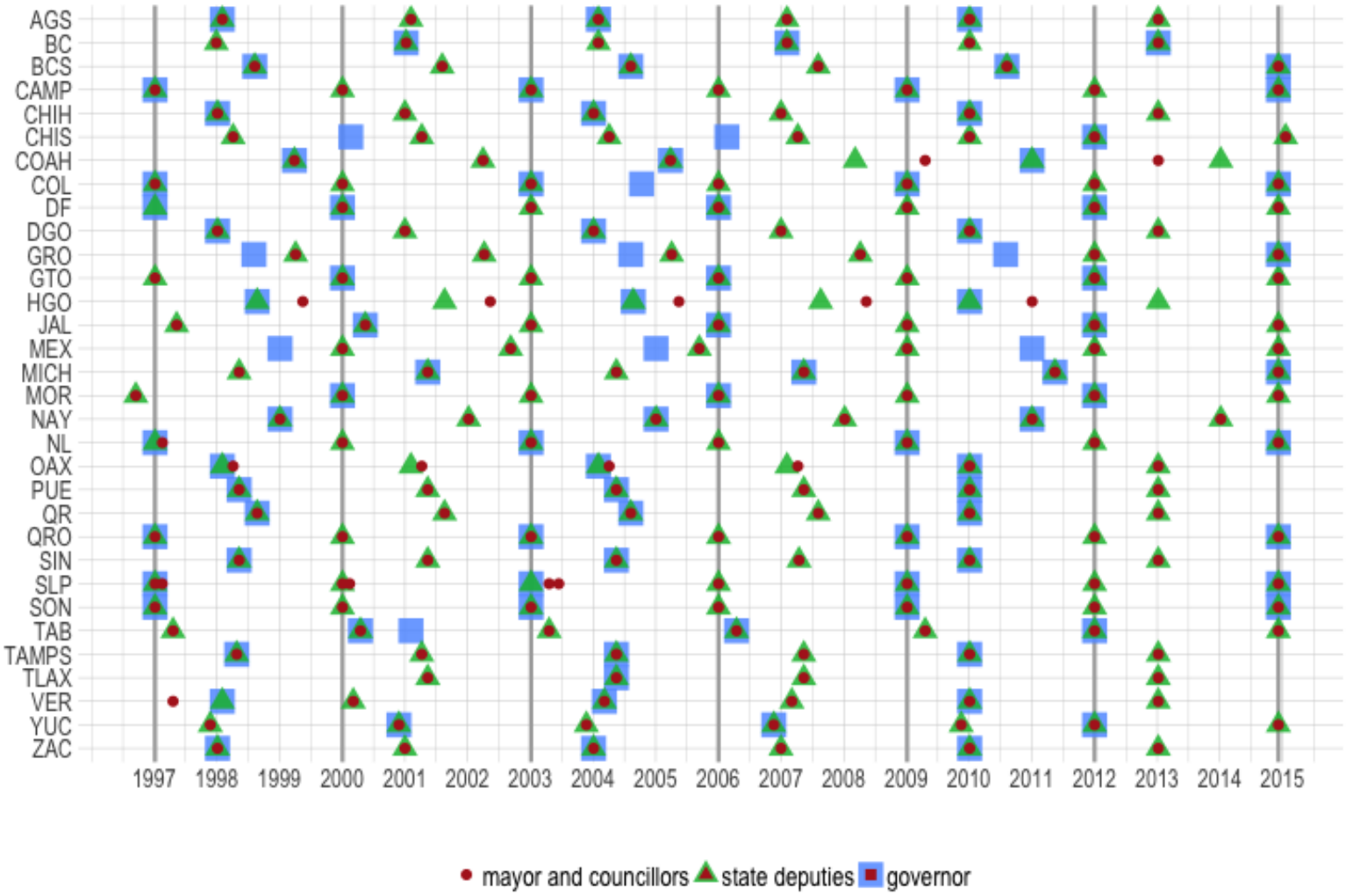
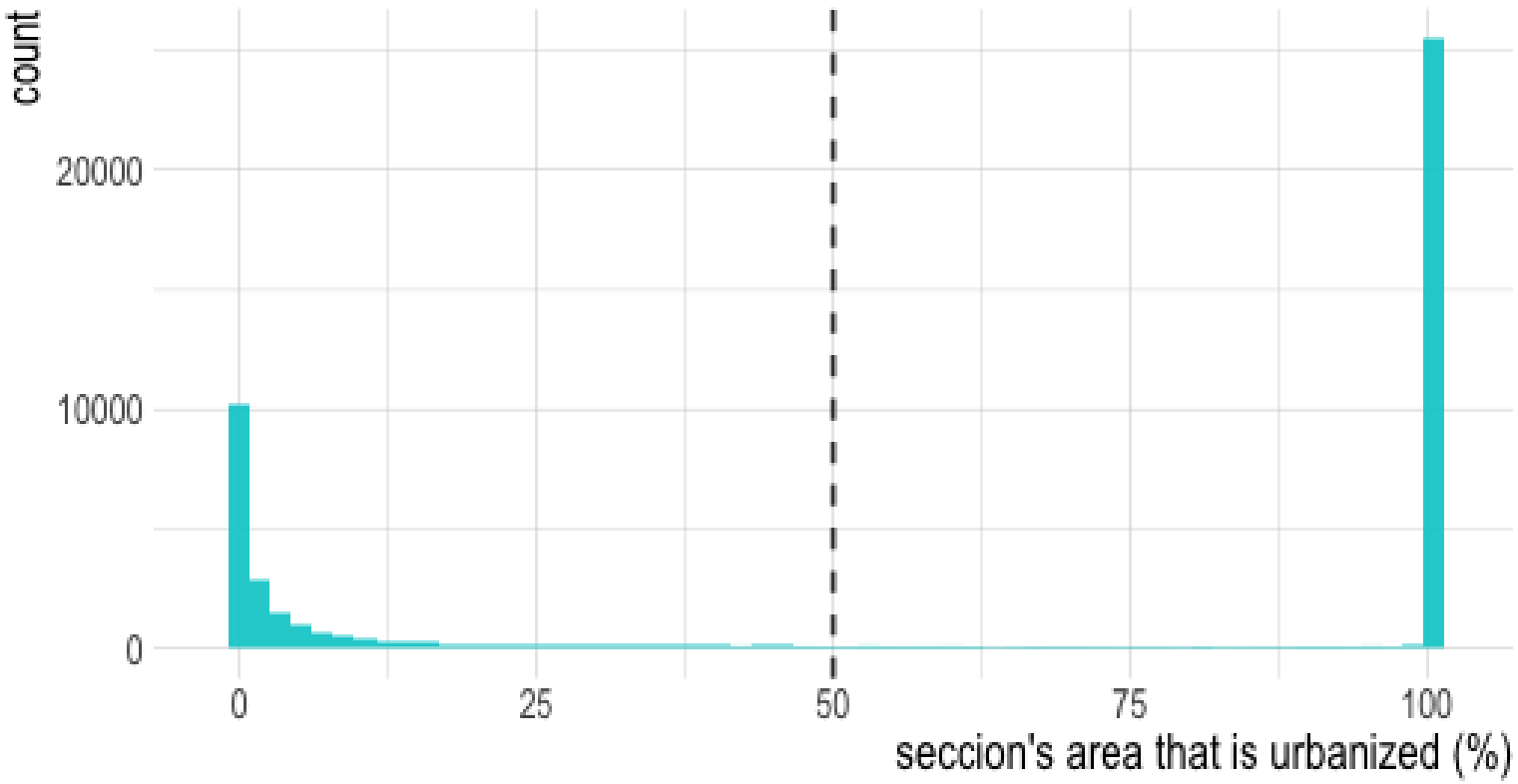
Thank you!

Electoral calendars



Coding urban vs. rural secciones



Outcome variables

outcome	description	years
(a) *Household and population characteristics*		
Running water (%)	% of households with running water	2006, 2009, 2012
Sewerage (%)	% of households with sewerage	2006, 2009, 2012
Electricity (%)	% of households with electricity	2006, 2009, 2012
Refrigerator (%)	% of households that have a refrigerator	2006, 2009, 2012
Dirt floor (%)	% of households with dirt floors	2006, 2009, 2012
Seguro Popular (%)	% of population enrolled in *Seguro Popular*	2006, 2009, 2012
(b) *Public works*		
Hospital (0/100)	100 if there is a health center in the *sección*, 0 if there isn't	2006, 2009, 2012
Nearest hospital (km)	km from *sección*'s centroid to closest health center in municipality	2006, 2009, 2012
School (0/100)	100 if there is a school in the *sección*, 0 if there isn't	2006, 2009, 2012
Nearest school (km)	km from *sección*'s centroid to closest school in municipality	2006, 2009, 2012
Nearest paved road (km)	km from *sección*'s centroid to closest paved road in municipality	2006, 2009, 2012
(c) *Satellite lights*		
Average luminosity	mean digital number value for all cells within a *sección*	2006 to 2013
Light density (km^2)	sum of digital number values within *sección* divided by its area	2006 to 2013
Lit cells (%)	% of cells with a digital number value of 1 or more in *sección*	2006 to 2013
Bright cells (20+) (%)	% of cells in *sección* with a digital number of 20 or higher	2006 to 2013