

Broad Effects of Reshifting Local Transfers: Evidence from Paraguay

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Global Trends in Decentralization

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 - Improve public service delivery
 - Spur local economic development
 - Increase democratic accountability and citizen participation

Key instrument: Intergovernmental Transfers



Federal



State

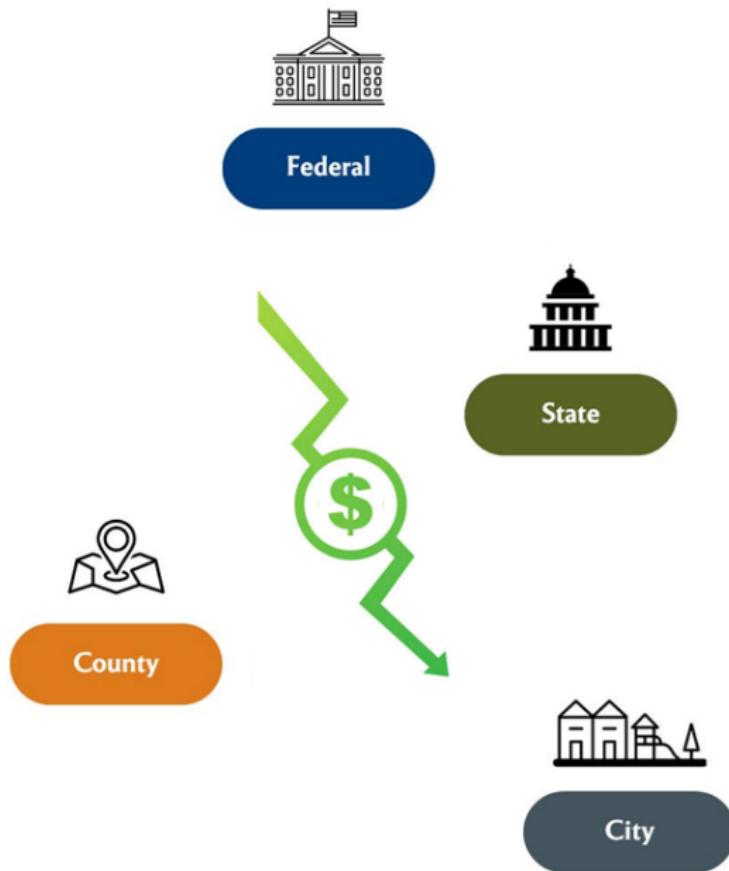


County



City

Key instrument: Intergovernmental Transfers



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- Boost sub-national government spending in priority areas
- Reduce imbalances when taxing capacity can't meet expenditure needs across regions
- Address externalities between jurisdictions

Intergovernmental Transfers



Intergovernmental Transfers



What I do in this paper

Effect of intergovernmental transfers on:

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Effect of intergovernmental transfers on:

- Local Public Finances
 - Taxation
 - Expenditures on infrastructure and social programs
- Development
 - Education (enrollment rates)
 - Local economic activity (e.g., night-time lights)
- Politics
 - Voter turnout at municipal and national elections
 - Mayors wealth, education, and reelection
 - Political career advancement

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Paraguayan Transfers Context

- Central Government transfers to Municipalities are **population based**
- Formula (unchanged since 2010) based on share of population relative to group of similar municipalities (2 tiers)
- Population counts (and projections) come from the **Census**, conducted every 10 years (2002, 2012, 2022).

Exogenous Shock to Transfers

Unexpected population adjustments from a botched census (2012).

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The Americas | Paraguay's population puzzle

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IMAGE: GETTY IMAGES

Oct 26th 2023 | ASUNCIÓN

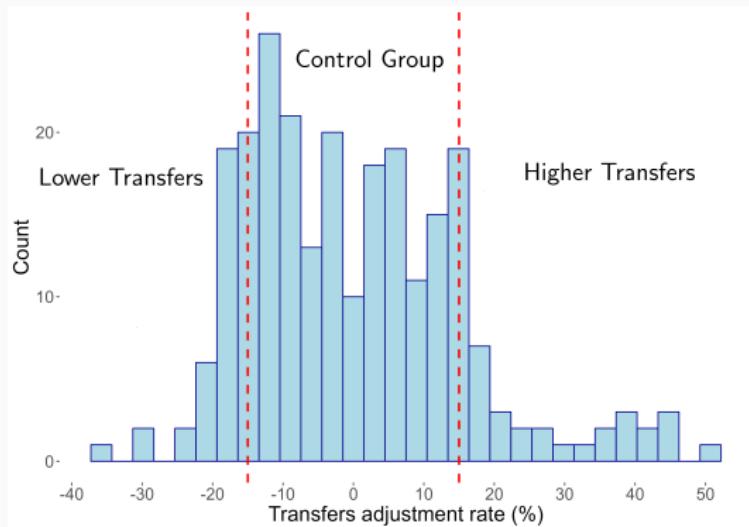
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Exogenous Shock to Transfers

- Unexpected bidirectional shifts in population-based transfers
- Two treatment arms and one comparison group
- **Difference-in-differences design**

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- Development

- Education: No effects on enrollment rates
- Local economic activity: No effects on night-time lights use

Findings

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- Politics:
 - Voter turnout at municipal and national elections
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 - ↑ Transfers ⇒ ↓ Voter Turnout across all age groups

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 - Mayors wealth: (forthcoming)
 - Mayor's education:
 - ↑ Transfers ⇒ Less likely to have a college degree
 - Incumbent advantage (forthcoming)
 - Political career advancement (forthcoming)

Exogenous increases and decreases in transfers

- Allows identification of non-linear effects of transfers
- Reveals both crowding-out and crowding-in effects in tax collection

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(Mixed results in developing countries) [Mogues and Benin \(2012\)](#), [Masaki \(2018\)](#), [Oyarzo and Paredes \(2019\)](#)

Exogenous increases and decreases in transfers

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- Reveals both crowding-out and crowding-in effects in tax collection
(Mixed results in developing countries) Mogues and Benin (2012), Masaki (2018), Oyarzo and Paredes (2019)
- Contributes to understanding of expenditure responses to transfers
Gadenne (2017), Litschig and Morrison (2013)

Development

- Transfers little to no impact on education or local economic activity

Contributions - Political Economy

Development

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Politics and Citizen's engagement

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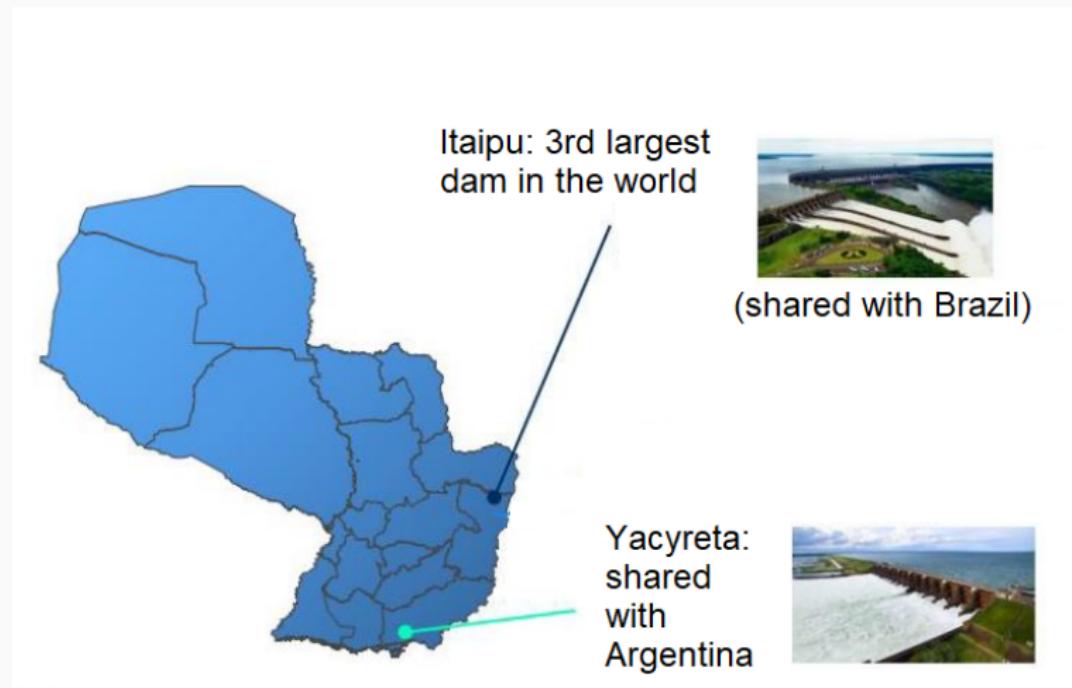
Politics and Citizen's engagement

- Impacts on mayoral reelection and political career advancement
- Strengthens local democracy through effects on voter turnout across age groups

Augments the literature on the political resource curse
[Monteiro and Ferraz \(2012\)](#), [Brollo et al. \(2013\)](#)

Institutional details

Paraguay: Two hydroelectric power plants



Institutional details

Excess energy is sold to Argentina and Brazil



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Central Government manage these funds
(“royalties”: 2.5% of the GDP)



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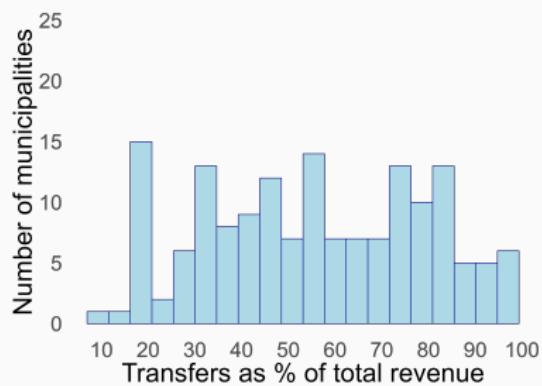
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Distributes to all municipalities (263)

How important are these funds?

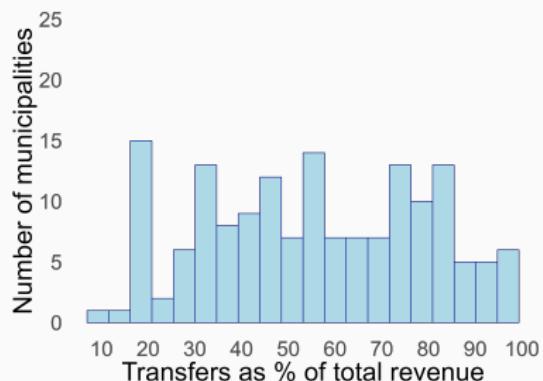
Transfers as fraction of total revenues, all municipalities



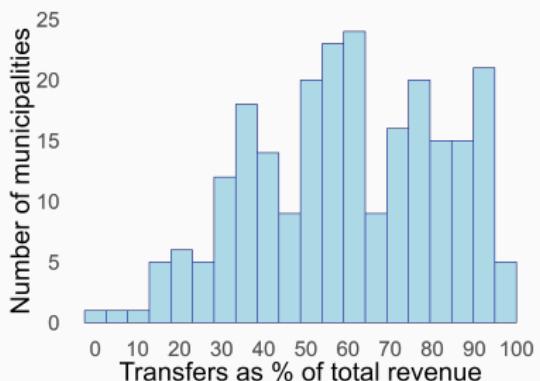
(a) 2010: $\mu = 55\%$ Median = 54%

How important are these funds?

Transfers as fraction of total revenues, all municipalities



(a) 2010: $\mu = 55\%$ Median = 54%



(b) 2015: $\mu = 59\%$ Median = 60%

Distribution of transfers – Population Weights

$$f \left(\frac{\text{Population municipality i}}{\text{Population group}} \right)$$

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- Censuses: every 10 years, conducted by National Institute of Statistics (INE)
- 2002 Census projections used for **transfers** in the next decade
- **Expected:** In 2014, the 2012 Census **should** have adjusted the population counts

Failure of 2012 Census

Failure of 2012 Census

OPINIÓN

El Paraguay sin cifras, un país indescifrable

Creo que hay temas en nuestro país a los que no se les presta la atención que merecen ni se les valora en su verdadera importancia. Un día aparecen en la prensa y rápidamente son opacados por noticias más llamativas y ruidosas y quedan en el olvido.

POR ROLANDO NIELLA
15 DE JUNIO DE 2013. - 21:06



El fracaso de este último censo, realizado en el 2012, es sin duda uno de esos casos. Tener cifras actualizadas y fiables sobre el país es crucial para diseñar y aplicar políticas económicas y sociales. Administrar el país sin datos reales ni

al **fracaso del censo del 2012**, sostienen desde el INE

31 agosto, 2023 0 255

“fracaso” al censo, que 80% de la población

ca de USD 20 millones, pero la baja
- - - - - del 20%
poblacional falló debido nales



Failure of 2012 Census

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The Americas | Paraguay's population puzzle

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IMAGE: GETTY IMAGES

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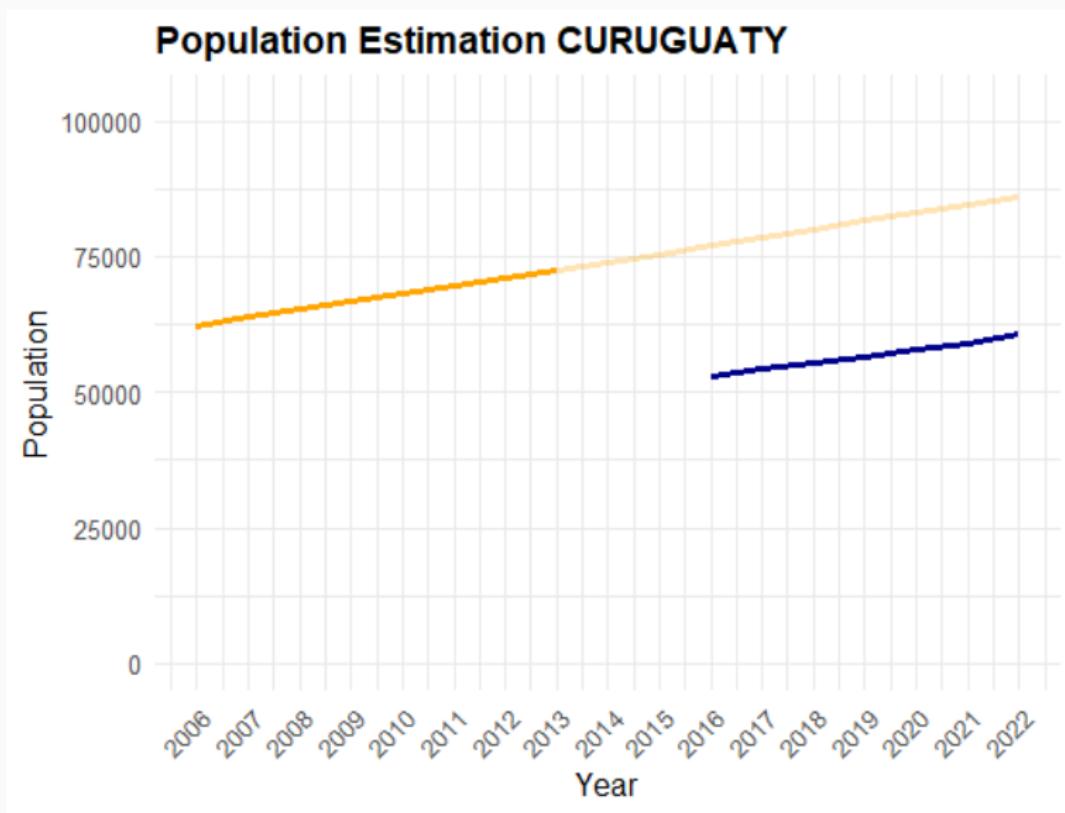


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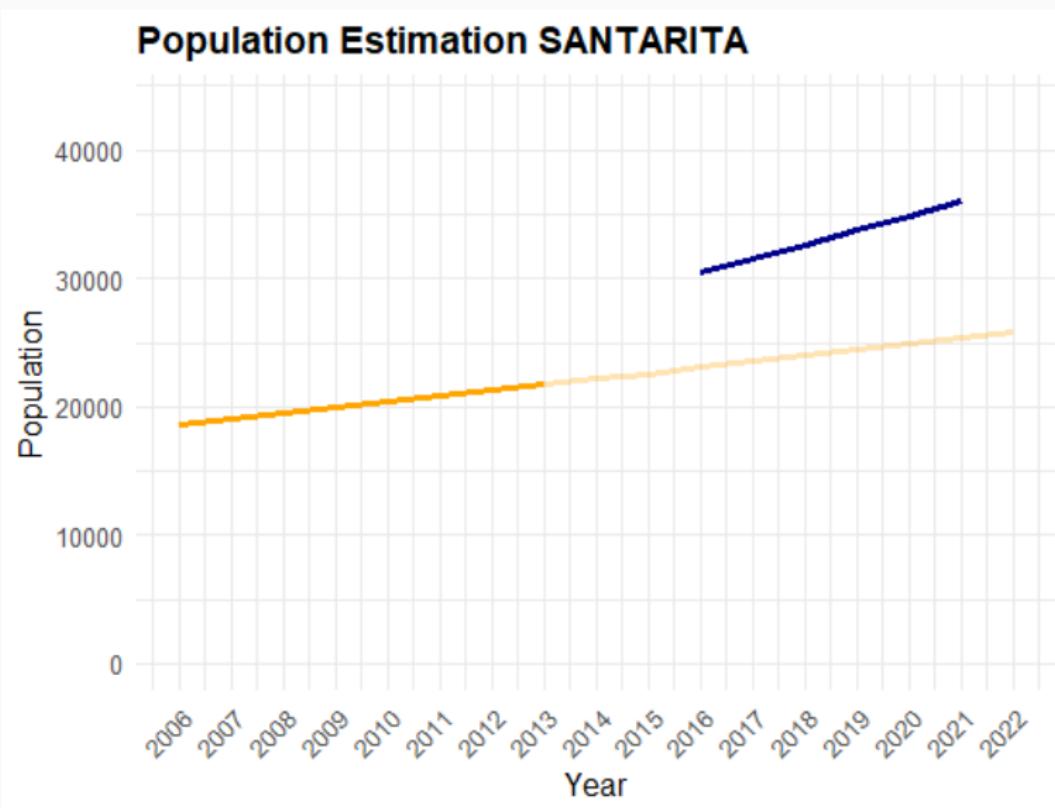
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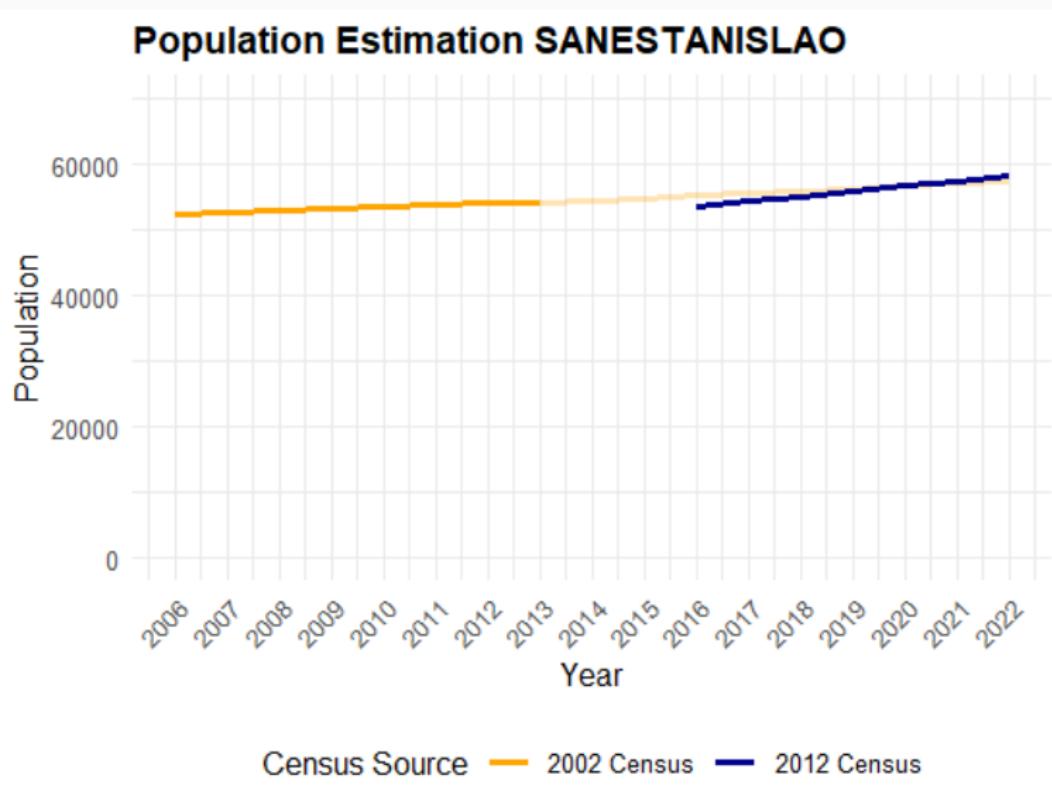
Census Shock: New values starting in 2016



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Transfers adjustments

