Privatization and Renationalization: What went wrong in Bolivia's Water Sector?

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Structure of the Presentation

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Overview

- Privatisation has become part and parcel of policy conditionality
- State-owned enterprises are presumed to be loss-making: producing inefficiently, often sheltered from competition
- They are considered to be a source of fiscal crisis and rent-seeking behaviour
- Ownership transformations are said to be conducive to efficiency-gains, reduced political interference and improved public finances.

Overview

- The debate focused to much on extremes: pro- and anti-privatization
- But little consideration of:
  - How coverage changes (% of population)
  - How equitable is access to utilities across income level (deciles and quintiles)
  - How affordable are tariffs (3-5% benchmarks)
- Here we try to go beyond the extremes and closely investigate the privatization process in Bolivia

Why Bolivia?

- Water is provided in three different modalities:
  - Through public provision;
  - Under a cooperative arrangement; and
  - Through privatized utilities.
- The country has seen increasing protests and public outrage
- There have been termination of contracts and renationalization

Utility Provision and the Poor

- The network does not reach poor neighborhoods
- Tariffs and initiation connection fees are unaffordable
- Thus the poor often resort to alternative sources of water, which are not always safe (ponds, lakes, rivers, boreholes, wells, private trucked water etc.)

Research Questions

- Did privatization increase access to safe water?
- Did privatization lead to equitable access to safe water?
- Did water services become affordable after privatisation?

Methodology and Data

Reform: La Paz and El Alto's water concession in 1997

- Counterfactual method:
  - Time frame: before (-4), after (+5), after (+5 +4) reform
  - Control groups: Cochabamba and Santa Cruz
- We investigate…
  - Delivery (coverage rate)
  - Equity (concentration)
  - Affordability (expenditure)
- Data:
  - *Instituto Nacional de Estadistica* – 1992, 1996, 2001, 2005

Delivering water

Table 4: Water coverage: total, lower and upper quintiles

year	1996			2001			2005		
	total	QI	QV	total	QI	QV	total	QI	QV
La Paz	0.879	0.834	0.979	0.886	0.792	0.982	0.966	0.962	1
El Alto	0.762	0.556	0.856	0.694	0.781	0.874	0.878	0.860	0.908
Cochabamba	0.765	0.633	0.847	0.786	0.585	0.931	0.618	0.259	0.742
Santa Cruz	0.955	0.902	0.986	0.958	0.922	1	0.956	0.901	1

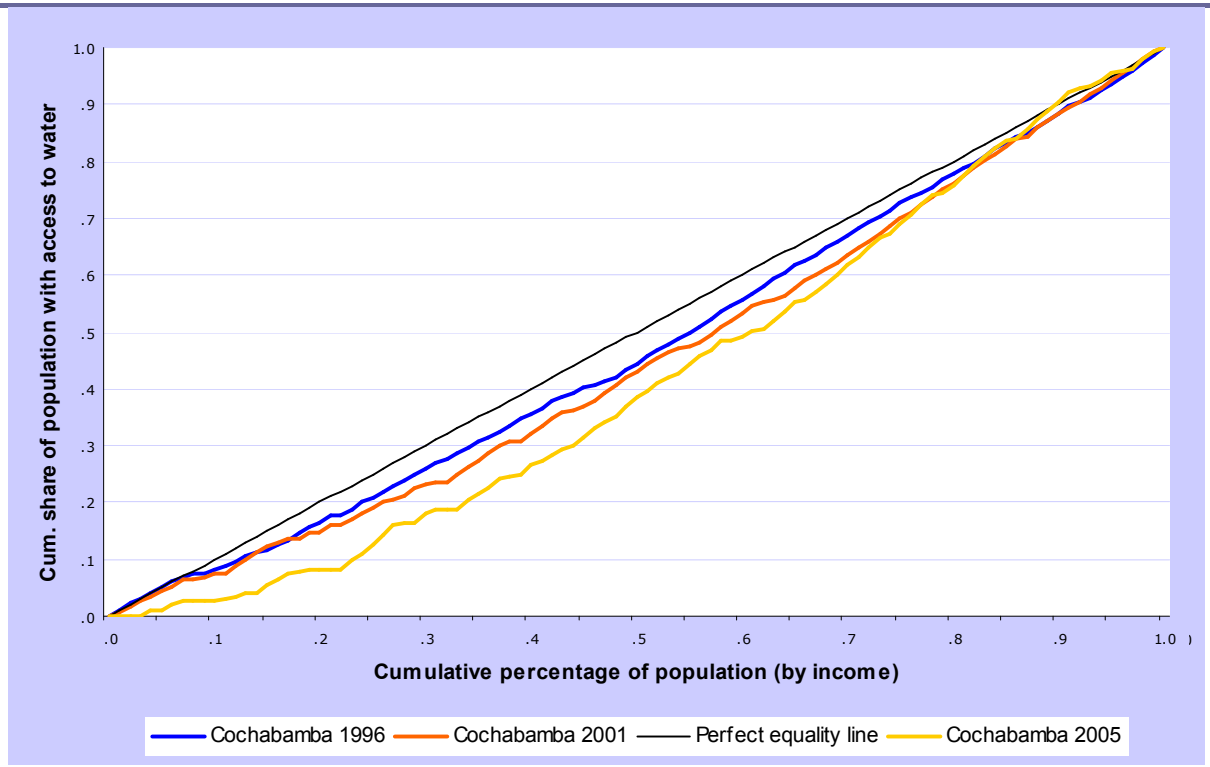
Note: Authors' calculations based on INE.

Table 5: Percentage change in water coverage rate (1996-2005)

quintile	La Paz	El Alto	Cochabamba	Santa Cruz
1	0.128 **	0.303 **	-0.374 **	0.000
2	0.168 **	0.104 **	-0.466 **	-0.007
3	0.051 **	0.111 **	-0.078 **	0.000
4	0.067 **	0.008	-0.017	-0.001
5	0.021 **	0.052 **	-0.105 **	0.012 **

Note:** Welch t test, significant at 5% level.

Distributing access



El Alto: Access became less concentrated, pro-poor intervention

Cochabamba: Access more concentrated, higher degree of inequality than EA

Distributing access

Table 7: Concentration index

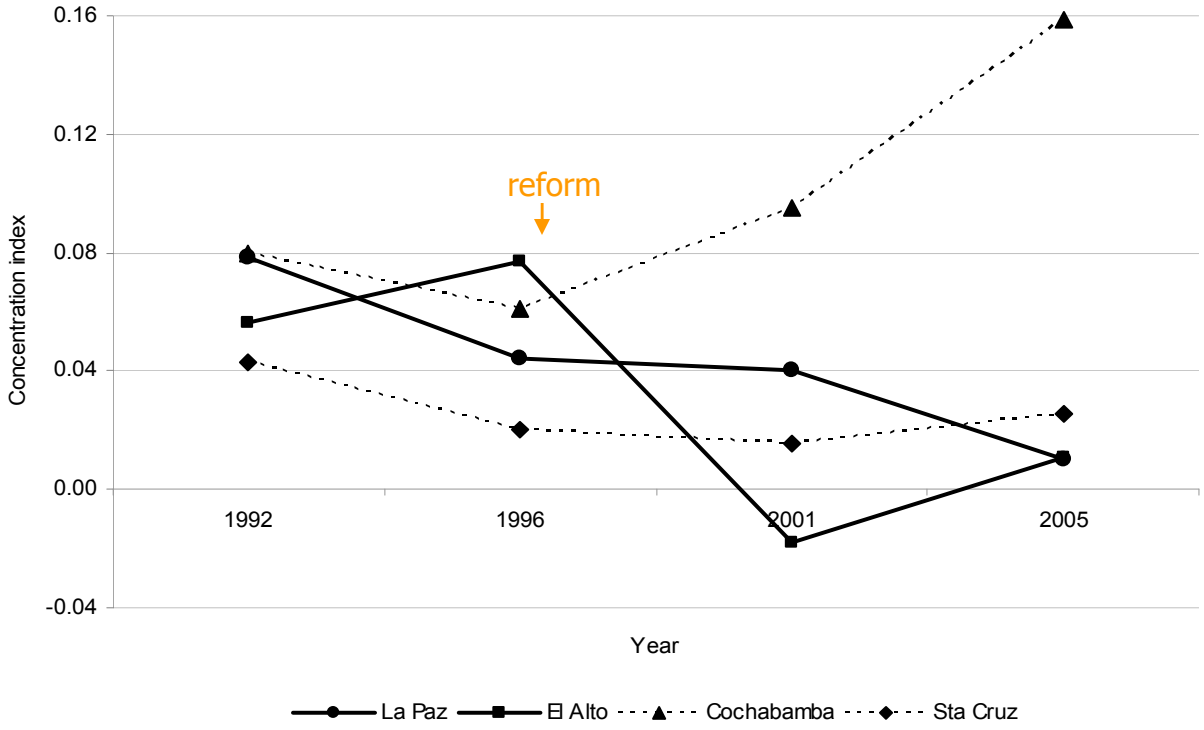
year	La Paz	El Alto	Cochabamba	Sta Cruz
1992	0.079	0.057	0.080	0.043
1996	0.044	0.077	0.061	0.020
2001	0.040	-0.018	0.095	0.015
2005	0.010	0.011	0.159	0.026

Note: Authors' calculations based on INE.

Start: LP & SC (low concentration)
End: LP & EA (low concentration)

LP & EA (decreasing concentration)
CO & SC (increasing concentration)

The **concentration index** is a ratio of the area between the 45-degree line and the concentration curve, to the total area of the triangle below the 45 degree line.



Affording water

Affordability: spending <3% of income on water.

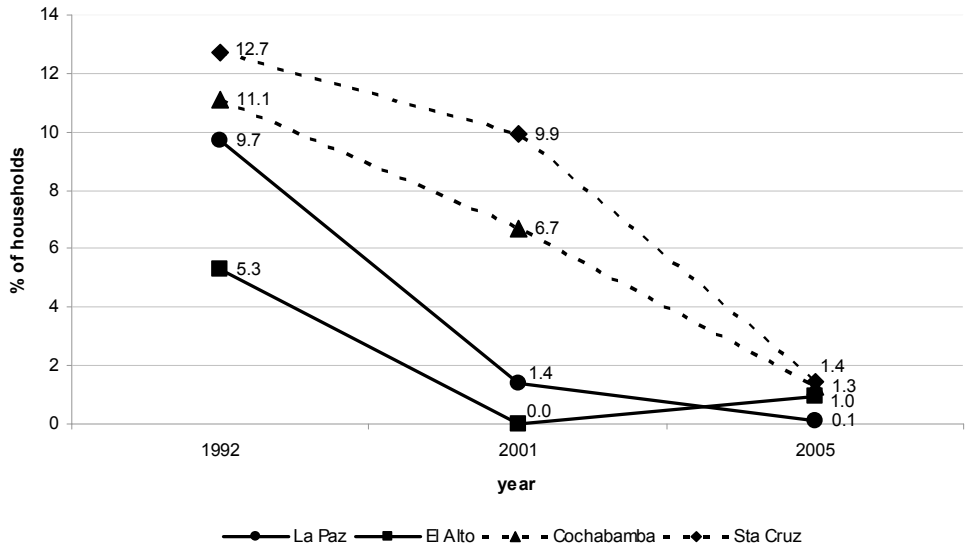
Table 9: Share of population connected to the utility who can not afford water

	2001		2005	
	QI	QV	QI	QV
La Paz	0.348	0.061	0.421	0.006
El Alto	0.256	0.000	0.151	0.018
Cochabamba	0.639	0.053	0.232	0.104
Santa Cruz	0.784	0.096	0.731	0.071

Source: Authors' calculations based on INE.

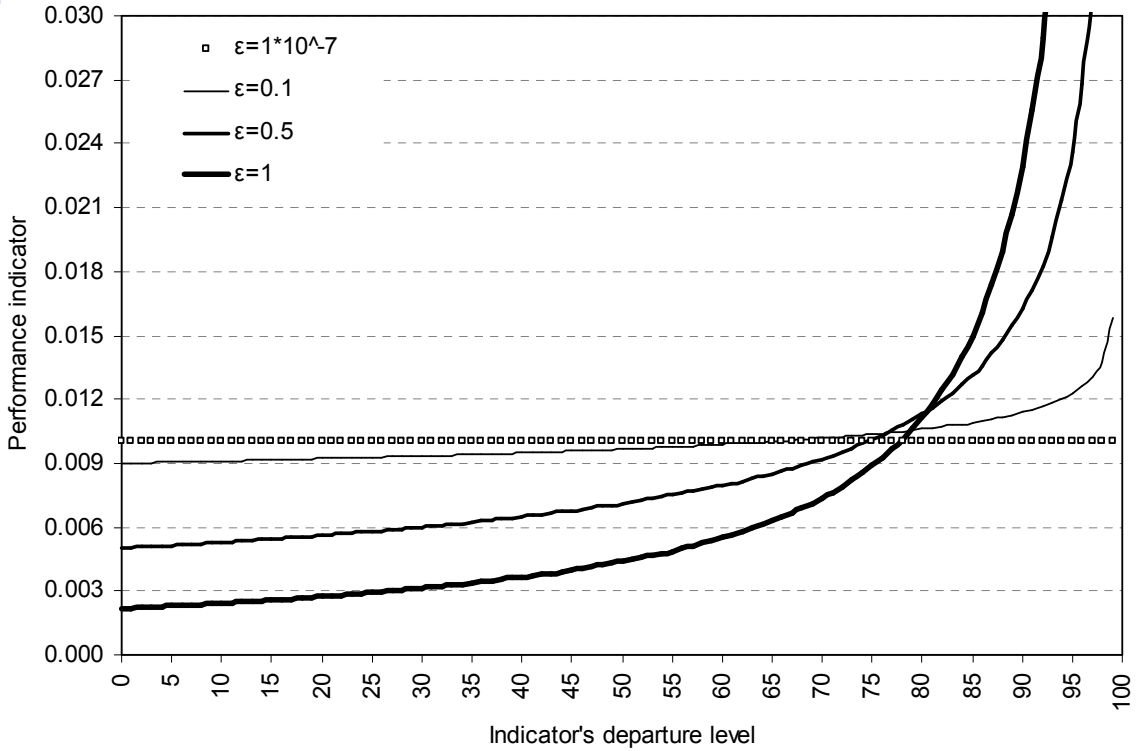
Better billing collection affects the poor who would rather get free water before.

Connection fees: major barrier for the poor located in areas supplied by the utility.



Performance Index

$$A = \begin{cases} \dfrac{(W - x_1)^{1-\varepsilon} - (W - x_2)^{1-\varepsilon}}{(W - W_0)^{1-\varepsilon}}, \forall\ 0 < \varepsilon < 1 \\ \dfrac{\ln(W - x_1) - \ln(W - x_2)}{\ln(W - W_0)}, \forall\ \varepsilon = 1 \end{cases}$$



Performance Index

Table 6: Coverage rate variation and Achievement Index in the lowest quintile

Year/ city	initial coverage	change $(x_2 - x_1)$	(%)change $\frac{(x_2-x_1)}{x_1}$	Achievement Index ϵ=0.1	ϵ=0.5	ϵ=1
1992-1996						
La Paz	61.1	22.3	36.5	0.06	0.054	0.046
El Alto	53.4	2.2	4.2	0.005	0	0
Cochabamba	58.2	5.1	8.7	0.013	0.01	0.01
Santa Cruz	74.3	15.9	21.4	0.04	0.048	0.052
1996-2001						
La Paz	83.4	-4.3	-5.1	-0.01	-0.01	-0.01
El Alto	55.7	22.4	40.3	0.05	0.04	0.03
Cochabamba	63.3	-4.8	-7.6	-0.01	-0.01	-0.01
Santa Cruz	90.2	2	2.3	0	0.01	0.01
2001-2005						
La Paz	79.2	17.1	21.6	0.05	0.07	0.09
El Alto	78.1	7.9	10.1	0.02	0.02	0.02
Cochabamba	58.5	-32.6	-55.8	-0.08	-0.05	-0.03
Santa Cruz	92.2	-2.1	-2.25	-0.01	-0.01	-0.01

Note: Authors' calculations based on INE.

Conclusion

- In Bolivia privatization was pro-poor
- Is privatization the answer then?
- Yes! Because coverage rate increased for the lower quintiles and access inequality decreased
- No! Because the targets set pre-privatization were not achieved
- Hence, the recent renationalization

Thank you!

Your comments are very welcome…