



# **Distributional Impacts of Infrastructure Privatization in Peru**

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# MAIN QUESTION

- Are we better or worst in Peru after the privatization process?
- Has the situation of the poorest improved after this process?

# Before the privatization process

- Most social and economic indicators deteriorated during a period characterized by a strong state intervention and largely subsidized prices for foodstuffs and public utilities.
- 1985-1991: GDP per capita declined by 20% and prices rose 343,000 times.

## After the privatization process (1):

- The situation was reversed during the 1990's, specially between 1992 and 1997, that is the period where the privatization process was stronger than ever.
- Between 1992 and 1997, the Peruvian GDP grew at a yearly average rate of 4% in per capita terms.

## After the privatization process (2):

- Price controls and state subsidies were eliminated, and most of the legal barriers that prevented the entry private investment were banned.
- During the first five years of the privatization process, the whole of the telecommunications, fishing and mining industries were concesioned, as well as 70% of the electricity sector.



# Population Below the Poverty Line

- The proportion of total population living below the poverty line **increased** from 43 to 59% between 1985 and 1991.
- Then, this same proportion of total population living below the poverty line **decreased** from 59% in 1991 to 50.7% in 1997.
- The same improvement was felt both in the urban and rural sectors.

**Table 1: Population Below the Poverty Line (%)**  
(According to Family Expenditures)

	1971- 72	1985-86	1991	1994	1997	2000
<b>Peru</b>	64.0	43.1	59.0	53.6	50.7	54.1
<b>Rural</b>	84.5	53.6	70.8	65.6	64.8	66.1
<b>Urban</b>	39.6	36.0	54.5	48.4	44.7	49.5

Source: ENCA(1971-72), ENNIV ( 1985-86, 1991, 1994, 1997 and 2000)

# Income Concentration in Peru

- Family incomes were less concentrated in 1991 than they were in 1985.
- The Gini suffered a small reduction from 0.55 to 0.46 during these years.
- In a world where most people's incomes are decreasing, but the living conditions of the poorest are not much worse than before, incomes will be more evenly distributed.
- Between 1992 and 1997 the income concentration figures improved.

**Table 2: Income Concentration in Peru**

	1961	1971-72	1985-86	1991	1994	1996
<b>50% poorest</b>	12.3	10.7	18.8	21.0	22.9	24.5
<b>20% richest</b>	77.3	60.9	51.4	46.6	45.4	42.9
<b>GINI</b>	0.58	0.55	0.48	0.43	0.41	0.38

Source: Figures for 1961 correspond to personal income and are reported by Webb (1977); those for 1971-1971 correspond to family income and are reported by Amat y Leon et al. (1981); and the rest correspond to Escobal, Saavedra and Torero's calculations (1998) based on family income using the information provided by the National Surveys of Income Levels (ENHIV).

# Geographical Distribution of Family Expenditures in Peru - Gini Index

- The Gini suffered a small reduction during 1985 and 1991, concentrated in the rural sector.

**Table 3: Geographical Distribution of Family Expenditures in Peru (Gini Index)**

	1971- 72	1985- 86	1991	1994	1996
<b>Peru</b>	0.50363	0.3977	0.3493	0.3408	0.3093
<b>Rural</b>	0.4612	0.3973	0.3600	0.3256	0.2792
<b>Urban</b>	0.1332	0.3856	0.3317	0.3325	0.3076

Source: Escobal, Saavedra and Torero (1998) using the information contained in ENCA (1971-1972) and ENNIV (1985-86, 1991, 1994 and 1996).



# Only after 1997...

- The growth Peruvian economy started to decline due to:
  - Financial international crises
  - Paralysation of the economic reforms and the privatization process



# **The Case of the Telecommunications Sector**

# Basic Questions before 1994

- How to attract more private investment to the telecommunications sector?
- How to increase the telecommunications services access to the low income citizens?

# Before 1994...

- The two state owned enterprises: CPT and Entel Peru, were merged in 1993 in order to concession both the local network and long distance services to a single bidder for a thirty years period.
- Telefonica de España won the auction in 1994 and started an intensive program of investments in order to modernize expand the network, supported by a tariff system in which cross subsidies were eliminated.

**Table 4: Tariff balancing in Telecommunication Services**  
US\$ dollars

	1994	1997	2002
<b>Installation</b>	669.63	344.82	146.79
<b>Fixed payment</b>	7.21	14.94	16.50
<b>Local calls</b>	0.029	0.026	0.028
<b>LD national</b>	0.373	0.289	0.115
<b>LD international</b>	2.045	1.390	0.492

Source: information provided by OSIPTEL

# After 1994...

- The number of lines in operation increased from 759,191 in 1994 to 1'537,341 in 1997 and then to 1'656,624 in 2002.
- For the first time in Peruvian history people belonging to the lowest income categories had access to a service which until 1993 was restricted to the highest income groups, mainly in the urban sector.

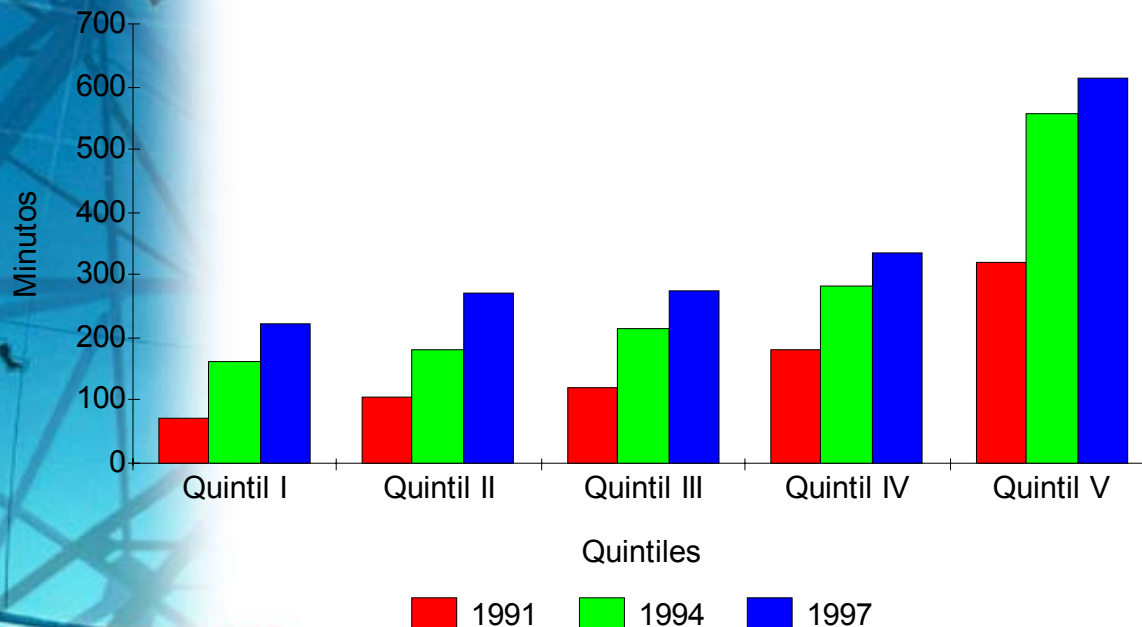


# After 1994...

- The people with the lowest income levels experienced the largest increases in consumption levels during the 1994-1997 period, for all kinds of telecommunication services.

Figure 1: Local calls by income quintiles(minutes per month)

LLamadas locales

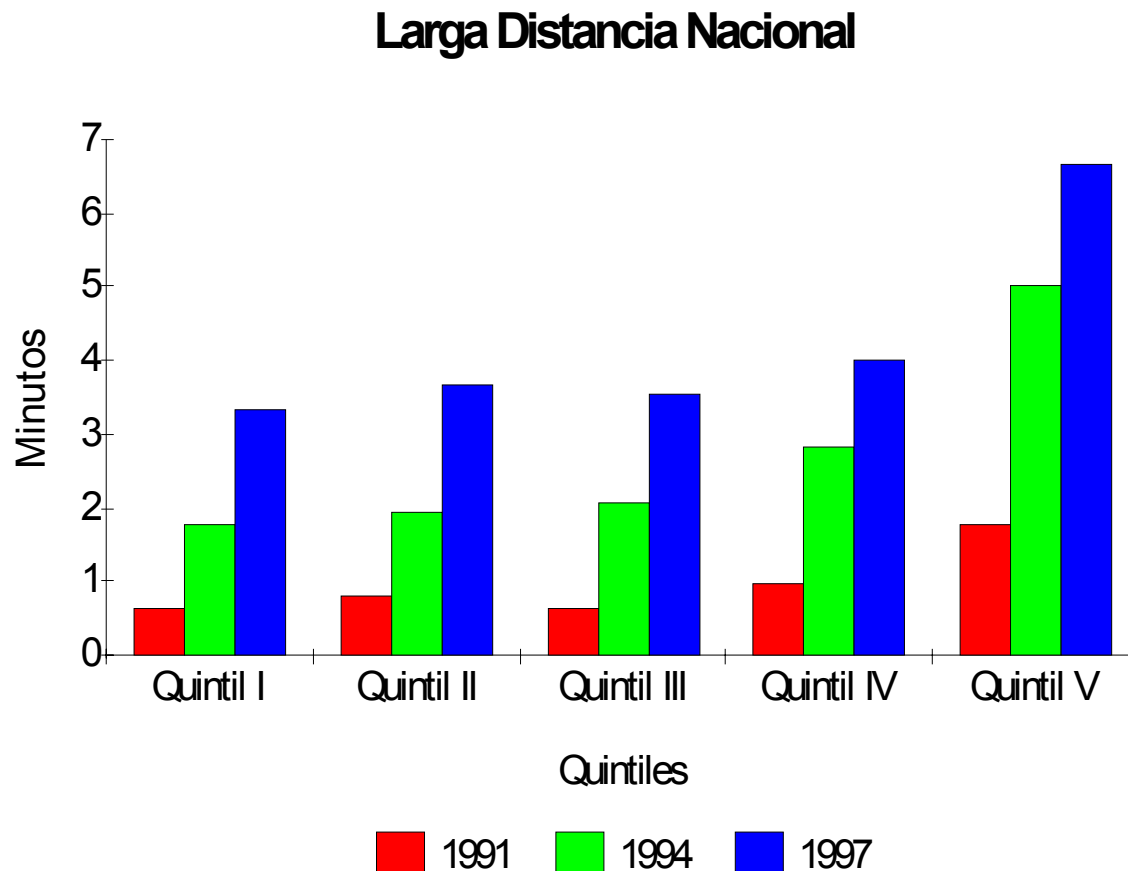


- The average consumption of local calls for those users belonging to the two lowest quintiles increase by more of 50%, while for those users in the next two quintiles increased by 30% and for the highest quintile there was a slight increase of 5%.

# After 1994...

- The demand for national long distance calls almost doubled for the three lowest quintiles, while for the two following quintiles there was a 30% increase.

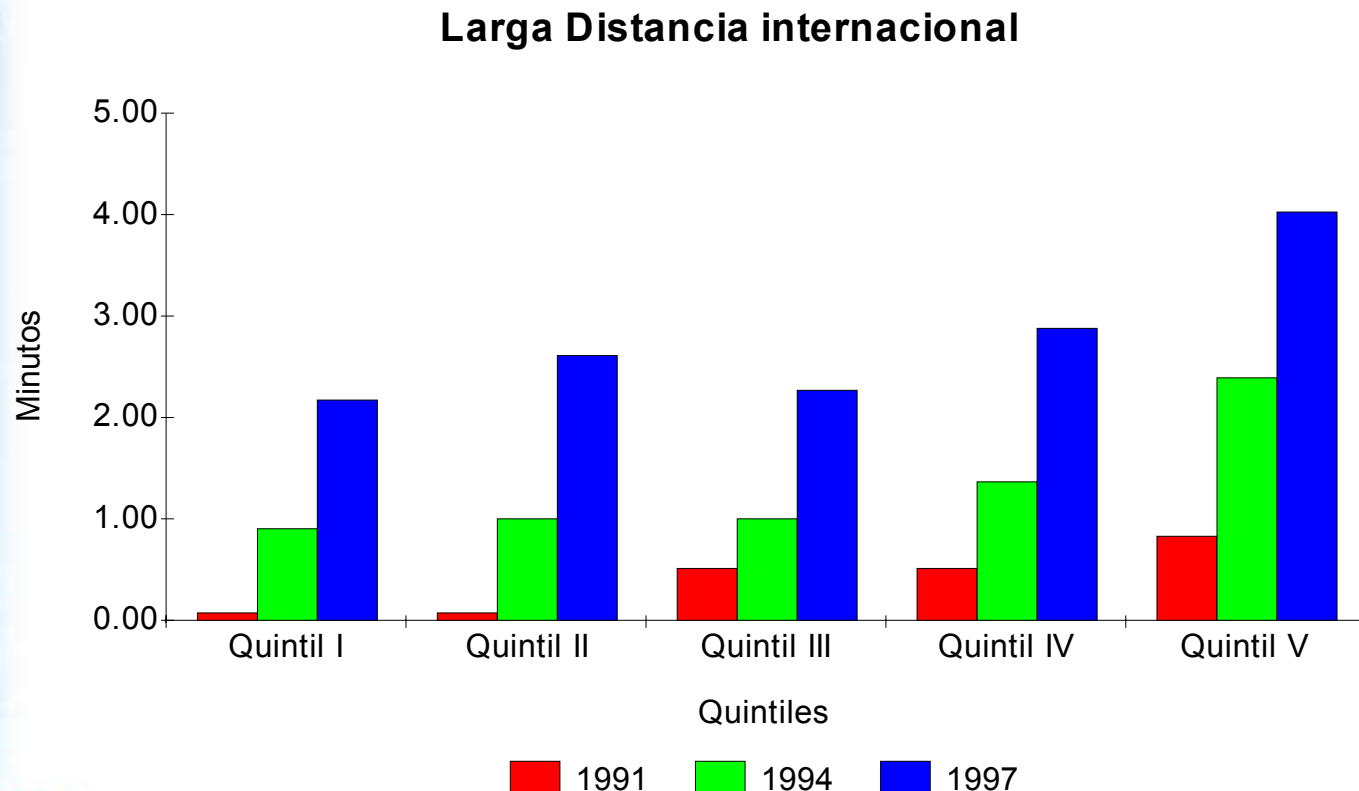
**Figure 2: National long distance calls by income quintiles(minutes per month)**



# After 1994...

- The increases in the demand for international long distance calls were much more dramatic.
- The demand for international long distance calls was almost inexistent for the first two lowest quintiles before the privatization process.
- Today, the demand coming from these two quintiles is more than half the demand from the highest quintile.

**Figure 3: international long distance calls by income quintiles(minutes per month)**



# After 1994...

- It is, however, the last and richest quintile which received most of the benefit of the privatization process.
- If we apply the same method to the 1997-2002 period the net benefit would be negative, due to the fact that there was a much smaller increase in the number of lines.

**Table 5: Total Impact of the Privatization Process in the Telecom Sector**  
**US\$ dollars per month**

	<b>Old customers</b>	<b>New Customers</b>	<b>Total</b>
<b>Installation</b>	0	1807	1807
<b>Fixed payment</b>	-5861	0	-5861
<b>Local calls</b>	718	1453	2171
<b>LD national</b>	270	547	817
<b>LD international</b>	1389	2813	4202
<b>Total</b>	-3483	6620	3135

# After 1994...

**Table 6: Impact of the Privatization Process in the Telecom Sector  
by Quintiles  
US\$ dollars per month**

	<b>First Q</b>	<b>Second Q</b>	<b>Third Q</b>	<b>Fourth Q</b>	<b>Fifth Q</b>
<b>Installation</b>	361	361	361	361	361
<b>Fixed payment</b>	-1172	-1172	-1172	-1172	-1172
<b>Local calls</b>	281	342	346	425	777
<b>IDnational</b>	128	141	136	155	257
<b>IDinternational</b>	656	783	685	868	1210
<b>Total</b>	254	455	356	637	1433



Figure 4: Telephone expenditure concentration curve

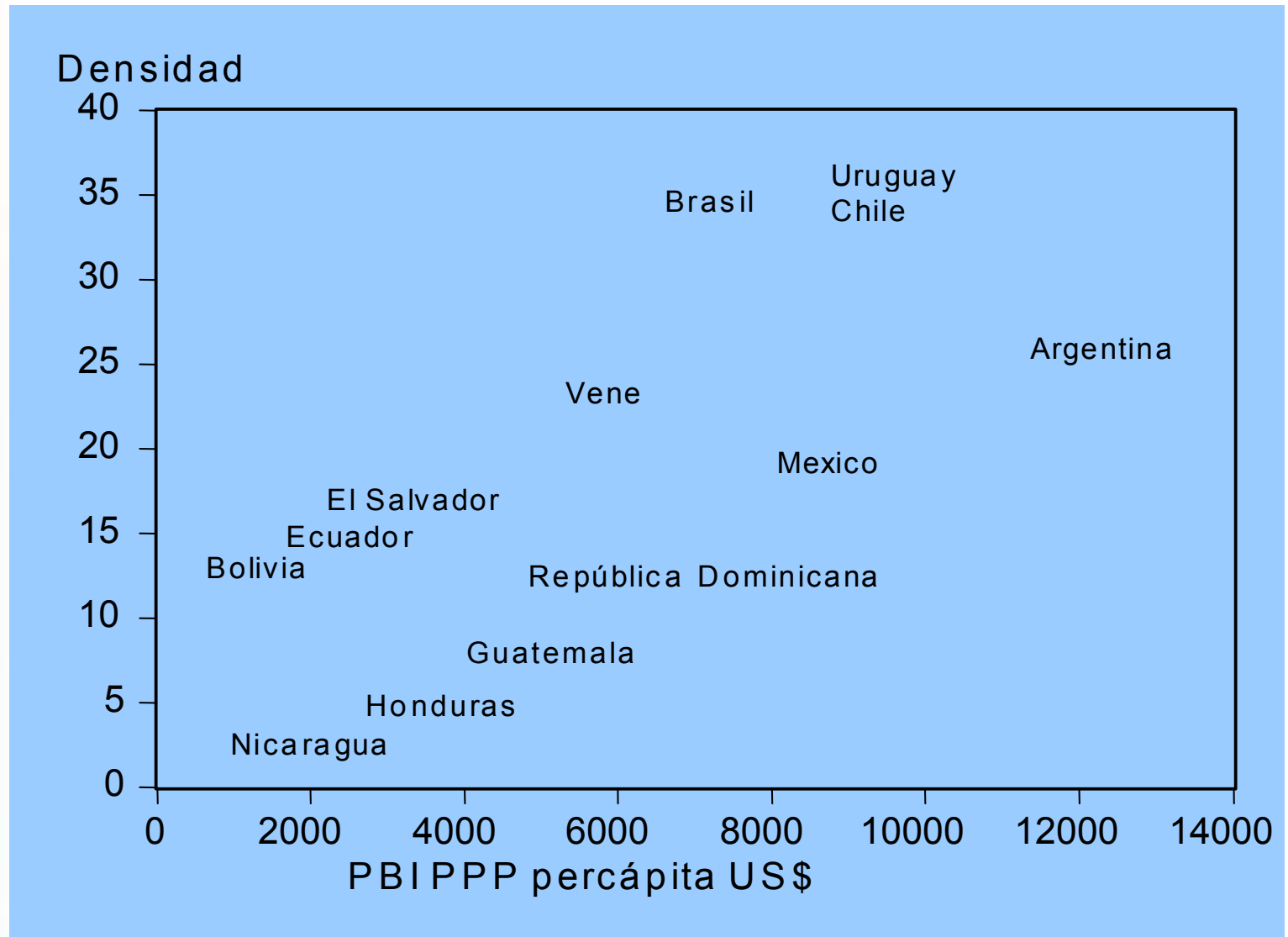


Source: Torero and Pascó-Font, “El impacto social de la privatización y de las regulación de los servicios públicos en el Perú”. Lima, GRADE, 2001.

# Unsolved Problems

- The telephone density remains low in comparison with the rest of Latin American countries.
- The access level to the telecommunication services is particularly low in the poorest departments.
- Many lower income people from the urban areas have started to abandon the lines they had.

Figure 5: Telephone Density in Latin American Countries





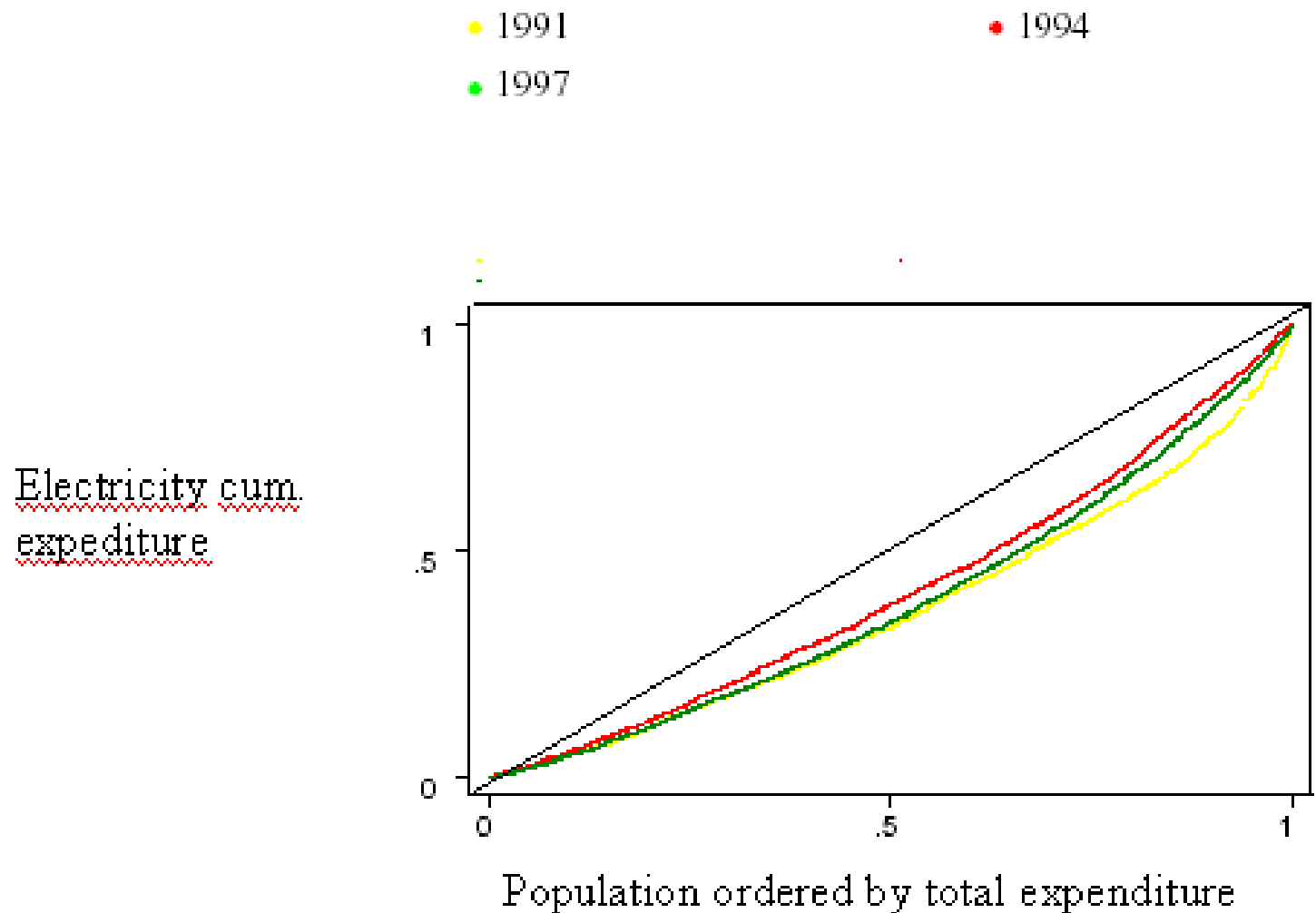
# The Case of the Electricity Sector

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- This sector was mostly privatized between 1994 and 1998 after the separation of the three main activities: generation, transmission and distribution.
- Since the beginning of the process there have been new investments amounting to almost US \$ 2,000 millions.
- Increase the electrification index from 48.4% in 1994 to 75.2% in 2002.
- There has also been a 26% enlargement in the generation capacity, which allows to have an energy surplus compared with the deficit prevailing in 1994.
- Luz del Sur and Edelnor, the two distribution companies operating in Lima have both increased the number of customers by almost 50%.



# Figure 6: Electricity expenditure concentration curve



Source: Torero and Pascó-Font, “El impacto social de la privatización y de las regulación de los servicios públicos en el Perú”. Lima, GRADE, 2001.



# **The Case of the Water and Sewage Sector**

# The Case of the Water and Sewage Sector

- The evolution of the water and sewage sector after the privatization process was different from the electricity and telephone sectors.
- The government decided to keep the operators in the public sector under the municipalities control.
- The performance of these operators is one of the poorest in Latin America in which refers to the population percentage with access to this service, specially in the rural areas.
- In spite of the fact that 88% of the urban population have access to this service, it is in a discontinuos way and with a low quality level.

**Table 7**  
**Access levels to the drinkable water service – Peru and other Latin American**  
**countries**  
**1988-1995**

Country	% Population with drinkable water access			% Service Losses 1986
	Total	Urban	Rural	
Haití	28	37	23	20
Paraguay	35	50	24	
Bolivia	55	78	22	
Nicaragua	58	81	23	
Guatemala	62	92	43	
Perú	71	88	28	42
Ecuador	71	82	55	47
Argentina	71	77	29	51
Uruguay	75	85	75	
Venezuela	79	80	75	
México	83	91	62	
Chile	85	94	37	
Brasil	87	n.d	n.d	30
Colombia	87	98	74	38

Source: Fondo De Las Naciones Unidas Para La Infancia (UNICEF) , Estado Mundial de la Infancia 1996.  
Tomado de Perú en Números, 1996, Cuánto S.A.

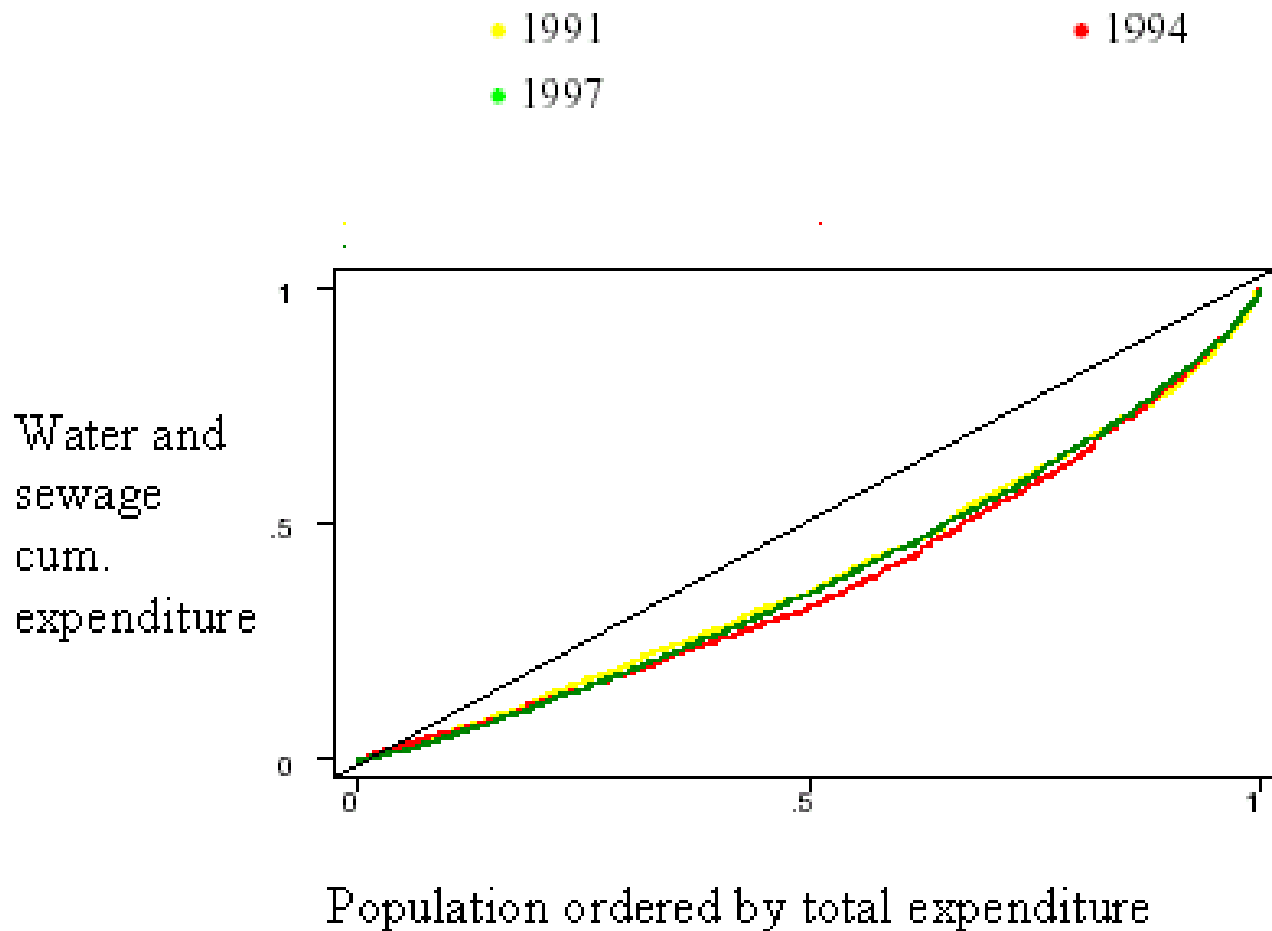
# COMPARACION SEDAPAL - AGUAS ANDINAS (2001)

INDICADORES	UNIDAD	SEDAPAL	AGUAS ANDINAS
Población servida	Millones	6.45	5.39
Unidades de uso	Miles	1.22	1.21
Trabajadores totales	Trabajadores	2,115	1,174
Inversiones anuales	US\$ Millones	53.1	136.5
Activo fijo neto	US\$ Millones	1,148.1	554.4
Pago de dividendos	US\$ Millones	0.3	64.5
Cobertura de agua con conexión	%	87 *	100
Cobertura de alcantarillado con conexión	%	84	97
Nivel de micromedición	%	65	100
Consumo medido UU	m3 /UU/m	28	27
Continuidad del servicio	Horas/día	20	24
Tratamiento de aguas servidas	%	4	23
Importe facturado UU total	US\$/UU/mes	11	11
Tarifa media total	US\$/m3	0.42	0.42
Agua no facturada	%	42	27
	Millones m3	276.7	146.9
Reclamos recibidos / UU AP	%	27	7
Producción unitaria promedio	litros/hab/día	280	275
Trabajadores totales / UU facturado	Trab/Mill UU	1.74	0.97
Costo operativo / m3 vendido	S/. / m3	0.25	0.16
Utilidad neta / activo fijo neto	%	0.15	13.12
Costo operativo (% total)	%	59	39

\* Estimación alternativa de SUNASS: 82%

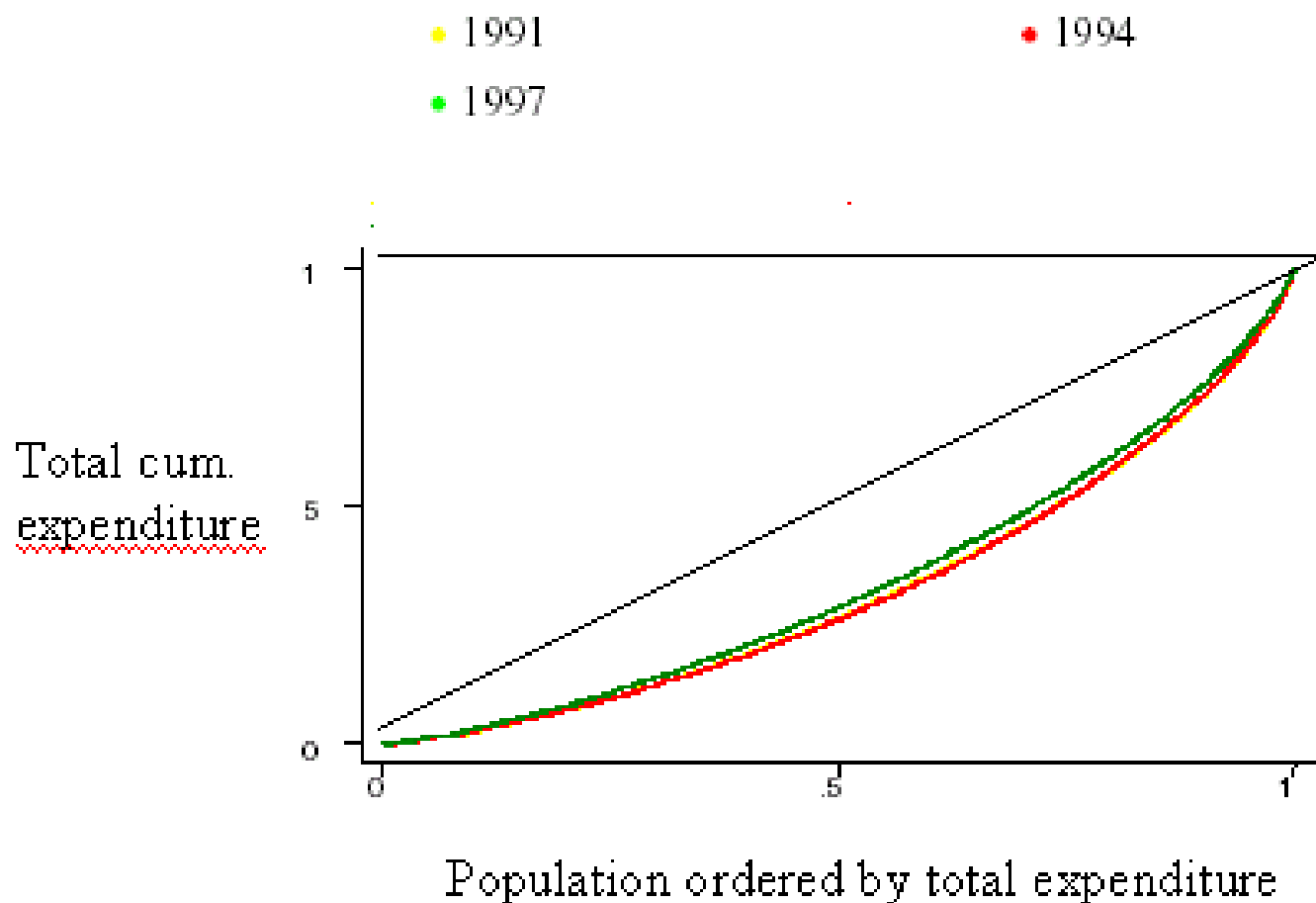


Figure 7: Water and Sewage expenditure concentration curve



Source: Torero and Pascó-Font, "El impacto social de la privatización y de las regulación de los servicios públicos en el Perú". Lima, GRADE, 2001.

Figure 8: Total expenditure concentration curve



Source: Torero and Pascó-Font, "El impacto social de la privatización y de las regulación de los servicios públicos en el Perú". Lima, GRADE, 2001.