Public Transport Affordability and Subsidy Policies: A case study of Santiago, Chile

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Transport Forum

March 28, 2007

Overview

- Public transport in Santiago
- Affordability measures and their impact
- General comments regarding transport affordability measures

1. Public transport system in Santiago

Mode used	**Trips (thousands)**	**% of total**
Automobile	3,860.0	38.6%
Metro	674.6	6.7%
Bus	4,220.9	42.2%
Other	1,246.2	12.5%
Total	**10,001.7**	**100.0%**

Source: EOD, 2001; motorized trips in a normal working day

Transantiago

- Big Bang: February 10, 2007

- Important changes in public transport system that will affect:
  - Modal split
  - Expenditure on public transport

Expenditure on Public Transport

- Percentage of minimum income required to purchase 50 bus tickets per month:
  - 1988: 28% (ECLAC, 1992)
  - 2007: 14%
- Family expenditure survey (1996-97):
  - Public transport: 3.55% on average, 6.4% first quintile
- Carruthers, Dick and Saurkar (2005):
  - 7.2% of income on average
  - 44.8% first quintile

2. Affordability measures

1) Student preferential fare

2) Metro infrastructure expansion

3) Fuel prices:
   - Specific fuel taxes
   - Fuel Price Stabilization Fund (FEPP)

4) Direct compensatory monetary transfers

Student preferential fares

- Benefits students from 5º grade upwards in non private schools and also many university students
- Pay approximately 1/3 of fare in buses and metro
- Funded through cross-subsidy

Metro expansion

- More than US$2.000 million to expand network between 2000 and 2009

- Metro covers operating costs and some capital costs:
  - Tariff should increase by 200% to cover full economic cost

Fuel prices

- Specific tax on gasoline and diesel:
  - More than double for gasoline compared to diesel
- Fuel price stabilization fund (FEPP)
  - Price band
  - In practice it has operated like a subsidy

Direct monetary transfers

- Implemented in 2004, 2005 and 2006
- Direct payment to households and individuals to compensate for increasing fuel and transport costs
  - Better for households than a transfer in kind
- Funded entirely from national budget
- Since 2005 it has benefited 40% of households:
  - Minimum and subsidized government backed pensioners
  - “Chile Solidario” program recipients
  - Family subsidy recipients
  - Workers who receive family allowance payments and earn less than $180.000 a month

Evaluation of 5 measures

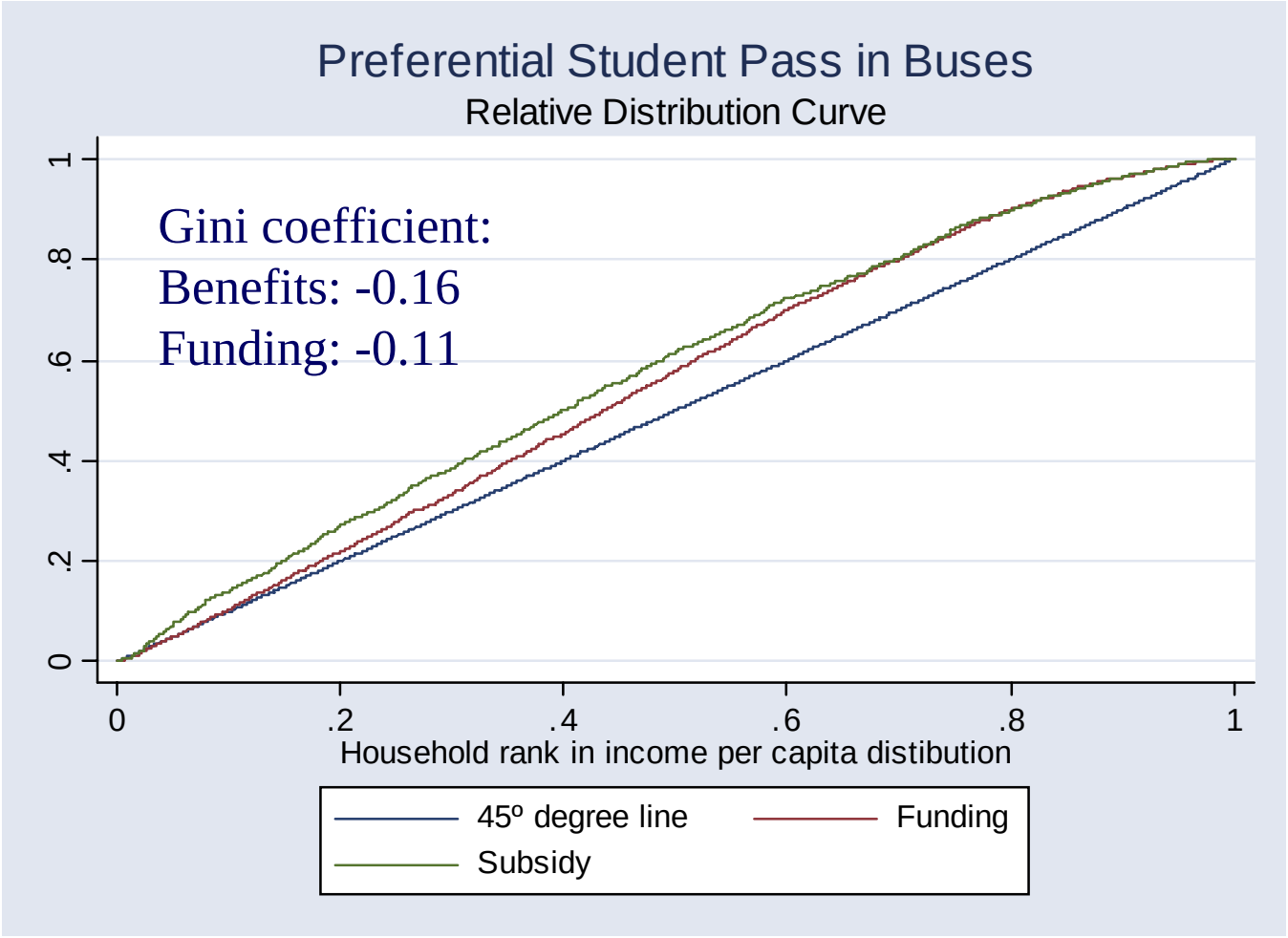
- Student preferential fare in bus and metro
- Metro infrastructure subsidy
- Reduction in the price of gasoline (FEPP or tax)
- Reduction in bus fares
- Direct compensatory transfers

Distributive incidence of general tax system

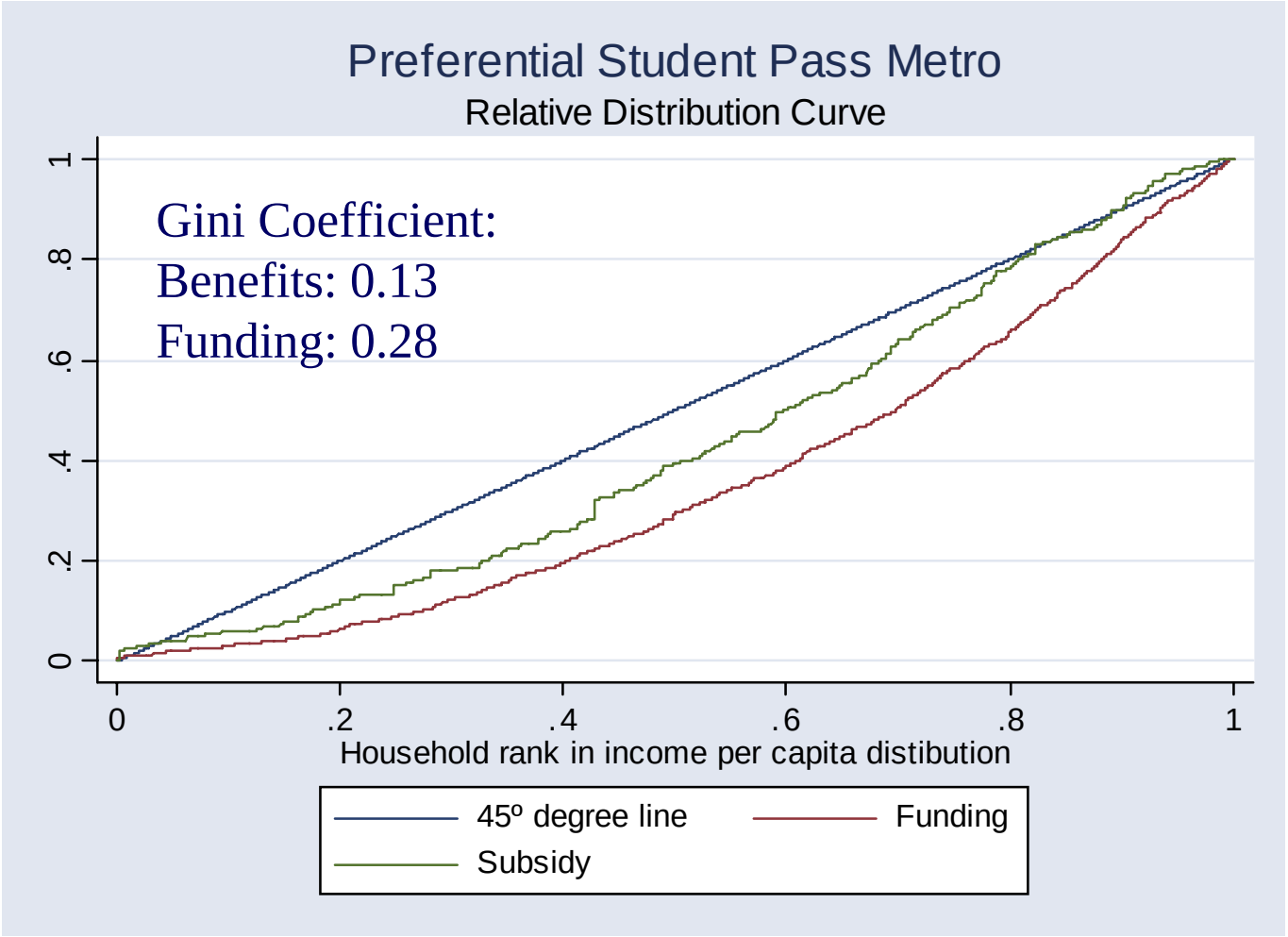
- Engel, Galetovic and Raddatz (1999)
  - Neutral distributive impact

- Consequence: we only have to analyze the funding side of the student preferential fare policy that is funded through a cross subsidy

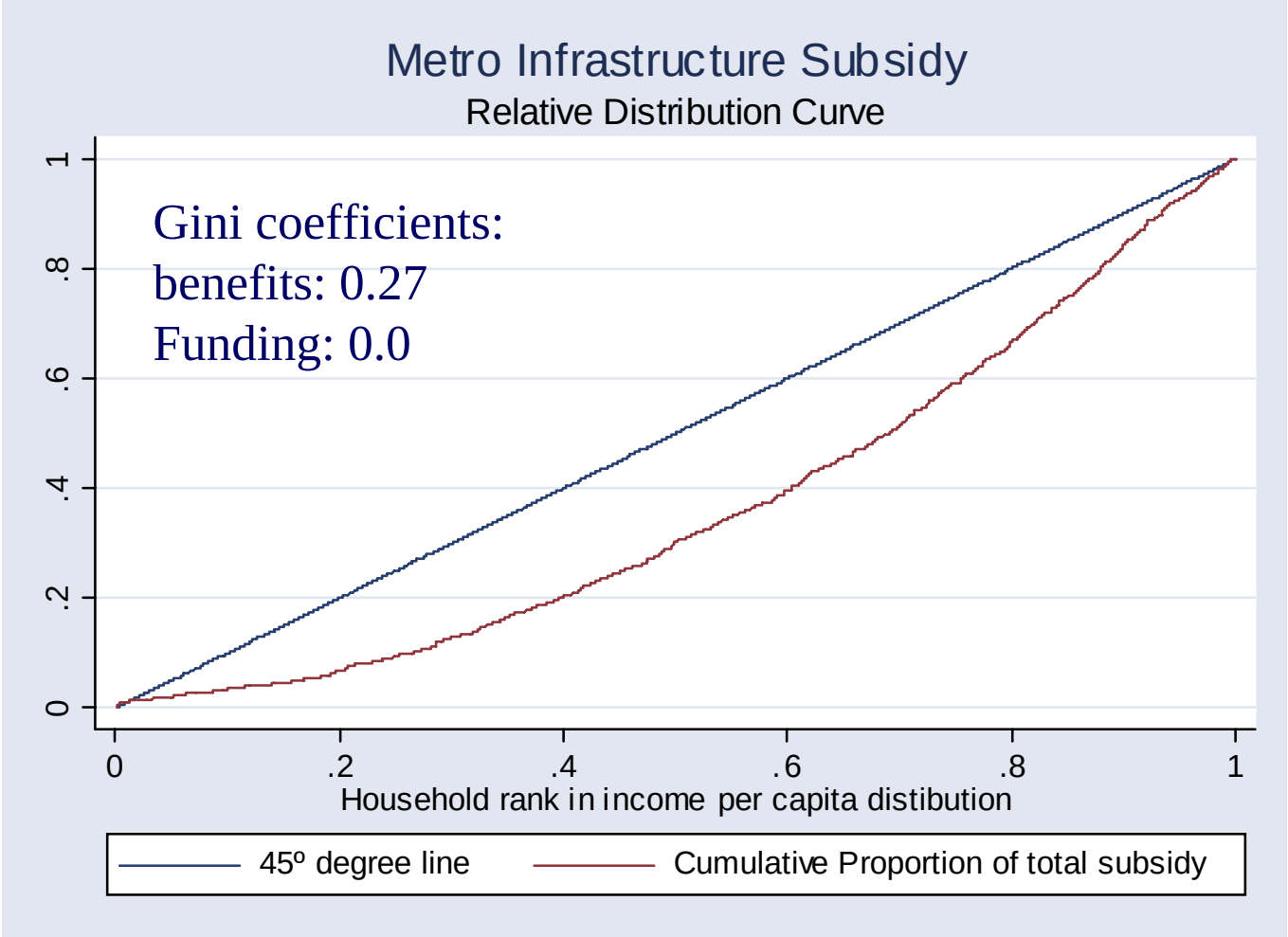
Student preferential fare: results buses



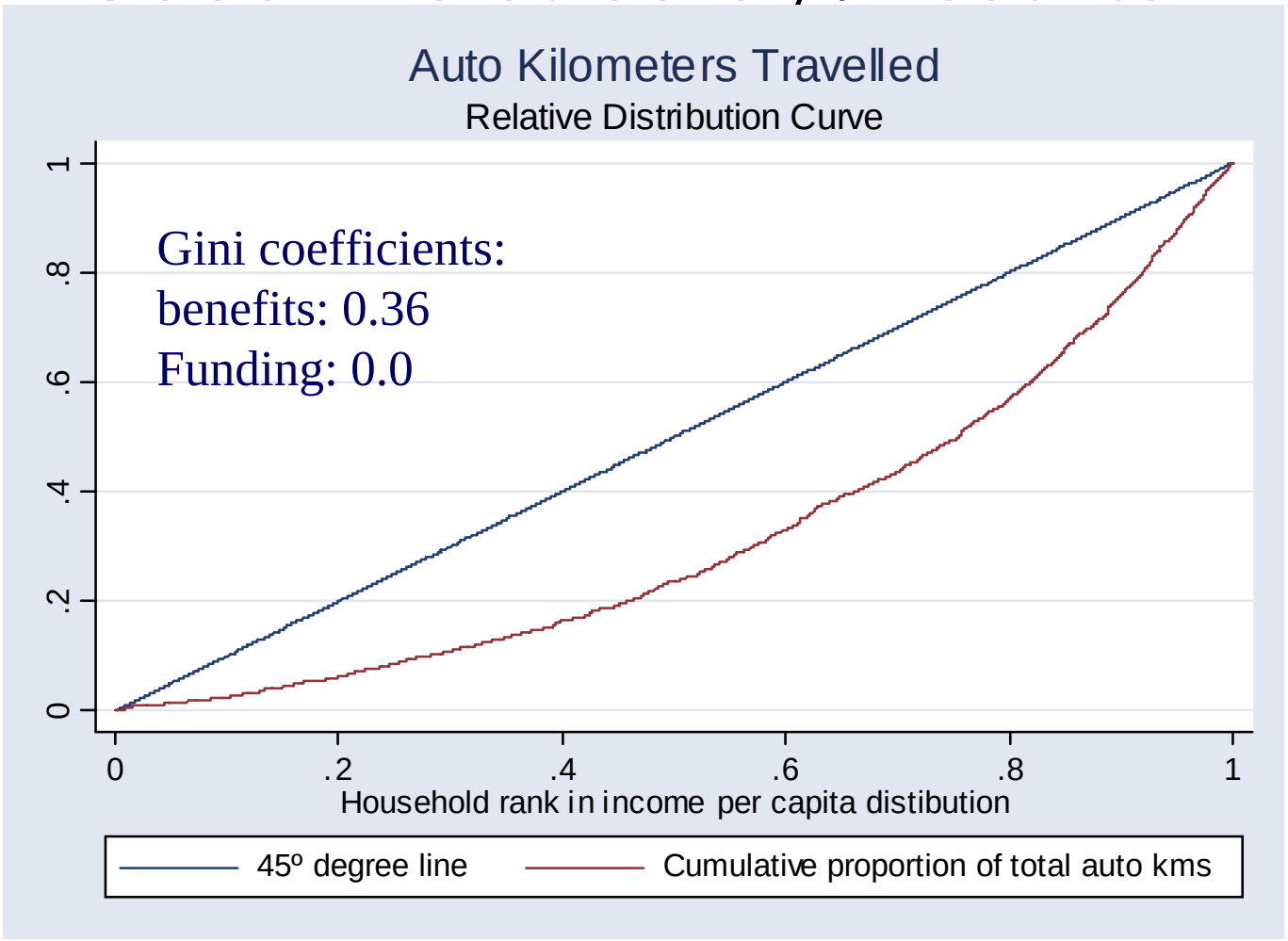
Student preferential fare: results Metro



Metro infrastructure: results



Gasoline subsidy: results

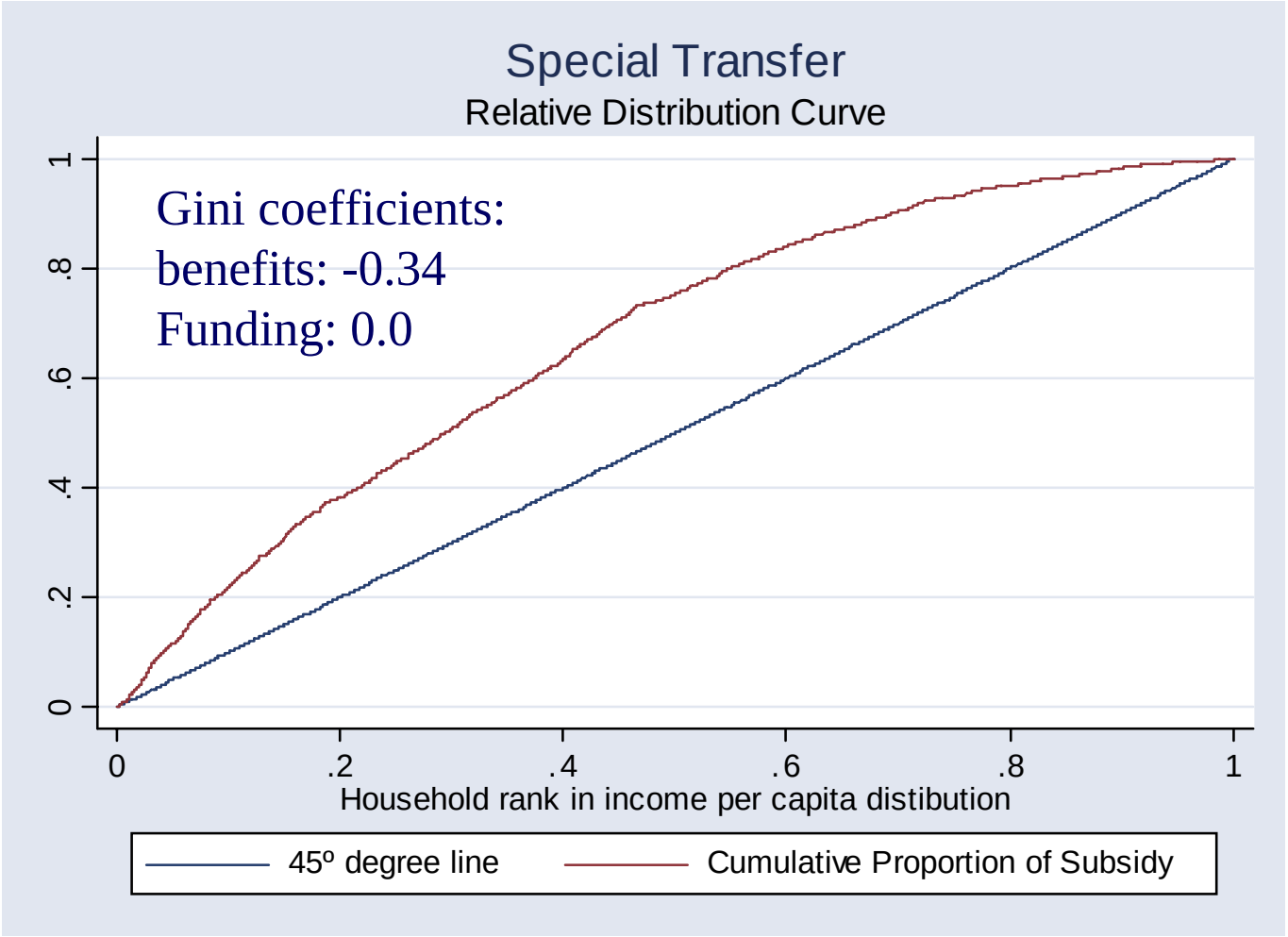


Bus fare subsidy: results

- Same distributive impact as the funding of the student preferential fare for buses:

- Gini: - 0.11

Direct transfers: results



Santiago case study: conclusions

- Except for the transfers, other subsidies are either neutral or regressive
  - Use of general welfare system much better than sectoral subsidy
- Some minor adjustments would improve de distributive impact of existing affordability policies:
  - Fund student preferential pass from national budget instead of cross subsidy

3. General comments and conclusions

- Transport affordability is an important issue: but current policies are not pro-poor.
- Sectoral subsidies are hard to target well:
  - Public utilities:
    - Wodon, et. al (2005): water and electricity
    - Gómez-Lobo and Contreras (2003): water
  - Transport:
    - Santiago, all other case studies
    - Vale Transporte Brazil, Buenos Aires (Foster, 2005)

Can they be improved?

- Perhaps, but:
  - Access problem: many of the poor walk
  - Expenditure on transport does not fall fast enough with income

Walking and the poor

	Poor	Non-Poor	Source
Mumbai, India[a]	63%	45%	Cropper (2007)
Nairobi, Kenya[b]	57%	24%	Howe and Bryceson (2000)
Conakry, Guinea	78%	61%	SITRASS (2004a)
Douala, Cameroon	77%	52%	SITRASS (2004b)

Expenditure on public transport

Ukraine (urban households)		Dakar	
Income per month	**Public transport share in total expenditure**	**Quintile**	**Transport [a] expenditure over total expenditure**
<4000	1.8%	1	5.3%
4000-8000	2.2%	2	4.5%
8000-12000	2.6%	3	4.5%
12000-16000	3.0%	4	5.7%
16000-20000	3.2%	5	10.7%
> 20000	2.6%		

Sources: NEA and ECORYS (2004) and Godard and Diaz Olivera (2000).

What to do?

$$\textit{Affordability}: \frac{\text{Public Transport Expenditure}}{\text{Income}}$$

- Need to work more on the denominator rather than the numerator of this expression:
  - More consideration should be given to other welfare programs outside the transport sector
  - More cooperation between transport specialist and welfare specialist is called for
  - Data based policy decisions are required