Fiscal Policy, "Fiscal Mobility," the Poor, the Vulnerable and the Middle-class in Latin America

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Commitment to Equity Workshop
Washington, DC
November 3 and 4, 2011

Synthesis

- Analyze impact of fiscal policy (taxes and transfers) on the poor, the vulnerable and the middle-class in Argentina, Bolivia, Brazil and Peru.
- The paper introduces a distinction between “fiscal redistribution” and “fiscal mobility.”
- Redistribution refers to the impact of fiscal policy on inequality and poverty: i.e., measures that re-rank households by “post-fisc” income.
- In contrast, we define “fiscal mobility” as the non-anonymous (upward and downward) movement in the socio-economic ladder of pre-defined income categories.

Synthesis

- Fiscal mobility is measured in two ways. First, we construct income transition matrices (*Fiscal Mobility Matrices*) from "pre-fisc" to "post-fisc" socioeconomic groups or deciles.
- Second, we construct (nonanonymous) fiscal incidence curves herewith called *Fiscal Mobility Profiles* (FMP) and compare them with traditional (anonymous) *Fiscal Incidence Curves*.
- The analysis reveals that the pattern of redistribution and fiscal incidence is quite heterogeneous across countries.
- Fiscal mobility is also very heterogeneous: it can range from very significant to almost nonexistent. In addition, fiscal redistribution and fiscal mobility can tell us different stories in particular for the poorest ten percent.

Summary of Results

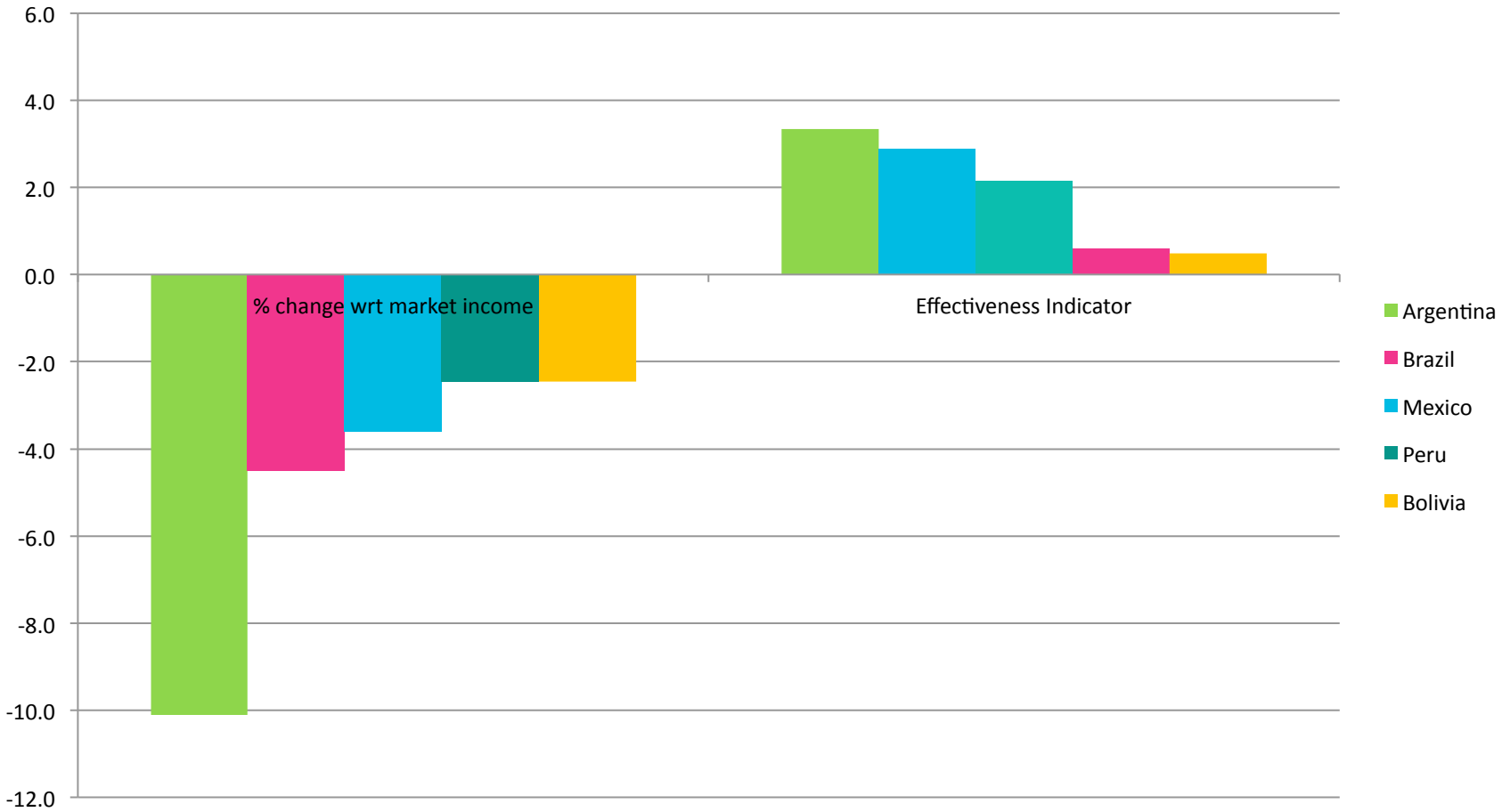
Fiscal Policy & Redistribution in LA

- Conventional wisdom states that fiscal policy redistributes little in Latin America. (Breceda et al., 2008; Goñi et al., 2011)
- Lower tax revenues and – above all – lower and less progressive transfers have been identified as the main cause.
- Through an in-depth fiscal incidence analysis applied to Argentina, Bolivia, Brazil, Mexico and Peru we argue that conventional wisdom may be wrong.
  - Companion paper Lustig, 2011 (coordinator)

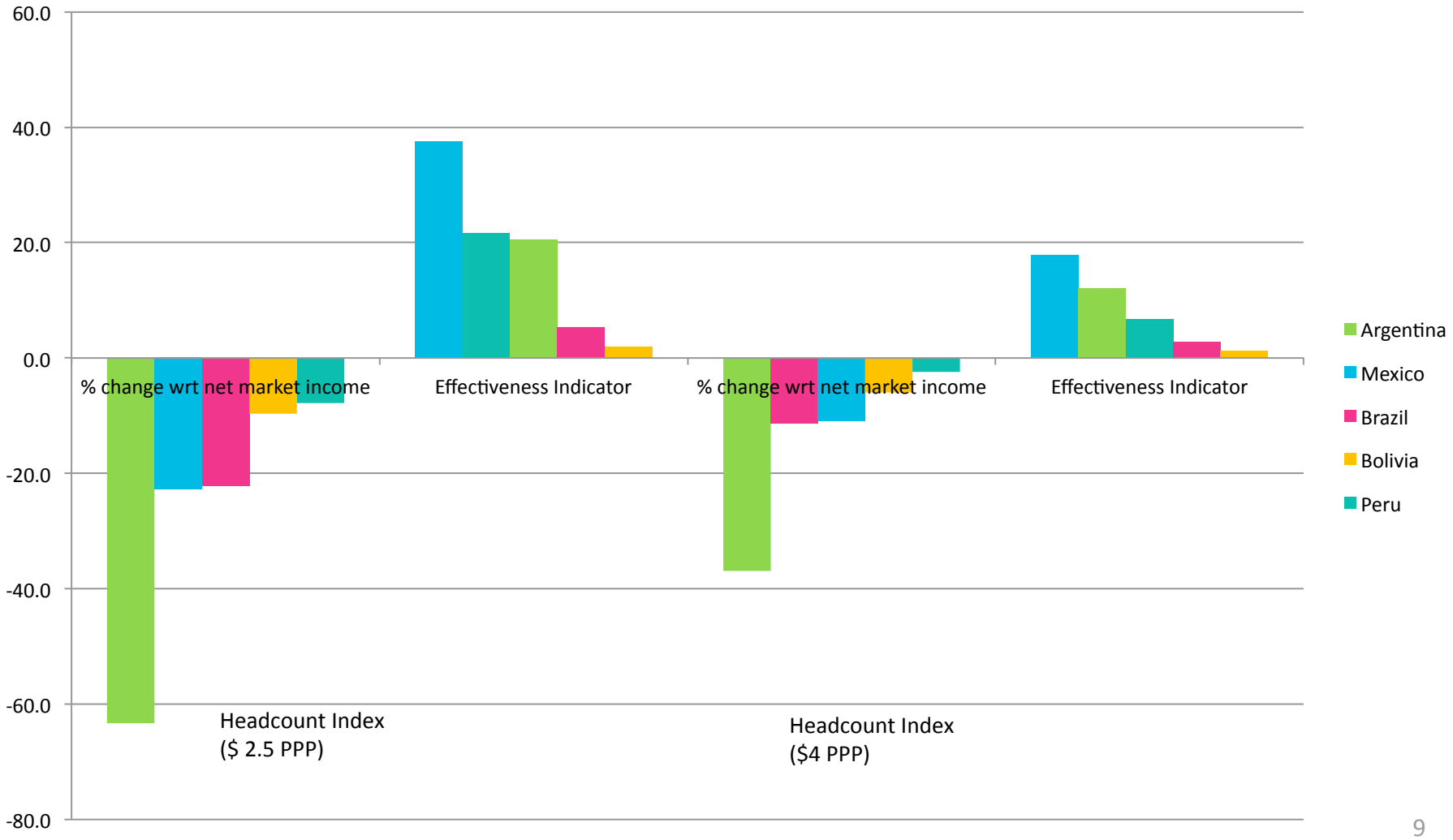
There is no “Latin-America”

- Extent and effectiveness of income redistribution and poverty reduction, revenue-collection, and spending patterns vary so significantly across countries that speaking of “Latin America” as a unit is misleading.
- The (after direct taxes and transfers) Gini, for example, declines by over 10 percent in Argentina but by only 2.4 percent in Bolivia.
- In Argentina, Brazil and Bolivia government revenues are close to 40 percent of GDP, whereas in Mexico and Peru they are around 20 percent.
- Social spending (excluding contributory pensions) as a share of GDP ranges from 17 percent in Brazil to 5.2 percent in Peru.

Change in Gini (in %)



Change in Headcount Ratio (in %)



Defining Socioeconomic Groups: Middle-class

ECONOMIC DEFINITIONS OF THE MIDDLE CLASS

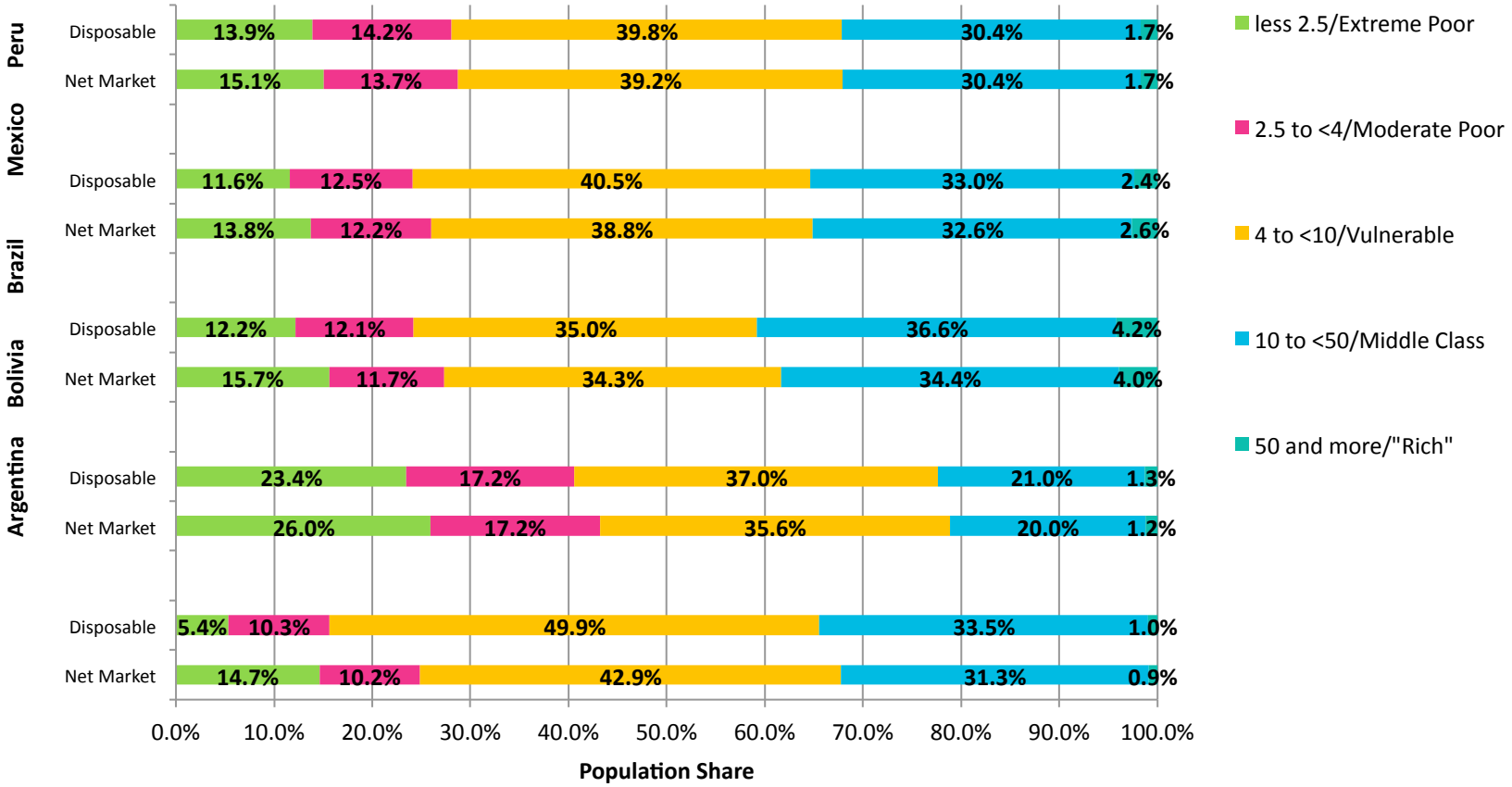
Percentiles of the income distribution (a)		
Birdsall*et al*. (2000)	i middle class	$0.75\ (p_{50}) \leq y_i \leq 1.25\ (p_{50})$
Blackburn and Bloom (1985)		$0.60\ (p_{50}) \leq y_i \leq 2.25\ (p_{50})$
Davis and Huston (1992)		$0.50\ (p_{50}) \leq y_i \leq 1.50\ (p_{50})$
Alesina and Perotti (1996)		$p_{40} \geq y_i \leq p_{80}$
Barro (2000) and Easterly (2001)		$P_{20} \geq y_i \leq p_{80}$
Partridge (1997)		$p_{40} \geq y_i \leq p_{60}$
Solimano (2008)		$P_{20} \geq y_i \leq p_{90}$
Absolute Middle Class Lines (in PPP US$ per day) (b)		
Banerjee and Duflo (2008)		2 to 10
Birdsall et al. (2011)		10 to 50
Kharas (2010)		10 to 100
Milanovic and Yitzhaki (2008)		12 to 50
Ravallion (2010)		2 to 13

Socioeconomic Groups in Paper: Cut-offs

SOCIOECONOMIC GROUPS USED IN THIS PAPER

Absolute Lines	
Ultra Poor	<1.25
Extreme Poor	1.25 to 2.5
Moderate Poor	2.5 to 4
Vulnerable	4 to 10
Middle Class	10 to 50
"Rich"	> 50

Redistribution by Socioeconomic Group



Concentration Shares of Taxes and Transfers by Socioeconomic Group

Approximate Socioeconomic Group	Deciles	Net Mket Income Share	Direct Taxes plus Employee Contributions to Soc. Sec.	All Direct Transfers	Net Indirect Taxes	In-kind Education	In-kind Health	c
ARGENTINA								
Extreme and Moderate Poor	30%	6%	10%	55%	na	40%	55%	
Vulnerable	40%	28%	25%	32%	na	41%	36%	
Middle-class (except those in X)	20%	30%	23%	10%	na	14%	7%	
Top 9 % of middle class and rich	10%	35%	42%	3%	na	5%	2%	
	100%	100%	100%	100%	na	100%	100%	
BOLIVIA								
Extreme and Moderate Poor	40%	10%	N/A	45%	9%	36%	41%	
Vulnerable	40%	33%	N/A	32%	31%	44%	41%	
Middle-class (except those in X)	10%	16%	N/A	10%	16%	11%	11%	
Top 9 % of middle class and rich	10%	41%	N/A	14%	44%	9%	7%	
	100%	100%	N/A	100%	100%	100%	100%	
BRAZIL								
Extreme and Moderate Poor	30%	5%	2%	27%	6%	41%	12%	
Vulnerable	40%	24%	12%	34%	24%	37%	21%	
Middle-class (except those in X)	20%	28%	21%	20%	28%	14%	34%	
Top 6% of middle class and rich	10%	44%	65%	20%	42%	7%	34%	
	100%	100%	100%	100%	100%	100%	100%	
PERU								

Notes:						
a. For Argentina, the distribution of indirect subsidies and housing and urban were taken from secondary sources that used quintiles; thus the incidence by socioeconomic group could not be calculated.						
b. For information on what is included in each transfer or tax category by country see Appendix A and Table 3 in Lustig et al. (2011).						
c. Numbers in red refer to the cases in which the poor receive (pay) transfers (taxes) that are lower (higher) than the average in per capita terms, and the cases in which the rich receive (pay) transfers (taxes) that are higher (lower) than the average in per capita (relative) terms. Numbers in green refer to the cases in which the poor receive (pay) transfers (taxes) that are higher (lower) than the average in per capita (relative) terms, and the cases in which the rich receive (pay) transfers (taxes) that are lower (higher) than the average in per capita terms.						
N/A means not applicable. na means not available.						

Concentration Shares of Flagship Cash Transfers Programs and Tertiary Education by Socioeconomic Grou						
	Share of benefits going to each income group					
Net Market Income Group	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Total
ARGENTINA						
At least one flagship cash transfer prograr	38.4%	12.7%	34.9%	13.7%	0.3%	100.0%
Education: All Except Tertiary	24.0%	16.9%	47.0%	12.0%	0.1%	100.0%
Education: Tertiary	5.9%	6.1%	42.4%	45.0%	0.6%	100.0%
Income Shares by Net Market Income	*1.3%*	*2.8%*	*27.7%*	*60.2%*	*8.0%*	*100.0%*
Population Shares	*14.7%*	*10.2%*	*42.9%*	*31.3%*	*0.9%*	*100.0%*
BOLIVIA						
At least one flagship cash transfer prograr	26.9%	12.8%	32.2%	25.8%	2.2%	100.0%
Education: All Except Tertiary	27.3%	18.2%	38.6%	15.5%	0.3%	100.0%
Education: Tertiary	4.8%	9.8%	37.2%	44.2%	4.0%	100.0%
Income Shares by Net Market Income	*3.2%*	*5.7%*	*28.3%*	*47.6%*	*15.2%*	*100.0%*
Population Shares	*22.5%*	*15.2%*	*37.8%*	*22.9%*	*1.6%*	*100.0%*
BRAZIL						
At least one flagship cash transfer prograr	15.3%	8.8%	28.1%	36.2%	11.5%	100.0%
Education: All Except Tertiary	27.7%	16.9%	36.6%	18.5%	0.3%	100.0%
Education: Tertiary	3.3%	3.0%	20.3%	57.5%	15.9%	100.0%
Income Shares by Net Market Income	*1.7%*	*2.9%*	*17.2%*	*51.2%*	*27.0%*	*100.0%*
Population Shares	*15.7%*	*11.7%*	*34.3%*	*34.4%*	*4.0%*	*100.0%*
PERU						
At least one flagship cash transfer prograr	46.9%	23.6%	24.6%	4.9%	0.0%	100.0%
Education: All Except Tertiary	24.6%	19.6%	41.2%	14.6%	0.0%	100.0%

a. For definitions of socioeconomic groups see text and Table 1b; for definitions of income concept see Diagram 1 in text and Appendix A; for a description of household surveys see Appendix A; for a description of flagship programs see Appendix C.
b. Brown (green) font refers to spending that is progressive in absolute (relative) terms. For definitions see section 2 and diagram 2. Yellow (light blue) highlight indicates the highest (smallest) per capita spending among the five categories.

Fiscal Mobility Matrices by Socioeconomic Group

ARGENTINA

	Disposable Income groups					
Net Market Income groups	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Total
y < 2.5	37%	39%	25%	0%	0%	100%
2.5 < y < 4	0%	46%	54%	0%	0%	100%
4 < y < 10	0%	0%	95%	5%	0%	100%
10 < y < 50	0%	0%	0%	100%	0%	100%
y > 50	0%	0%	0%	0%	100%	100%

not available

BOLIVIA

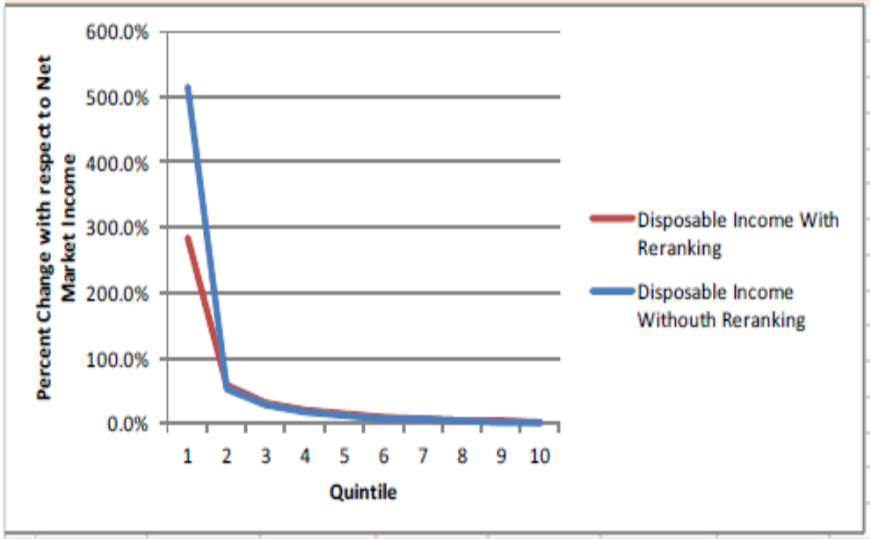
	Disposable Income groups							Post-fiscal Income groups					
Net Market Income groups	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Horizontal sum	Net Market Income groups	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Horizontal sum
y < 2.5	91%	7%	1%	0%	0%	100%	y < 2.5	95%	4%	2%	0%	0%	100%
2.5 < y < 4	0%	87%	12%	0%	0%	100%	2.5 < y < 4	9%	87%	4%	0%	0%	100%
4 < y < 10	0%	0%	96%	4%	0%	100%	4 < y < 10	0%	8%	91%	1%	0%	100%
10 < y < 50	0%	0%	0%	100%	0%	100%	10 < y < 50	0%	0%	15%	85%	0%	100%
y > 50	0%	0%	0%	0%	100%	100%	y > 50	0%	0%	0%	32%	68%	100%

BRAZIL													
	Disposable Income groups							Post-fiscal Income groups					
Market Income groups	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Horizontal	Market Inc	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Horizontal sum
y < 2.5	79%	16%	5%	1%	0%	100%	y < 2.5	88%	8%	4%	0%	0%	100%
2.5 < y < 4	2%	80%	17%	1%	0%	100%	2.5 < y < 4	18%	72%	9%	1%	0%	100%
4 < y < 10	0%	2%	93%	6%	0%	100%	4 < y < 10	0%	13%	84%	3%	0%	100%
10 < y < 50	0%	0%	3%	96%	1%	100%	10 < y < 50	0%	0%	18%	82%	0%	100%
y > 50	0%	0%	0%	12%	88%	100%	y > 50	0%	0%	0%	35%	65%	100%

PERU													
	Disposable Income groups							Post-fiscal Income groups					
Market Income groups	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Horizontal sum	Market Income groups	y < 2.5	2.5 < y < 4	4 < y < 10	10 < y < 50	y > 50	Horizontal sum
y < 2.5	92%	8%	0%	0%	0%	100%	y < 2.5	92%	8%	0%	0%	0%	100%
2.5 < y < 4	0%	94%	5%	0%	0%	100%	2.5 < y < 4	1%	94%	5%	0%	0%	100%
4 < y < 10	0%	1%	99%	0%	0%	100%	4 < y < 10	0%	2%	98%	0%	0%	100%
10 < y < 50	0%	0%	6%	94%	0%	100%	10 < y < 50	0%	0%	8%	92%	0%	100%
y > 50	0%	0%	0%	13%	87%	100%	y > 50	0%	0%	0%	16%	84%	100%

Figure 4 - Fiscal Incidence Curves (with reranking) and Fiscal Mobility Profiles (without reranking) for Disposable (left) and Post-fiscal Income (right)

ARGENTINA



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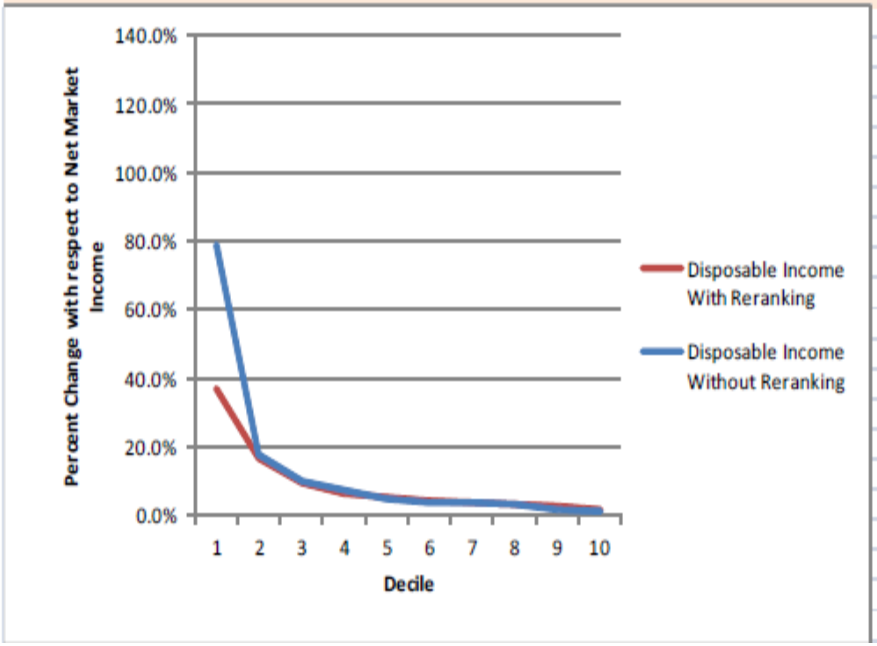
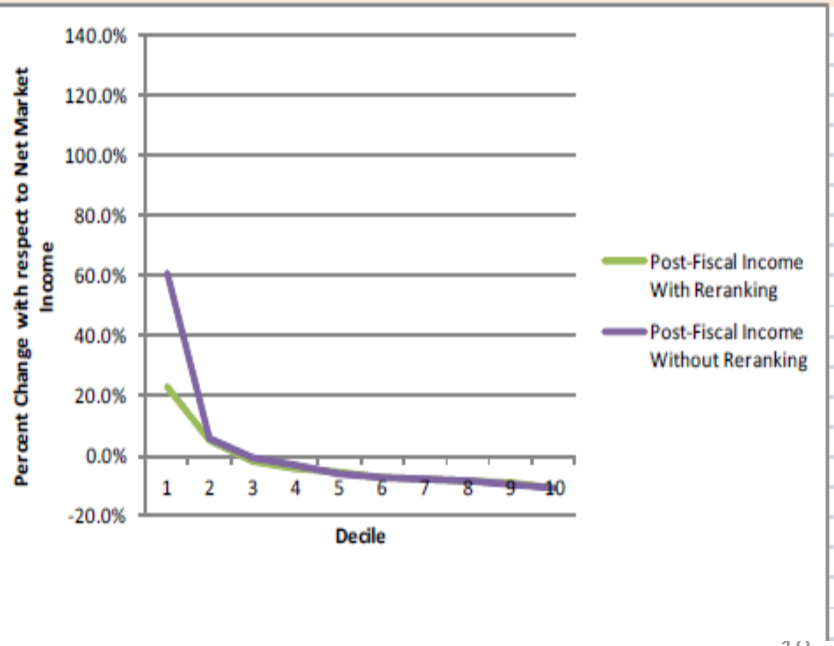
BOLIVIA





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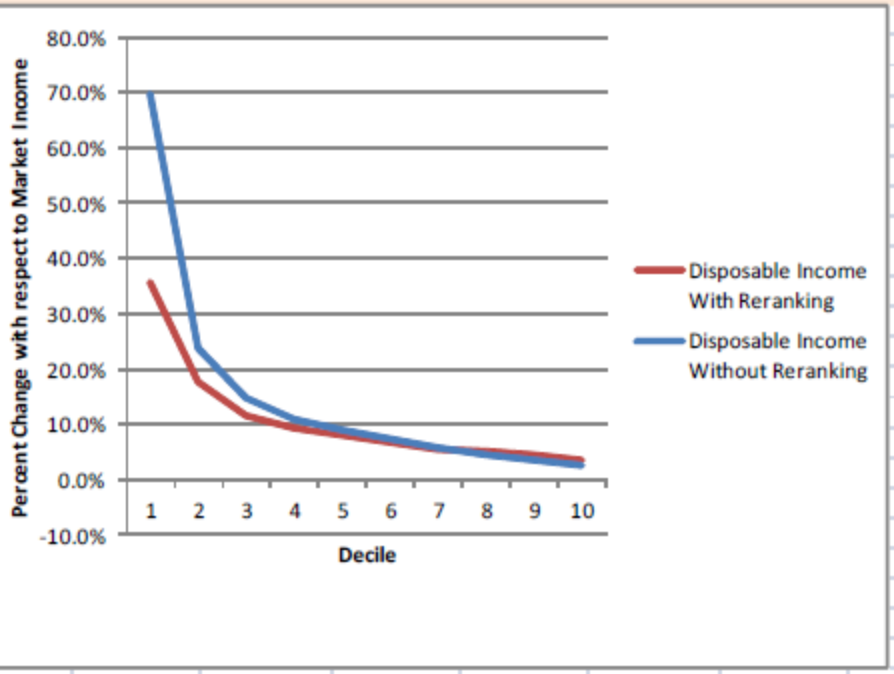
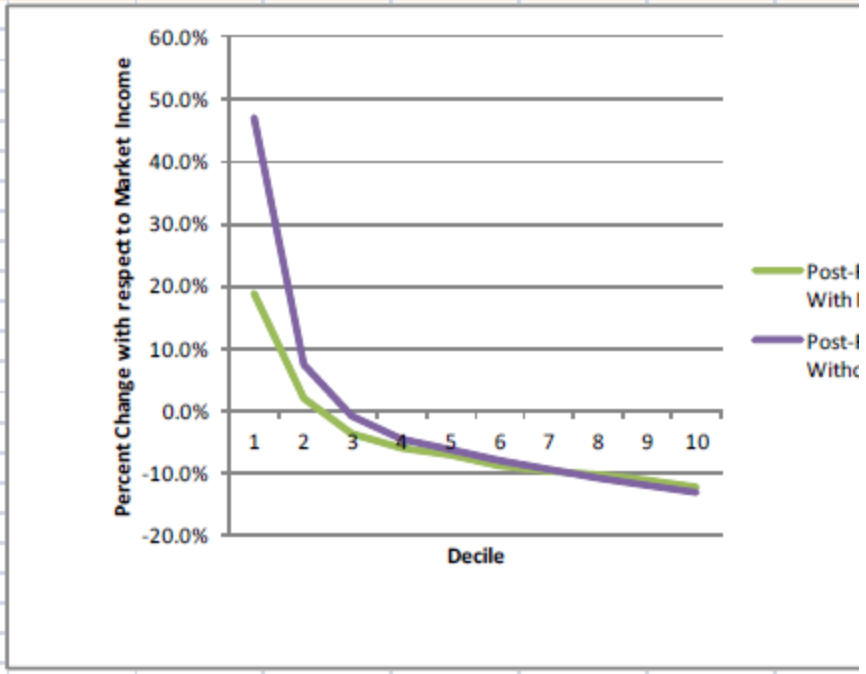
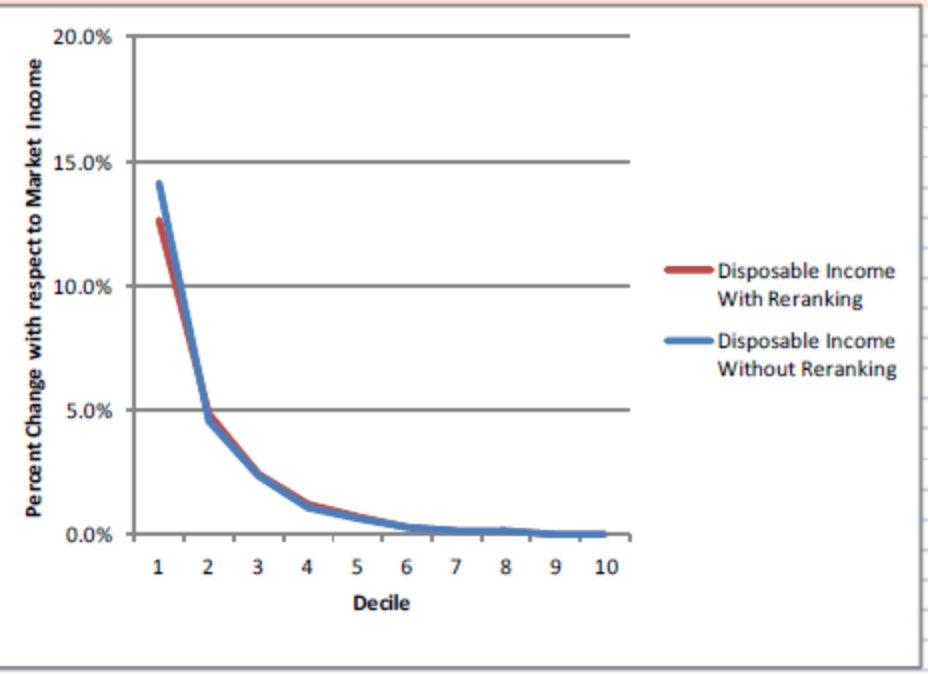
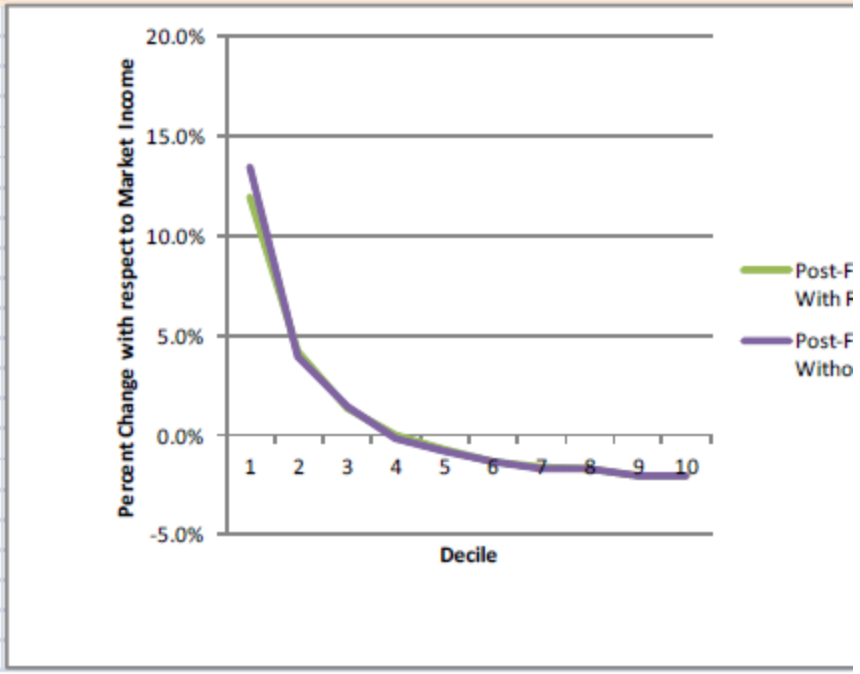

80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
-10.0%
Percent Change with respect to Market Income
1 2 3 4 5 6 7 8 9 10
Decile
Disposable Income With Reranking
Disposable Income Without Reranking


60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
-10.0%
-20.0%
Percent Change with respect to Market Income
1 2 3 4 5 6 7 8 9 10
Decile

PERU


20.0%
15.0%
10.0%
5.0%
0.0%
Percent Change with respect to Market Income
1 2 3 4 5 6 7 8 9 10
Decile
Disposable Income With Reranking
Disposable Income Without Reranking


20.0%
15.0%
10.0%
5.0%
0.0%
-5.0%
Percent Change with respect to Market Income
1 2 3 4 5 6 7 8 9 10
Decile

Methodological Highlights

Methodological Highlights

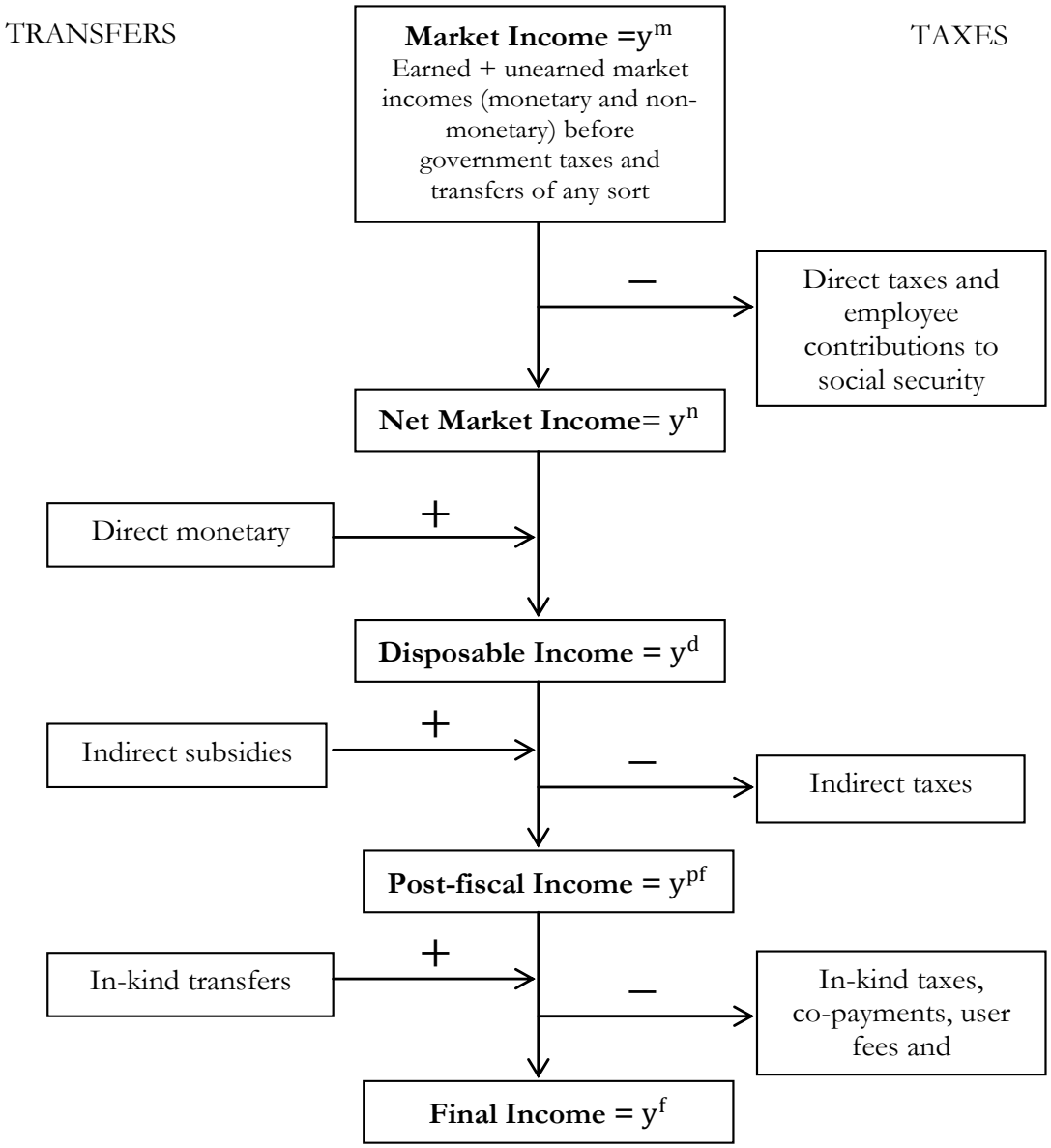
- Definitions of income concepts and how they are constructed
  - Methods
  - When to scale-up
- Static fiscal incidence analysis
- Definition of “Progressive” and “Regressive”

- Data: Household Surveys; See top rows of Appendix A

Fiscal Incidence Analysis: Definitions of Income Concepts

- We attempt to assess the distributive impact of the full range of fiscal interventions.
- Whenever possible from market or primary income and sequentially estimate the incidence of
  - direct taxes and contributions to the social security system,
  - direct cash transfers,
  - indirect taxes and subsidies, and
  - in-kind transfers in the form of free or quasi-free services such as education and health.

Definitions of Income Concepts: A Stylized Presentation



Fiscal Incidence Analysis: How Income Concepts are Constructed

- *Direct Identification Method*

Household surveys do not always include information on direct taxes or transfers from specific programs (or, on expenditures needed to estimate indirect taxes):

- *Inference Method*
- *Simulation Method*
- *Imputation Method*
- *Alternate Survey*
- *Secondary Sources Method*

- Appendix A

Fiscal Incidence Analysis: Incidence Assumptions (Appendix A)

- Payroll taxes and social security contributions are borne fully by labor in the form of lower wages.
- Consumption taxes (VAT, excise taxes, consumption taxes) are borne by consumers of the taxed commodities; burdens are allocated in proportion to the shares of consumption of the taxed good.
- Cash transfers accrue to beneficiary households.

Fiscal Incidence Analysis: Incidence Assumptions

- Social Security/contributory pensions (and unemployment compensation of a contributory system) are included in Market Income.
- SS pensions are not considered part of government transfers because in an actuarially fair system, pensions—on average—correspond to life-time contributions. ("Micro-simulation" project of Paris School of Economics; see Bourguignon, various papers).
- What if there is a deficit in the year of analysis? Estimated the incidence of the "subsidy" separately.

Fiscal Incidence Analysis: Incidence Assumptions

- Education transfers: calculated as the average cost per student at each level multiplied by the number of children in school at each level in every household.
- Health transfers: depends on the system in the country.

Scaling-up:

- Because these transfers are imputed based on totals from national or public accounts, market incomes and direct cash transfers (and taxes) need to be scaled-up to avoid overestimating the contribution of education and health transfers in the incidence analysis

Definition of CEQ Social Spending

- CEQ Social Spending includes public spending on education, health and social assistance.
- It does not include spending on contributory pensions except for the "subsidized" portion.
- The "subsidy" is equal to the deficit of the pay-as-you-go pension system in the year of the survey.
- If the contributory pension system did not have a deficit, the subsidy was taken to be equal to zero.

Definition of Redistributive "Effectiveness"

- Effectiveness Indicator is defined as the redistributive effect (i.e., the relative decline in Gini or Headcount Ratio) of the taxes or transfers being analyzed divided by their relative size with respect to GDP.

Definition of Extreme and Total Poverty

- Extreme poverty is measured using the international PPP US$2.50 a day poverty line which for Latin America corresponds to roughly the median of national extreme poverty lines.
- Moderate poverty is measured using the international PPP US$4 a day poverty line which for Latin America corresponds to roughly the median of national moderate poverty lines.

Fiscal Incidence Analysis: Caveats

- Does not incorporate potential systematic differences between average and marginal incidence effects.
- Does not include behavioral responses or general equilibrium effects.
- Does not analyze incidence or redistribution over the life-cycle.
- Does not take into account differences in the quality of public spending.
- Hence, this exercise should be viewed as a first-approximation of the impact of fiscal policy on inequality and poverty.

Definitions of Progressive and Regressive Taxes and Transfers

- No convention on how to call transfers whose concentration curves lie between the Lorenz curve and the perfect equality diagonal.
- Here we decided to call them progressive in relative terms (and not regressive in absolute terms as some authors do).
- Our choice is based on a simple rule: anything that makes the distribution of income more equal (unequal), should be called progressive (regressive).

Diagram 2 - Concentration Curves for Progressive and Regressive Transfers (Taxes)