



Social spending, income redistribution and poverty reduction in Mexico:
Evolution and comparison with Argentina, Brazil and Uruguay

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October 18, 2013

Outline

- ▶ Context and Motivation
- ▶ Methodology, Concepts and Definitions
- ▶ Results
- ▶ Main Messages





1. Context and Motivation

Social spending in Mexico has increased since the 1990s

- ▶ Between 1996 and 2010, social spending in Mexico grew 29% in real terms, while the social spending GDP ratio increased from 6.6 to 8.6%
- ▶ Changes in social policy and spending associated with three types of reforms:
 - i. expansion in basic education and health services coverage
 - ii. establishment of targeted programs and elimination of regressive food subsidies
 - iii. decentralization of spending and institutionalization of social policy



Increased spending on education and health

- ▶ Greater expenditures on basic **education** services, mainly through expansions in **rural coverage**
- ▶ Spending on **health for the uninsured** increased significantly in the 1990's, and after 2004 through *Seguro Popular*
- ▶ By 2010, CCT **Oportunidades** (launched in 1997 as Progresa) benefitted over 5 million families, most of whom in conditions of extreme poverty



Motivation

- ▶ How much of Mexico's inequality and poverty decline is due to transfers? How has the incidence of transfers (direct and in-kind) changed over time?
- ▶ How does Mexico compare to other Latin American countries?
 - ▶ **This work:**
 - ▶ **Social spending incidence analysis** to estimate its impact on income distribution and poverty in **1996** and **2010** (before and after the changes in social policy in Mexico)
 - ▶ **Comparison with Argentina, Brazil and Uruguay** (countries with similar GDP per capita and existing incidence analyses which are methodologically comparable)





2. Methodology, Concepts and Definitions

Methodological aspects...

- ▶ Cash transfers, reported by households:
 - ▶ 1996: PROCAMPO
 - ▶ 2010: PROCAMPO, Oportunidades, Adultos Mayores, PET
- ▶ Scaling-up factor(s) for net market income and cash transfers, to match concepts to those reported in national accounts.



Methods used in the construction of income concepts

	1996	2010
INCOME CONCEPTS USED IN THE ANALYSIS: DEFINITIONS, METHODS AND SOURCES		
Income observed in the survey	Net Market Income	Net Market Income
NET MARKET INCOME INCLUDES:		
Auto-consumption	Reported in the survey	Reported in the survey
Imputed rent for owner occupied housing	Reported in the survey	Reported in the survey
Earned and Unearned Incomes of All Possible Sources Including Social Security Pensions and Excluding Government Transfers	All incomes are assumed to be net of income taxes and employee c contributions to social security	All incomes are assumed to be net of income taxes and employee contributions to social security
DISPOSABLE INCOME = NET MARKET INCOME + DIRECT GOVERNMENT TRANSFERS		
Non-contributory pensions	Reported in the survey, contributory are distinguished from non-contributory, but private and public are not	Reported in the survey but contributory cannot be distinguished from non-contributory.
Targeted monetary transfers	<u>Direct Identification Method.</u> Only <i>Procampo</i> is included in the survey for this year. PROGRESA and PET did not exist and are not captured	<u>Direct Identification Method.</u> <i>Oportunidades, Procampo, PET</i> and <i>Adultos Mayores</i> are captured by the survey.
Other direct transfers	<u>N/A</u>	<u>Direct Identification Method</u> as other social programs are added to the social Government transfers expenditure



FINAL INCOME = DISPOSABLE IN COME + MONETARY VALUE OF TRANSFERS IN EDUCATION AND HEALTH SERVICES

Education	<p><u>Imputation Method.</u> Imputed based on attendance of public school at each level reported in the survey and national spending per student at the relevant level reported in the public accounts and education ministry (local spending). Spending per student per year in pesos is:</p> <p>Primary: 2,875.41 Lower Secondary: 5,060.39 Higher Secondary: 9,968.25 University: 14,188.12</p>	<p><u>Imputation Method.</u> Imputed based on attendance of public school at each level reported in the survey and national spending per student at the relevant level reported in the public accounts and education ministry (local spending). Spending per student per year in pesos is:</p> <p>Primary: 15,696.43 Lower Secondary: 21,761.12 Higher Secondary: 23,893.27 University: 38,433.05</p>
Health	<p><u>Imputation Method.</u> Based on affiliation to public health insurance institutions (IMSS, ISSSTE, PEMEX, Army and SSA) identified by institution in the survey and national public spending reported in the public accounts (federal) and health ministry (federal and local spending). The corresponding values per use of benefits in pesos per year are:</p> <p>IMSS: \$ 32,412.26 SSA: \$ 5,581.83 ISSSTE:\$ 3,557.71 PEMEX, Army: \$ 666.38</p>	<p><u>Imputation Method.</u> Imputed based on affiliation to public health insurance institutions (IMSS, ISSSTE, PEMEX, Army, Seguro Popular and SSA) identified by institution in the survey and national public spending reported in the public accounts (federal) and health ministry (federal and local spending). The corresponding values per use of benefits in pesos per year are:</p> <p>IMSS: \$ 67,083.63 SSA: \$ 181,599.23 Seguro Popular: \$ 1,309.64 ISSSTE: \$ 25,554.03 PEMEX, Army: \$ 32,260.24</p>



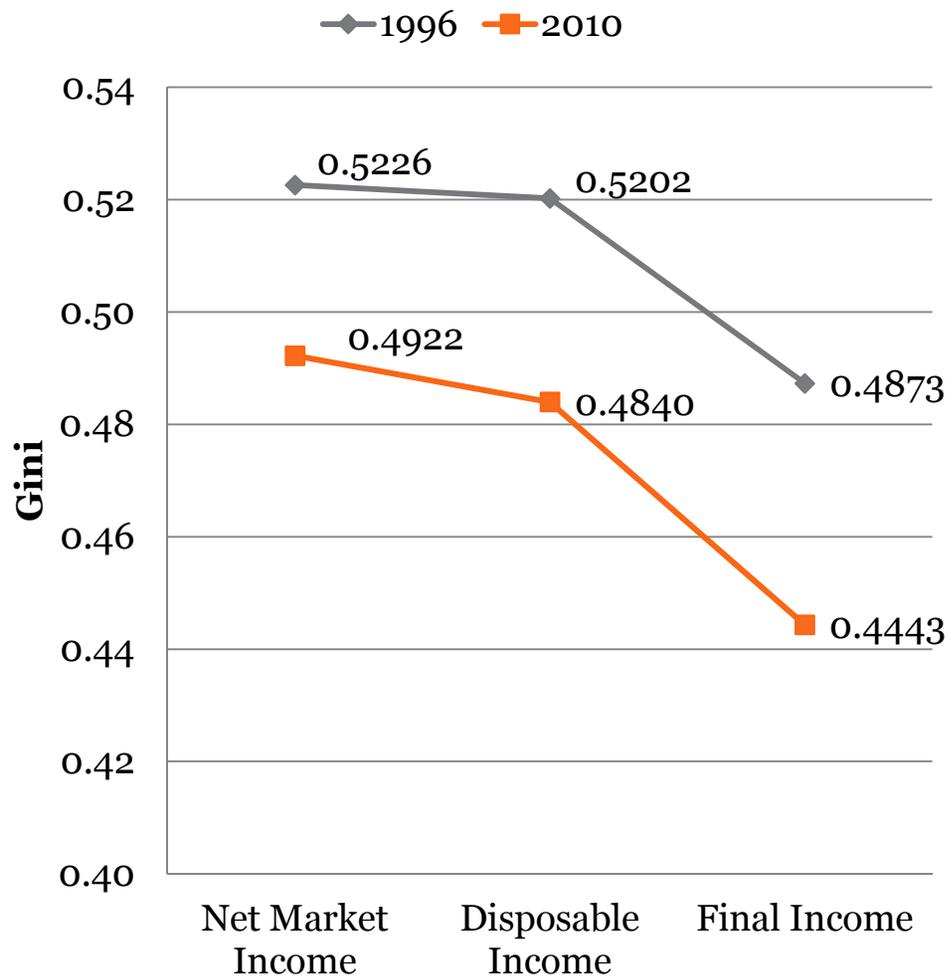
SCALING-UP FACTOR		
Scaling up factor and method for the calculation of the effect of education and health transfers on income distribution	A scaling-up factor of 1.91 was used for net market income. In the case of <i>PROCAMPO</i> , the factor was 2.23. The latter was applied to the value of public transfers reported by households in the ENIGH	A scaling-up factor of 2.29 was applied for net market income. In the case of <i>PROCAMPO</i> , the factor was 1.47; for <i>Oportunidades</i> it was 1.45; for <i>Adultos Mayores</i> the factor was 1.23; and for <i>PET</i> it was 9.6. These factors were applied to the value of public transfers corresponding to those reported by households in the ENIGH

► Source: Authors' elaboration based on the methodology proposed by Lustig & Higgins (2013)

3.1 Results

Mexico: incidence of transfers over time

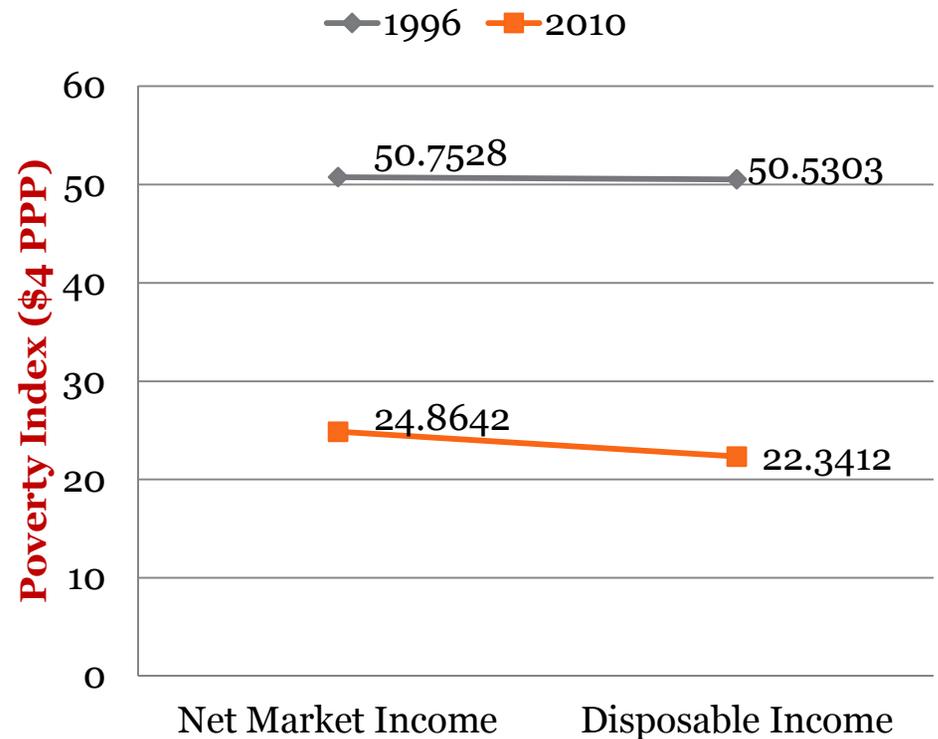
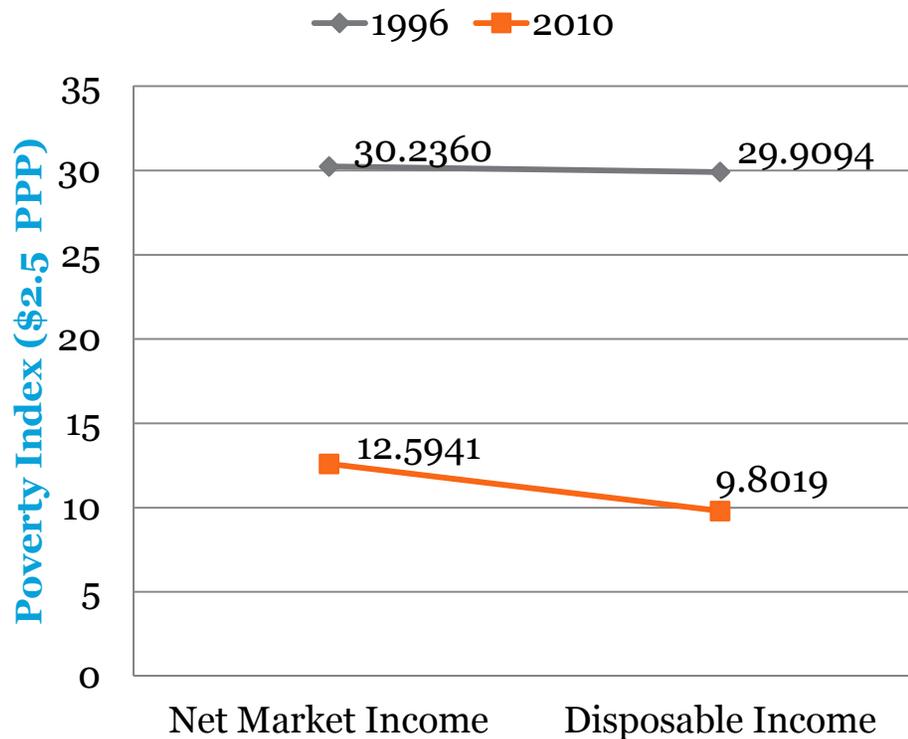
Social Spending and Inequality in Mexico: 1996 and 2010



1996: Cash transfers reduced the Gini coef. by **-0.2 pp**. Adding the effect of spending on education and health, the reduction was of **-3.5 pp**.

2010: More pronounced effect—cash transfers reduced the Gini by **-0.8 pp**; and by **-4.9 pp** with the effect of spending on education and health.

Social Spending and Poverty (**extreme** and **moderate**) in Mexico: 1996 and 2010



In 1996, cash transfers reduced extreme poverty incidence by -0.33 pp; in 2010, by -4.9 pp.

► Source: Authors' calculations based on ENIGH 1996 and 2010.

Change in inequality and poverty due to redistribution (vs. 'the market') in 1996-2010

- ▶ Between 1996-2010, **16%** of disposable income Gini and **12%** of the extreme poverty reductions are attributable to the increment in the redistributive component
- ▶ *W/out CCTs, inequality and poverty reduction would have been **10-15% lower***

$$(R^t - R^t) = (G_n^t - G_n^t) - (G_d^t - G_d^t)$$

Inequality (Gini)

	Change in Gini in pp	Contribution in %
Disposable Income	-0.036	100.00%
Change due to change in Market Income Gini	-0.030	84%
Change due to redistribution of Monetary Income	-0.006	16%
	Change in extreme poverty incidence in pp	Contribution in %
Disposable Income	-20.11	100.00%
Change due to change in Market Income incidence	-17.64	88%
Change due to redistribution of Monetary Income	-2.47	12%

Extreme poverty (Incidence)

- ▶ Source: Authors' elaboration based on the methodology proposed by Lustig and Higgins (2013). Extreme poverty incidence measured by the US\$2.50 PPP daily international poverty line.

Incidence of spending on monetary transfers, education and health: 1996 and 2010

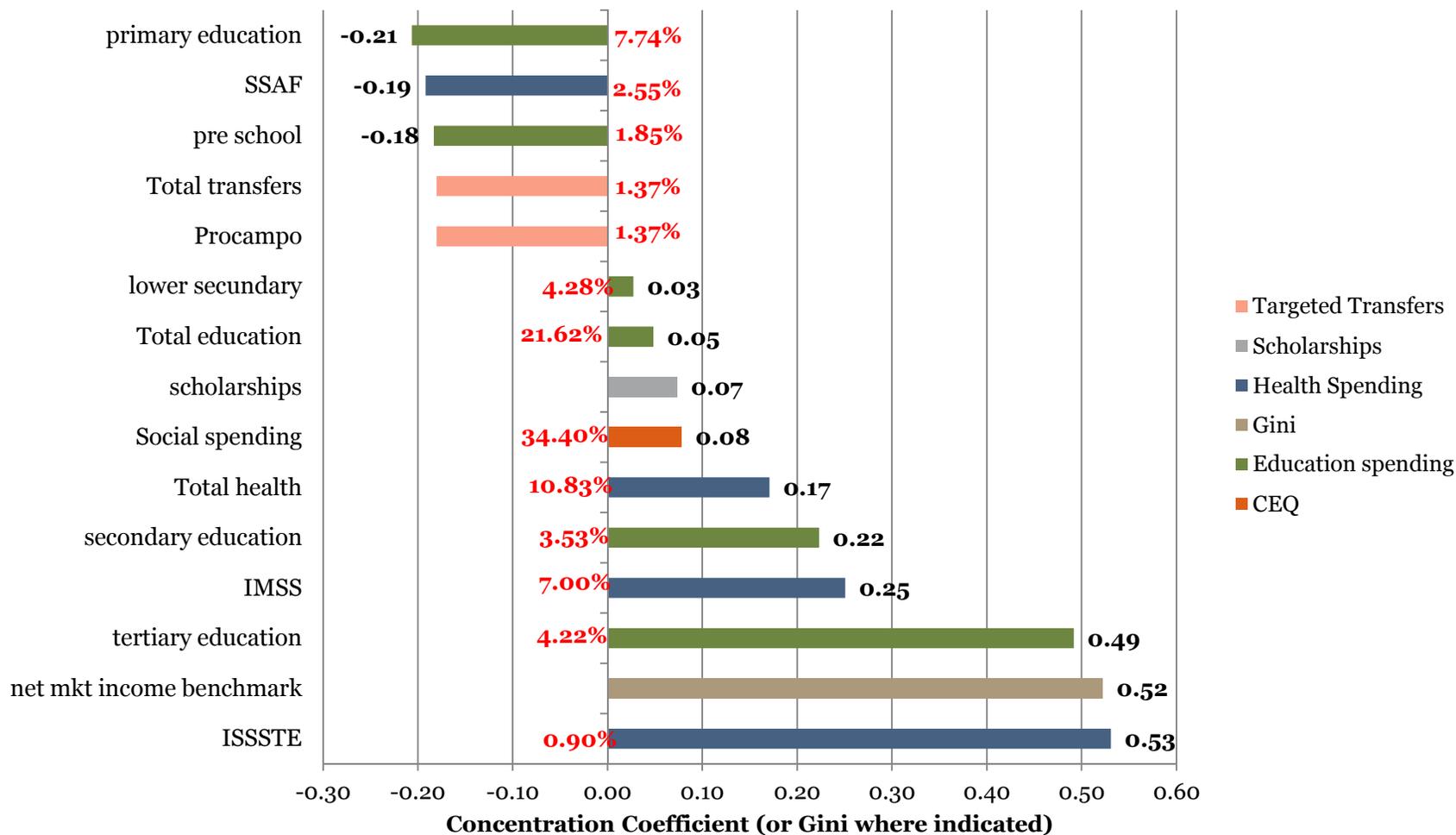
- ▶ Changes in the structure of social spending particularly beneficial for h.h. in the three lowest deciles
- ▶ Launch and expansion of Progresa/Oportunidades implied: **monetary transfers** favoring first decil tripled; in-kind **education transfers** almost doubled; **health** ones almost tripled.

Deciles	1996				2010			
	Monetary	Education	Health	Total	Monetary	Education	Health	Total
1	11.44%	38.49%	7.07%	157.01%	28.69%	62.12%	20.69%	211.49%
2	7.23%	21.05%	2.56%	130.84%	15.25%	28.90%	6.80%	150.94%
3	6.42%	17.17%	1.05%	124.64%	12.01%	21.17%	3.88%	137.06%
4	6.92%	14.55%	0.76%	122.23%	7.76%	16.09%	2.48%	126.33%
5	5.78%	12.04%	0.66%	118.48%	7.11%	13.25%	1.45%	121.81%
6	4.99%	9.84%	0.30%	115.13%	5.68%	10.09%	1.01%	116.78%
7	4.55%	7.75%	0.25%	112.56%	5.27%	7.40%	0.69%	113.36%
8	3.68%	6.53%	0.10%	110.32%	4.67%	5.34%	0.55%	110.57%
9	2.72%	4.61%	0.15%	107.49%	2.53%	3.46%	0.23%	106.22%
10	0.97%	1.39%	0.14%	102.51%	1.40%	1.08%	0.11%	102.59%

▶ Source: Authors' calculations based on ENIGH 1996 and 2010.

Concentration coefficients and spending by category as a share of total programmatic spending (red): 1996

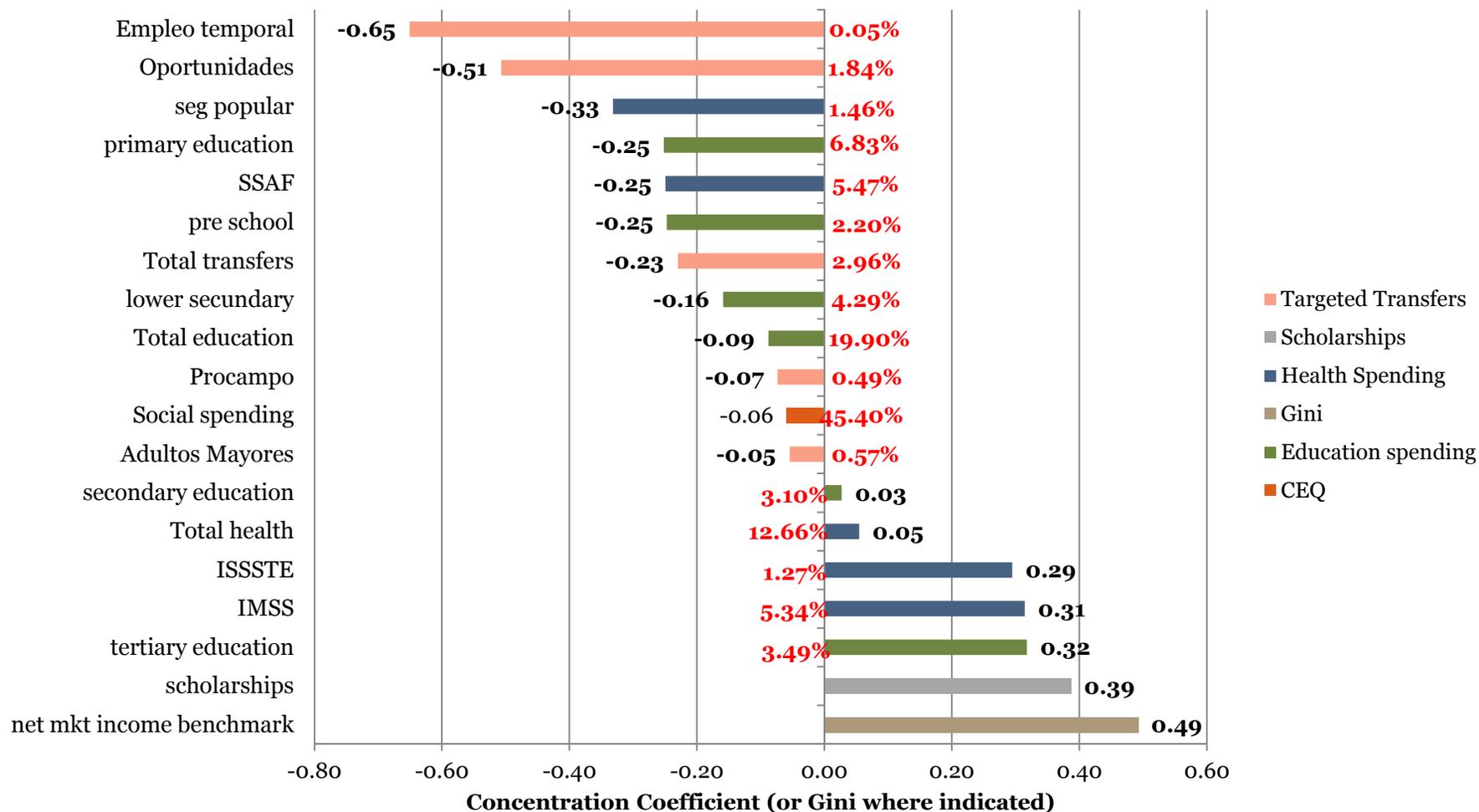
1996



Source: Authors' calculations based on ENIGH 1996 and 2010.

Concentration coefficients and spending by category as a share of total programmatic spending (red): 2010

2010



► Source: Authors' calculations based on ENIGH 1996 and 2010.

Comparing 1996 to 2010:

- ▶ Degree of progressivity increased for all categories in 2010
- ▶ More items of progressive spending in absolute terms (highly pro-poor) in 2010
- ▶ A number of items which were progressive only in relative terms in 1996 became progressive in absolute terms in 2010
- ▶ The share of spending on absolutely progressive categories increased from 13% to approx. 25% of total programmatic spending in 2010
- ▶ Due to these changes, **total social spending in 2010 is slightly progressive in absolute terms**
- ▶ Spending in tertiary education went from practically neutral in relative terms in 1996 to progressive in relative terms in 2010.



3.2 Results

Comparison with other countries

Primary spending and social spending and its composition: Argentina, Brazil, Mexico and Uruguay (as a % of GDP)

Government Spending and Revenue (as a % of GDP)	Argentina (2009)	Brazil (2009)	Mexico (2010)	Uruguay (2009)
	Total	Total	Total	Total
Gross National Income per capita (PPP US\$)	14,230	10,140	14,390	12,412
Total Government Spending^b	43.2%	51.2%	25.7%	30.8%
Primary Government Spending^c	40.6%	41.4%	23.7%	27.9%
Social Spending^d	20.6%	16.2%	10.0%	13.0%
Total Cash Transfers	3.7%	4.2%	1.0%	2.3%
Cash Transfers (excluding all Pensions)	0.8%	3.7%	0.8%	1.7%
Noncontributory Pensions ^e	2.9%	0.5%	0.2%	0.5%
Total In-kind Transfers^f	12.9%	10.5%	7.7%	8.4%
Education	6.7%	5.3%	4.5%	3.7%
of which Tertiary Education	1.3%	0.8%	0.8%	0.8%
Health	6.2%	5.2%	3.1%	4.7%
Contributory ^g	3.6%	0.0%	1.7%	2.3%
Noncontributory	2.6%	5.2%	1.3%	2.4%
Other Social Spending	4.0%	1.5%	1.3%	2.3%
Non-Social Spending^h	12.8%	16.1%	11.1%	6.3%
Indirect Subsidies	5.6%	0.1%	1.4%	0.0%
Other Non-Social Spending ⁱ	7.2%	16.0%	9.7%	6.3%
Contributory Pensions^j	7.2%	9.1%	2.6%	8.7%
Debt Servicing	2.6%	9.8%	2.0%	2.9%

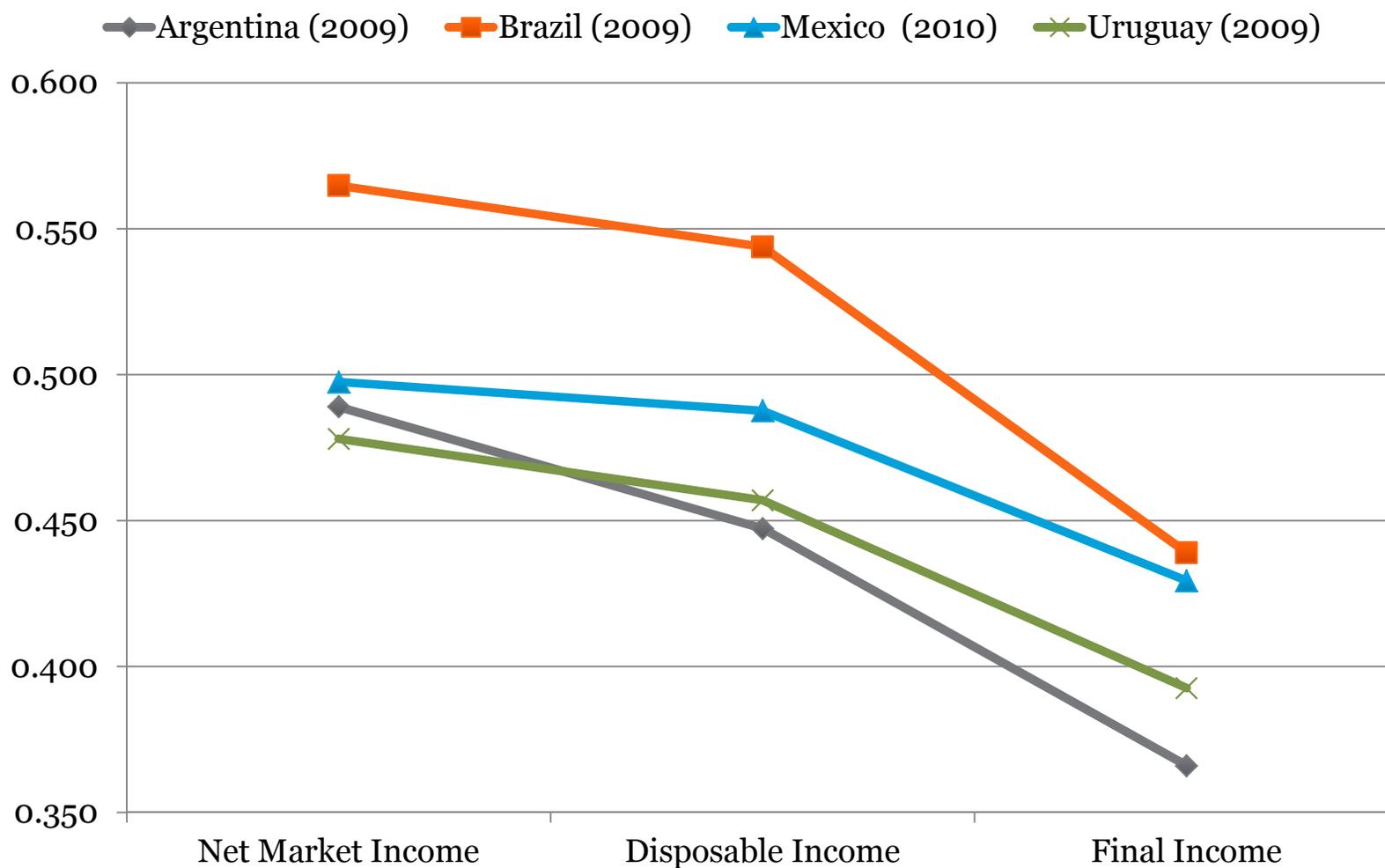
► Source: Lustig, Pessino & Scott (2014).

How does Mexico compare?

- ▶ Primary spending as a share of GDP in Argentina and Brazil almost doubles Mexico's.
- ▶ Share of social spending to GDP is higher in the other three countries
- ▶ Except for spending in education in Uruguay, **all countries present higher shares of spending to GDP than Mexico in all instances**
- ▶ The most marked **differences** in relative terms refer to expenditures on **cash transfers**
- ▶ These differences are reflected in **differences in the effect of these transfers on inequality and poverty**: the other countries show a significantly more pronounced reduction vis-à-vis Mexico:

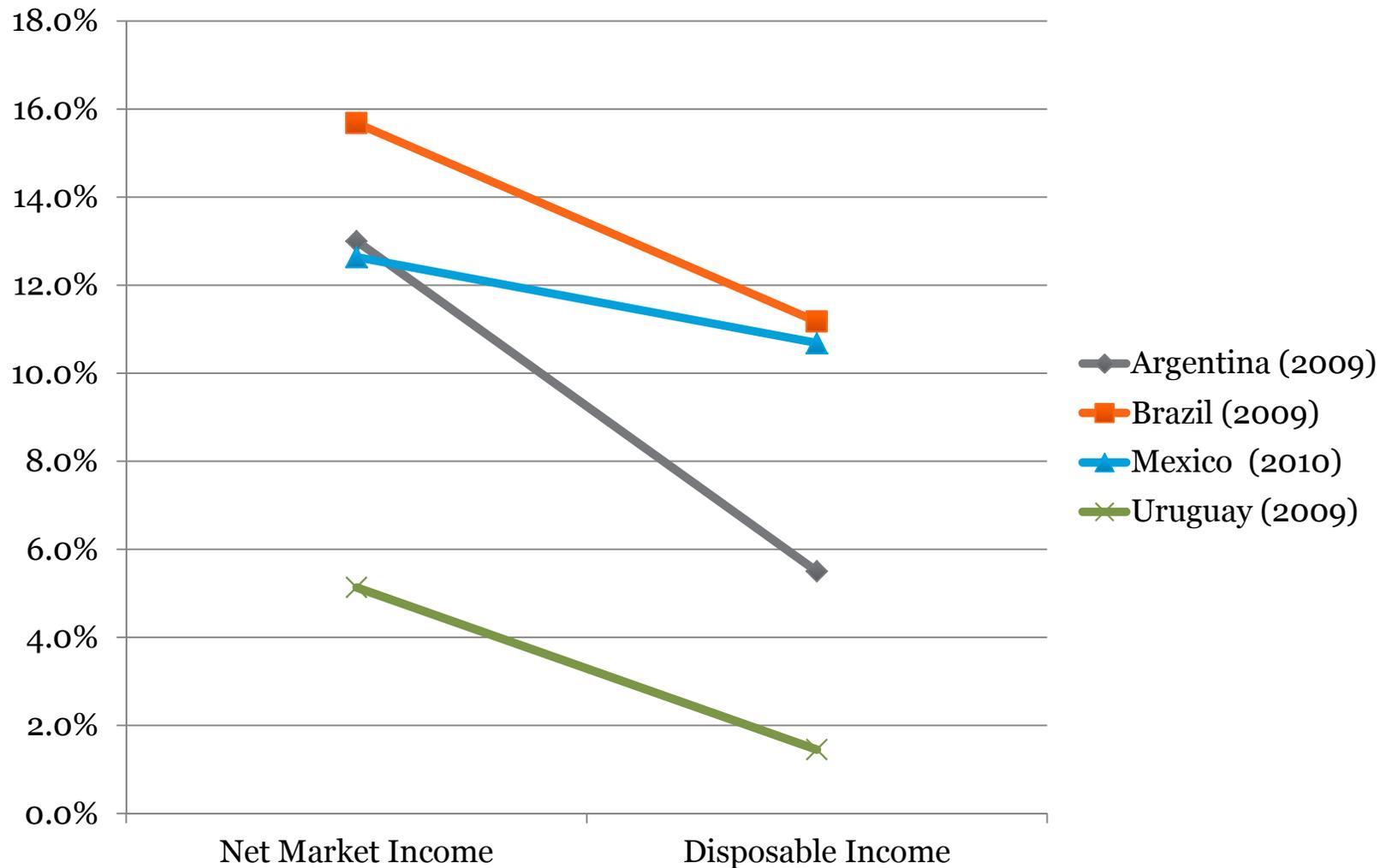


Cash transfers & spending on education and health and reduction in **inequality**: Argentina, Brazil, Mexico and Uruguay



► Source: Argentina: Lustig & Pessino (2014); Brazil: Higgins & Pereira (2014); Mexico: Scott (2014); Uruguay: Buchelli et al. (2014). Note: year of survey in parenthesis.

Cash transfers and reduction in **extreme poverty**: Argentina, Brazil, Mexico and Uruguay



► Source: Argentina: Lustig & Pessino (2014); Brazil: Higgins & Pereira (2014); Mexico: Scott (2014); Uruguay: Buchelli et al. (2014). Note: year of survey in parenthesis.

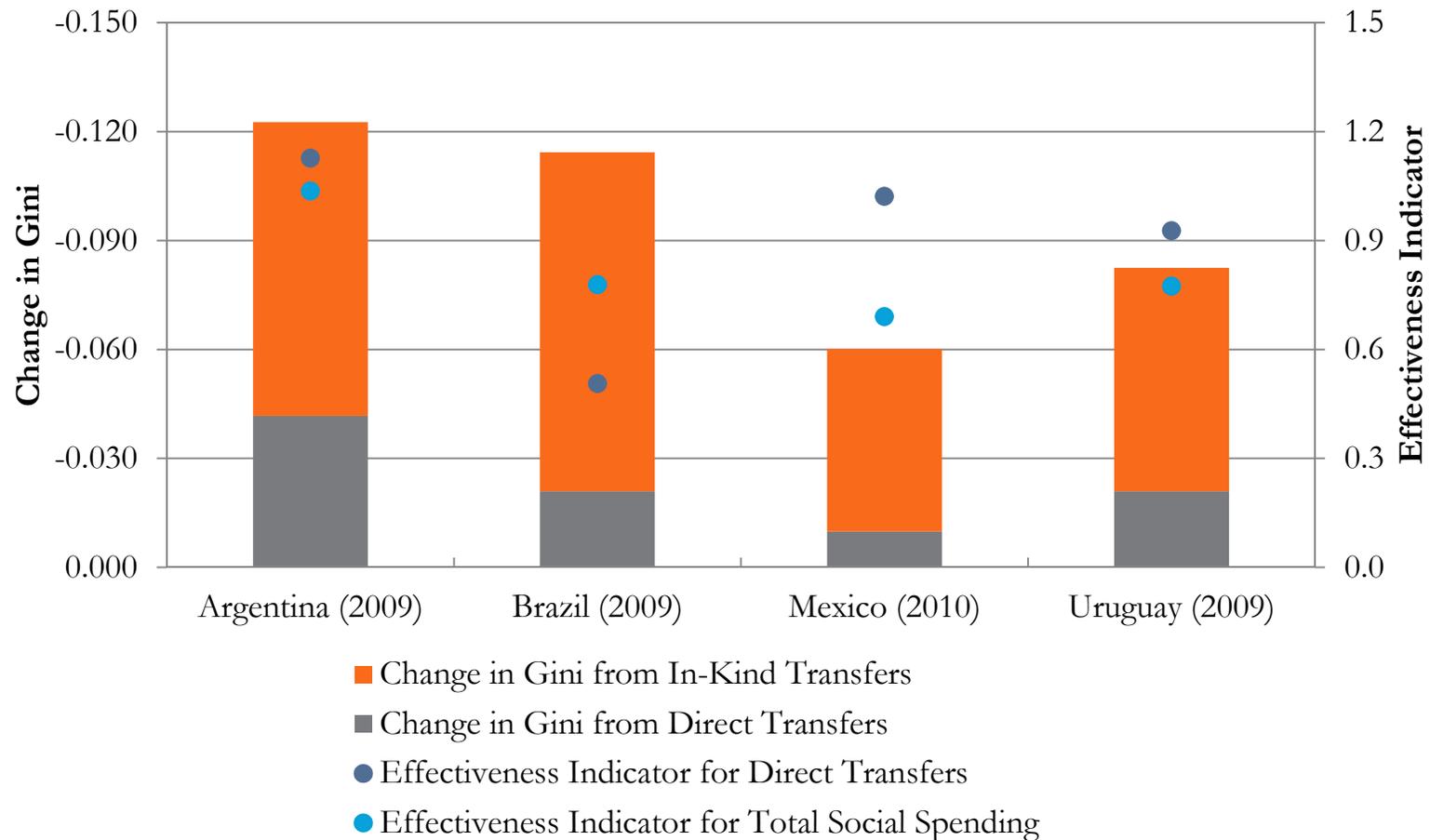
Distribution and coverage of transfers among socioeconomic groups—other countries fare better...

- ▶ In Argentina, Brazil and Uruguay over **90%** of the population with an income < US\$2.50 PPP per day receives benefits from at least one direct transfer program; the figure for Mexico is **73%**.
- ▶ In Mexico, the share of resources out of direct transfers that are destined to those with an income > US\$50 daily is slightly greater than the share of that group in the population—this does not happen in Argentina or Uruguay



Effectiveness of spending and redistribution: Argentina, Brazil, Mexico and Uruguay

Redistributive Effectiveness of Social Spending (Pensions Included in Market Income)



Source: Argentina: Lustig & Pessino (2014); Brazil: Higgins & Pereira (2014); Mexico: Scott (2014); Uruguay: Buchelli et al. (2014).

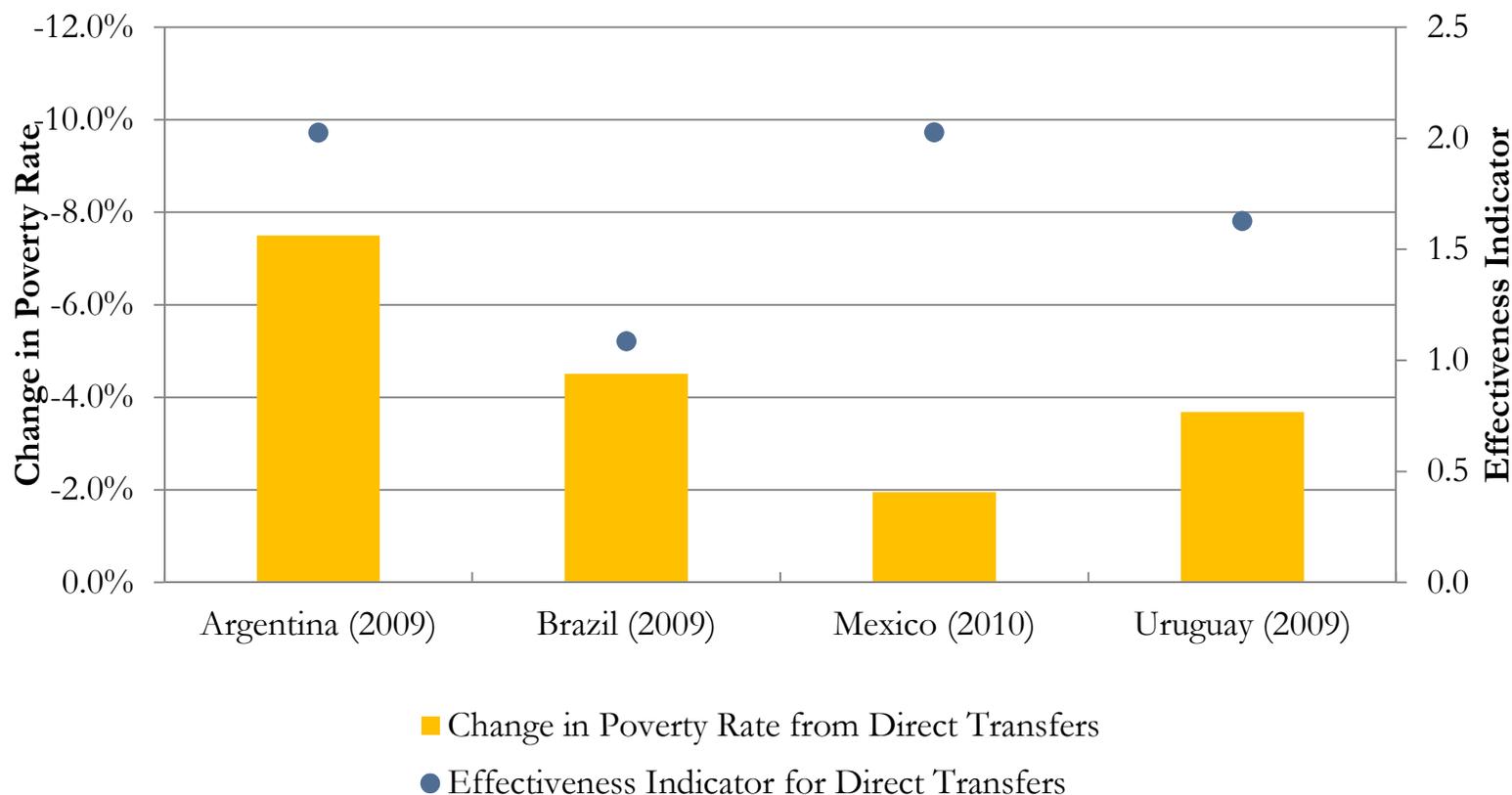
Effectiveness of spending?

- ▶ Mexico achieves a greater reduction of inequality and poverty by 'peso' spent on **cash transfers** than Brazil and Uruguay but less than Argentina.
- ▶ In terms of **social spending**, however, the effectiveness indicator is lower: Mexico achieves a lower reduction in inequality by peso spent on education and health given the lower progressivity of this expenditure.



Effectiveness of spending and poverty reduction: Argentina, Brazil, Mexico and Uruguay

Poverty-Reducing Effectiveness of Social Spending (Pensions Included as Market Income)



Source: Argentina: Lustig & Pessino (2014); Brazil: Higgins & Pereira (2014); Mexico: Scott (2014); Uruguay: Buchelli et al. (2014).



4. Main Messages

Main messages

- ▶ Between 1996-2010, resources towards social spending have increased. The degree of progressivity in all components of social spending has increased as well, except for subsidies to contributory social security.
- ▶ Contributing to this: launch of Progresa/Oportunidades; great push towards access to basic education and basic health services for uninsured rural population
- ▶ Despite progress, Mexico lies behind Argentina, Brazil and Uruguay.
- ▶ Volume matters– primary spending in Argentina and Brazil is almost double that of Mexico. In terms of spending in education and health, however, the difference arises mainly because spending is more progressive in the other three countries
- ▶ Argentina, Brazil and Uruguay have a greater impact of social spending on poverty and inequality reduction because *they spend more and social spending is more progressive than in Mexico*



Main messages...

Notwithstanding comparison caveats, interesting results for Mexico:

- ▶ Resource collection is quite lower than that of its peers (even more so considering that of Mexico's total revenues only half refer to tax revenues)
- ▶ Distribution of spending on education and health is more progressive in Brazil (a country with a larger population and a high share of people living in extreme poverty in rural areas) than in Mexico, although the level of progressivity of total social spending is very similar between countries.
- ▶ Although the distribution of cash transfers is progressive, it could be even more so. Oportunidades' degree of progressivity has not permeated to other transfers such as Procampo; or Oportunidades itself in urban areas
- ▶ Unlike what happens with basic health and education services, coverage of the population in extreme poverty in terms of cash transfer programs is lower in Mexico than in the other countries, including Brazil

