Inequality, Poverty and Public Policy in Latin America

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OECD, Paris
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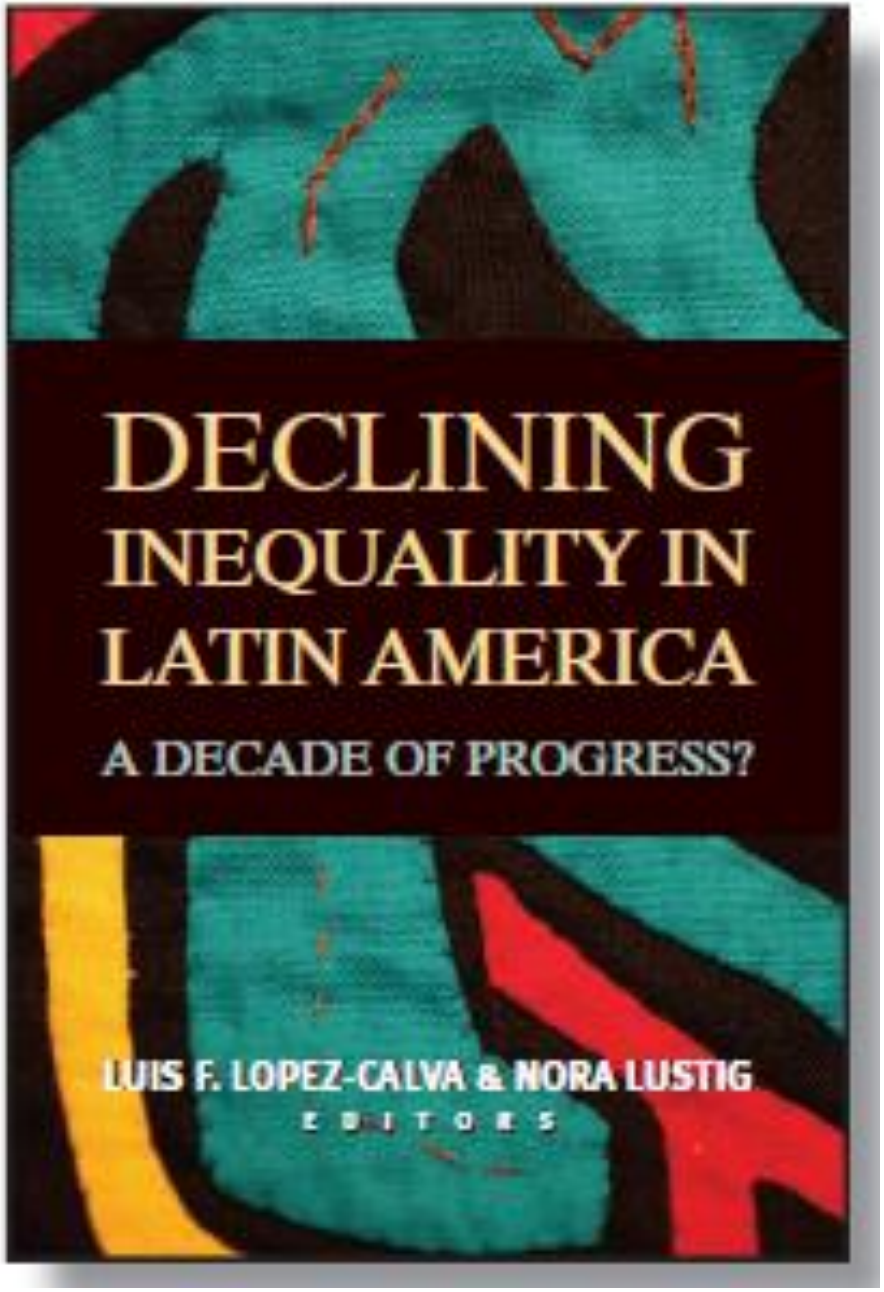
Sources:

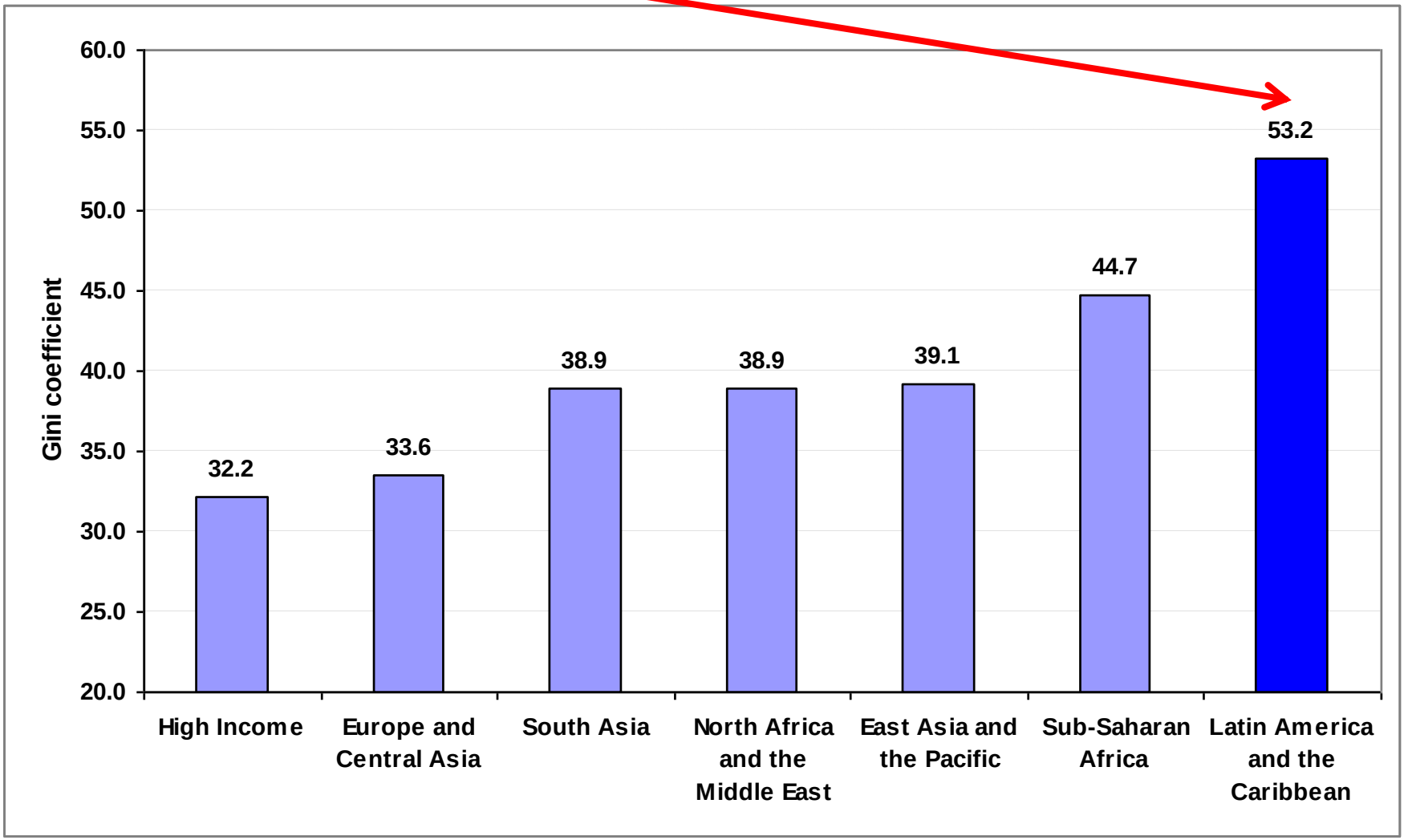
- *Declining Inequality in Latin America: A Decade of Progress?* Edited by Luis F. López-Calva and Nora Lustig, Brookings Institution and UNDP, 2010
- "Declining Inequality in Latin America: Some Economics, Some Politics," Birdsall, Lustig and McLeod in *Handbook of Latin American Politics*, forthcoming
- "Declining Inequality in Latin America: How Much, Since When and Why?," Lustig, Lopez-Calva and Ortiz, working paper, Tulane University, forthcoming
- "Poverty and Inequality under Latin America's New Left Regimes," McLeod, Darryl and Nora Lustig (2010). Paper prepared for the 15th Annual LACEA Meeting, Medellin, Colombia: Universidad de Antioquia and Universidad Eafit. Under revision, 2011
- "Cambios en la desigualdad del ingreso en América Latina. Contribución de sus principales determinantes: 1995 – 2006" (2009) Alejo et al., PNUD
- Commitment to Equity: Fiscal Policies in Argentina, Mexico and Peru (Miguel Jaramillo, Nora Lustig, Carola Pessino and John Scott), Working Paper, Tulane University; to be presented at ECINEQ, Catania, July 18-20, 2011


DECLINING
INEQUALITY IN
LATIN AMERICA
A DECADE OF PROGRESS?
LUIS F. LOPEZ-CALVA & NORA LUSTIG
EDITORS

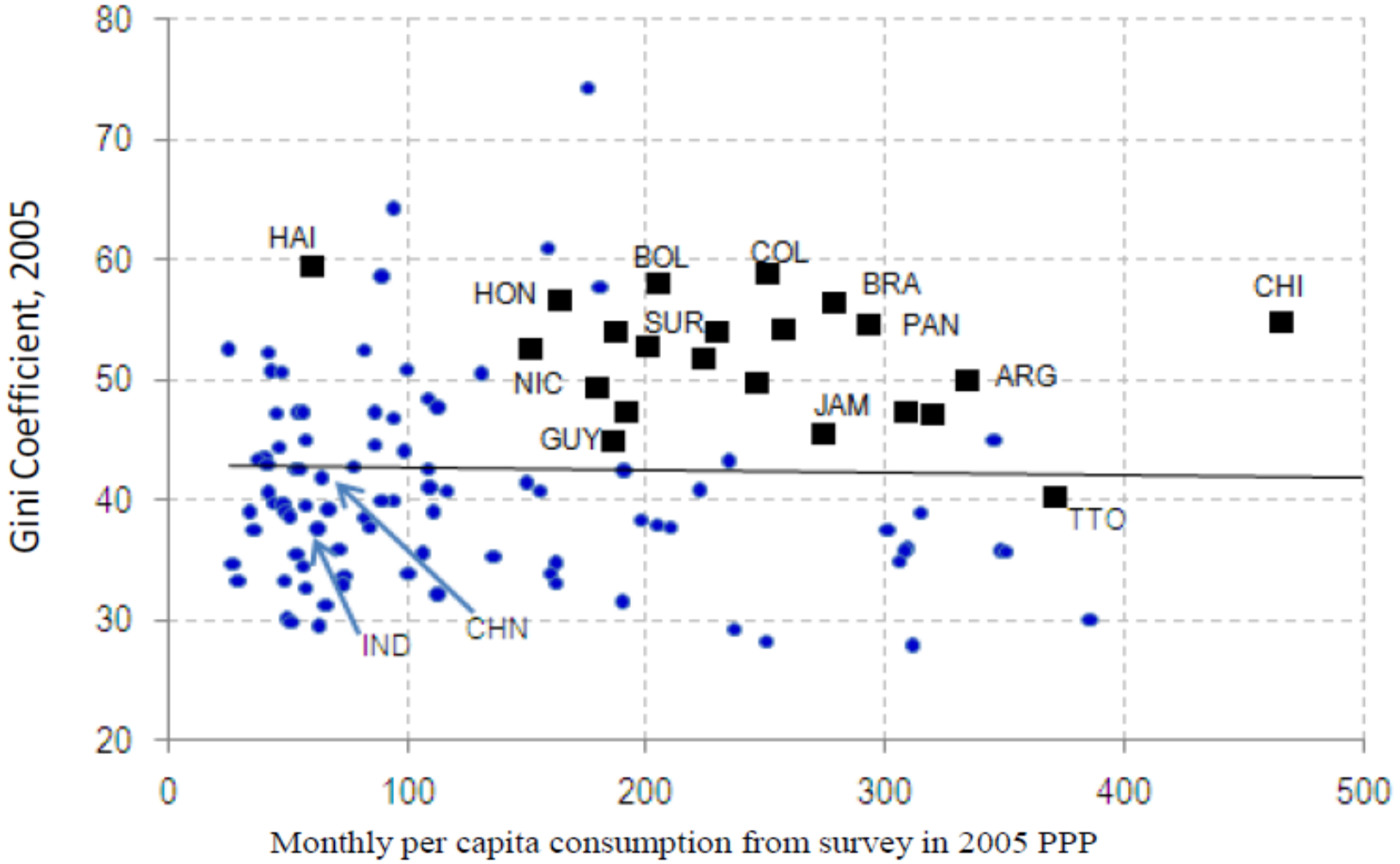
Outline

- Declining Inequality in LA:
  - How Much?
  - Since When?
- Declining Inequality: Why?
  - Argentina, Brazil, Mexico and Peru
    - Falling skill premia
    - More progressive government transfers
- Caveat: Under-reporting of Top Incomes and Inequality Trends
- The Future: Will (Measured) Inequality Continue to Decline?

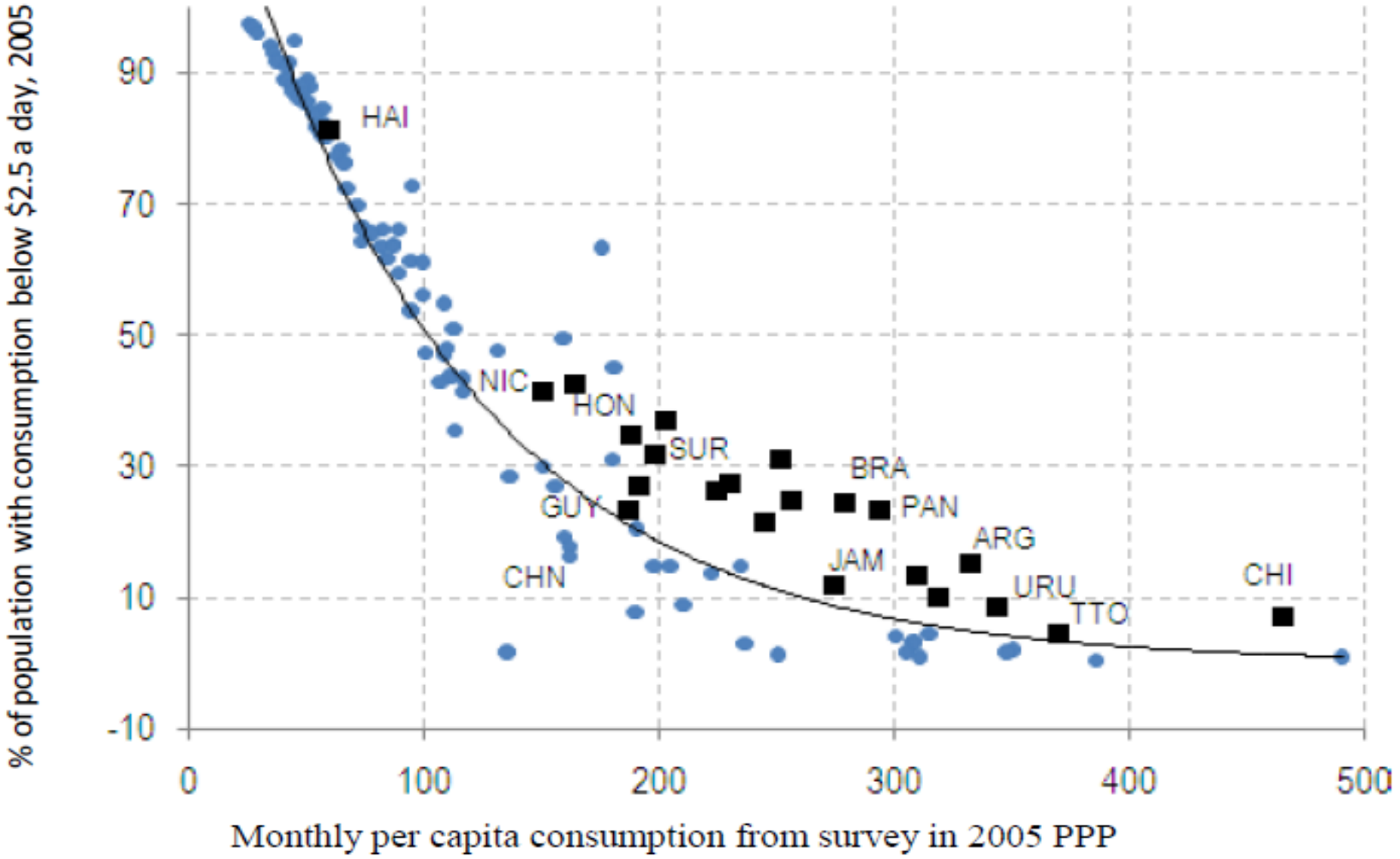
Gini Coefficient by Region (in %), 2004



Excess Inequality (IDB, 2011)



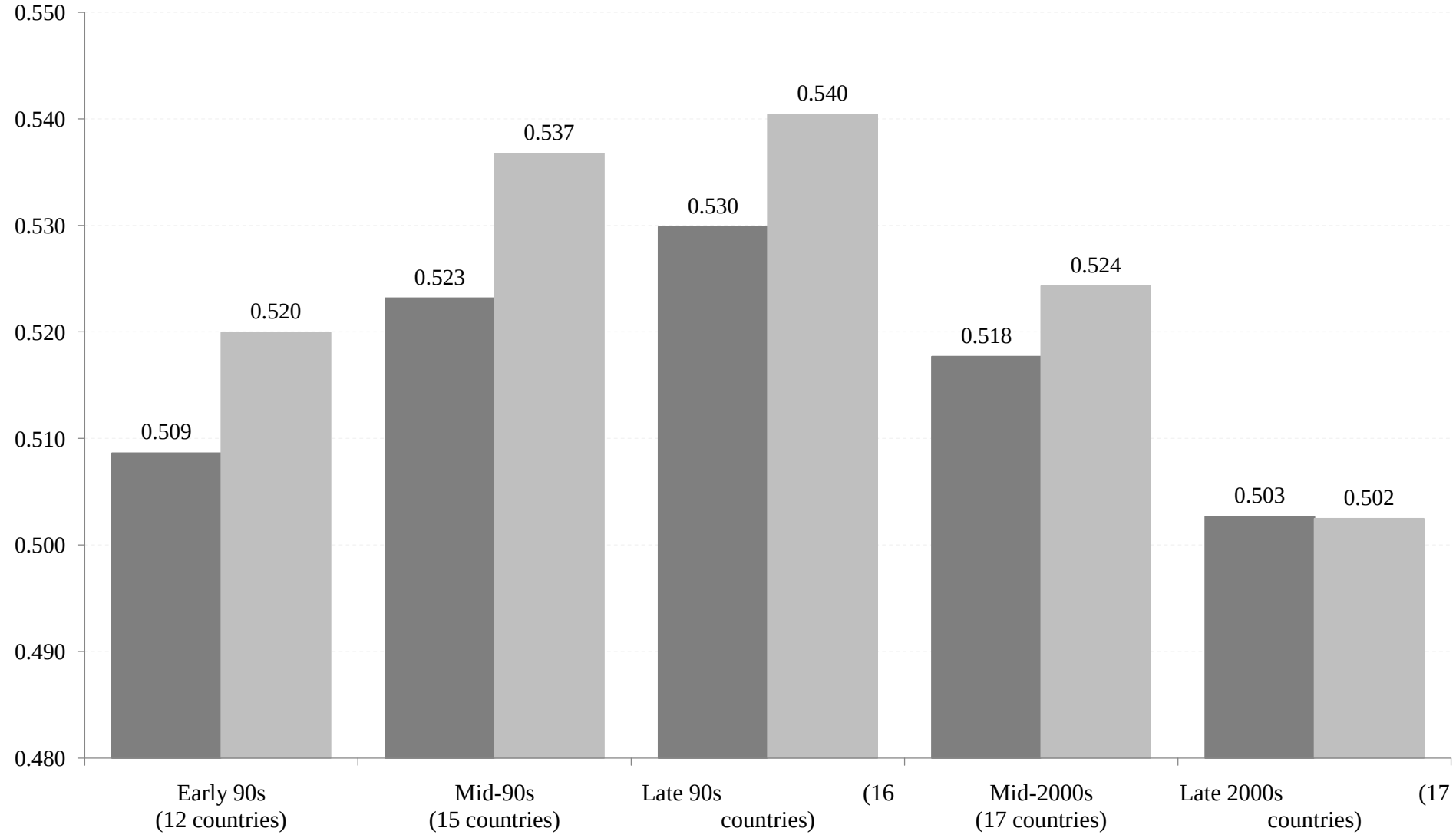
Excess Poverty (IDB, 2011)



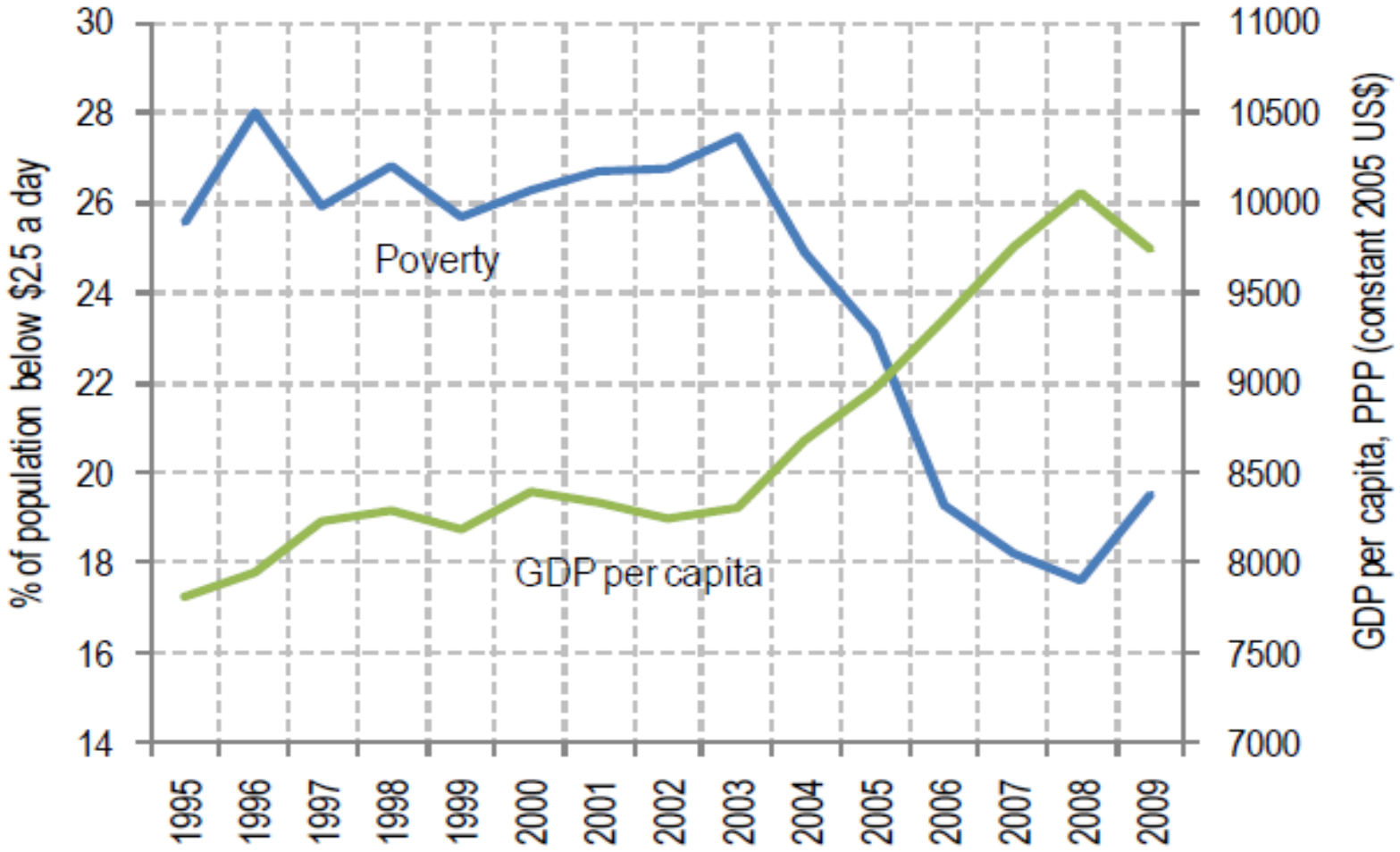
Trends in Inequality

Gini Coefficient Early 1990's-Late 2000's

Light Grey: Countries with Falling Ineq (Lustig et al., 2011)



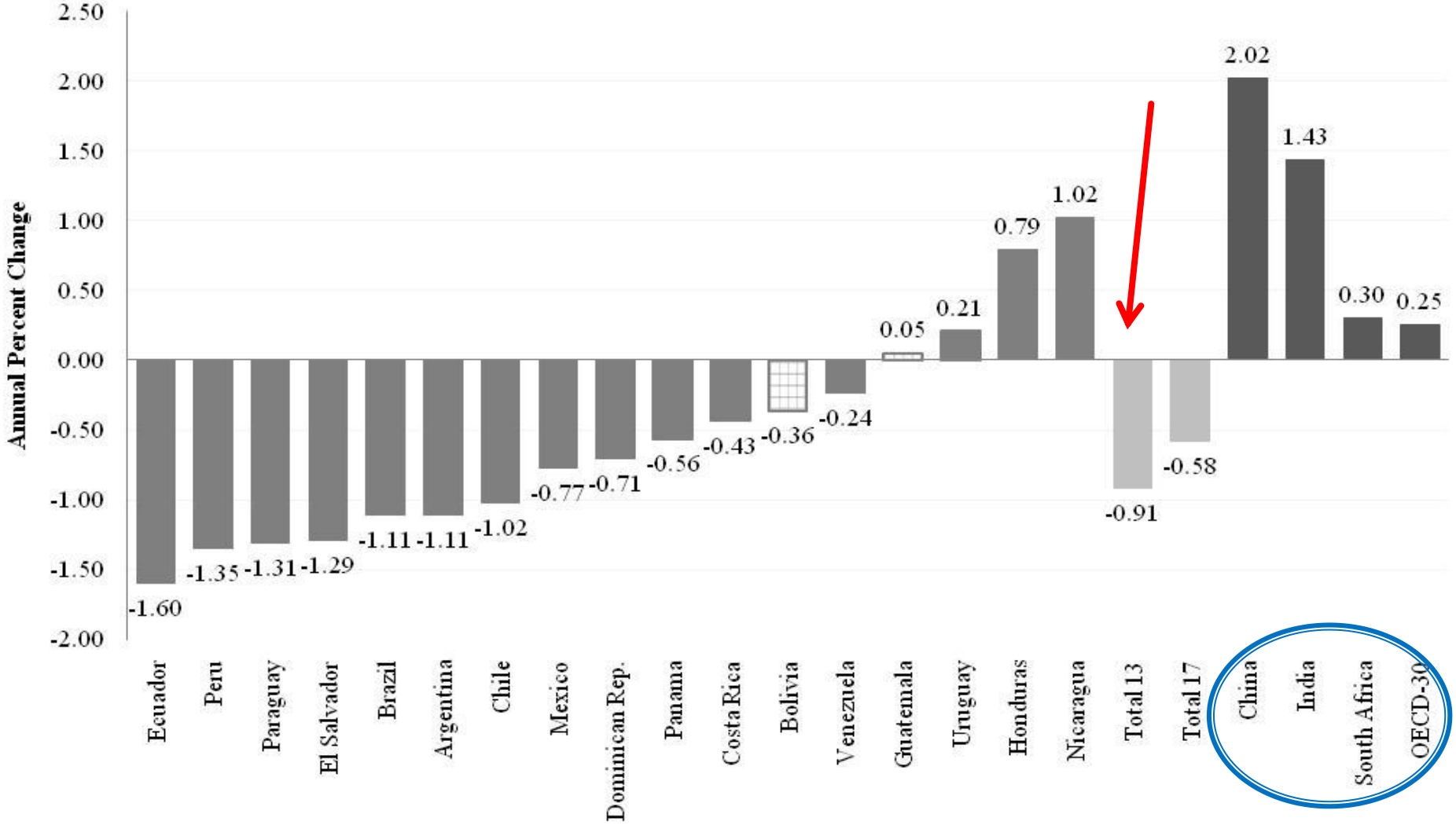
Trends in Poverty: 1995-2009 (IDB, 2011)



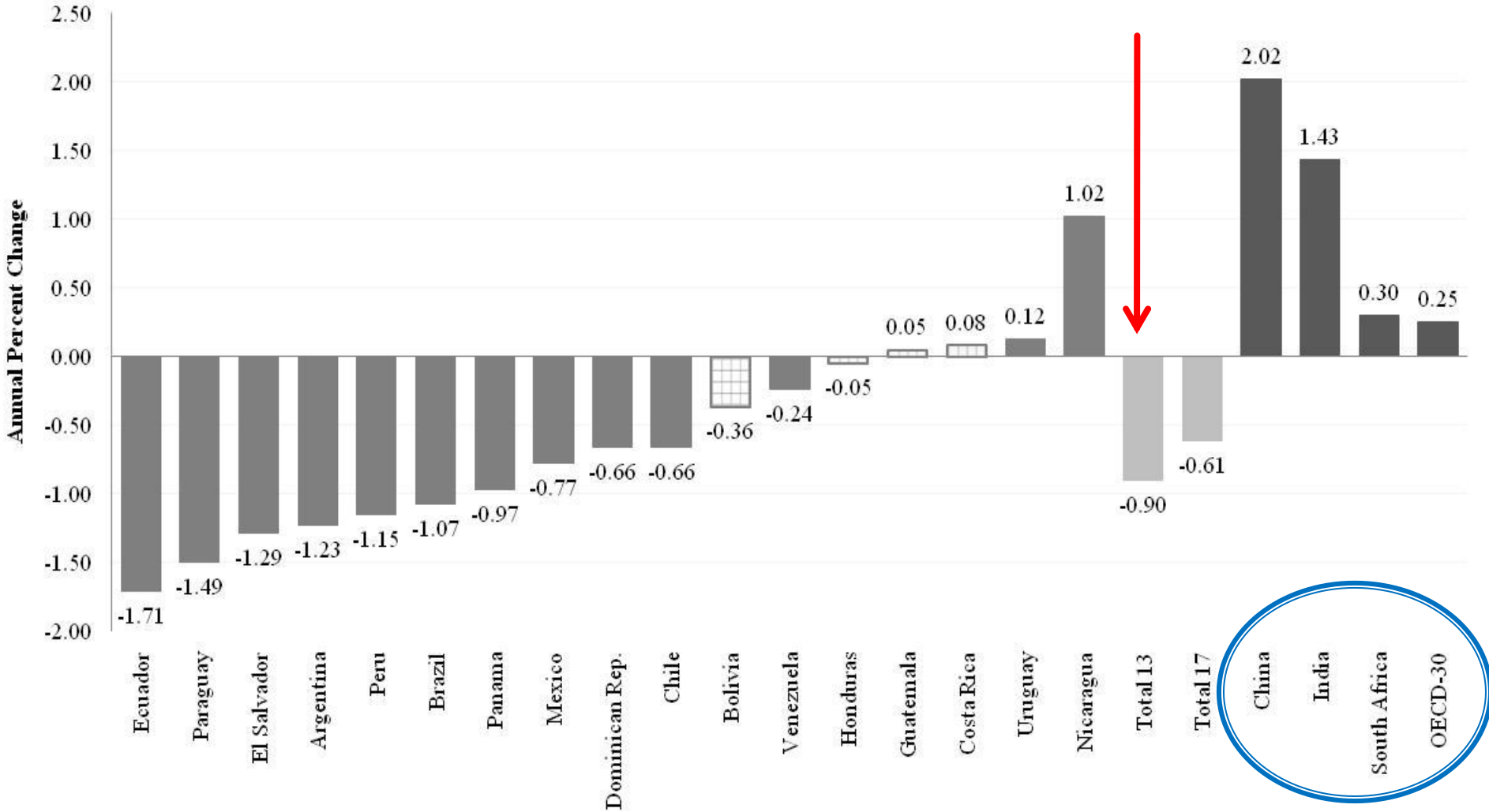
Declining Inequality in LA: How Much?

- Inequality in most Latin American countries (13 out of 17) has declined (roughly 1% a year) between (circa) 2000 and (circa) 2008
- Decline is statistically significant
- Decline continued through the global financial crisis in 2009

Change in Gini Coefficient by Country: circa 2000-2008 (yearly change in percent)



Change in Gini Coefficient by Country: circa 2000-2009 (yearly change in percent)



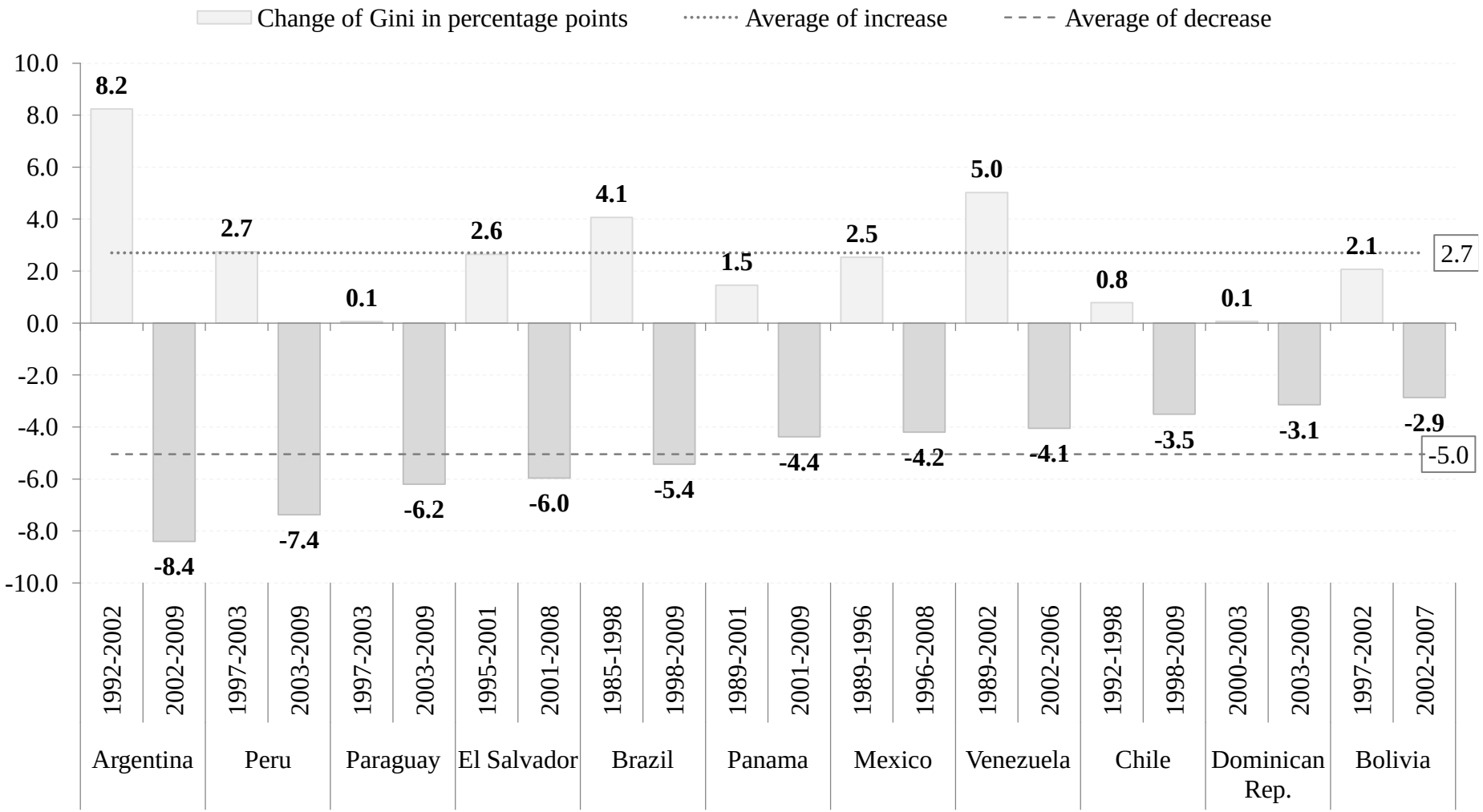
Different trend patterns for top, middle and low income classes

Gains and losses of income shares by quintile, 1990s and 2000s

		bottom 20%	middle 60%	top 20%
OECD	changes 1990s	→	↘	↗
	changes 2000s	→	↘	↗
Brazil	changes 1990s	→	↘	↗
	changes 2000s	→	↑	↓
China	changes 1990s	↘	↘	↗
	changes 2000s	↓	↓	↑
India	changes 1990s	→	↘	↗
	changes 2000s	→	↘	↗
South Africa	changes 1990s	→	→	→
	changes 2000s	→	↘	↗

Source: OECD, *Inequalities in emerging economies* (2010, forthcoming). China refers to urban areas only.

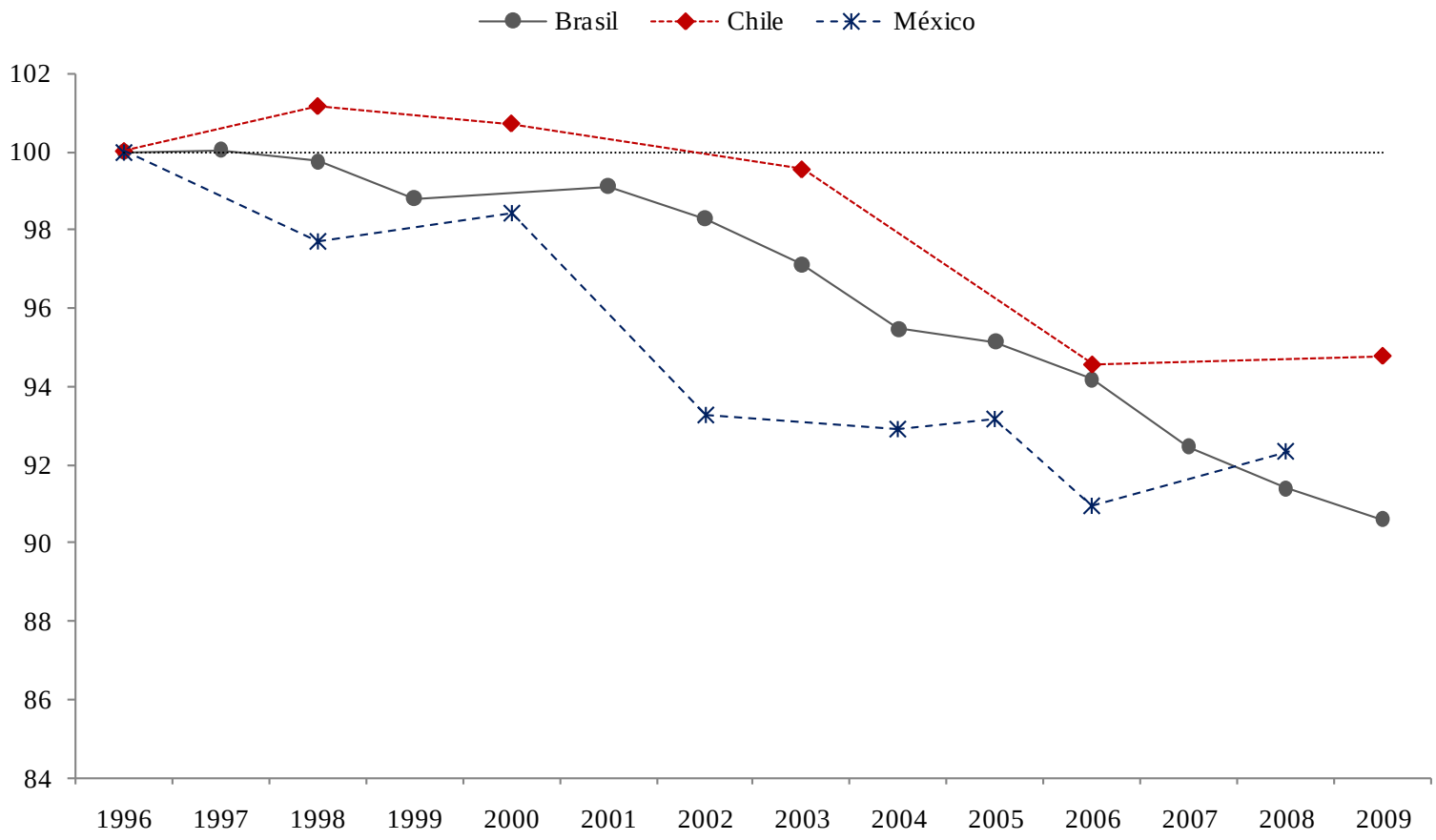
Comparing the Increase in the 1990's with Decline in the 2000's (Lustig et al., 2011)



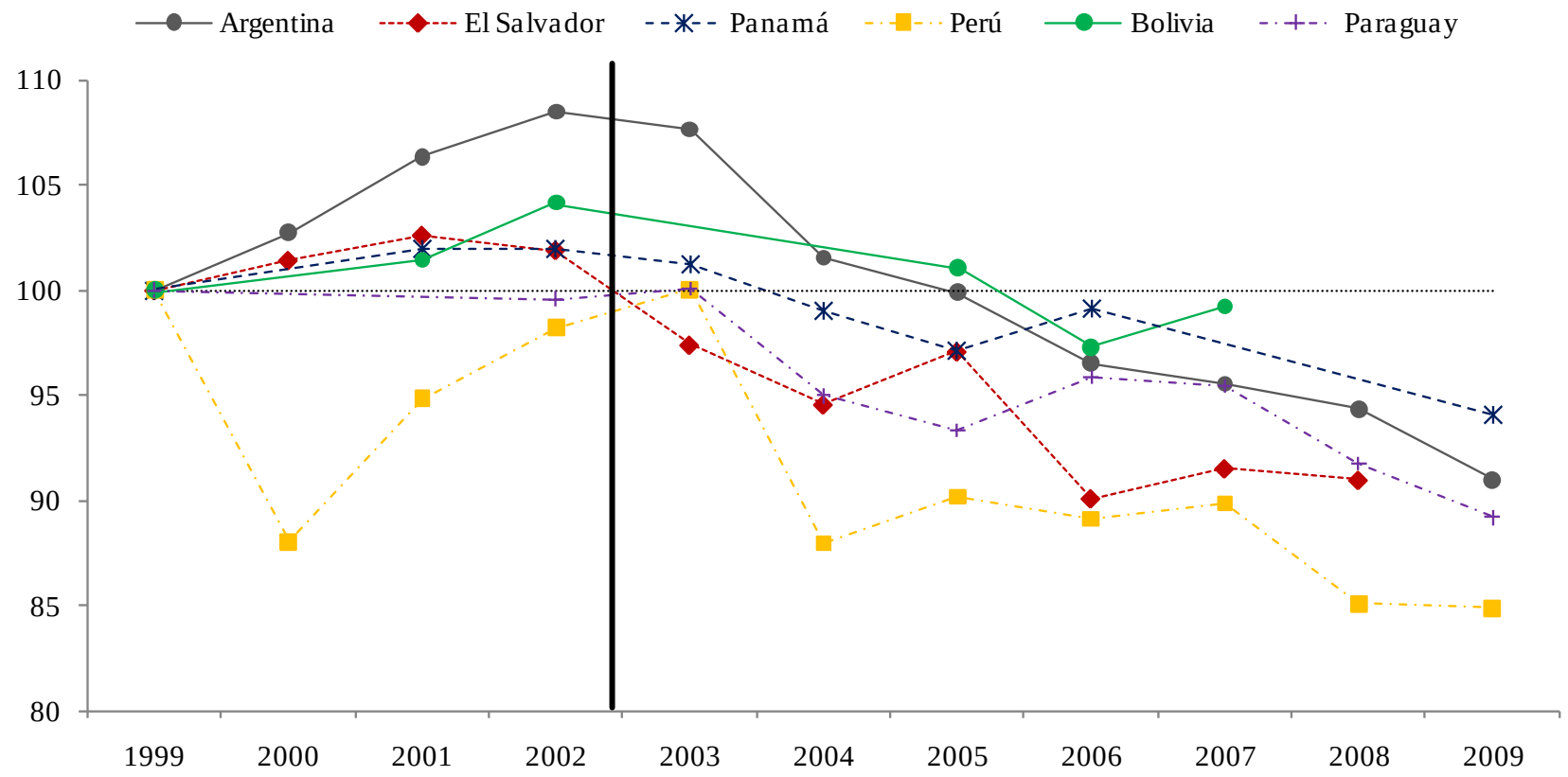
Declining Inequality in LA: Since When?

- In three countries, during second half of 1990s: Mexico, Brazil and Chile
- In six, started in 2002-2003: Argentina, Bolivia, El Salvador, Paraguay, Panama and Peru
- In others, although there are fluctuations, inequality between 2000 and 2009 increased: Costa Rica, Honduras and Uruguay (only statistically significant of three)

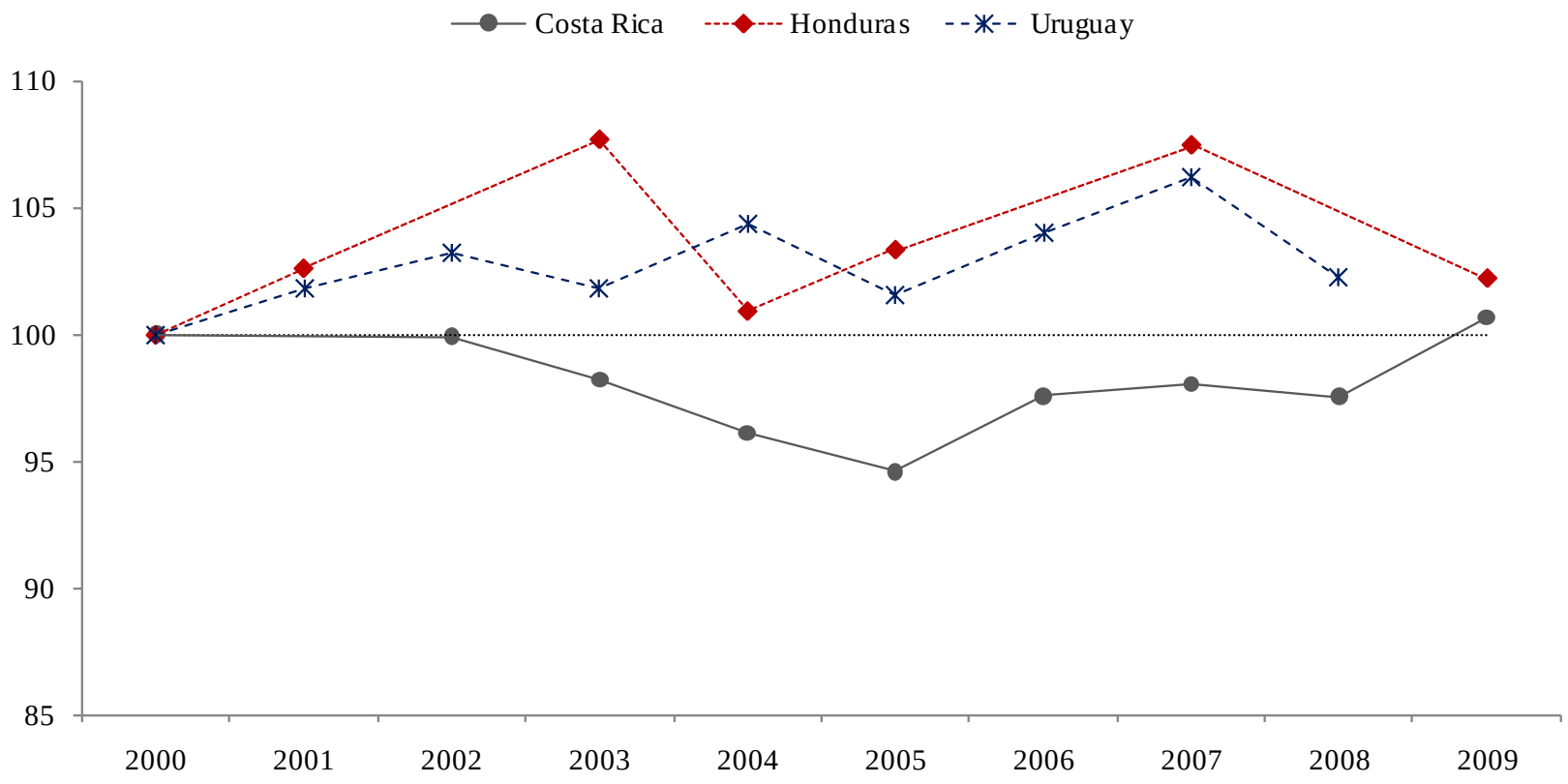
Gini 1996=100 (Lustig et al, 2011)



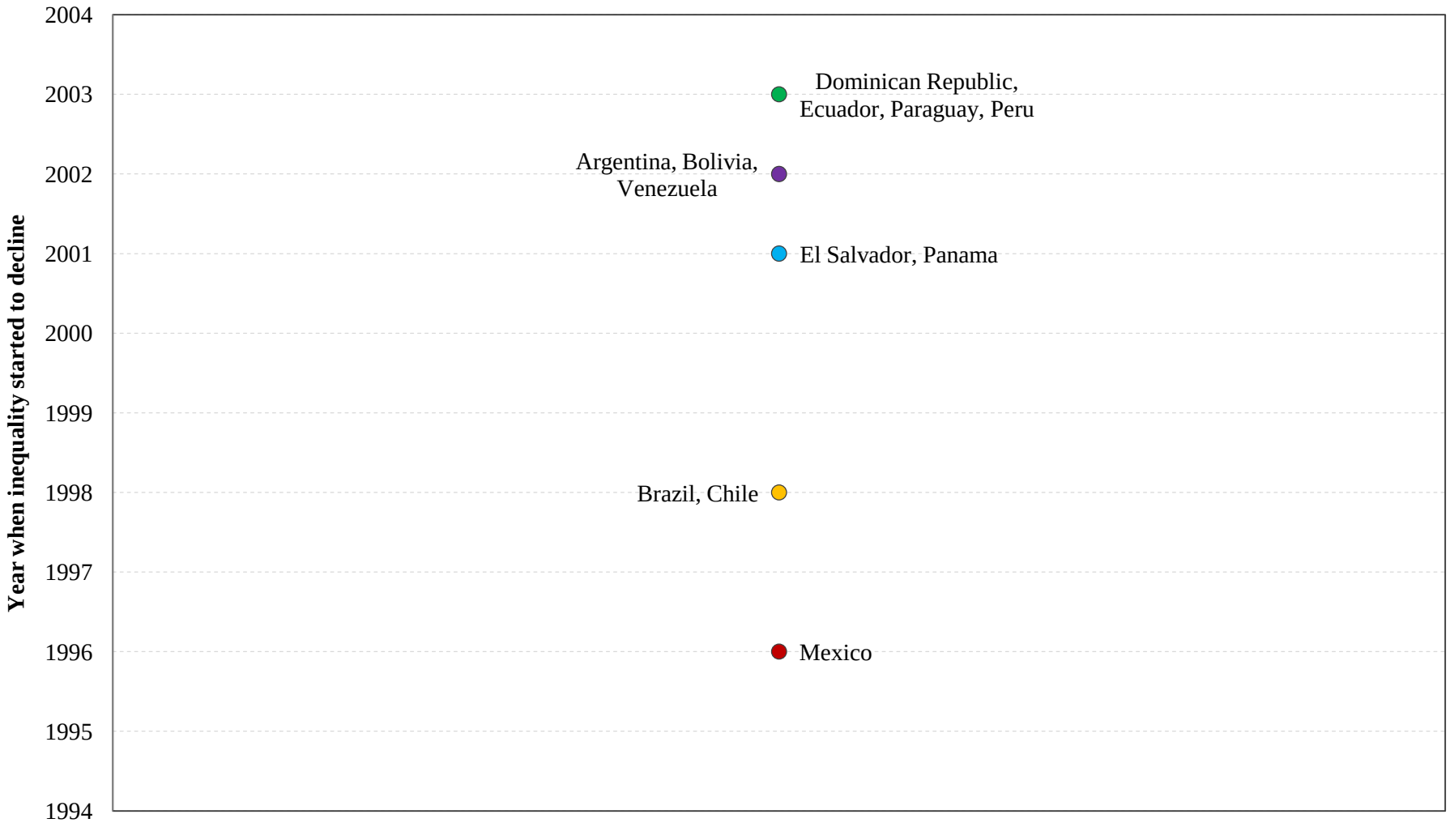
Gini 1999=100 (Lustig et al, 2011)



Rising Inequality 2000-2009



First Year in Which Inequality Started to Decline (Lustig et al, 2011)

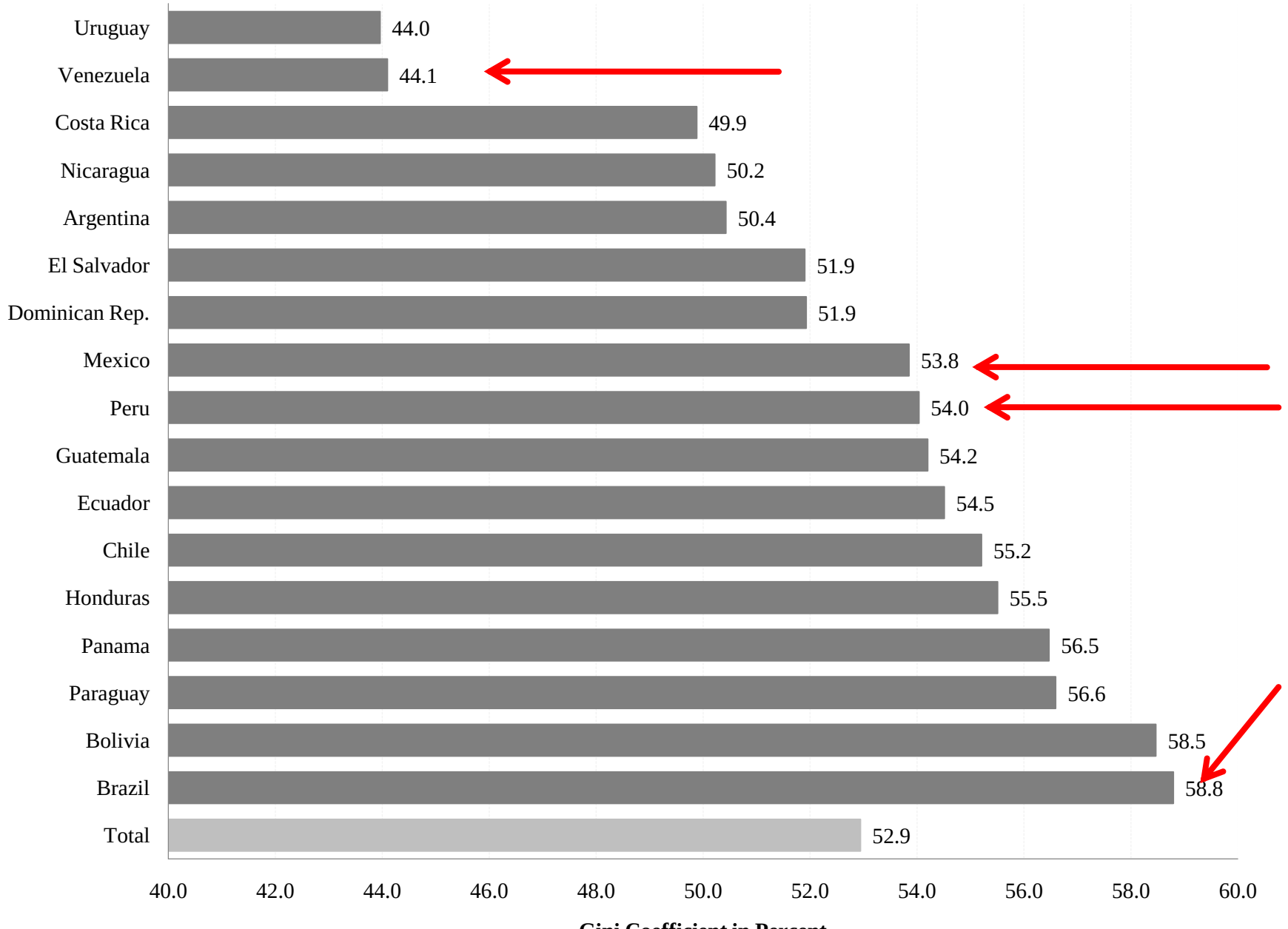


The decline in inequality has been widespread

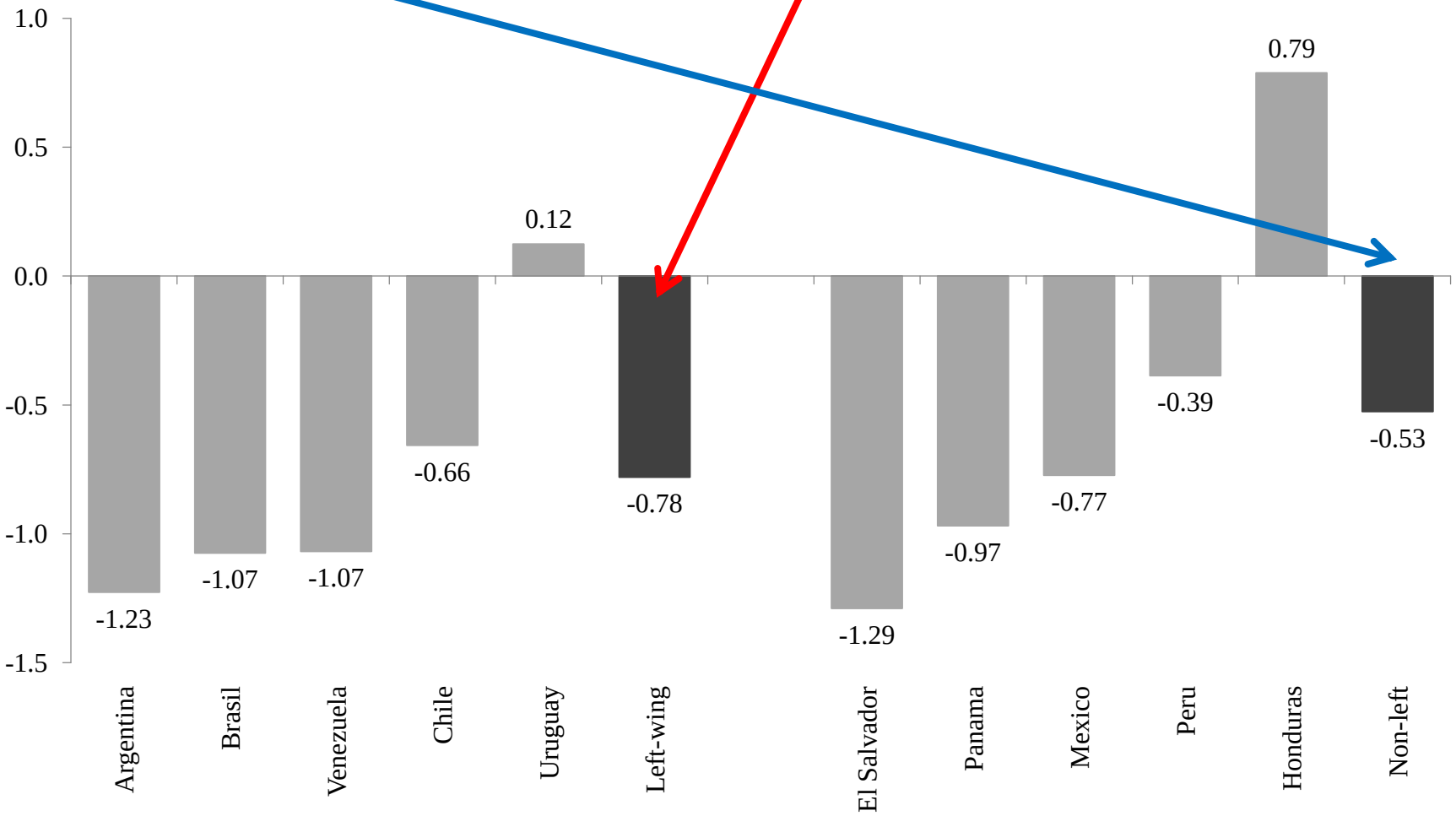
The decline took place in:

- Persistently high inequality countries (Brazil) and normally low inequality countries (Argentina)
- Fast growing countries (Chile and Peru), slow growing countries (Brazil and Mexico) and countries recovering from crisis (Argentina and Venezuela)
- Countries with left "populist" governments (Argentina), left social-democratic governments (e.g., Brazil, Chile) and center/center-right governments (e.g., Mexico and Peru)

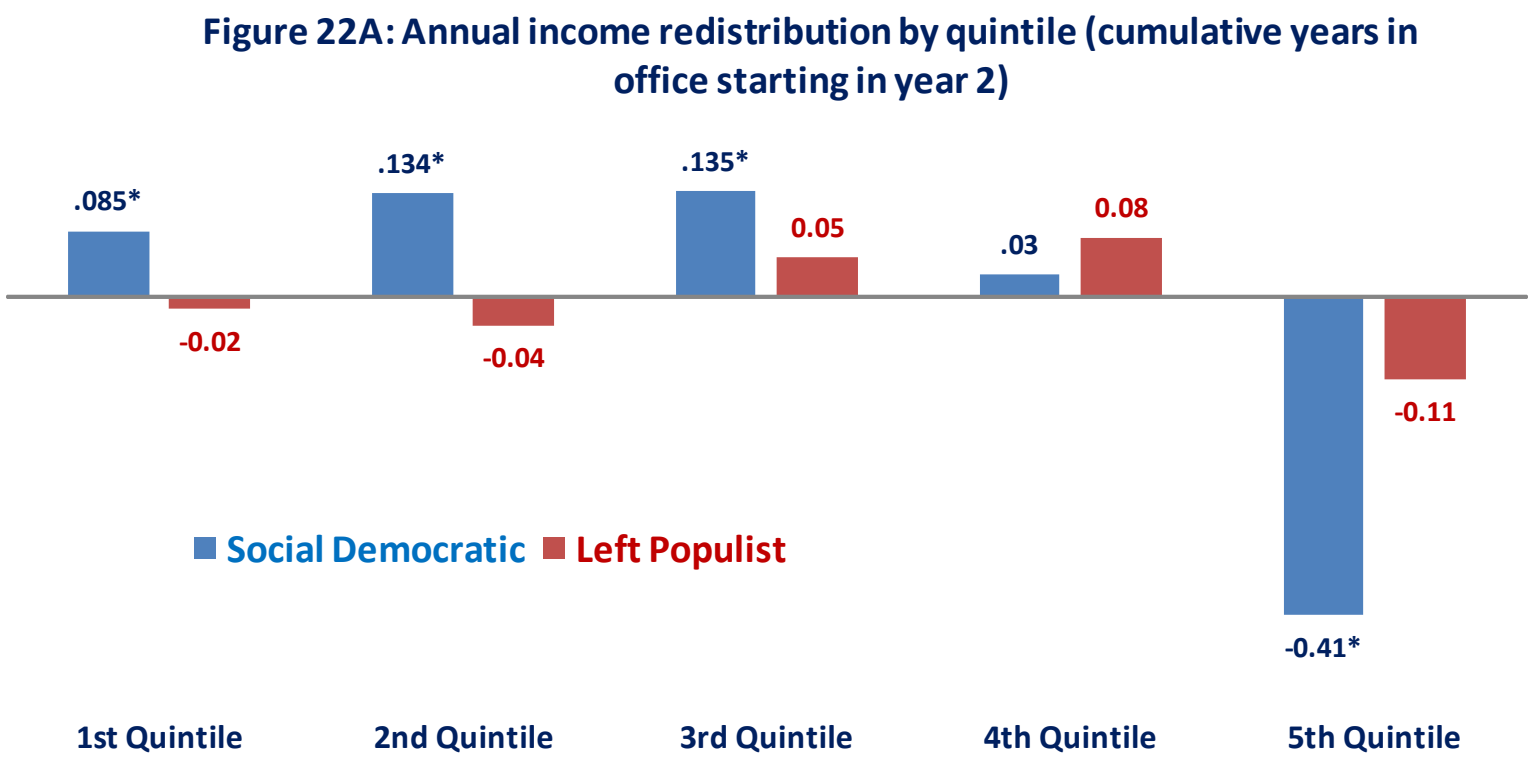
Gini (Circa 2000)



Yearly Change in Gini: Left and Non-left Regimes (circa 2000-2009)

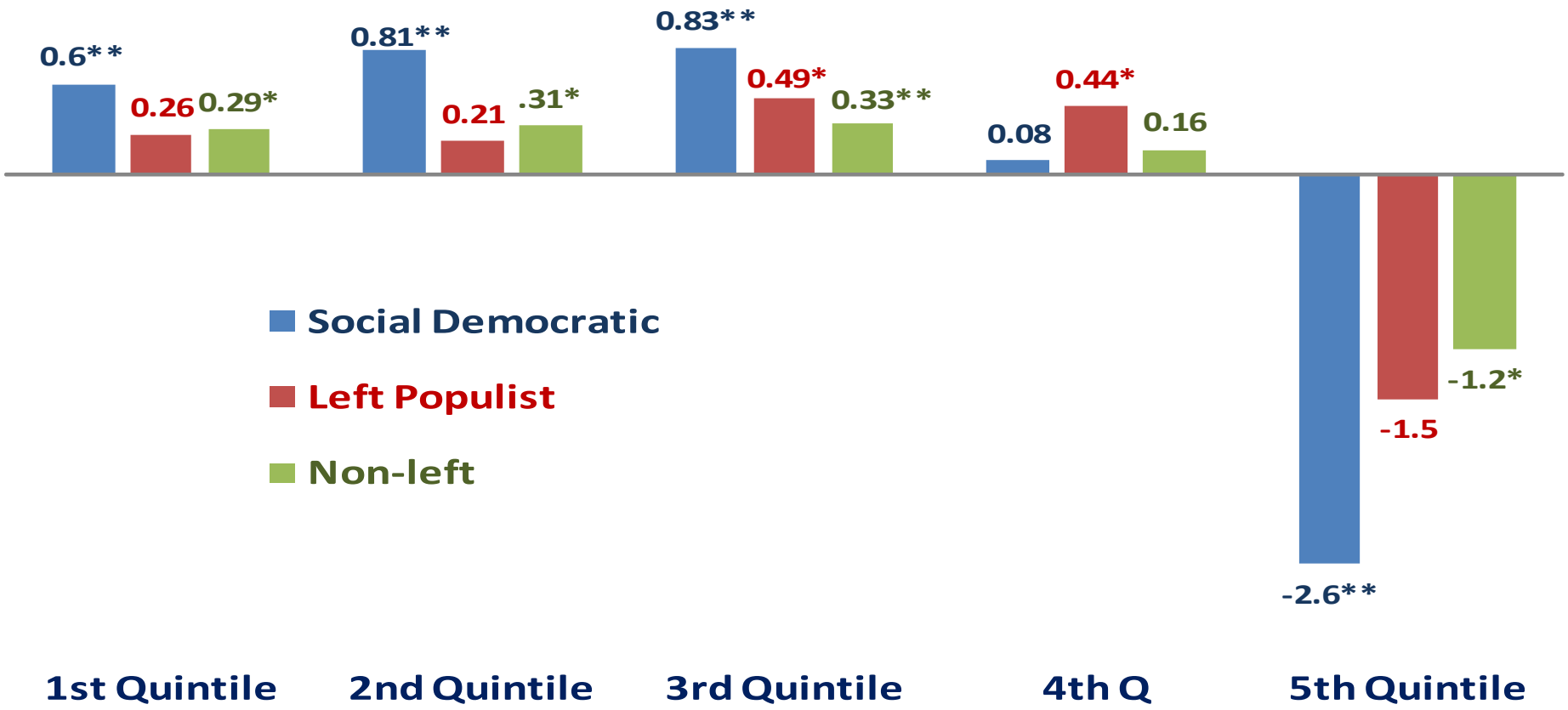


Redistribution by Quintiles (Yearly)



Source: McLeod and Lustig (2011).

Figure 24: Redistributive impact of changes in social spending budget share by quintile (change significant at *5% or **1% level)



Source: Appendix A, Table A-3 and McLeod and Lustig (2011).

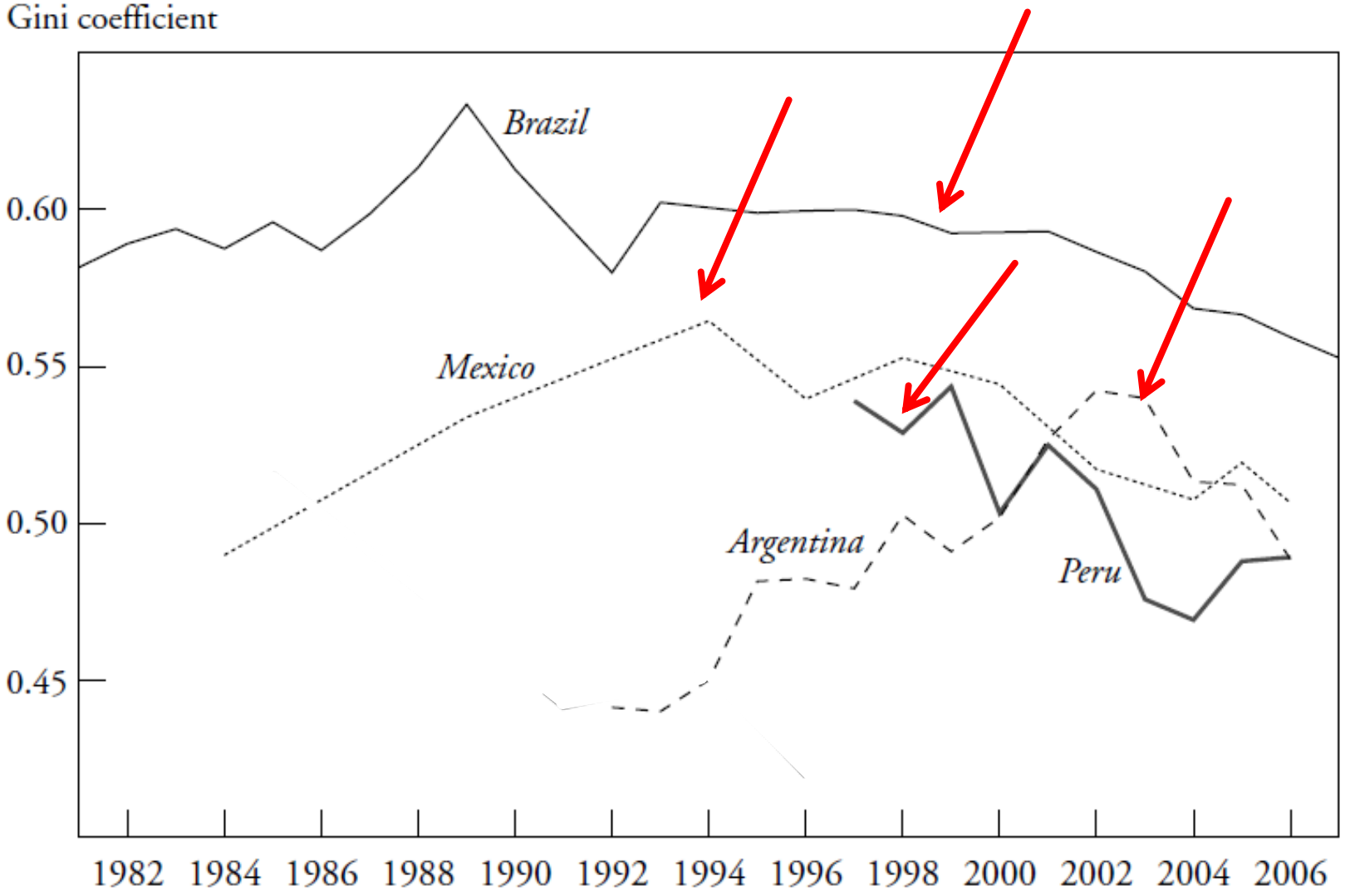
Source: McLeod and Lustig (2011).

Why has inequality declined in Latin America? Are there factors in common?

- In-depth analysis in four countries:
  - Argentina (Gasparini and Cruces) (urban; 2/3 of pop)
  - Brazil (Barros, Carvalho, Mendoca & Franco)
  - Mexico (Esquivel, Lustig and Scott)
  - Peru (Jaramillo & Saavedra)

Source: Lopez-Calva and Lustig (2010)

Figure 1-4. *Gini Coefficients for Argentina, Brazil, Mexico, and Peru, 1981–2006*[a]



Decline is robust

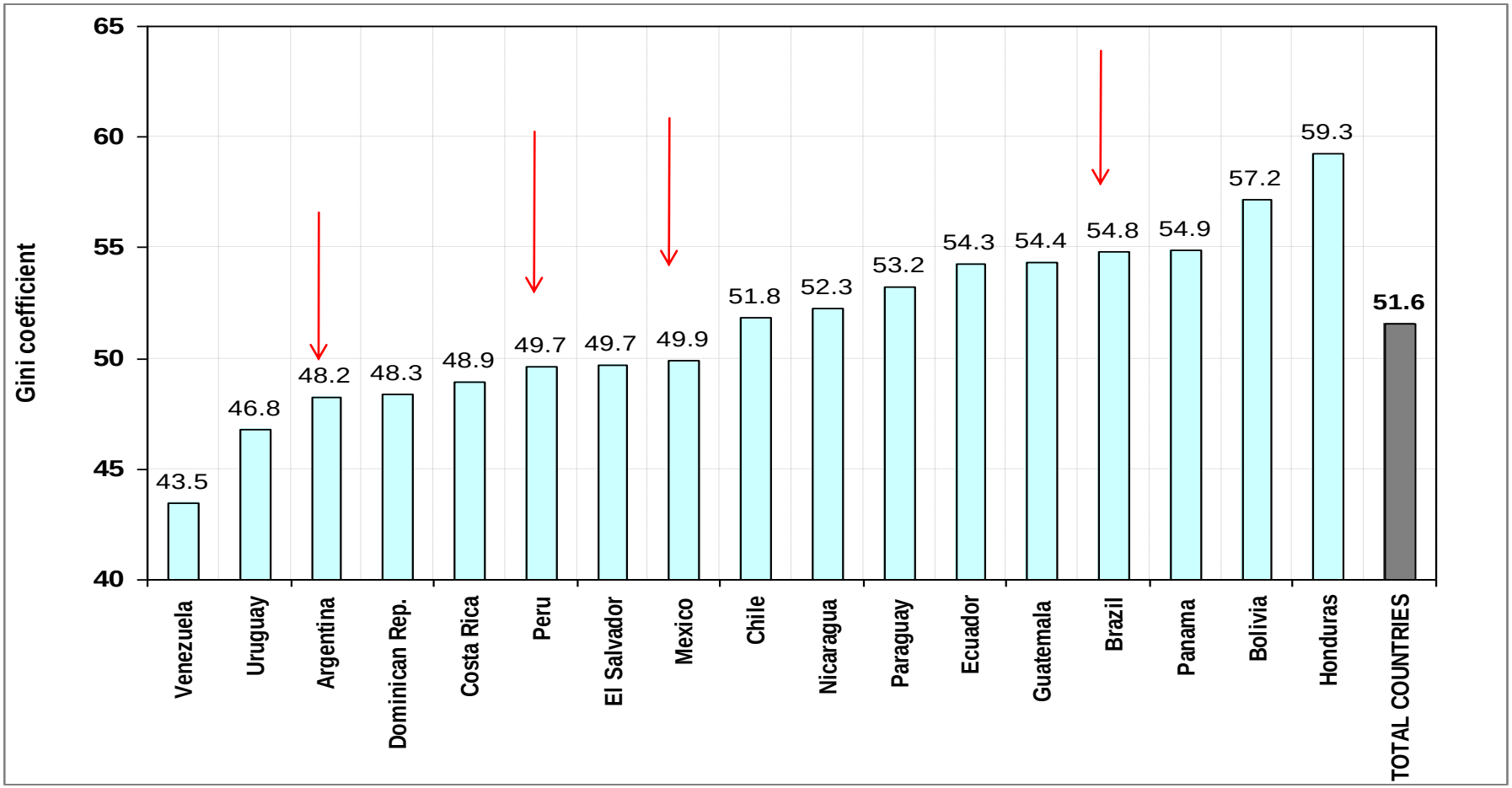
- Decline in inequality is statistically significant and significant in terms of order of magnitude
- There is Lorenz dominance (unambiguous decline independently of choice of inequality measure)
- Robust to income concept (e.g., monetary vs. total)

Four countries are a …

- Representative sample of Latin American diversity:
  - high/medium/low ineq
  - high/low growth
  - Populist/social democratic/center-center-right governments

Sample Representative of High and Low Inequality Countries

(Latin America: Gini Coefficient by Country; circa 2007; in percent)

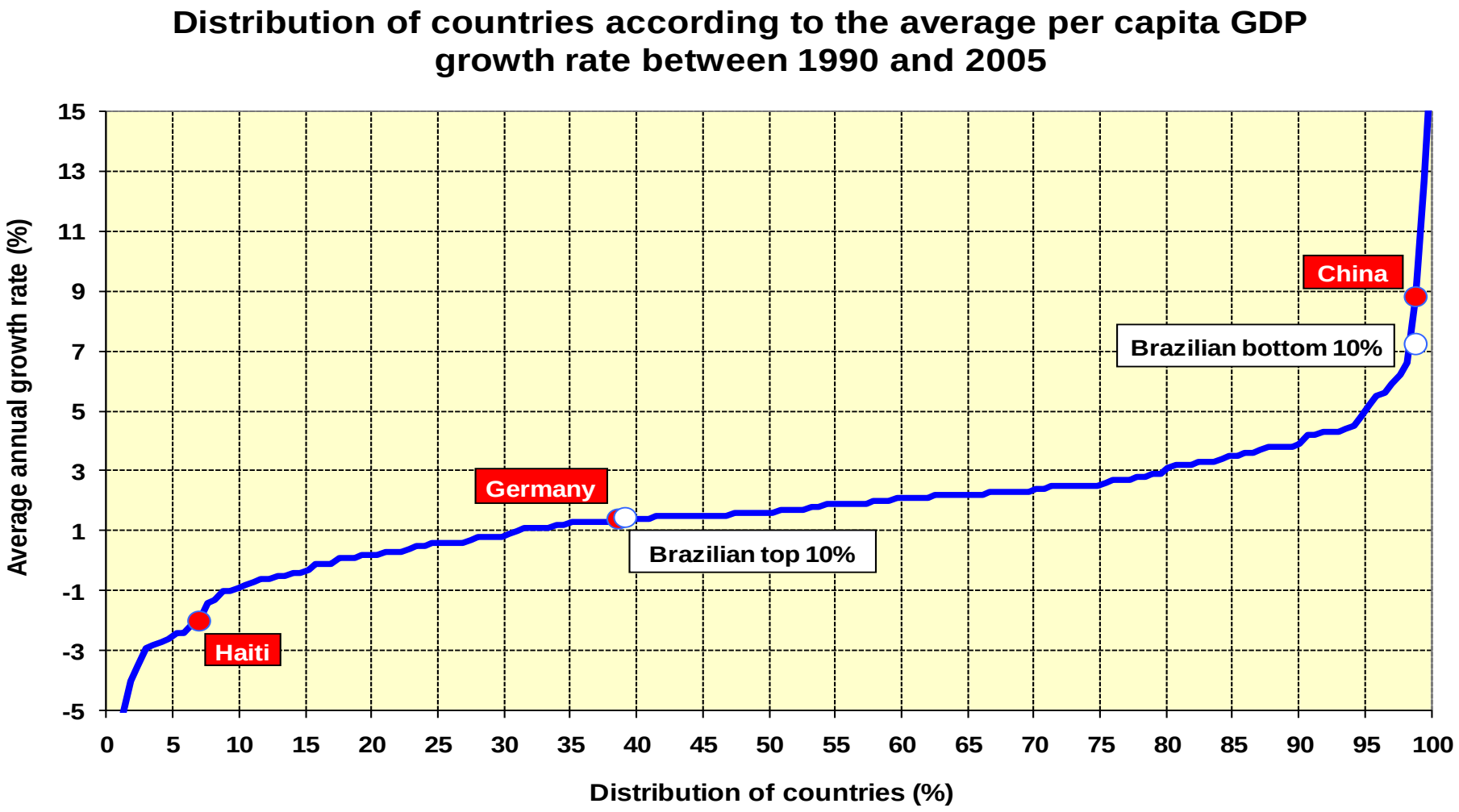


Sample Representative of High and Low Growth Countries

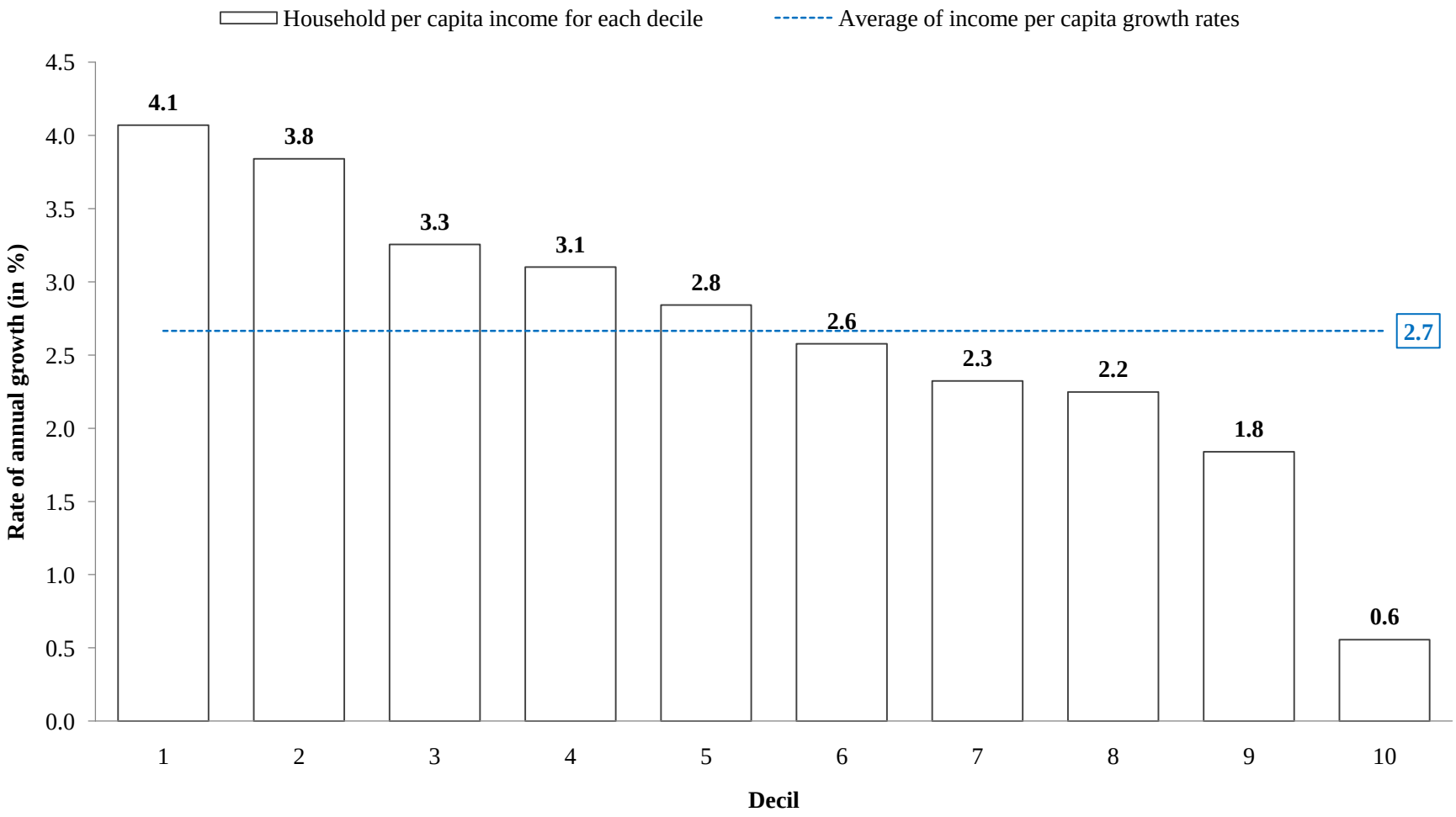
- Argentina and Peru were growing at around 6 percent a year since 2003

- Brazil and Mexico were growing at less than 3 percent a year (Brazil's growth rate picked up only from 2008 onwards)

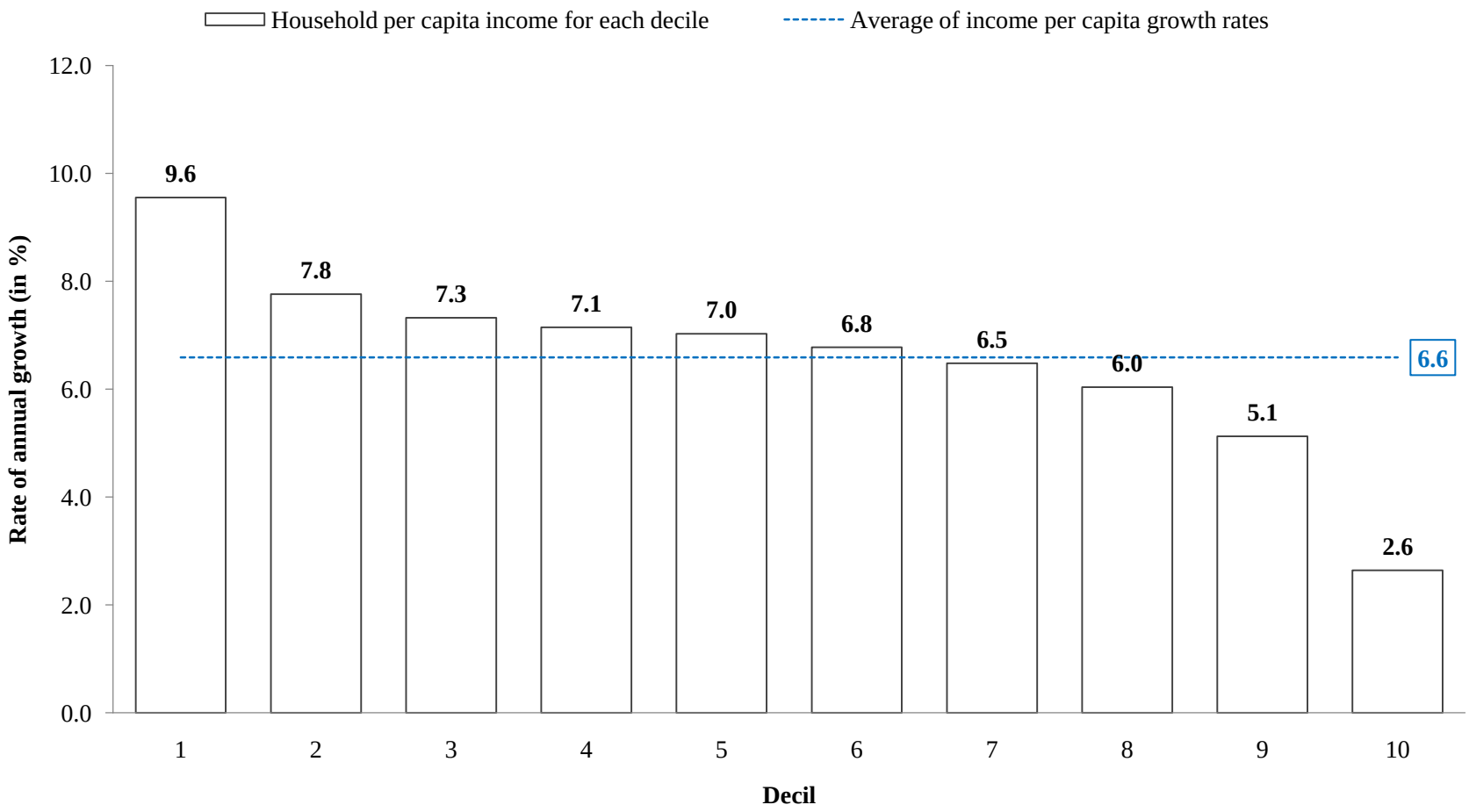
Income of the Brazilian poor has been growing as fast as per capita GDP in China while income of the richest ten percent has been growing like Germany's per capita GDP



Mexico: Growth Incidence Curve 2000-2008



Mexico: Growth Incidence Curve 2001-2009



Proximate and fundamental determinants of changes in inequality

- There are many different factors that affect the distribution of income over time: "… the evolution of the distribution of income is the result of many different effects—some of them quite large—which may offset one another in whole or in part." (Bourguignon et al., 2005)
- Useful framework: to consider the 'proximate' factors that affect the distribution of income at the individual and household level:
  1. Distribution of assets and personal characteristics
  2. Return to assets and characteristics
  3. Utilization of assets and characteristics
  4. Transfers (private and public)
  5. Socio-demographic factors

Four countries share two relevant socio-demographic changes

- Proportion of working adults as a share of the total number of adults (and total household members) rose; partly linked to the sharp increase in female labor force participation:1990-2006 by 18.1 p.pts in Mexico, 14.2 in Argentina, 12.0 in Brazil and 5.8 in Peru.

  ⇒Dependency ratios improved proportionately more for low incomes.

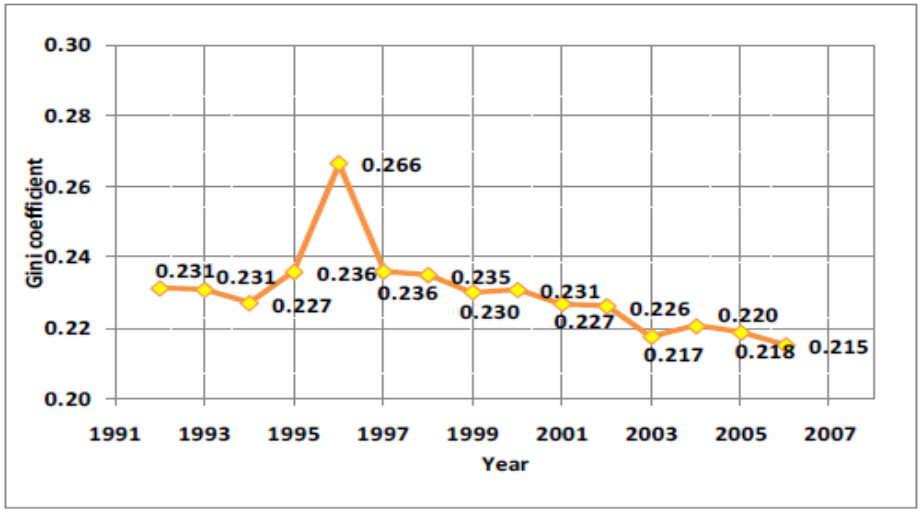
  ⇒Working adults (except for Peru) became more equally distributed (female adults participated proportionately more for low incomes)

- Average years of schooling rose faster for the bottom quintile than for the top quintile.

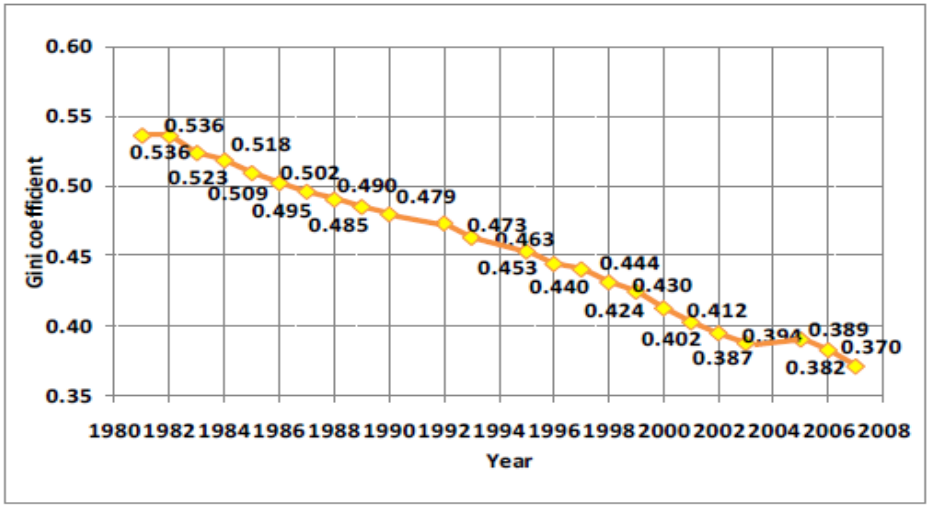
  => Distribution of education (human capital) became more equal in all four countries

Gini coefficient for population between ages 25 and 55

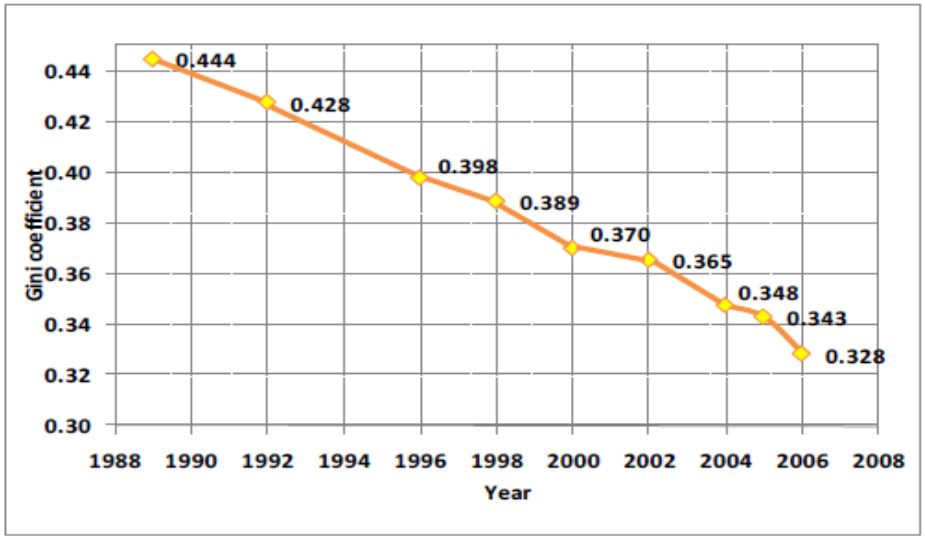
Argentina (urban areas): 1992 – 2006



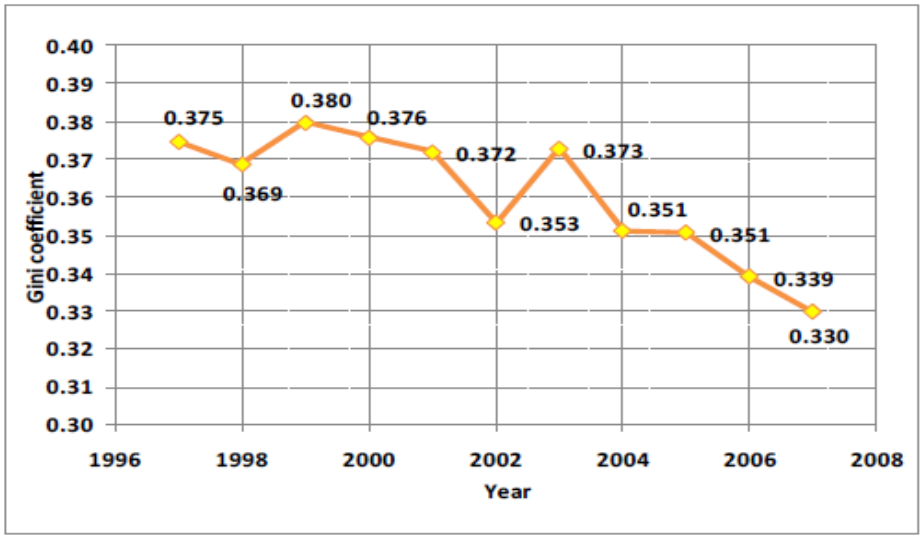
Brazil: 1981 - 2007



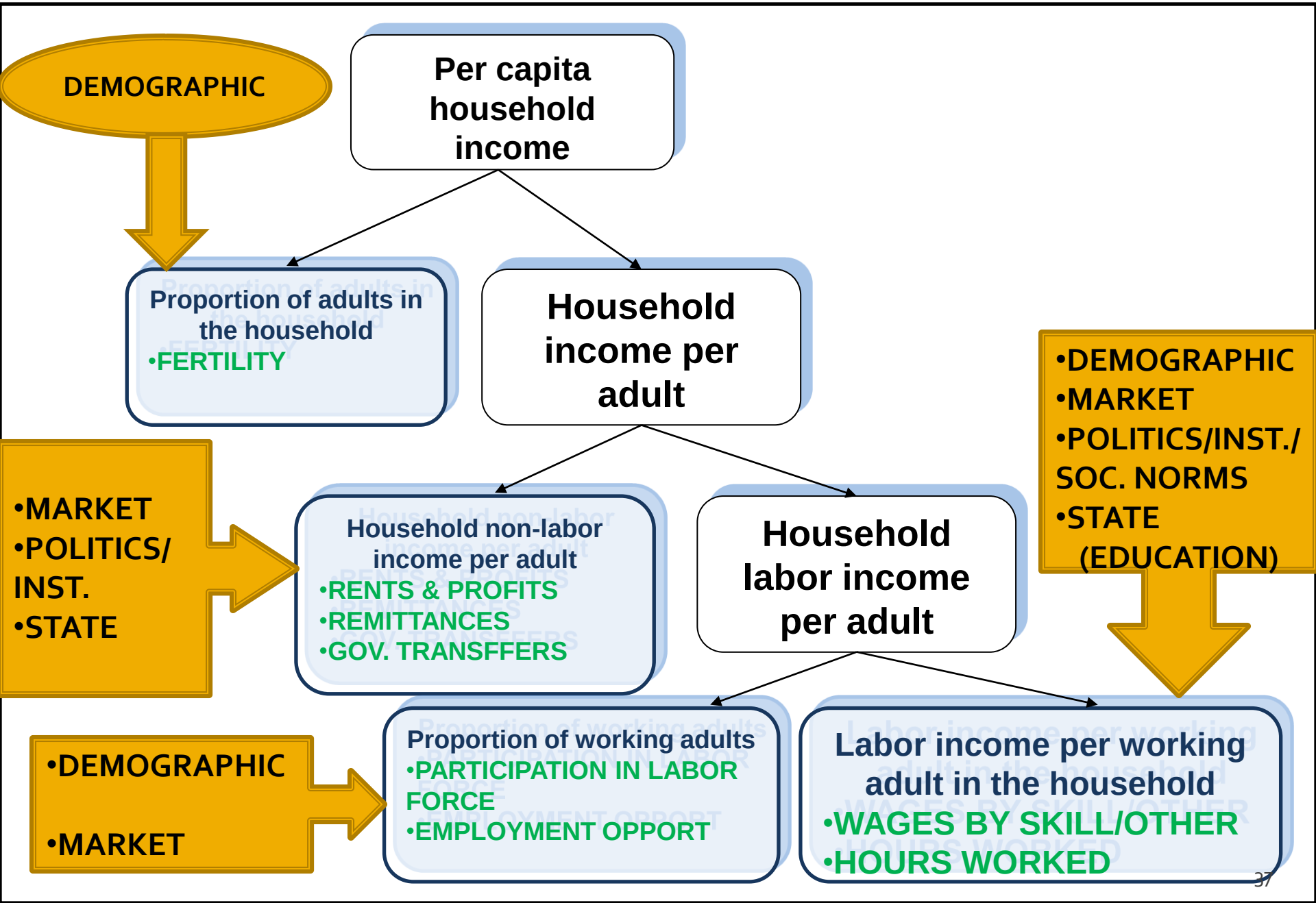
Mexico: 1989 – 2006



Peru: 1997 - 2007



Household per capita income and its determinants



Decomposing changes into proximate determinants (Barros et al. 2006, 2007)

- Per capita household income can be written as:

$$y = a\,(u\,w + o)$$

- This identity relates changes in per capita household income, ***y***, to its four proximate determinants:
  - (i) changes in the proportion of adults in the household, ***a***;
  - (ii) changes in the proportion of working adults, ***u***;
  - (iii) changes in labor income per working adult in the household, ***w***; and
  - (iv) changes in household non-labor income per adult, ***o***.

ARGENTINA (urban areas): 2000-2006

Marginal Contribution of Source:	In Percentage Points	In Percent	
Demographic Factors (adults per household)	-0.20	8	
Non-labor Income	-0.68	26	
Part. in Labor Market	-0.43	17	
Earnings per Worker	-1.30	50	
SUBTOTAL	*-2.61*	*100*	*91*
Interactive Term (all)	-0.26		*9*
TOTAL	*-2.87*		*100*

BRAZIL: 2001-2006

Marginal Contribution of Source:	In Percentage Points	In Percent	
Demographic Factors (adults per household)	-0.23	6.6	
Non-labor Income	-1.61	45.2	
Part. in Labor Market	-0.15	4.1	
Earnings per Worker	-1.57	44.1	
SUBTOTAL	*-3.56*	*100.0*	*120.8*
Interactive Term (all)	0.61		*-20.8*
TOTAL	*-2.94*		*100.0*

MEXICO: 2000-2006

Marginal Contribution of Source:	In Percentage Points	In Percent	
Demographic Factors (adults per household)	-0.50	10.3	
Non-labor Income	-0.73	15.1	
Part. in Labor Market	-0.44	9.1	
Earnings per Worker	-3.19	65.5	
SUBTOTAL	*-4.87*	*100.0*	*158.3*
Interactive Term (all)	1.79		*-58.3*
TOTAL	*-3.07*		*100.0*

PERU: 1997-2006

Marginal Contribution of Source:	In Percentage Points	In Percent	
Demographic Factors (adults per household)	-1.43	59.2	
Non-labor Income	-2.29	94.4	
Part. in Labor Market	0.08	-3.4	
Earnings per Worker	1.21	-50.1	
SUBTOTAL	*-2.42*	*100.0*	*59.5*
Interactive Term (all)	-1.65		*40.5*
TOTAL	*-4.07*		*100.0*

Decomposition results (Alejo et al., 2009):

- *Demographics:* Changes in the ratio of adults per household were equalizing, albeit the orders of magnitude were generally smaller except for Peru.
- *Labor force participation:* With the exception of Peru, changes in labor force participation (the proportion of working adults) were equalizing. This effect was stronger in Argentina.

Decomposition results (Alejo et al., 2009):

- *Labor income (Earnings):* In Argentina, Brazil, and Mexico between 44% and 65% of the decline in overall inequality is due to a reduction in earnings per working adult inequality. In Peru, however, changes in earnings inequality were unequalizing at the household level but not so at the individual workers' level.
- *Non-labor income:* Changes in the distribution of non-labor income were equalizing; the contribution of this factor was quite high in Brazil and Peru (45% and 90%, respectively).

Decomposition results (Alejo et al., 2009):

=> Decline in labor income (except for Peru at the household level) and non-labor income inequality important determinants of the decline in overall income inequality (in per capita household income)

Argentina: 2004-06 (Gasparini & Cruces)

Decline in labor income inequality:

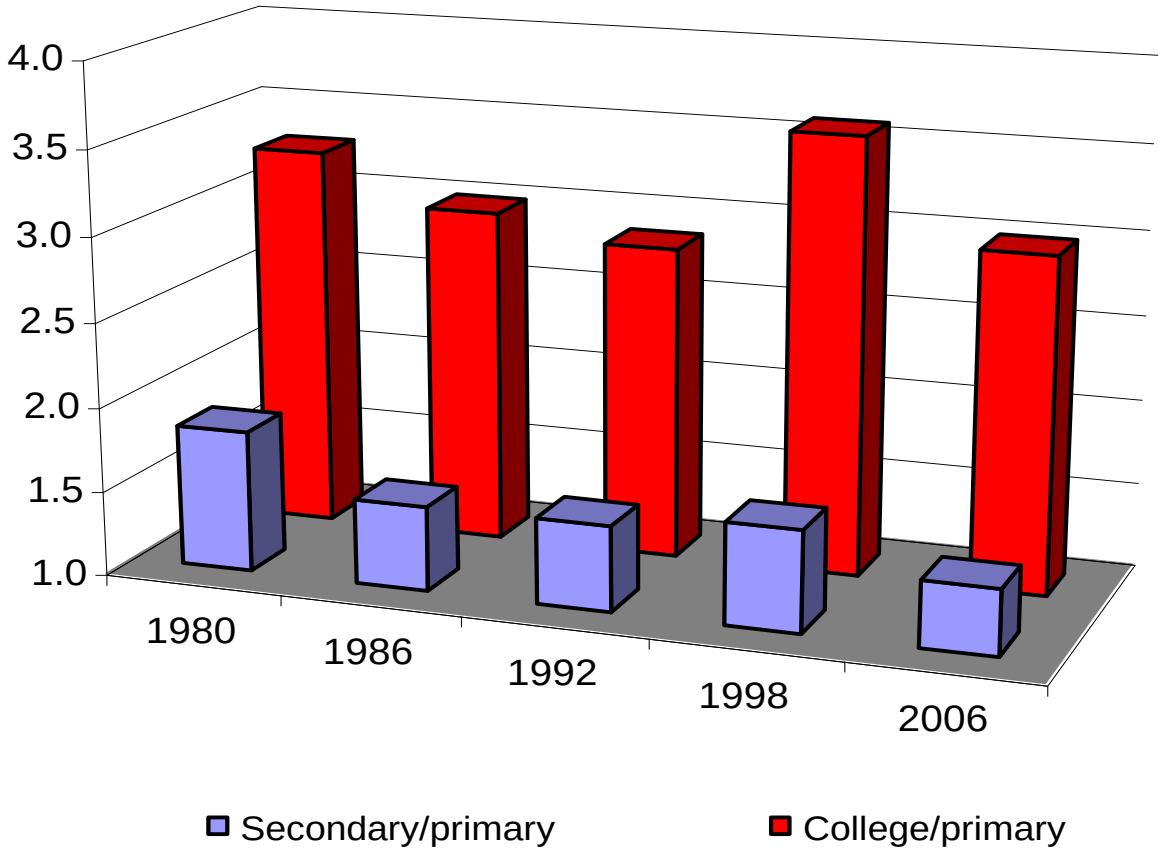
- employment generated by recovery: open unemployment fell from 14.8% in 2000 to 9.6% in 2006
- shift in favor of more low-skilled, labor-intensive sectors as a result of the devaluation
- rise in the influence of labor unions which compresses wages
- fading of the one-time effect of skill-biased technical change that occurred in the 1990s

Decline in non-labor income inequality:

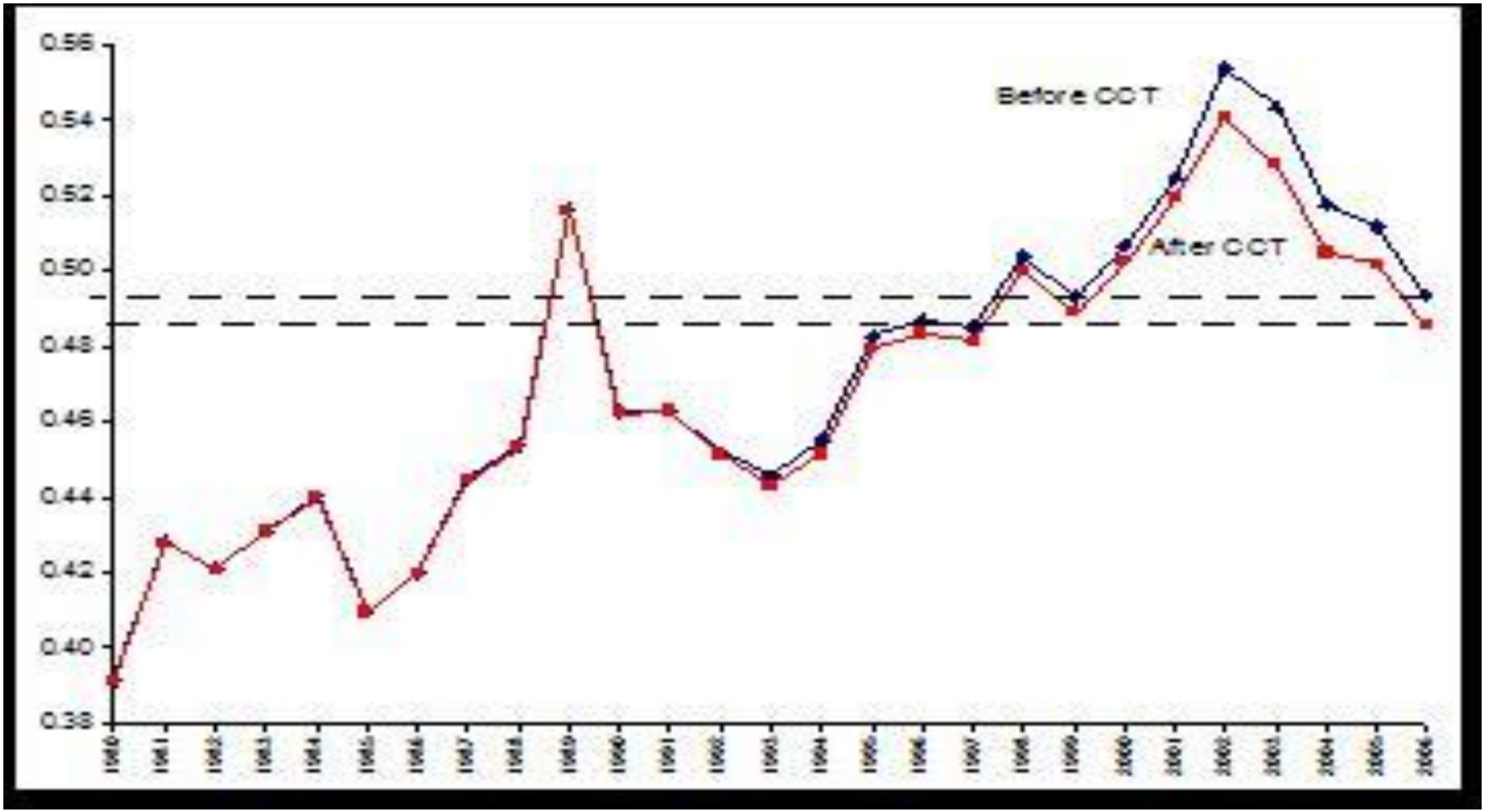
- more progressive government transfers: Jefes y Jefas de Hogar program launched in 2002

Argentina: Returns to education

Ratio predicted wages

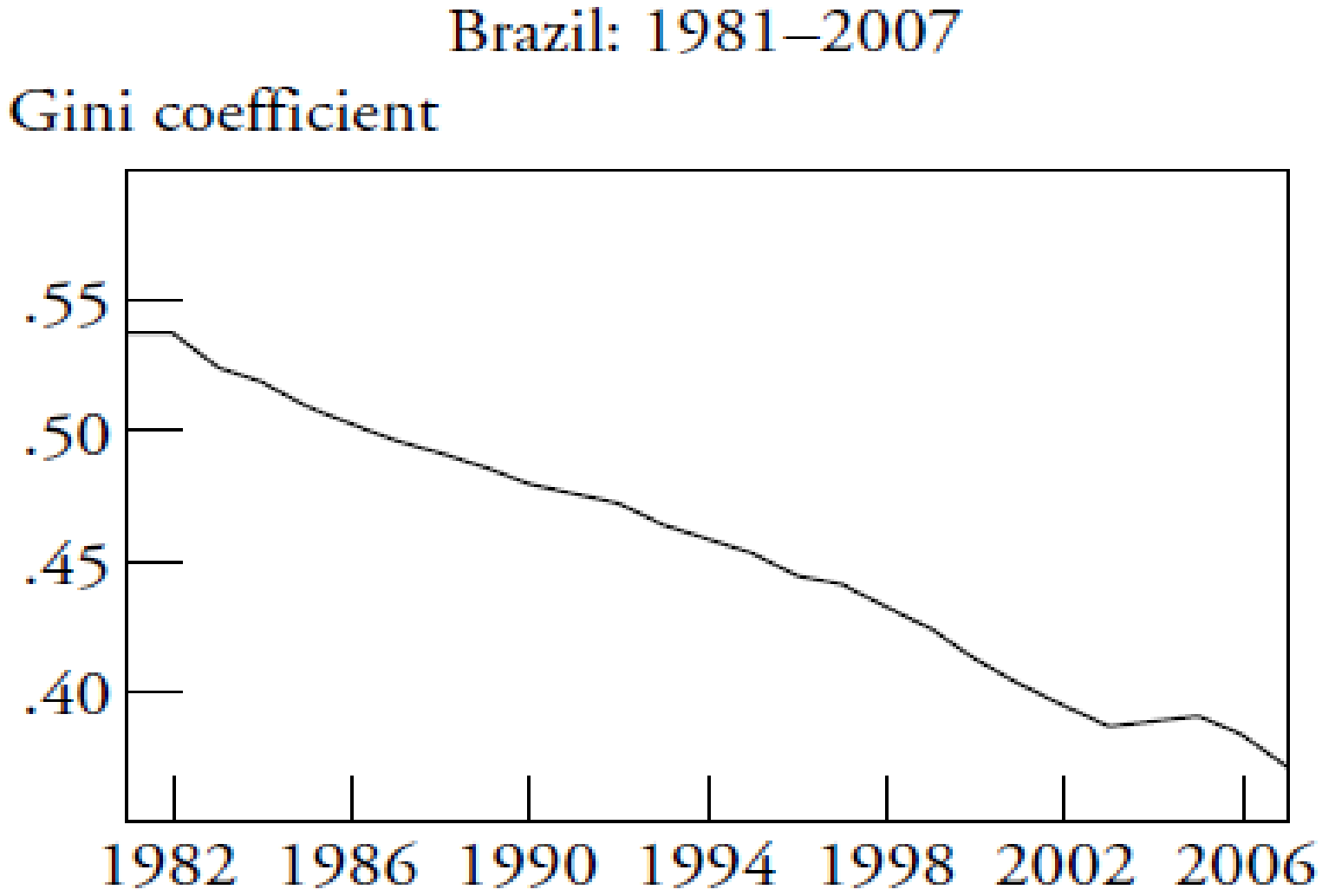


Argentina: Distributional impact of Conditional cash transfers



Brazil: 2001-2007 (Barros et al.)

- Decline in labor income inequality:
  - About 50% accounted for by decline in attainment inequality (quantity effect) and less steep returns -- wage gap by skill narrows—(price effect). Latter dominant. (See Gini for years of schooling and returns by skill in next two slides)
  - About 25% accounted for by decline in spatial segmentation; especially, reduction in wage differentials between metropolitan areas and medium/small municipalities. Also, decline in sectoral segmentation.


Brazil: 1981–2007
Gini coefficient
.55
.50
.45
.40
1982
1986
1990
1994
1998
2002
2006

Brazil: 1986–2007

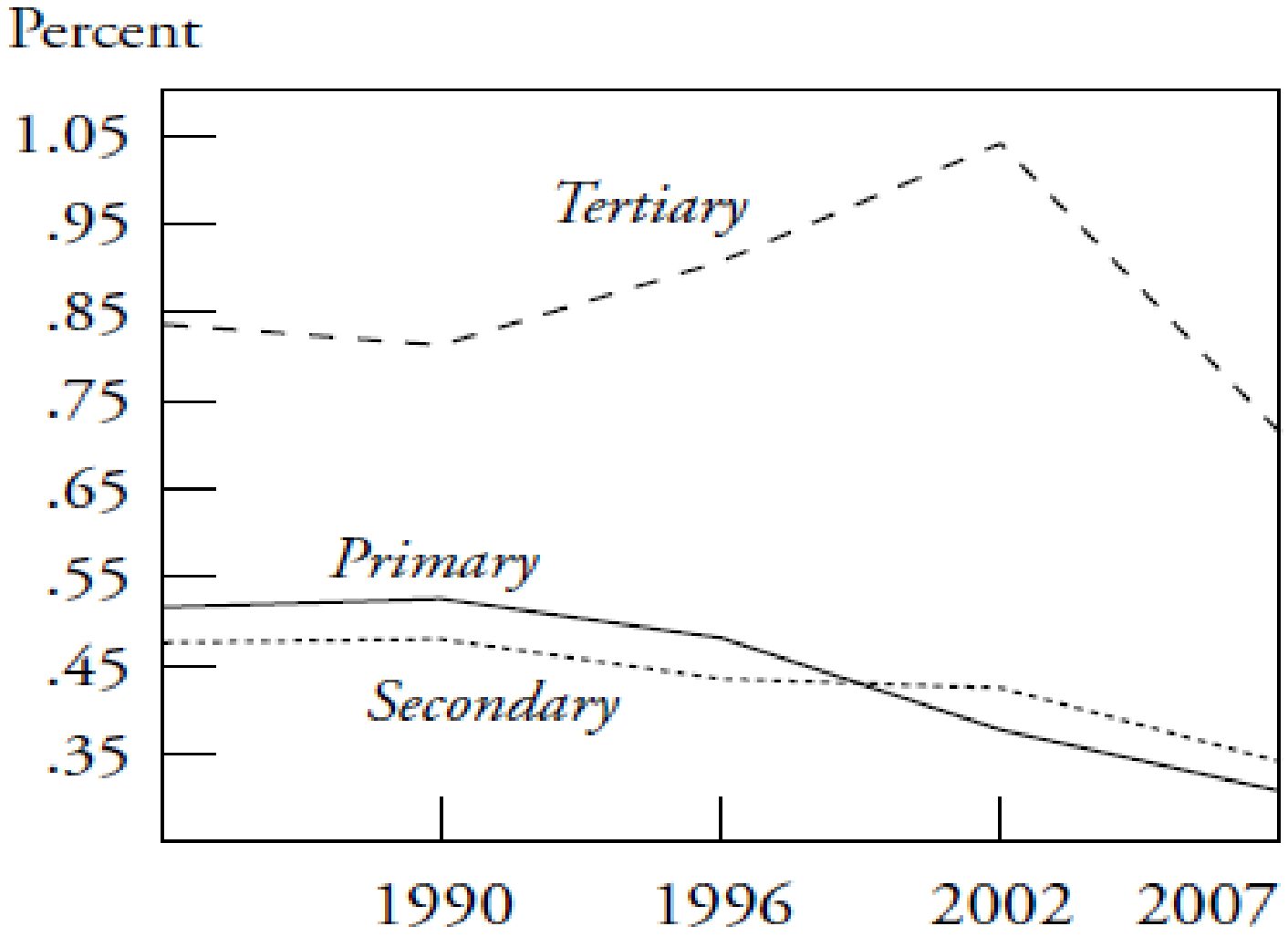
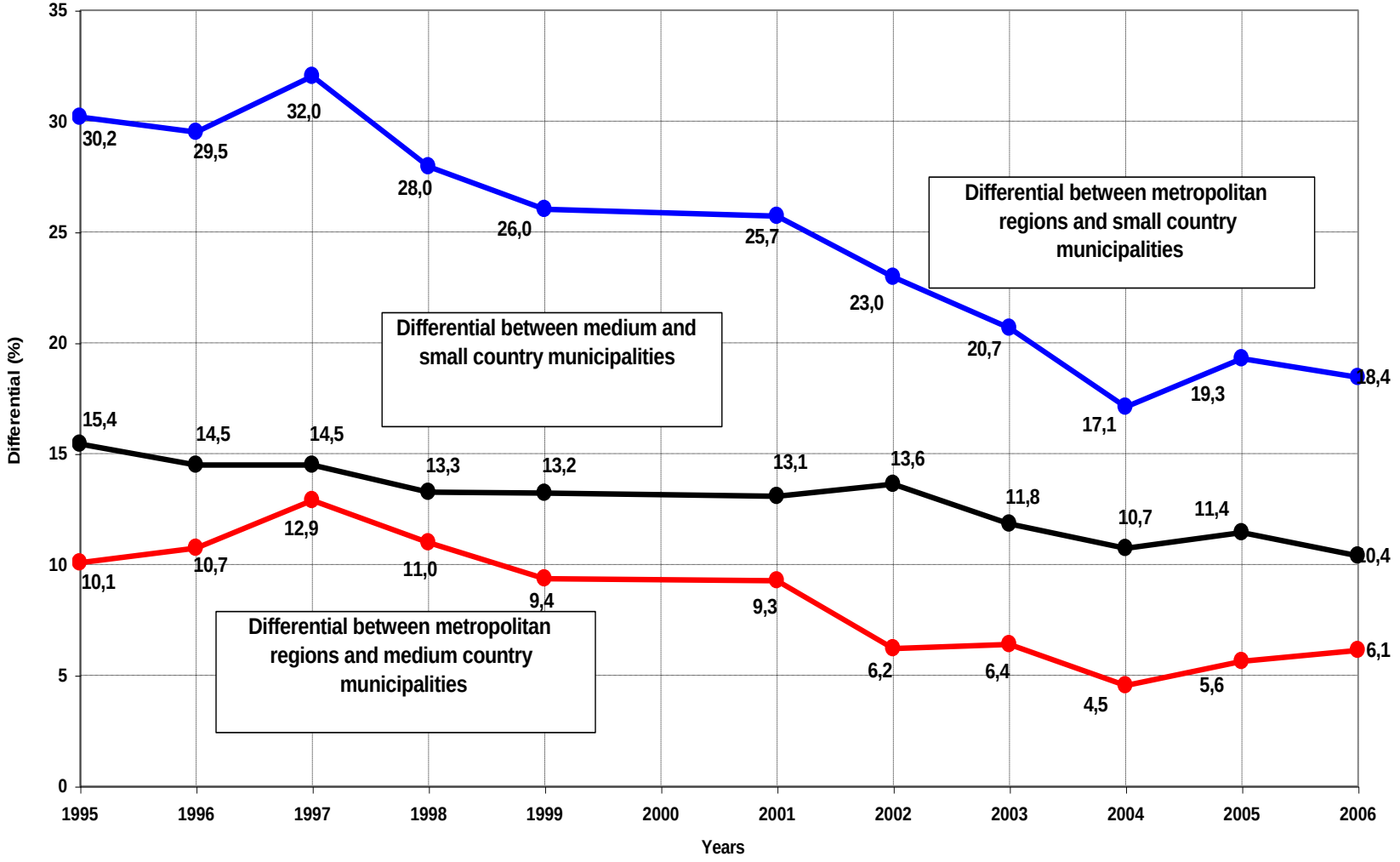


Figure 7.2: Evolution of the wage differential among metropolitan regions and different sized municipalities: 1995-2006



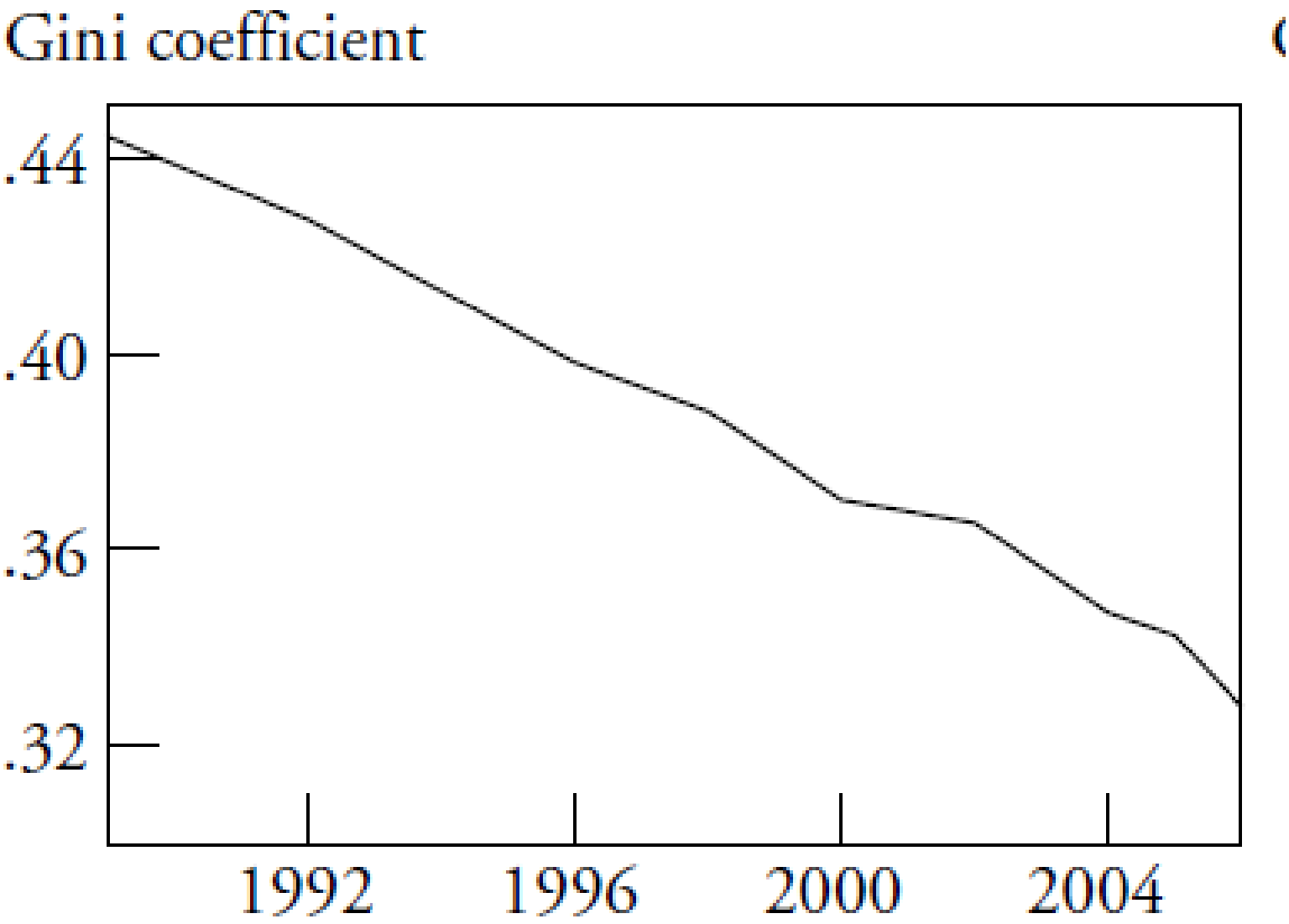
Decline in non-labor income inequality

- Contribution of changes in the distribution of income from assets (rents, interest and dividends) and private transfers was unequalizing but limited.
- Most of the impact of non-labor income on the reduction of overall income inequality was due to changes in the distribution of public transfers: changes in size, coverage and distribution of public transfers. Bolsa Familia accounts for close to 10 percent of the decline in household per capita income inequality.

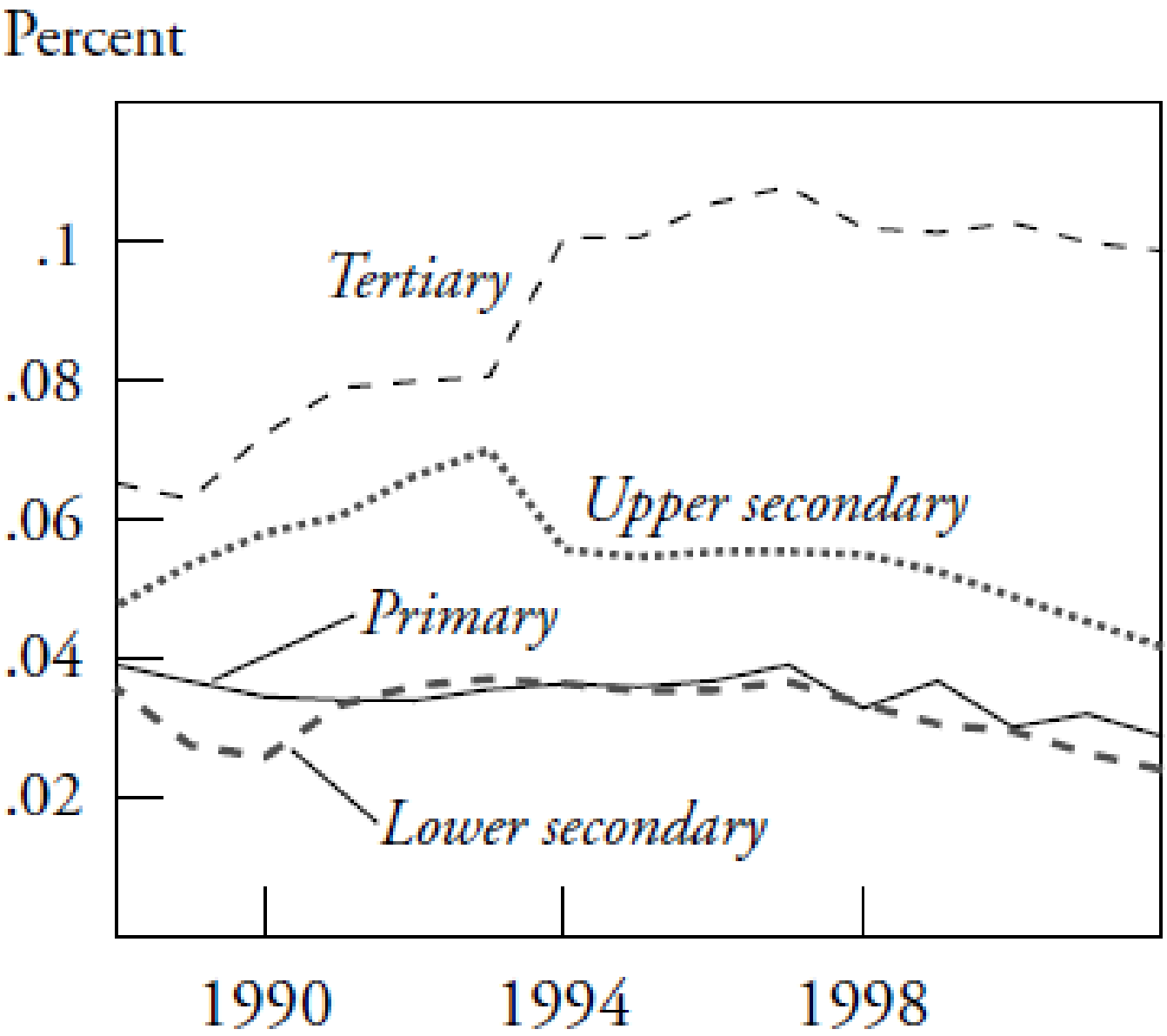
Mexico: 2000-2006 (Esquivel, Lustig & Scott, 2009)

- Decline in labor income inequality:
  - Educational attainment became more equal and returns less steep.
  - The latter seems to be associated with the decline in relative supply of workers with low educational levels. Between 1989 and 2006, the share of workers with less than lower-secondary education fell from 55% to around 33%.
  - It coincides with the period in which government gave a big push to basic education.
    - Between 1992 and 2002 spending per student in tertiary education expanded in real terms by 7.5 percent while it rose by 63 percent for primary education.
    - The relative ratio of spending per student in tertiary vs. primary education thus declined from a historical maximum of 12 in 1983-1988, to less than 6 in 1994-2000 (by comparison, the average ratio for high-income OECD countries is close to 2).
  - Next two slides show: Gini for yrs. of schooling and returns to schooling

Mexico: 1989–2006



Mexico: 1988–2002



Decline in non-labor income inequality

- The equalizing contribution of government transfers increased over time (both at the national level as well as for urban and, especially, rural households). By 2006 transfers became the income source with the largest equalizing effect of all the income sources considered.
- Remittances became more equalizing too but with a smaller effect than government transfers.
- Both more than offset the increasingly unequalizing impact of pensions.

Decline in non-labor income inequality

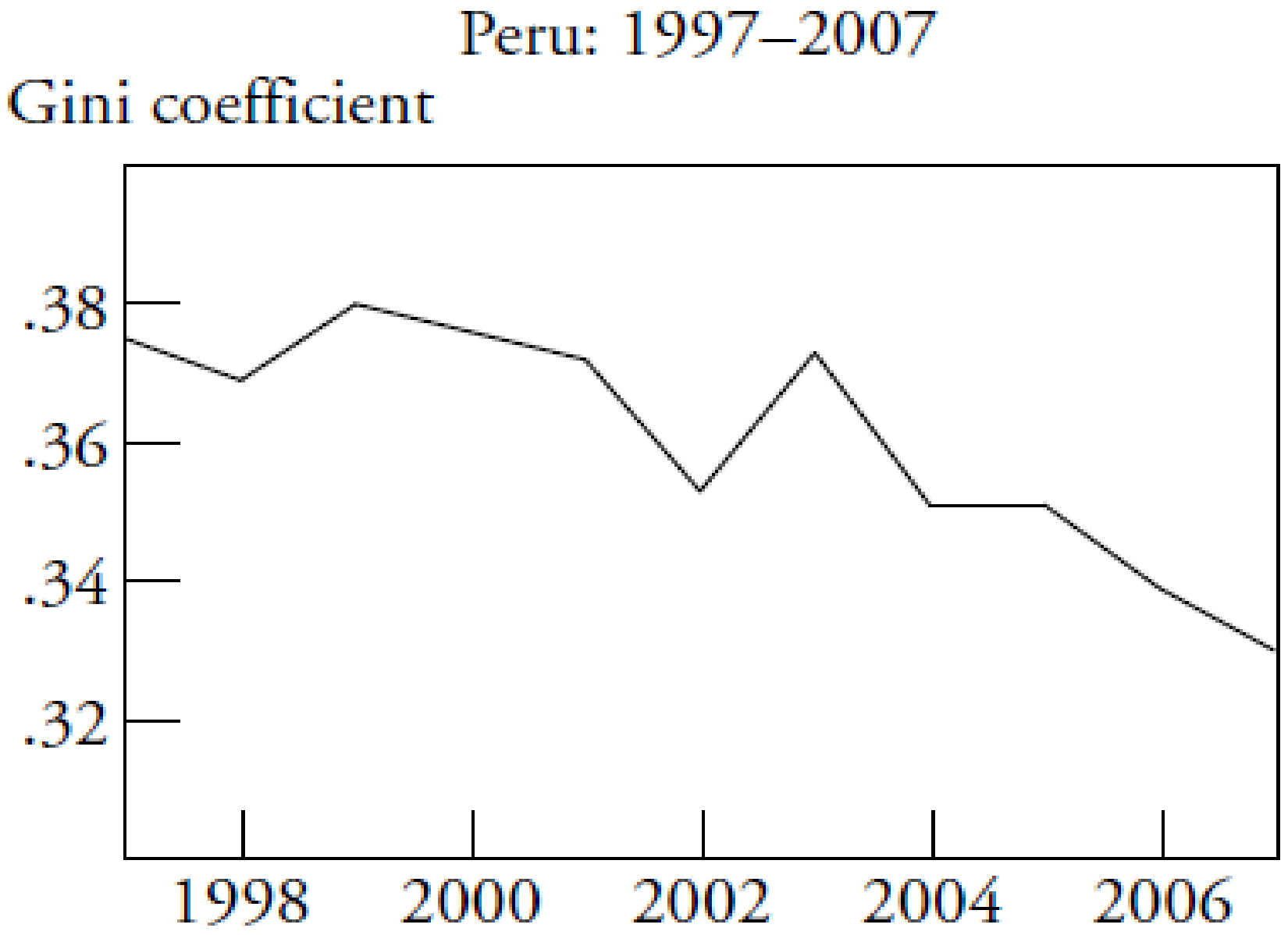
- The sharp rise in the role and equalizing impact of public transfers was a consequence of a significant policy shift in 1997, when the government launched the conditional cash transfer program *Progresa/Oportunidades*.
- During 1996-2006 the size of public transfers increased; they became more equally distributed among recipients, and the recipients of transfers increasingly belonged to relatively poorer segments of the population.

Table 6- 5. *Direct Distributive Impact of Targeted Monetary Transfers: Total and Progresa/Oportunidades: 2006*
percent

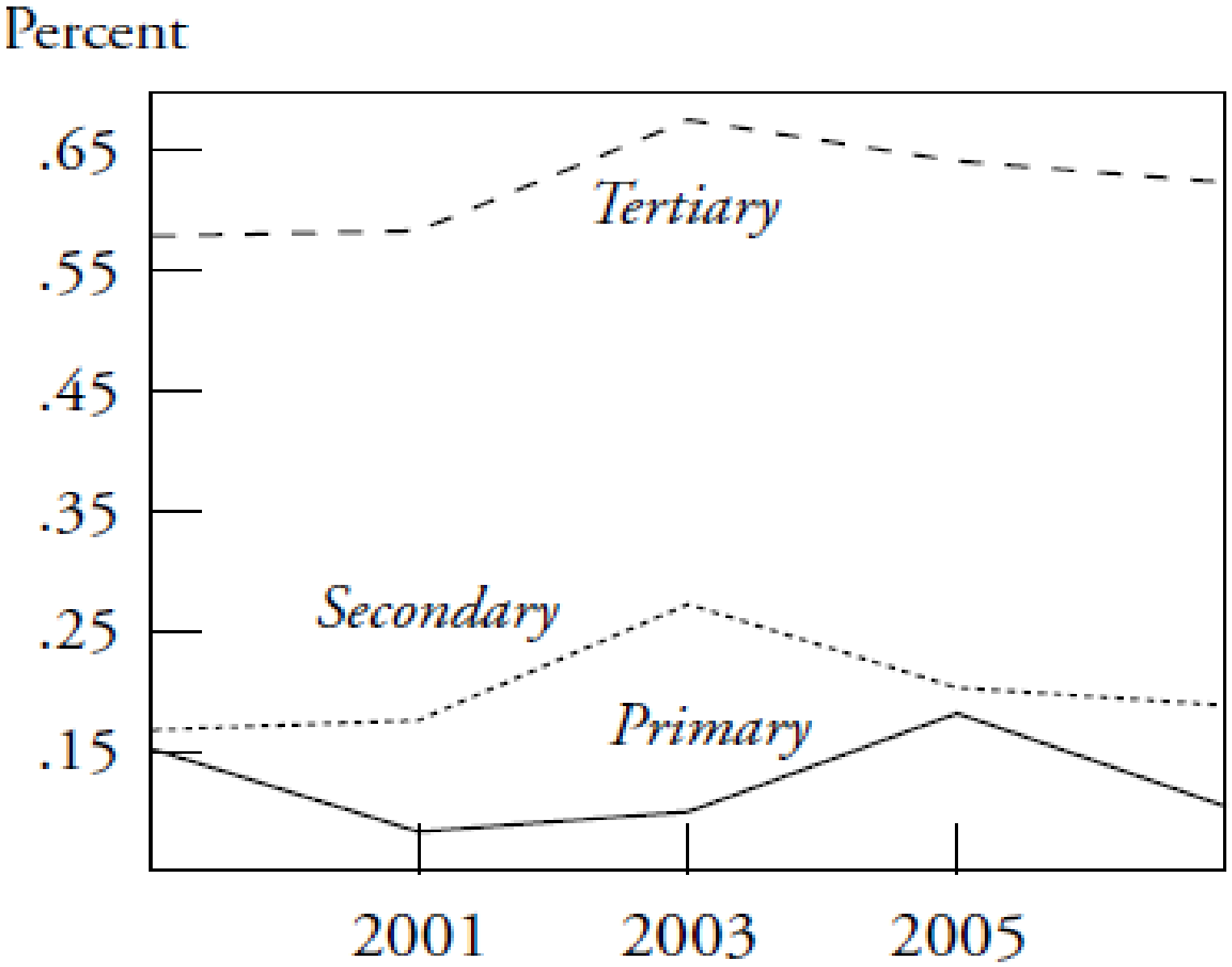
Deciles	*All Monetary Targeted*	*Progresa / Oportunidades*	*Primary or Market Income*
1	1.8	1.7	1.5
2	2.7	2.7	2.5
3	3.6	3.5	3.4
4	4.4	4.4	4.3
5	5.3	5.3	5.3
6	6.7	6.7	6.7
7	8.2	8.1	8.2
8	10.7	10.7	10.8
9	15.7	15.7	15.8
10	41	41.1	41.4
Gini	49.2	49.4	50.2
Change in Gini	-2.1	-1.7	

Peru: 1997-2006 (Jaramillo & Saavedra, 2009)

- Labor income inequality:
  - Changes in educational structure were equalizing at the household and individual workers levels.
  - Changes in returns to education, however, were equalizing at the individual workers level but not at the household level. Changes in assortative matching might have been a factor.
  - Earnings gap by skill narrowed at the individual workers level as in the other countries. Fading out of skill-biased technical change and a more equal distribution of education/educational upgrading.
  - Next two slides show the Gini for years of schooling and the returns to schooling.

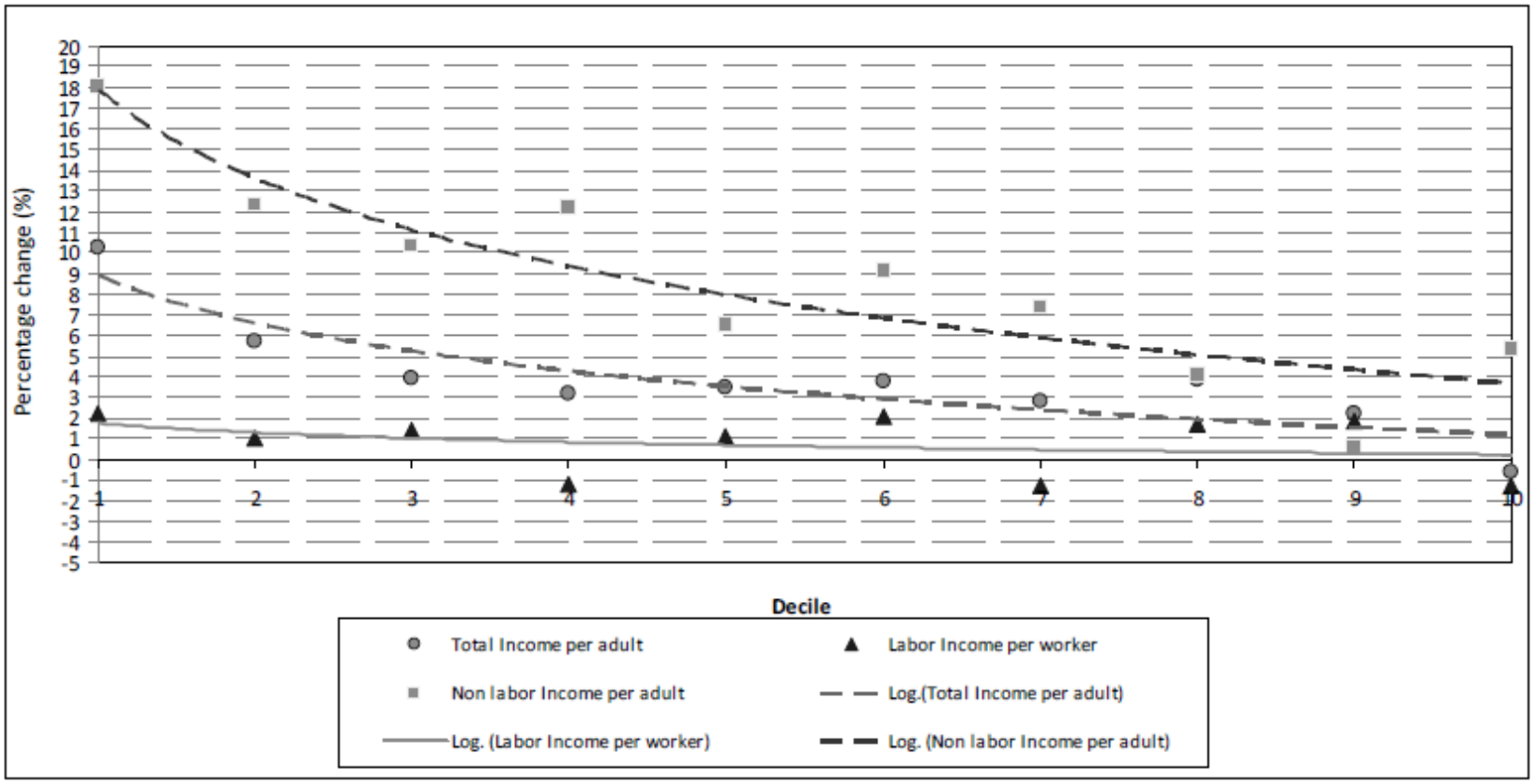

Peru: 1997–2007
Gini coefficient
.38
.36
.34
.32
1998
2000
2002
2004
2006

Peru: 1998–2007



Decline in non-labor income inequality: progressivity rose in non-monetary transfers

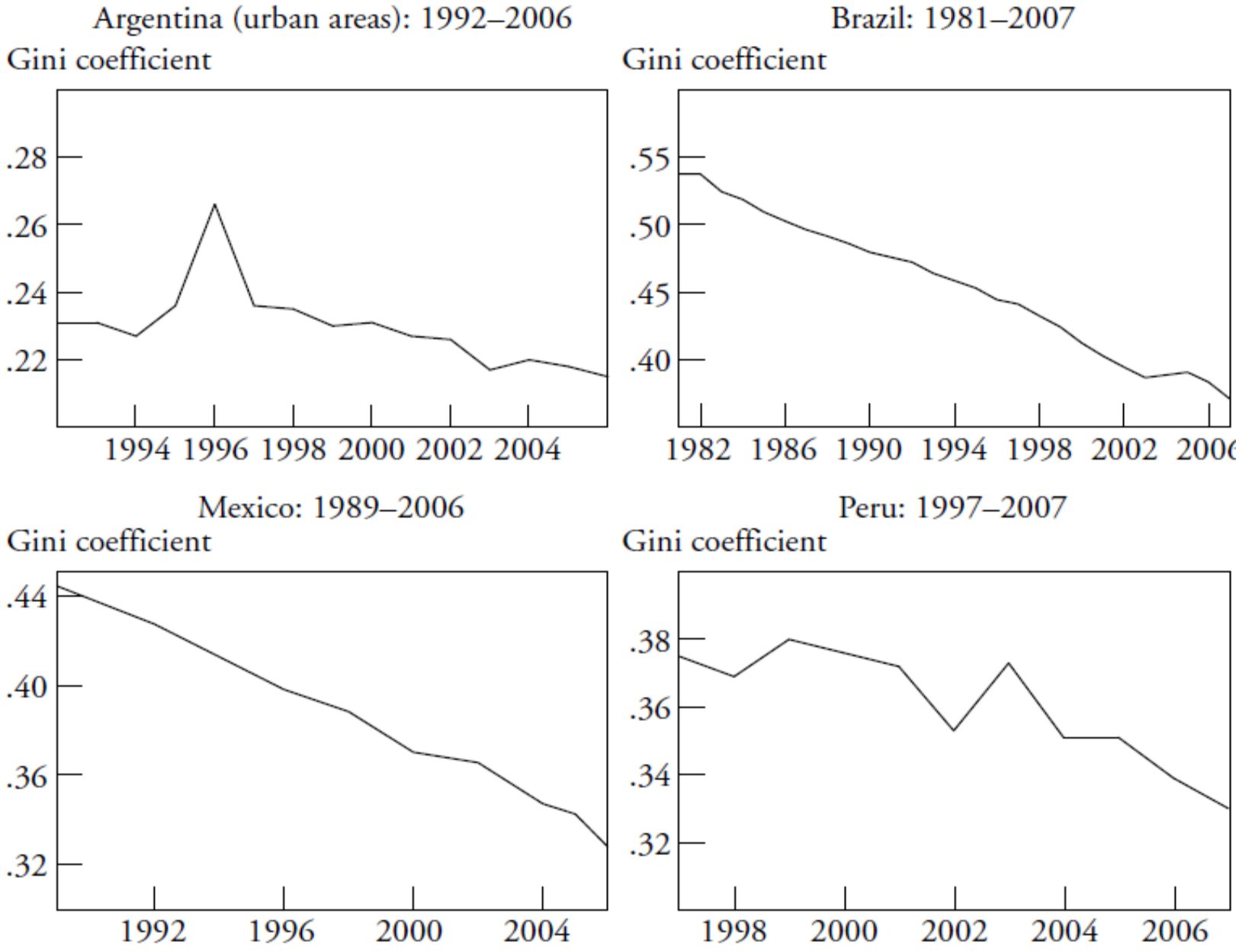
Figure 7-3. *Peru's growth in labor and non labor income by decile, 2001 – 2006*



Why has inequality declined? Main findings

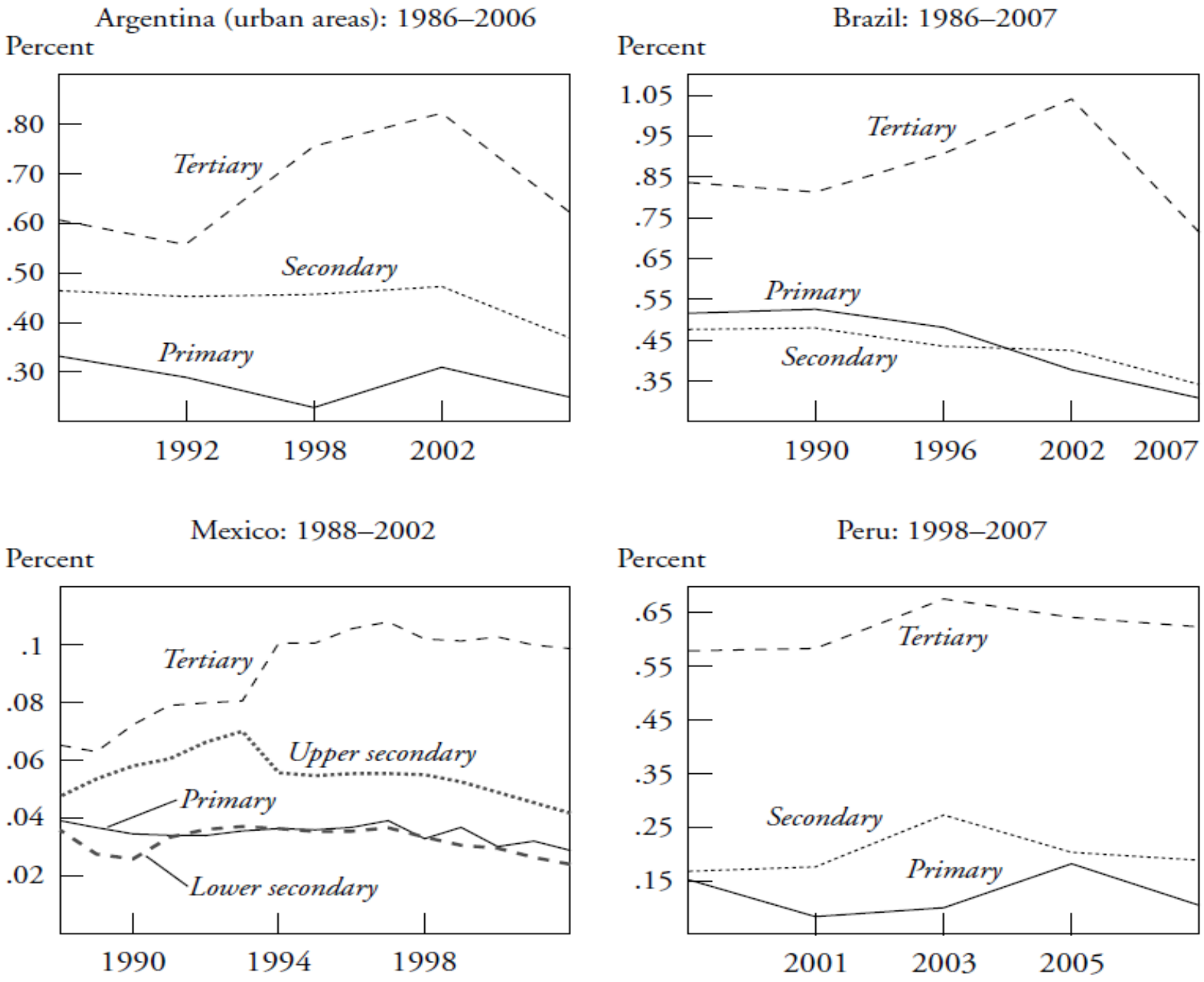
- Educational upgrading and a more equal distribution of educational attainment have been equalizing (quantity effect). No "paradox of progress" this time.
- Changes in the steepness of the returns to education curve have been equalizing at the individual workers level (price effect). Except for Peru, they have been equalizing at the household level too.
- Changes in government transfers were equalizing: more progressive government transfers (monetary and in-kind transfers); expansion of coverage, increase in the amount of transfers per capita, better targeting.

Figure 1-7. *Gini Coefficients for Education for Argentina, Brazil, Mexico, and Peru*



Source: Authors' calculations based on data from SEDLAC, July 2009 (www.depeco.econo.unlp.edu.

Figure 1-5. *Ratio of Returns to Education for Argentina, Brazil, Mexico and Peru*[a]



Source: Ratios for Argentina, Brazil, and Peru are from authors' calculations based on data from SEDLAC, July 2009 (www.depeco.econo.unlp.edu.ar/sedlac/eng/); ratios for Mexico are based on Lopez-Acevedo (2006).

a. Ratios for returns to education were calculated from educational dummy coefficients of Mincer equations, using wages from main occupation for men only. Variables of education level (college, secondary school, and primary school), potential experience, and geographic regions were included. Omitted variable was no schooling or incomplete primary school. Remunerations for men are for all workers, including wage earners, self-employed workers, and employers. Population considered was the age group from 25 years to 55 years. Data for Argentina are for urban areas only; urban areas covered by the survey represented 66 percent of the total population. Surveys before 1991covered Gran Buenos Aires; surveys from 1992 to 1997 covered fifteen cities; and surveys from 1998 to 2006 covered twenty-eight cities.

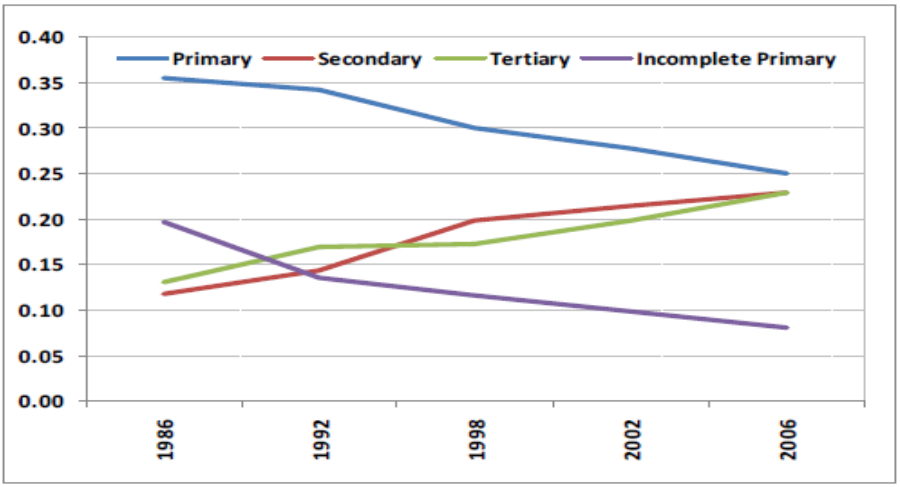
Why has the skill premium declined?

- *Increase in relative demand for skilled labor petered out:* **Fading of the unequalizing effect of skill-biased technical change in the 1990s: Argentina, Mexico & Peru.**

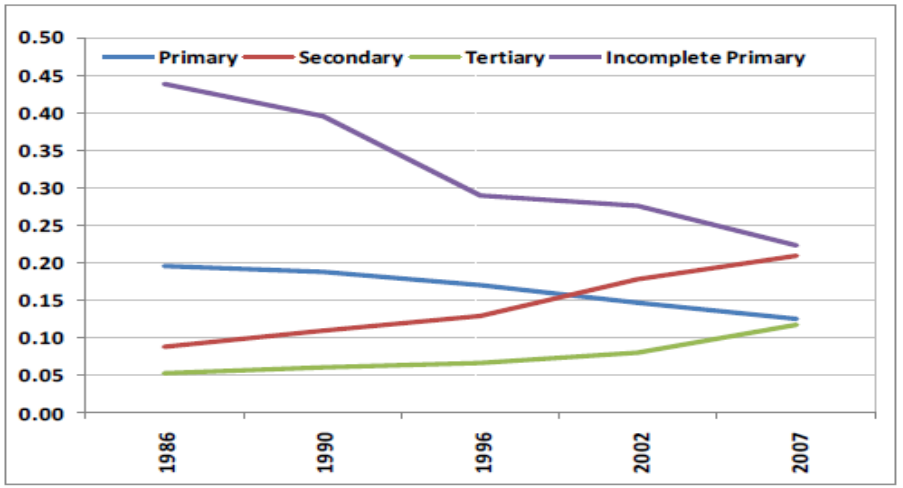
- *Decline in relative supply of low-skilled workers:* **Expansion of basic education since the 1990s: Brazil, Mexico and Peru .**

Figure 7. *Composition of Adult Population by Educational Level: Argentina, Brazil, Mexico and Peru*

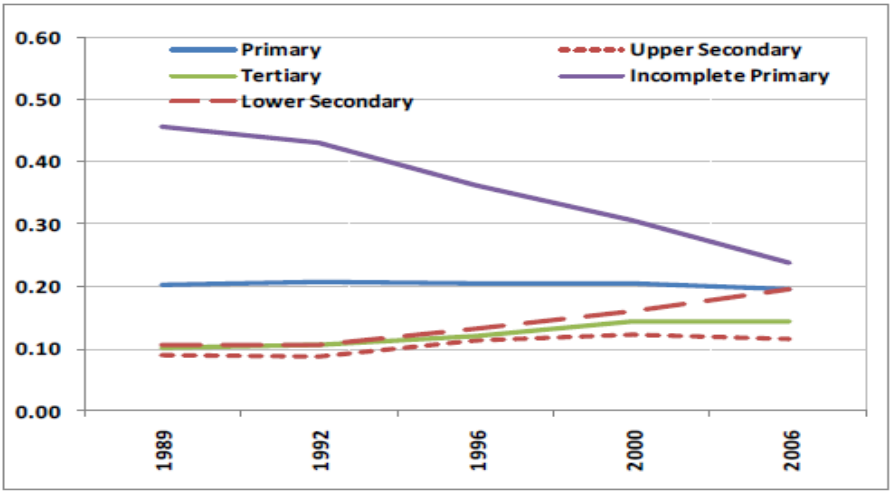
Argentina (urban areas): 1986 – 2006



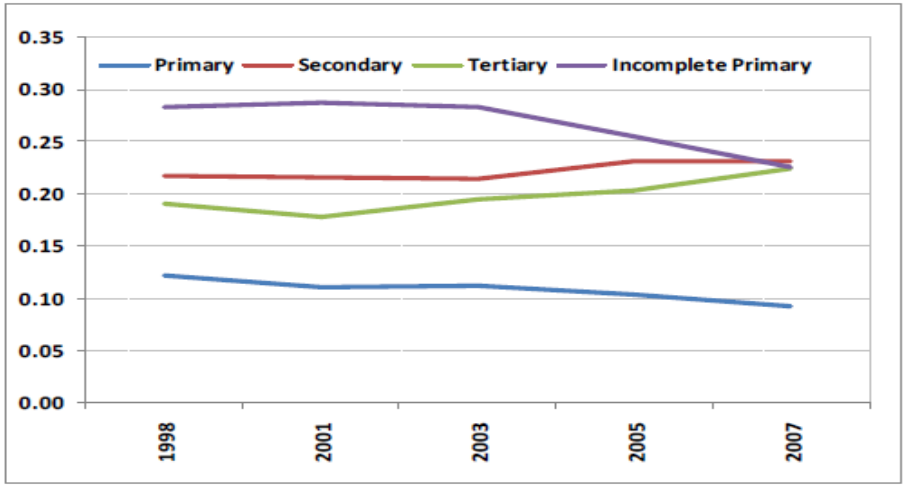
Brazil: 1986 - 2007



Mexico: 1989 – 2006



Peru: 1998 - 2007



Source: Authors' calculations based on data from SEDLAC, July 2009 (www.depeco.econo.unlp.edu.ar/sedlac/eng/).

a. Skill groups are formed by level of formal education. Educational levels correspond to completed primary school, lower- and upper-secondary school, and tertiary education. In Argentina, complete primary school is achieved at 7 years, complete secondary school at 12 years, and tertiary education at 15 or more years of formal education; incomplete primary includes 6 years or less of education and no education. In Brazil, complete primary is achieved at 4 years, complete secondary at 11 years, and tertiary at 15 or more years of formal education; incomplete primary includes 3 years or less of education and no education. In Mexico, complete primary is achieved at 6 years, complete lower secondary at 9 years, complete upper secondary at 12 years, and tertiary at 15 or more years of formal education; incomplete primary includes 5 years or less of education and no schooling. In Peru, complete primary is achieved at 5 years, complete secondary at 11 years, and tertiary at 14 or more years of formal education; incomplete primary includes 4 years or less of education and no schooling. For 1997 completed secondary school in Peru is achieved at 10 years. Shares were calculated for adults only (the age group from 25 years to 65 years).

Why has earnings inequality declined?

Other effects:

- ***Decline in spatial labor market segmentation*** **in Brazil.**
- **In the case of Argentina, the decline also driven by a pro-union government stance and by the impetus to low-skill intensive sectors from devaluation. In Brazil, increase in minimum wages.**

Why has inequality in non-labor incomes declined?

- In the four countries government transfers to the poor rose and public spending became more progressive
  - In Argentina, the safety net program *Jefes y Jefas de Hogar.*
  - In Brazil and Mexico, large-scale conditional cash transfers => can account for between 10 and 20 percent of reduction in overall inequality. An effective redistributive machine because they cost around .5% of GDP.
  - In Peru, in-kind transfers for food programs and health. Also access to basic infrastructure for the poor rose.

Conclusions

- In the race between skill-biased technological change and educational upgrading, in the last ten years the latter has taken the lead (Tinbergen's hypothesis)
- Perhaps as a consequence of democratization and political competition, government (cash and in-kind) transfers have become more generous and targeted to the poor

Caveat: Under-reporting of Top Incomes

- Monthly Income per capita of the two richest households in 2006 surveys:

  - Argentina: US$ 14,800
  - Brazil: US$ 70,400
  - Mexico: US$ 43,100
  - Peru: US$ 17,600

The Rich in Latin America based on Merryll Lynch and Forbes

- Estimated Monthly Income per capita of individuals with US$1 million of net worth or more (5% return/yr).....US$64,600
- Estimated Monthly Income per capita of individuals with US$30 million of net worth or more (5% return/yr).....US$2,000,000
- Estimated Monthly Income per capita of (30) individuals with US$1 billion of net worth or more (5% return/yr).....US$16,000,000

How can we estimate inequality including top incomes?

- Top Incomes project: Alvaredo, Atkinson, Piketty and Saez (http://g-mond.parisschoolofeconomics.eu/topincomes) uses tax returns data

- Available for all OECD countries with the exception of Mexico and Turkey

- Preliminary results for Argentina (Greater Buenos Aires) are revealing: Gini is 5 percentage points higher and it does not show a decline (Alvaredo 2011)

Is Inequality Likely to Continue to Fall?

- Despite the observed progress, inequality continues to be very high and the bulk of government spending is not progressive.
- The decline in inequality resulting from the educational upgrade of the population will eventually hit the 'access to tertiary education barrier' which is much more difficult to overcome: inequality in quality and 'opportunity cost' are high and costly to address.
- Making public spending more progressive in the future is likely to face more political resistance (entitlements of some powerful groups).

THANK YOU