

# Keynote Address

## Why did Inequality Decline in Latin America?

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# OUTLINE

- The facts
- Inequality, poverty reduction and the middle class
- Why has inequality declined?
  - Labor markets
- Zooming in: Brazil
- Zooming in: Mexico
- Transfers and Inequality decline

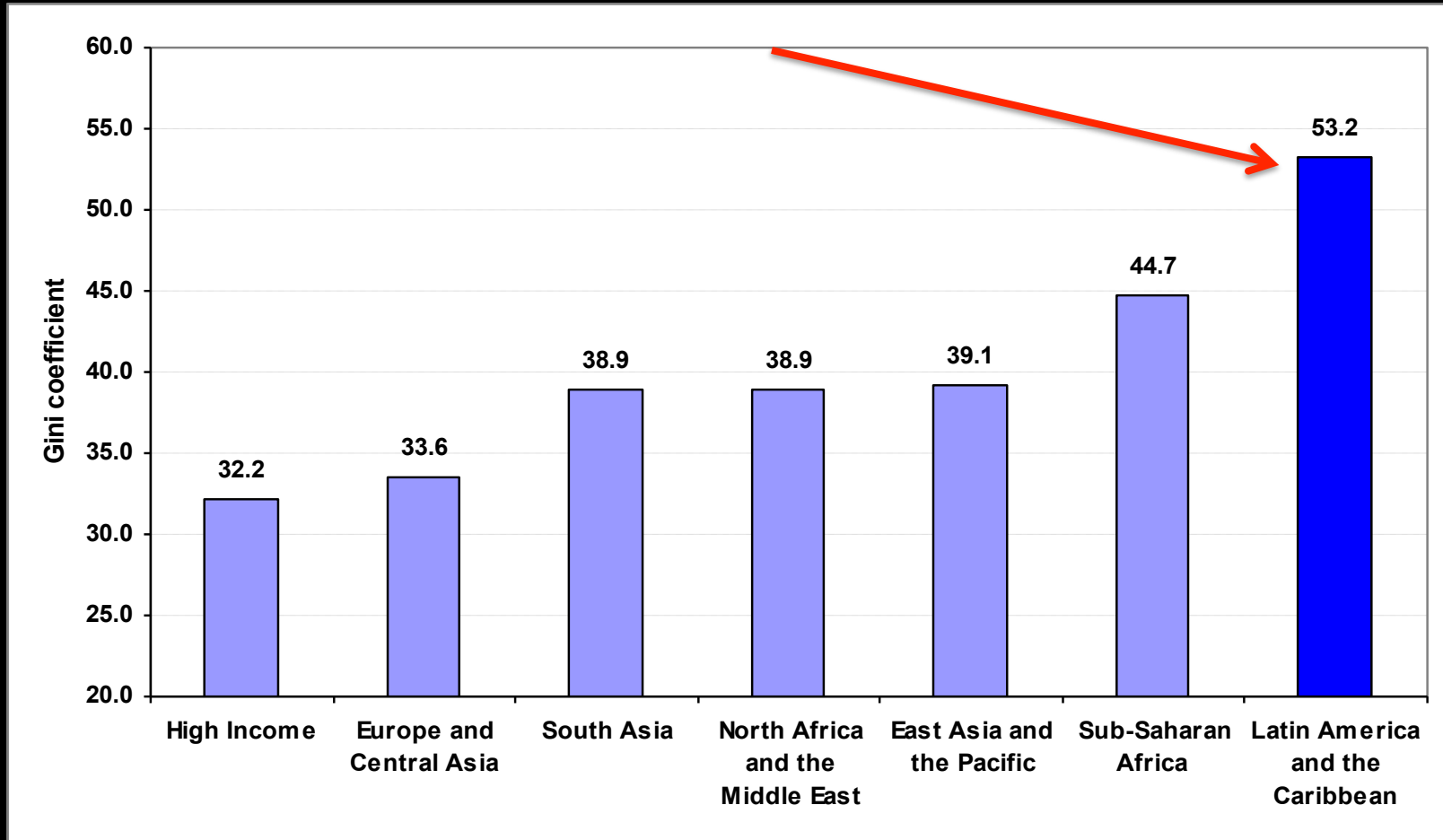
# THE FACTS

# **Inequality in Latin America is high... ...but has been declining since around 2000**

- Decline is pervasive and significant
- Larger than the rise in inequality in 1990s
- Important contribution to the decline in poverty
- Contributed to the rise of the middle-class

# LATAM IS THE MOST UNEQUAL REGION IN THE WORLD

Gini Coefficient by Region (in %), 2004

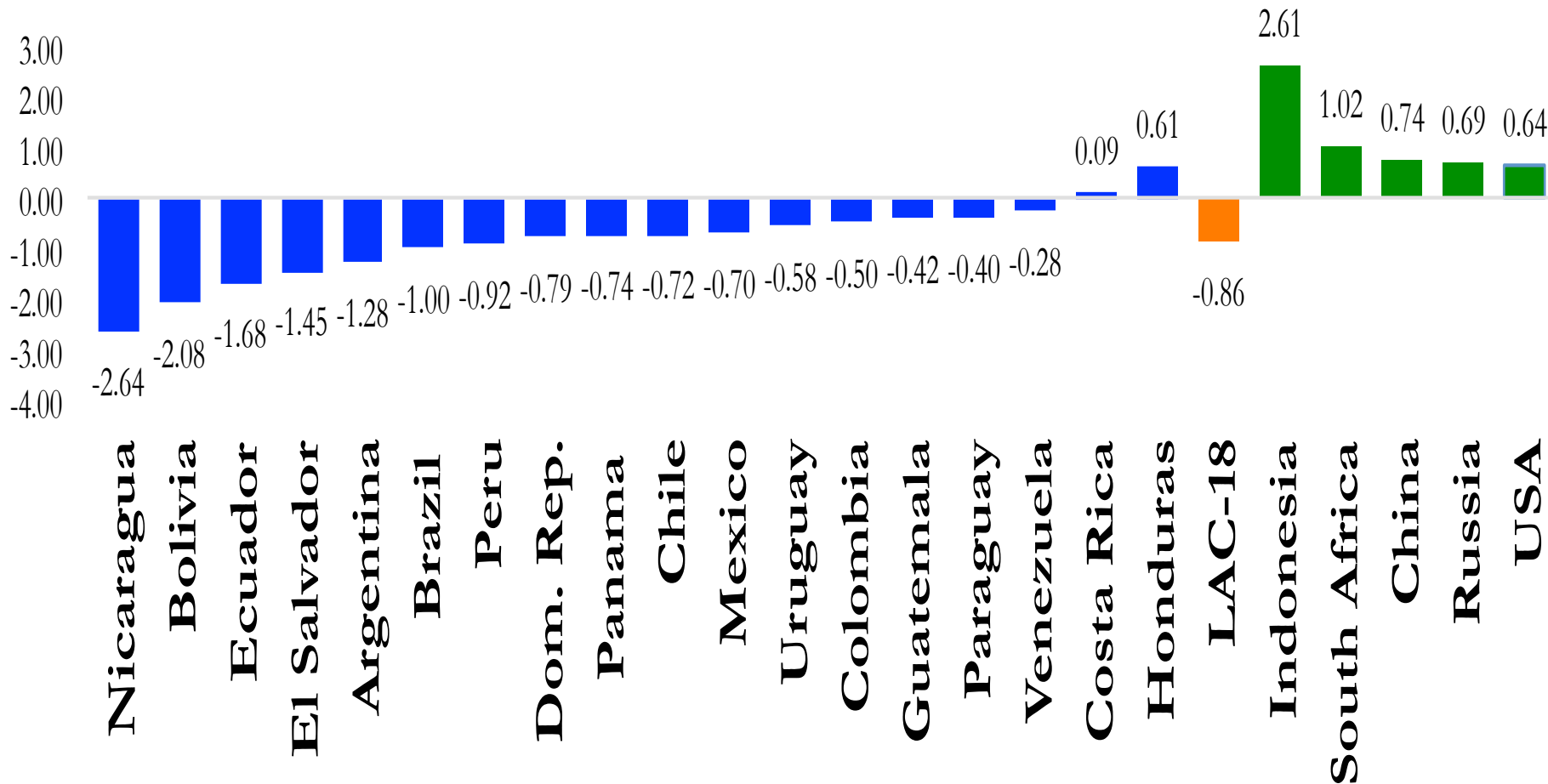


Ferreira and Ravallion, 2008.

# Declining Inequality in 2000's

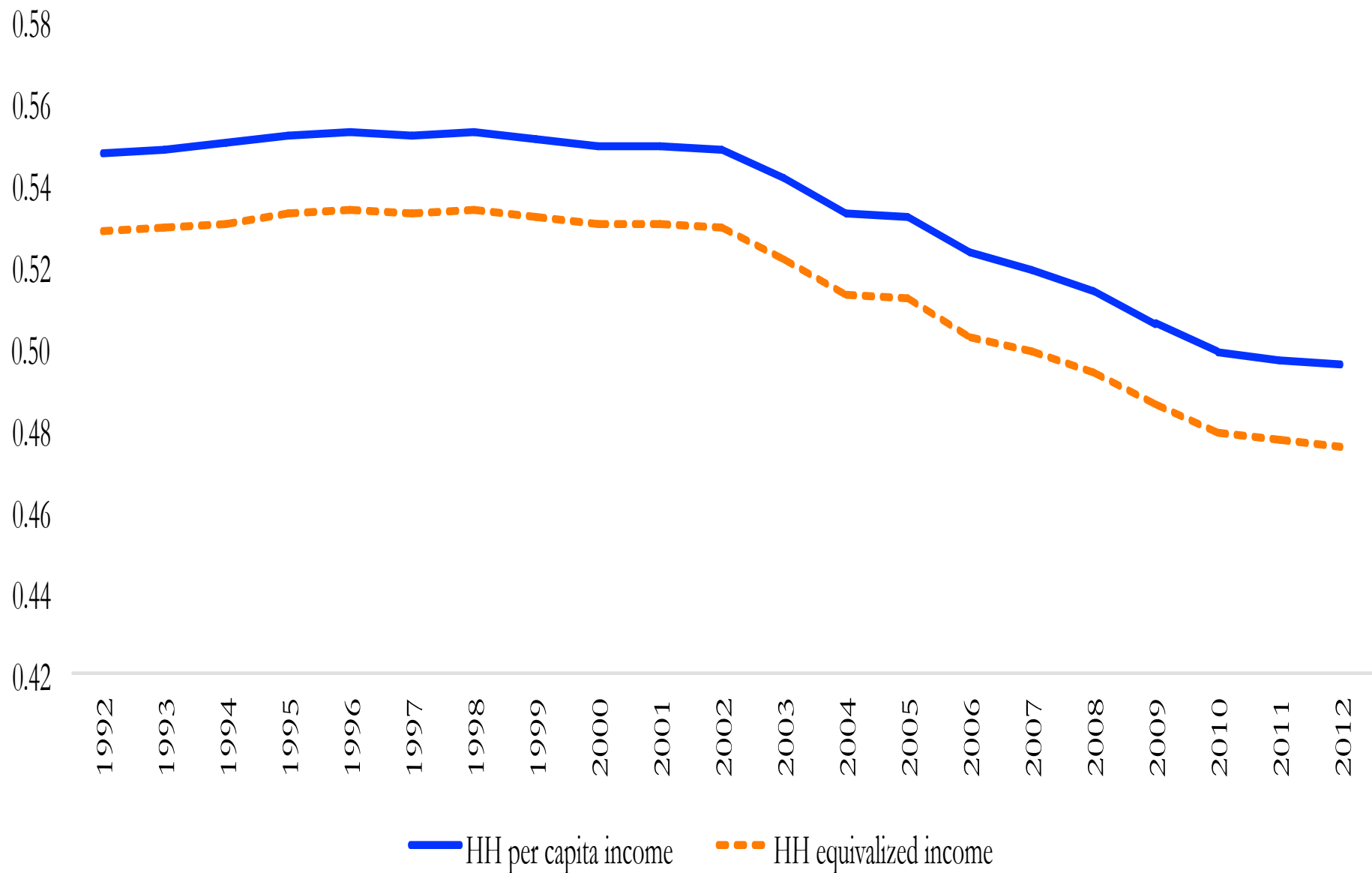
- The Gini coefficient for *household per capita income* fell from a weighted (unweighted) average of 0.550 (0.532) in the early 2000s to 0.496 (0.483) circa 2012.
- On average, the decline equaled .86%/year
- The decline occurred in 16 of the 18 countries.
- The rate of decline ranged from an annual average of -2.64 percent in Nicaragua to -0.28 percent in Venezuela.

# Average Yearly Change in Gini: 2000 (circa) - 2012 (circa)

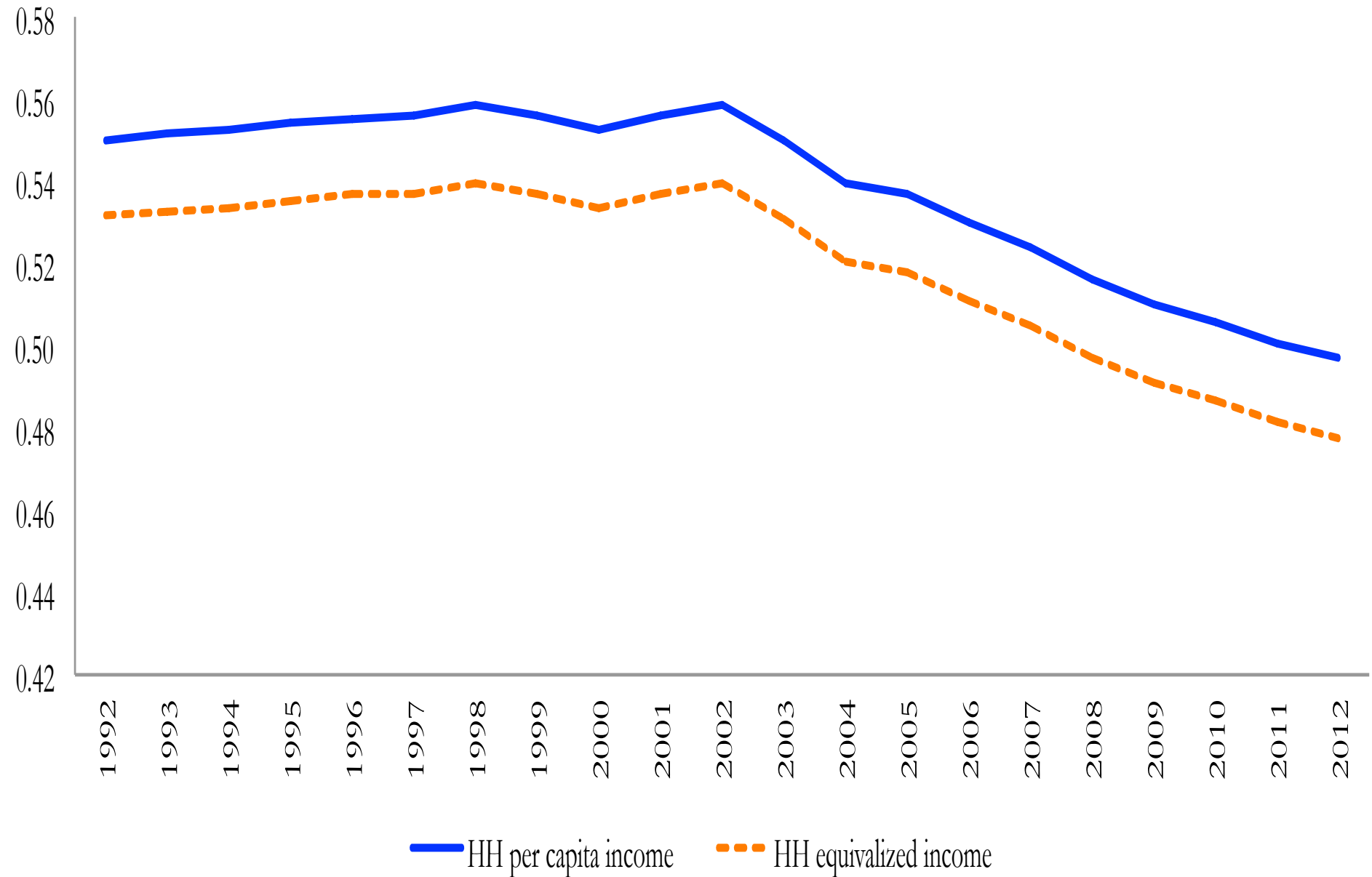




Panel A: Weighted averages of the Gini coefficient; 18 countries



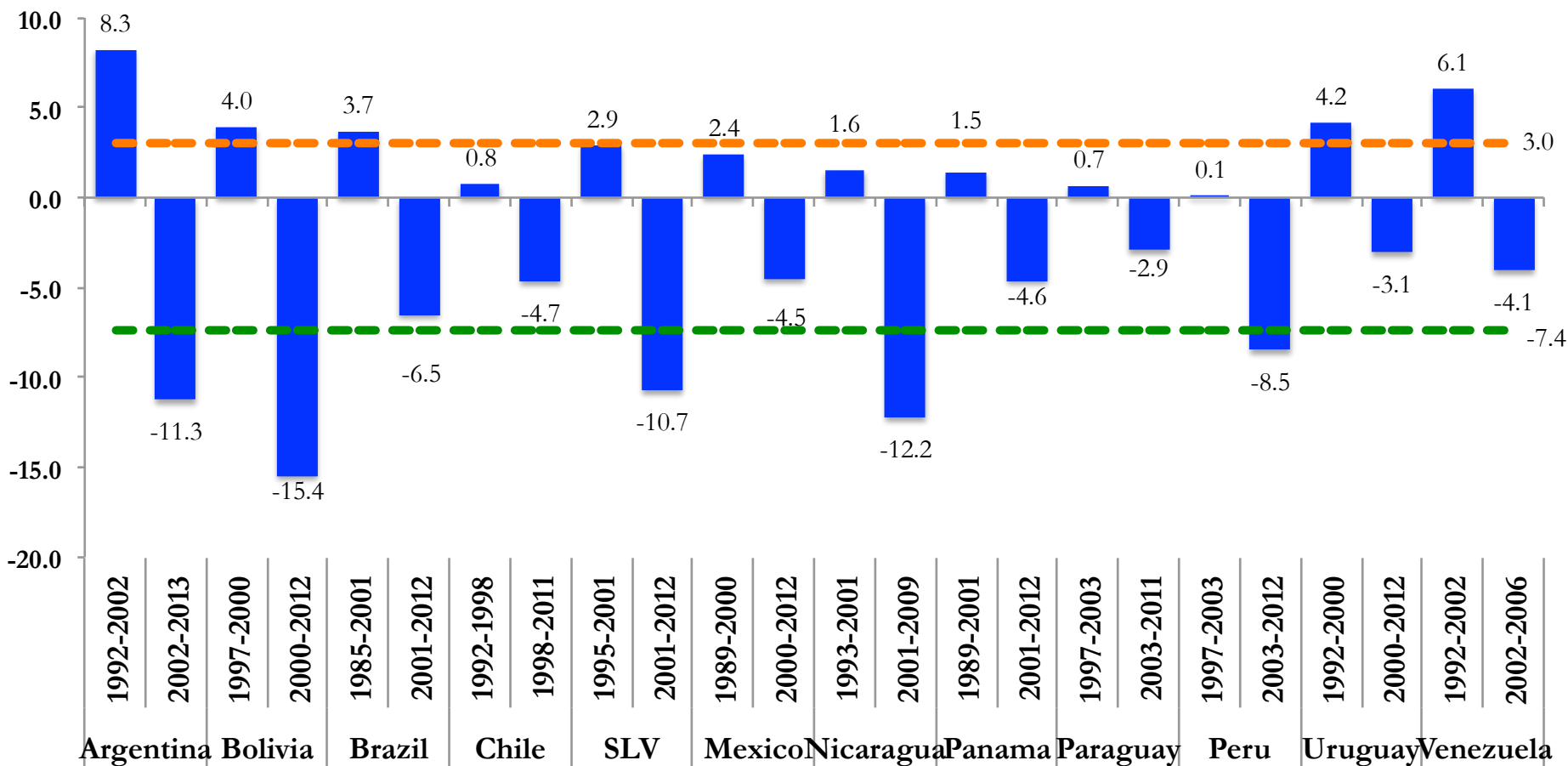
Panel B: Weighted averages of the Gini coefficient, excluding Mexico



# The decline of income inequality in the 2000s has been higher than the rise in the 1990s

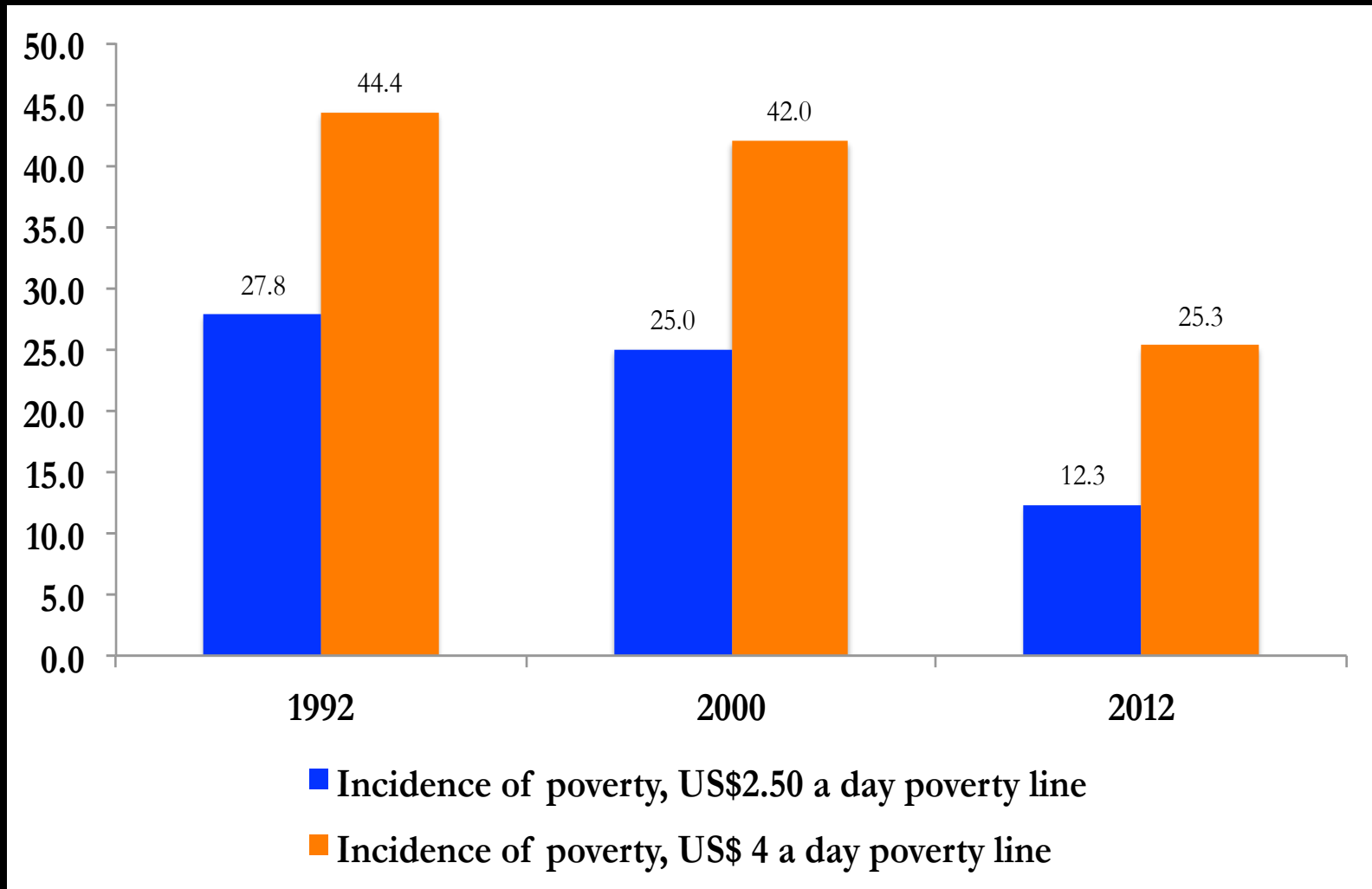
(Change in Gini points in %)

--- Average of increase      --- Average of decrease

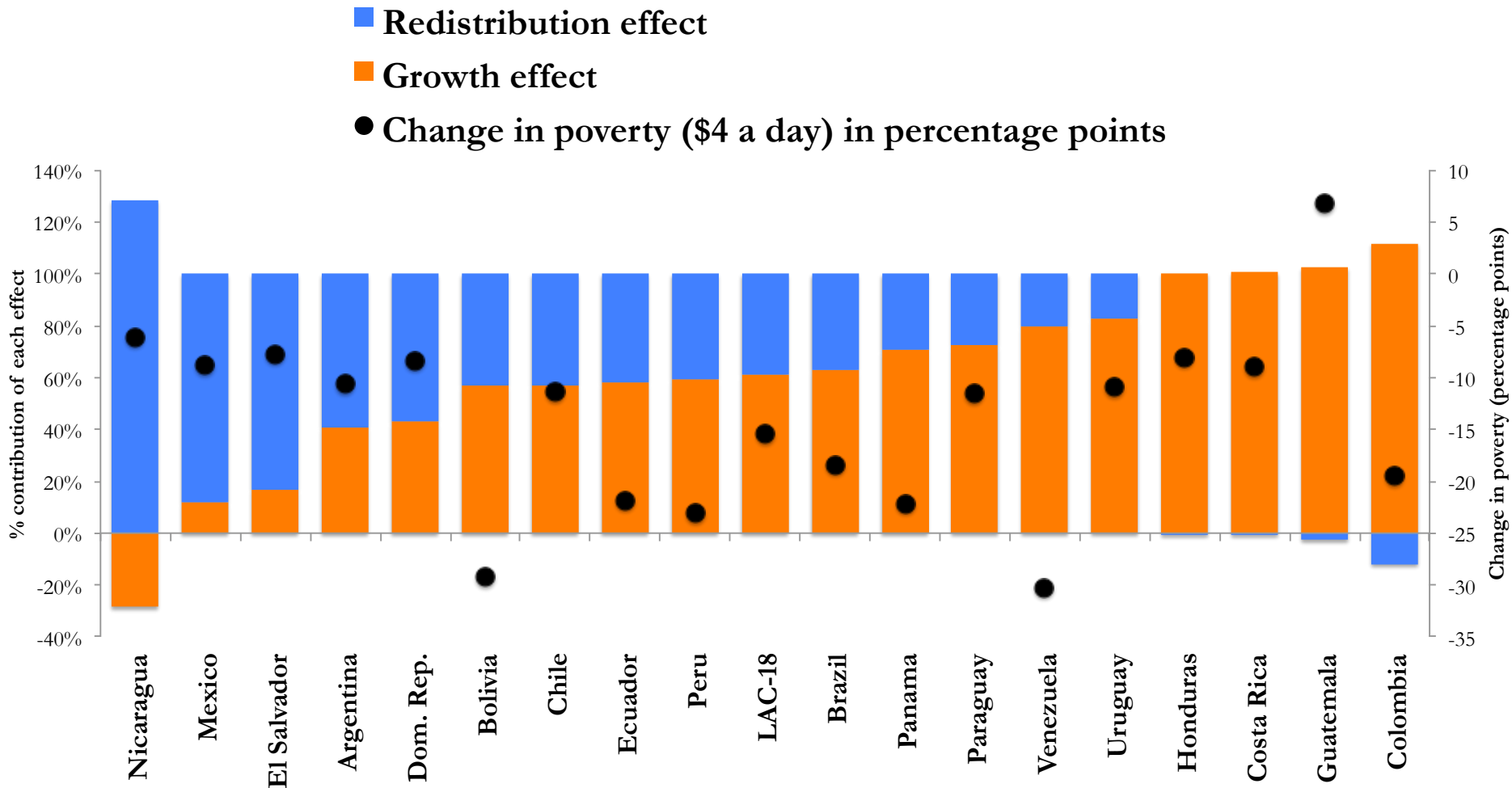


# Inequality, Poverty and the Middle-Class

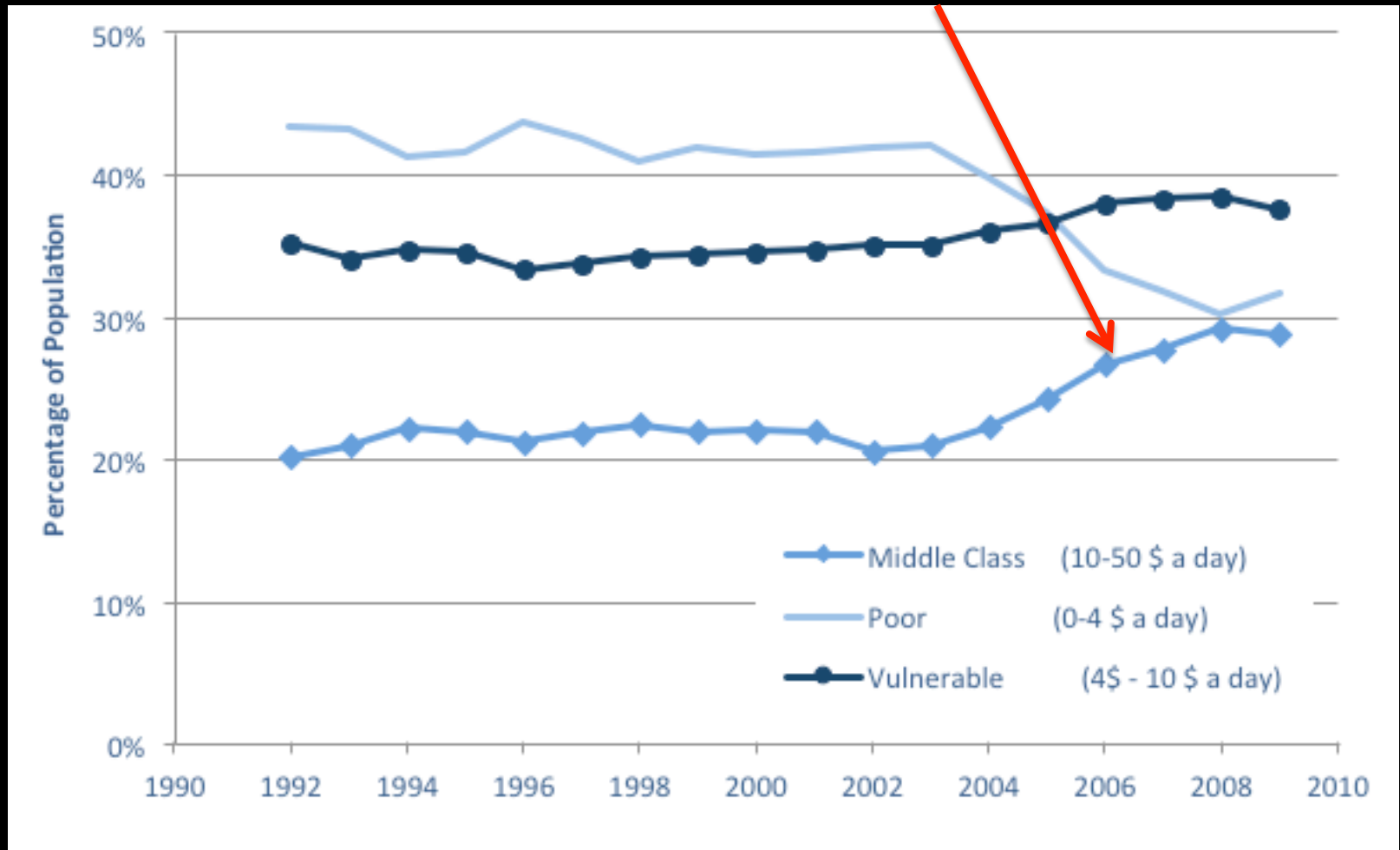
# Decline in Poverty 1992-2012 (Ave. Headcount Ratio in %)



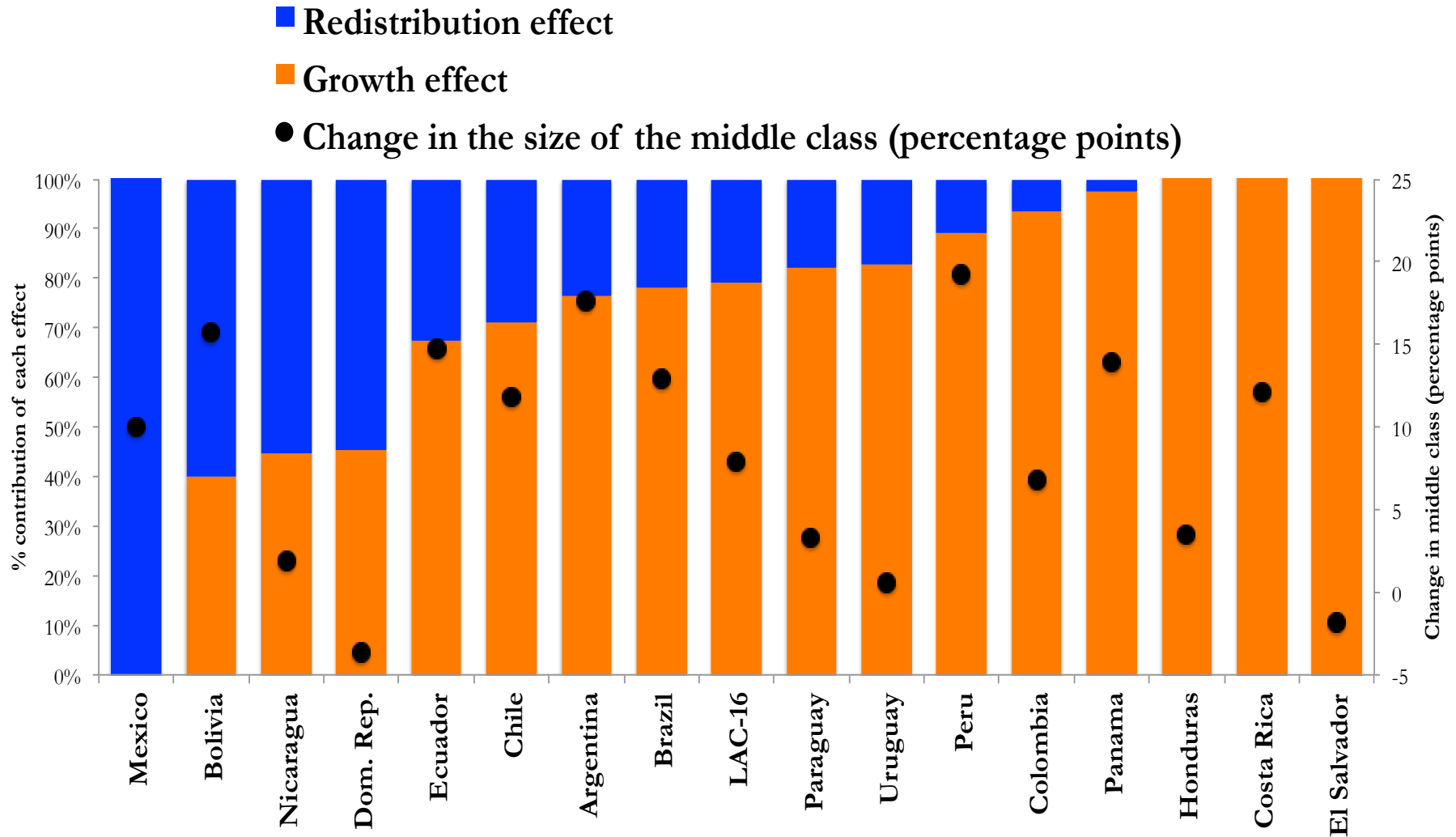
# On average, 39 percent of the reduction in poverty was due to the decline in inequality c. 2001-2010



# Declining inequality has contributed to the expansion of the “middle-class”



# On average, 21 percent of the reduction in poverty was due to the decline in inequality c. 2001-2010





**WHY?**

# Inequality in Latin America is high... ...but has been declining since around 2000

- In countries with high growth & low growth
- In countries with left and nonleft governments
- In commodity exporters and commodity importers
- In high and low (for Latam standards) inequality countries

# Determinants of the decline in inequality: candidates

- Declining inequality of hourly labor income
- Larger and more progressive transfers
- Lower dependency ratios
- Higher participation rates of adults

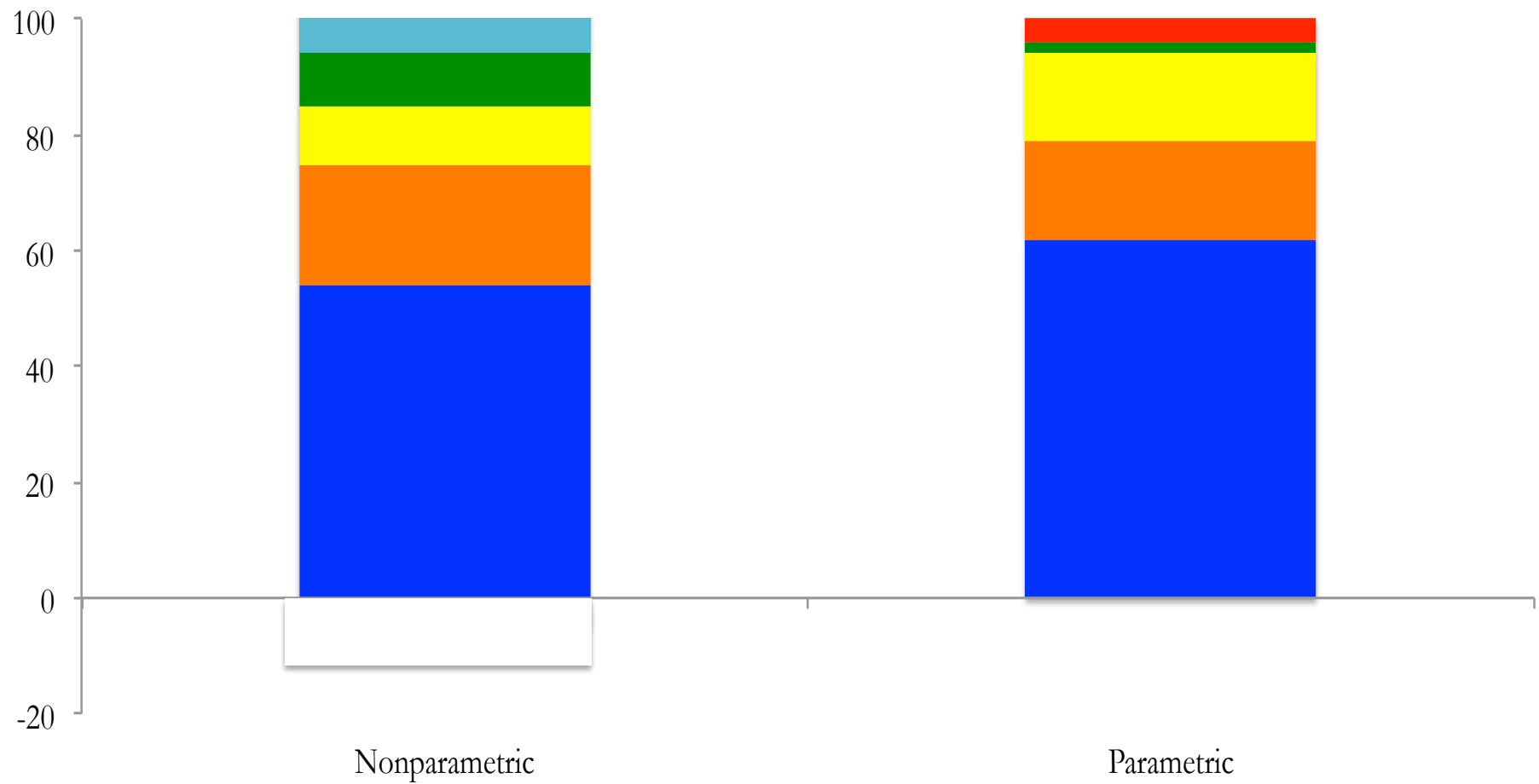
# Proximate Determinants

Depending on the method (Yitzaki and Barros et al., respectively)

- On average 62 or 54 percent of the reduction in the Gini coefficient can be attributed to changes in hourly labor income,)
- Changes in government transfers contributed, 17 or 21 percent on average
- Changes in pensions contributed 2 or 9 percent (includes noncontributory pensions)

## Proximate Determinants

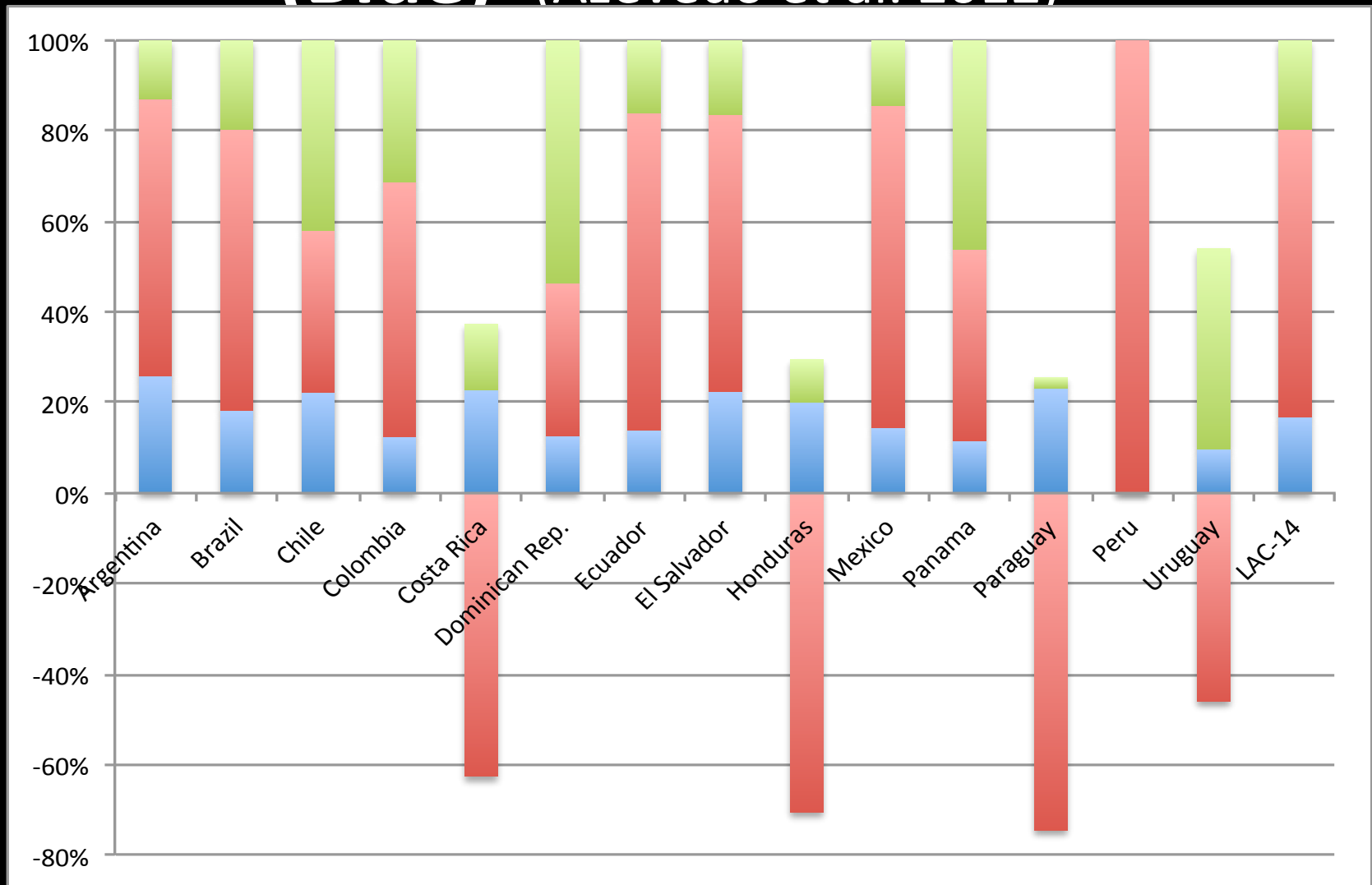
- Changes in demographic indicators, the equalizing effect of the share of adults accounted, on average, for 11 percent of the decline in inequality.
- Remarkably, the increase in the share of occupied adults in the household was unequalizing: its contribution in the inequality-increasing direction was 4 percent
  - => Increase in labor force participation of women (the “yuppie couple” effect?)



- Labor income**
- Other non-labor income**
- Capital**
- Transfers**
- Pensions**
- Adult population**

# Decomposing Decline in Inequality

Labor (red); Transfers (Green); Demog (Blue) (Azevedo et al. 2012)



What explains the reduction in (hourly) labor income inequality? There are several not mutually exclusive candidates:

- human capital (years of schooling and experience)
- labor market institutions (minimum wages, unionization, informality)
- demographic composition of the labor force (age, gender, race)
- spatial segmentation (rural-urban, regional)



Standard labor economics separate out what can be attributed to:

- composition or endowment effect
  - changes in the distribution of the observable characteristics of workers (e.g., age, years of schooling, race, gender, working in formal or informal markets, earnings above/below minimum wages, and geographic location)
- pay structure or returns effect
  - changes in returns to those characteristics

- Estimates of the size of the endowment and pay structure effects for each factor help identify the orders of magnitude of the ‘proximate’ determinants of observed changes in labor income inequality
- The search for the ‘fundamental’ causes requires to assess the role of demand, supply and other factors (e.g., changes in the quality of education) in explaining the changes in returns to human capital
- One may want to push the causal inference process further by, for example, linking the changes to structural changes in the composition of output (led by, for example, a boom in international commodity prices) and changes in education policy

- Existing studies do not cover the entire range of potential candidates in each case
- However, available evidence suggests that a fall in the returns to human capital –in particular, in the returns to education– is a common factor to explain the decline in hourly labor income inequality
- In the majority of the sixteen countries where overall inequality declined, the return to primary, secondary and tertiary education versus no schooling or incomplete primary schooling declined.

Chart Area

■ Changes in Gini

● Change in returns on primary schooling

○ Change in returns on secondary schooling

▲ Change in returns on tertiary schooling



- It should be noted that the endowment effect associated with changes in the distribution in education have tended to be unequalizing in spite of the fact that the distribution of educational attainment has become more equal
- This means that, had the pay structure by education level remained unchanged, the more equal distribution of the education endowment would have resulted in an *increase* in labor income inequality.
- Because this sounds counter-intuitive, this finding is known as the “paradox of progress.” (Bourguignon et al. (2005))

# Decline in returns to post-secondary education (aka. skill premium)

- Supply
- Demand
- Labor Market Institutions
- Declining “quality” in workers with tertiary degree

**Table 2: Changes in the wage premium and the relative supply and demand for skilled/unskilled workers (Gasparini et al., 2011)**

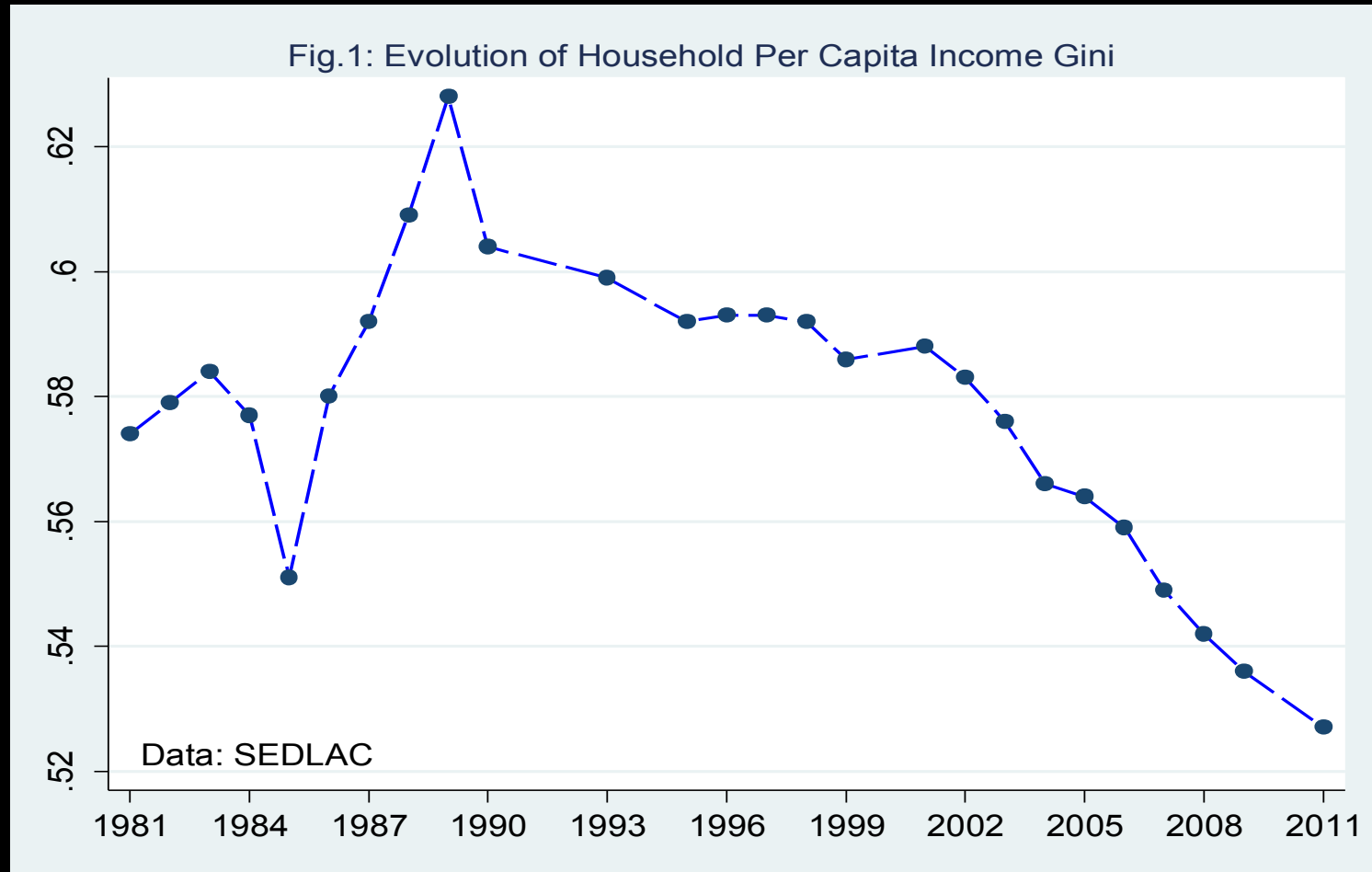
*Annual percent change*

	Wage premium		Relative supply		Relative demand ( $\sigma=2$ )		Relative demand ( $\sigma=3$ )	
	1990s	2000s	1990s	2000s	1990s	2000s	1990s	2000s
Argentina	3.5	-2.4	4.6	2.4	11.5	-2.3	15.0	-4.7
Bolivia	7.9	-4.6	-0.2	5.1	15.6	-4.1	23.5	-8.7
Brazil	-0.4	-3.2	1.6	4.4	0.8	-1.9	0.4	-5.1
Chile	0.5	-1.9	3.1	1.1	4.1	-2.7	4.6	-4.7
Colombia	2.5	-2.0	6.4	6.0	11.5	2.1	14.0	0.1
Costa Rica	0.4	-0.2	4.0	3.4	4.9	3.0	5.3	2.8
Ecuador		-3.2		3.4		-3.0		-6.3
El Salvador	1.7	-0.1	5.5	-0.3	8.9	-0.4	10.6	-0.5
Honduras	0.0	-1.9	2.6	2.3	2.6	-1.4	2.6	-3.3
Mexico	1.8	-2.8	3.6	2.2	7.2	-3.5	9.0	-6.3
Nicaragua	3.5	-6.9	4.6	6.6	11.6	-7.2	15.0	-14.1
Panama	0.3	-2.3	2.3	2.4	2.9	-2.2	3.1	-4.4
Paraguay	0.8	-5.6	5.3	6.1	6.9	-5.2	7.6	-10.8
Peru	0.6	-2.8	0.2	3.8	1.3	-1.8	1.9	-4.6
Uruguay	2.3	-0.9	2.9	1.1	7.4	-0.6	9.6	-1.4
Venezuela	1.1	-4.8	3.9	4.2	6.2	-5.4	7.3	-10.3
Mean	<b>1.8</b>	<b>-2.8</b>	<b>3.4</b>	<b>3.4</b>	<b>6.9</b>	<b>-2.3</b>	<b>8.6</b>	<b>-5.1</b>

# Zooming in Brazil

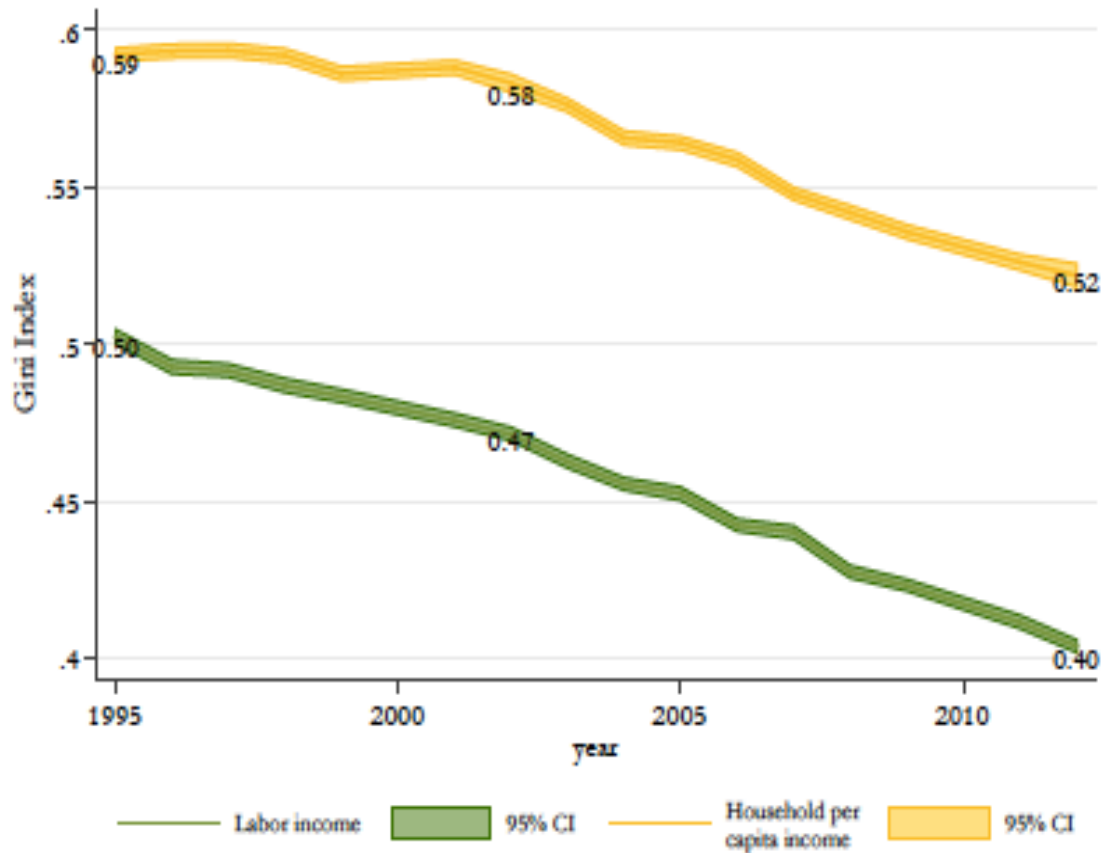


# Brazil: Decline in Inequality (Gini)



Wang, Yang. 2013. "Decomposing the Changes in Male Wage Distribution in Brazil." Tulane University, Ph.D. field paper

Figure 2: Household incomes and labour earnings in Brazil, 1995-2012: inequality.

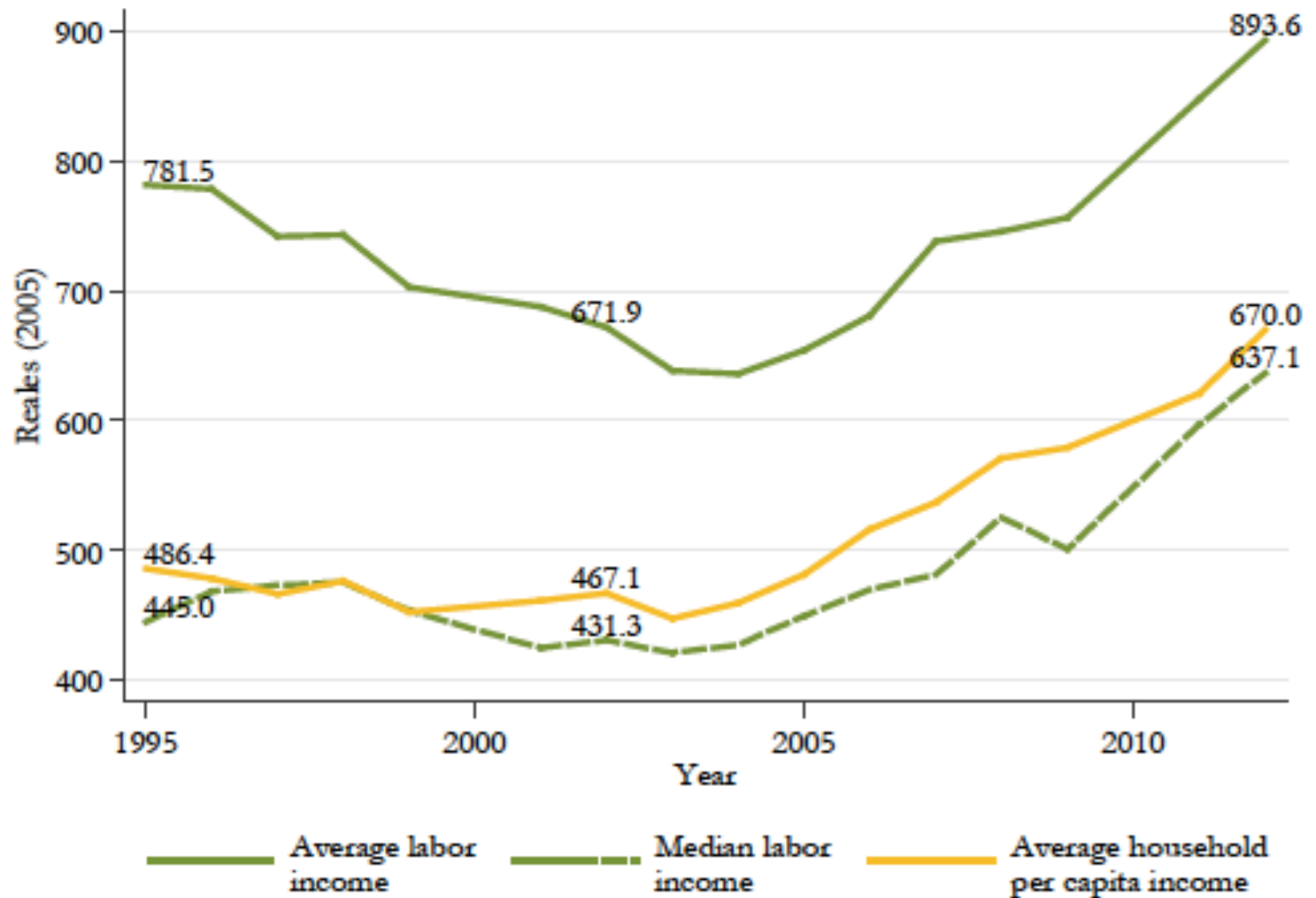


# Brazil: Decline in Wage Inequality

**Table 1: Dispersion of Real Wages: 2002-2011, Male aged 16-65**

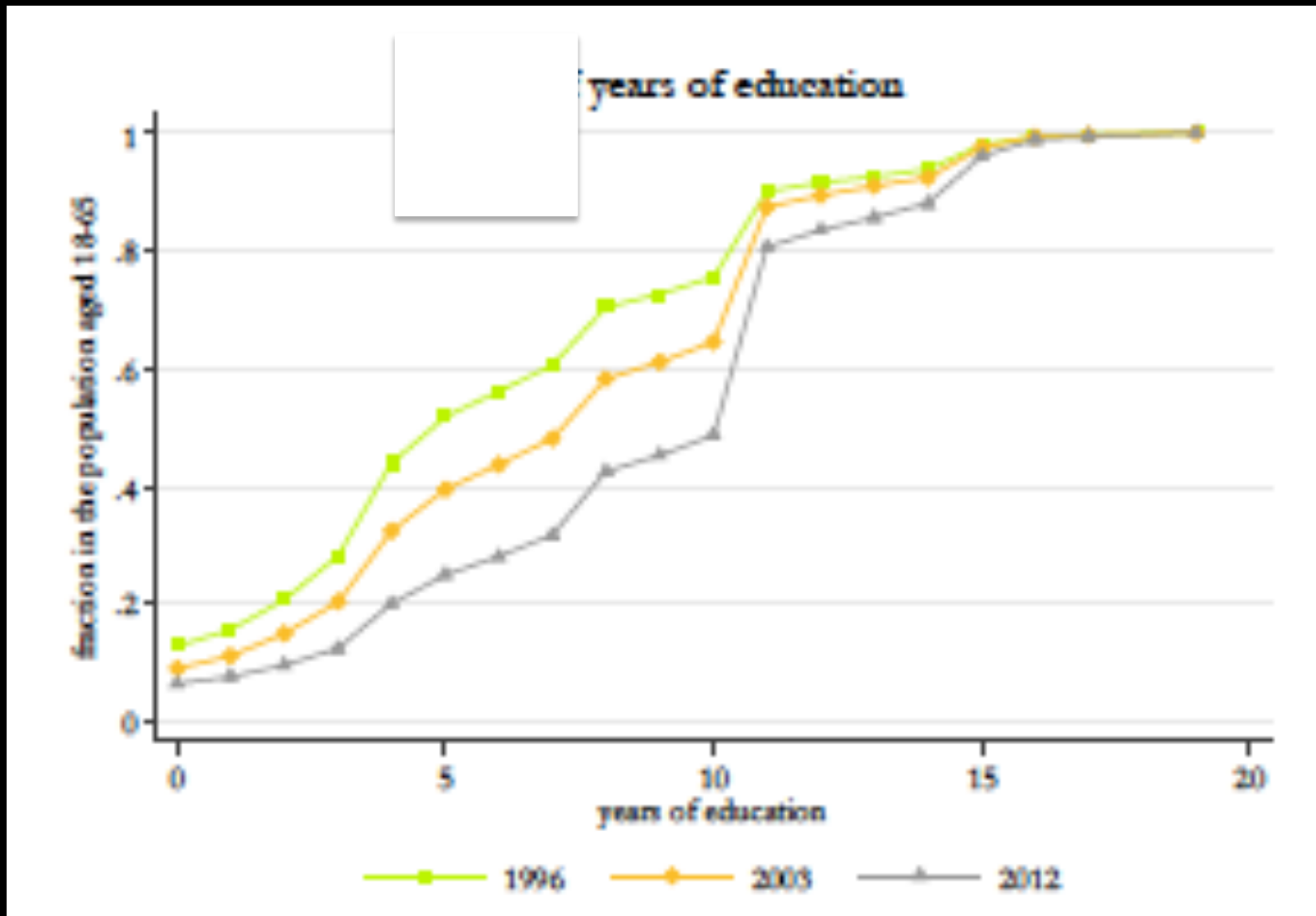
	2002	2003	2004	2005	2006	2007	2008	2009	2011
	Hourly Wage								
<i>Male Sample</i>									
Mean	4.63	4.38	4.25	4.35	4.57	4.65	4.80	4.98	5.15
Median	2.50	2.41	2.42	2.39	2.55	2.66	2.79	2.91	3.11
Gini	0.52	0.51	0.50	0.50	0.50	0.49	0.48	0.48	0.47
Theil	0.57	0.54	0.52	0.53	0.54	0.52	0.51	0.53	0.48
90-10	7.79	7.27	7.05	6.60	6.75	6.12	6.11	6.00	5.60
50-10	2.08	2.01	2.00	1.83	1.87	1.84	1.85	1.82	1.79
90-50	3.75	3.62	3.53	3.60	3.60	3.33	3.30	3.30	3.13
Obs	44097	43480	47187	49734	51479	51519	53825	55138	49419

**Figure 1: Household incomes and labour earnings in Brazil, 1995-2012: levels.**



Source: Ferreira et al. (2014)

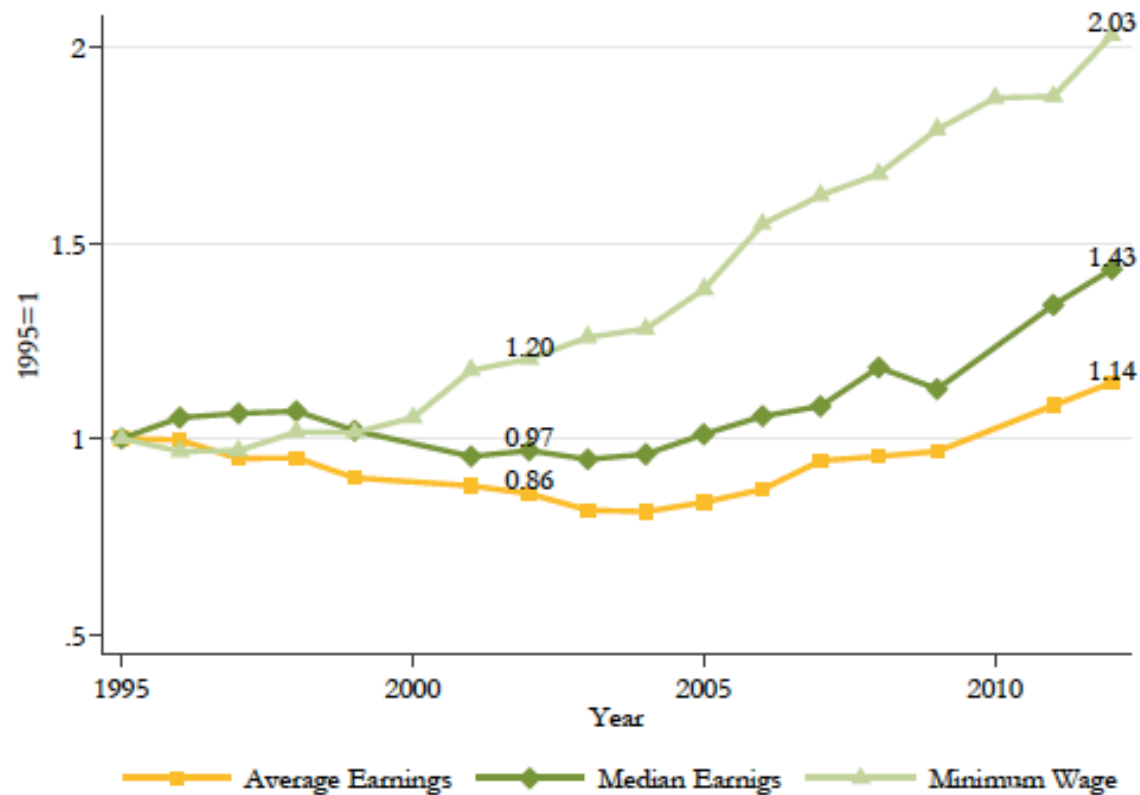
# Brazil: Expansion of Education



Source: Ferreira et al. (2014)

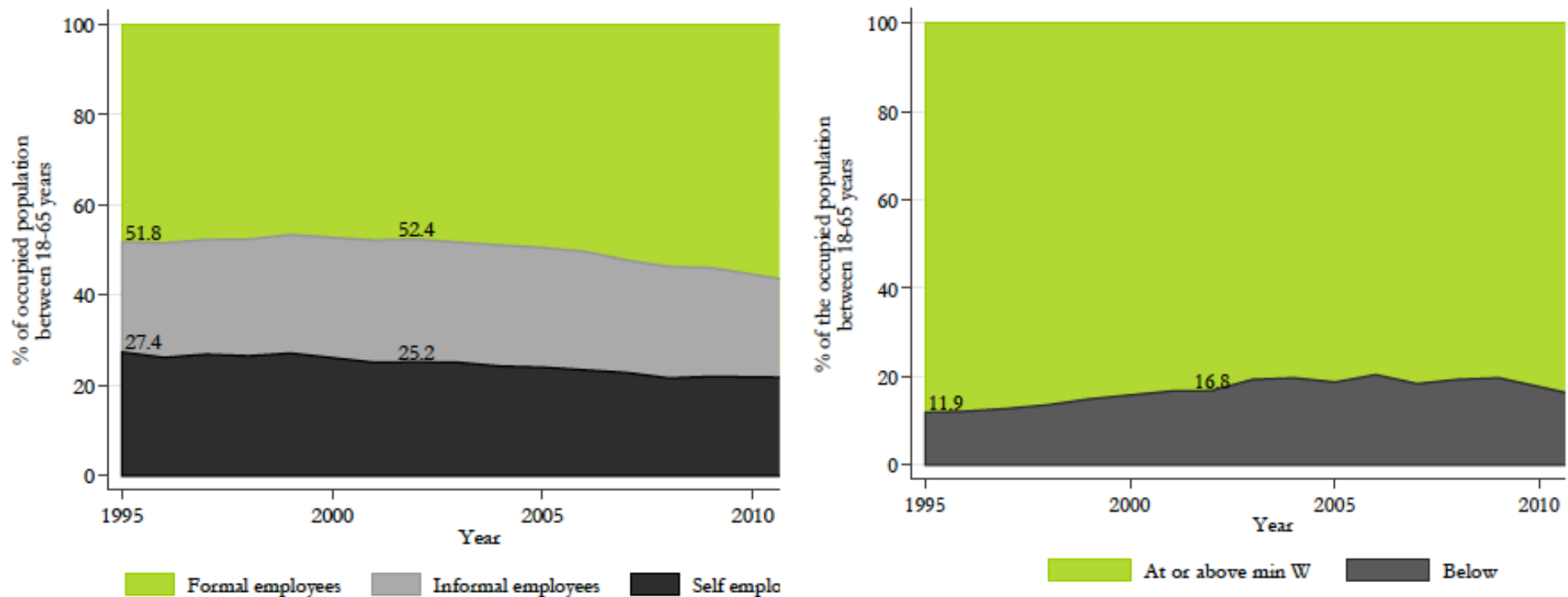
# Brazil: Rising minimum wage

Figure 5: Minimum wages and the evolution of earnings: 1995-2012.



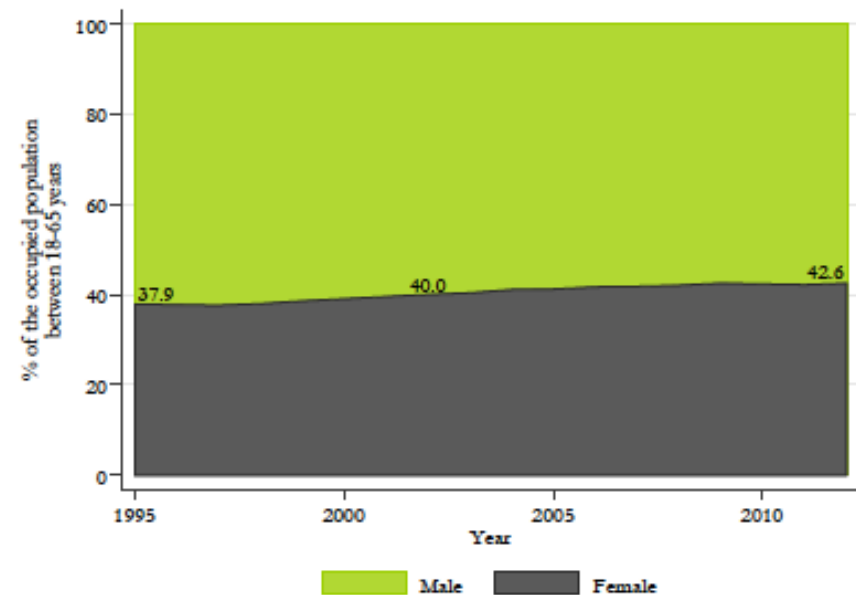
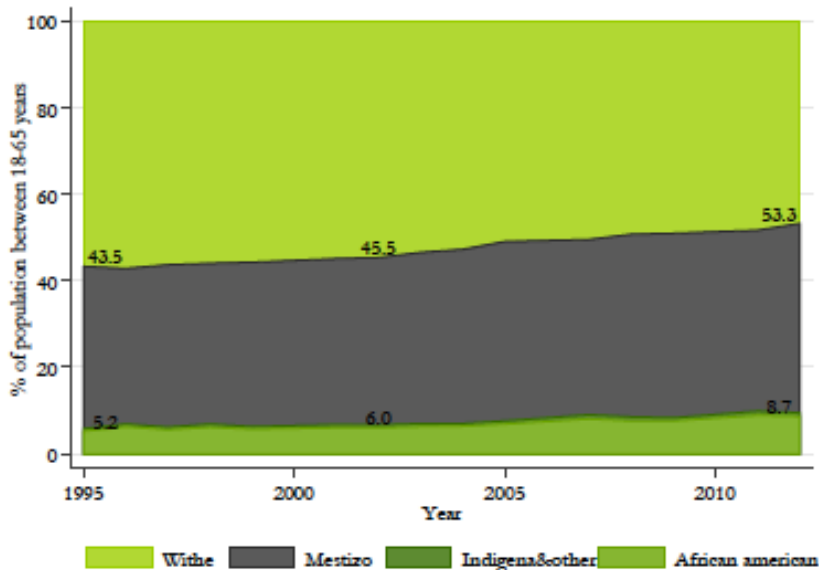
# Brazil: Formalization

Figure 7: Formalization and the minimum wage, 1995-2012.



# Brazil: Race and Gender

Figure 8: Demographic changes in the working-age population, 1995-2012.



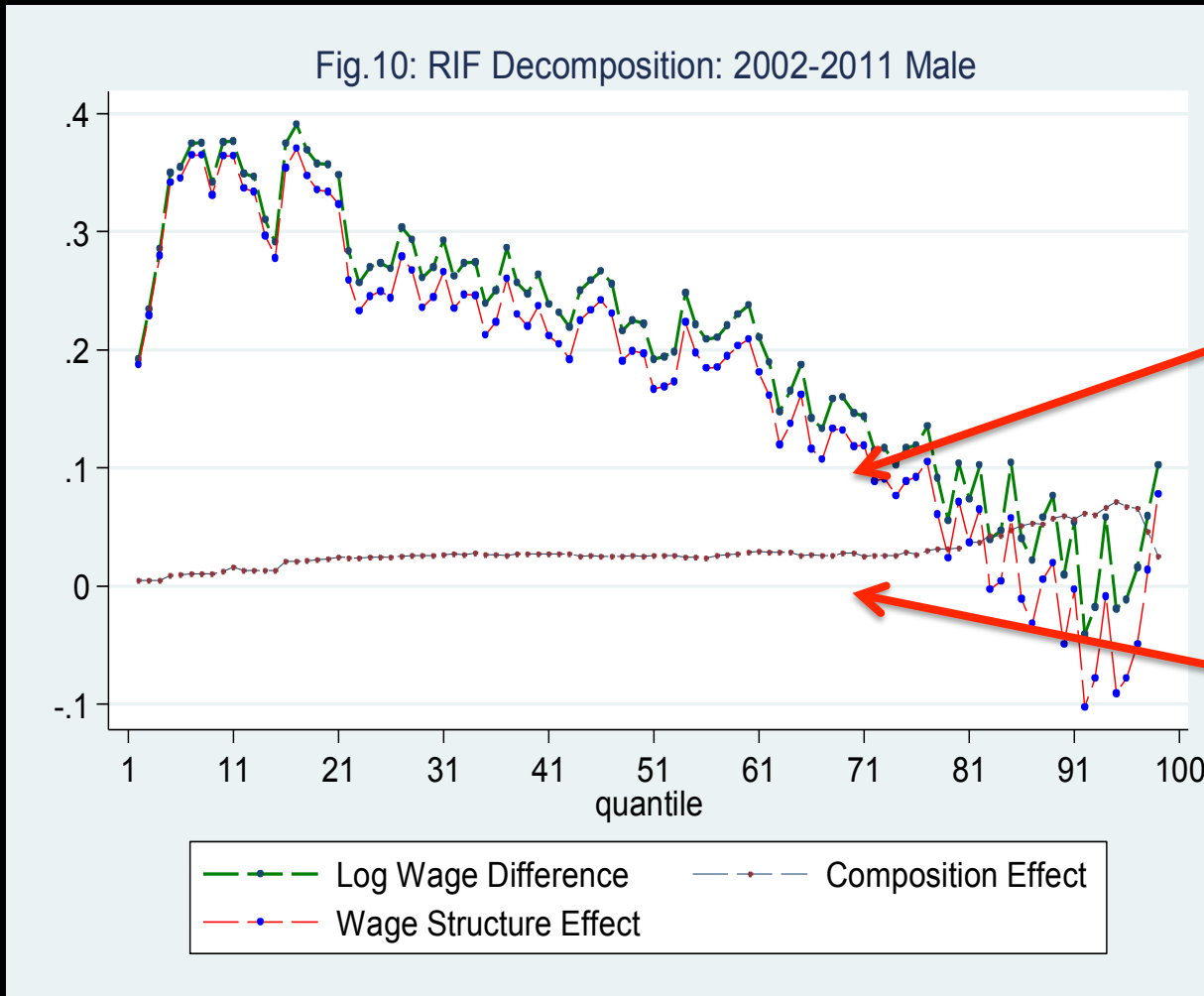


# Brazil: decomposing just for human capital

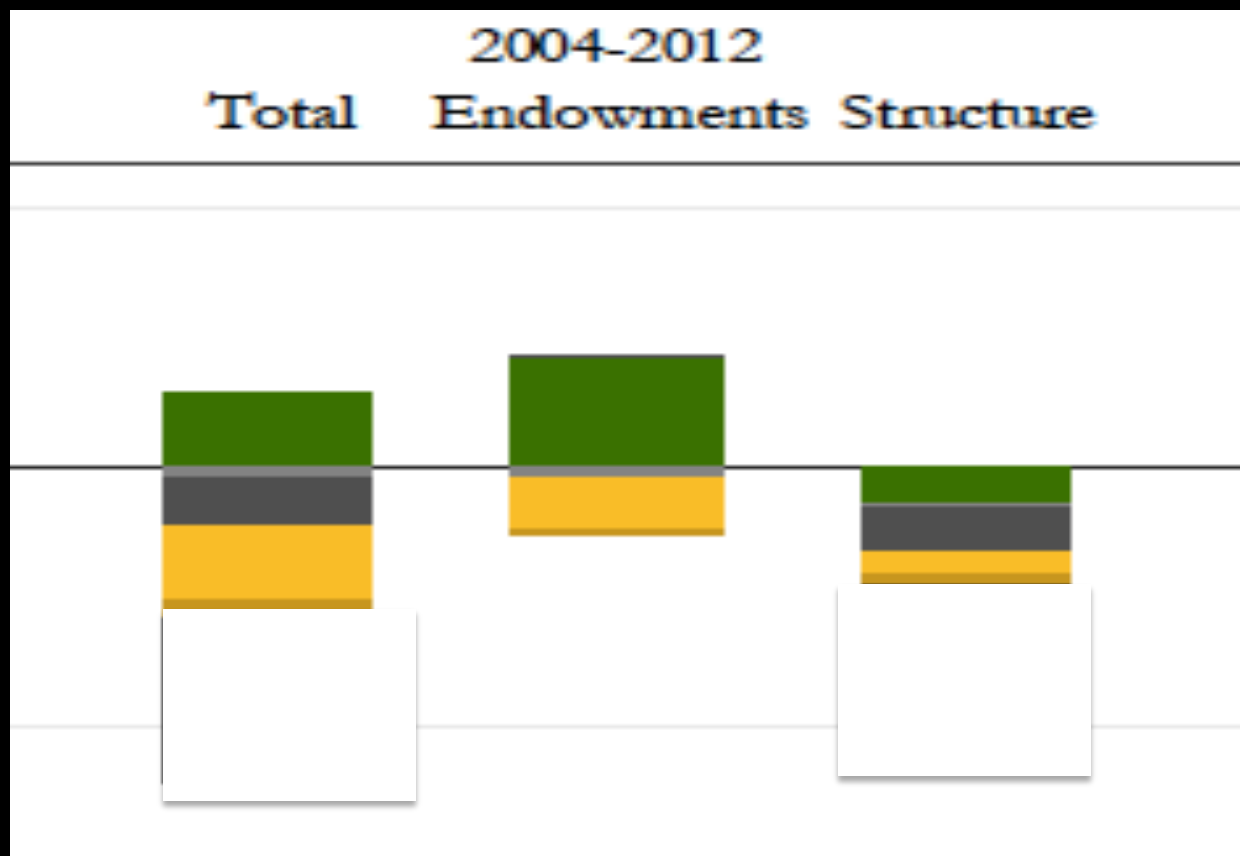
- Decomposition of change in wage inequality:
  - Pay Structure Effect: Change in Relative Wages => Equalizing
  - Endowment Effect: Change in Composition for Education and Experience => Slightly Unequalizing ( “paradox of progress” )

## Brazil (2002-2011):

- Relative Wages  
=> Equalizing
- Composition Education & Experience  
=> Slightly Unequalizing



# Brazil: Decomposing: human capital, gender/ race, urban/rural, minimum wage, informality



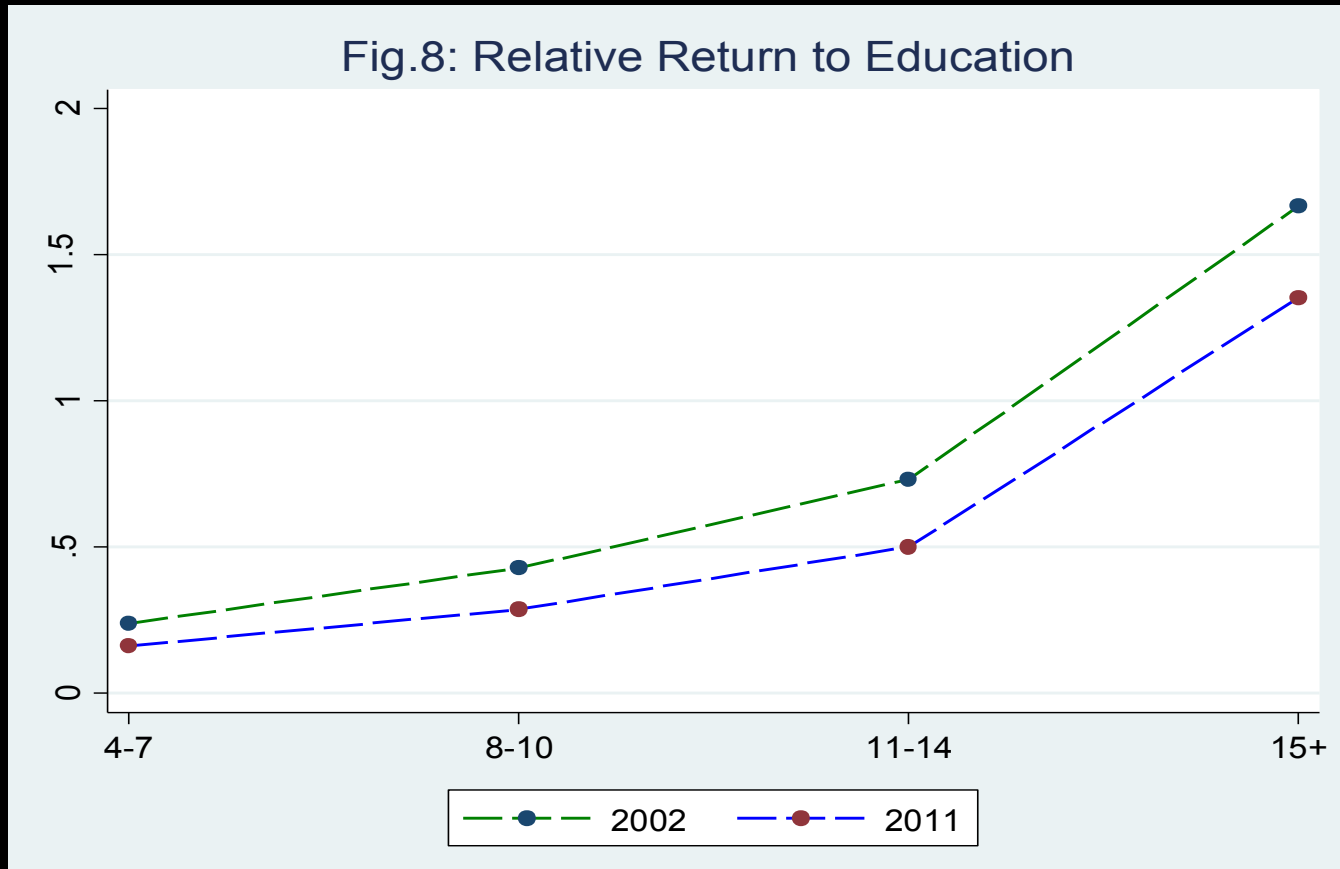
■ Human Capital ■ Gender&Race ■ Urban/Rural&Regions ■ Min wage ■ Informality

Source: Ferreira et al. (2014)

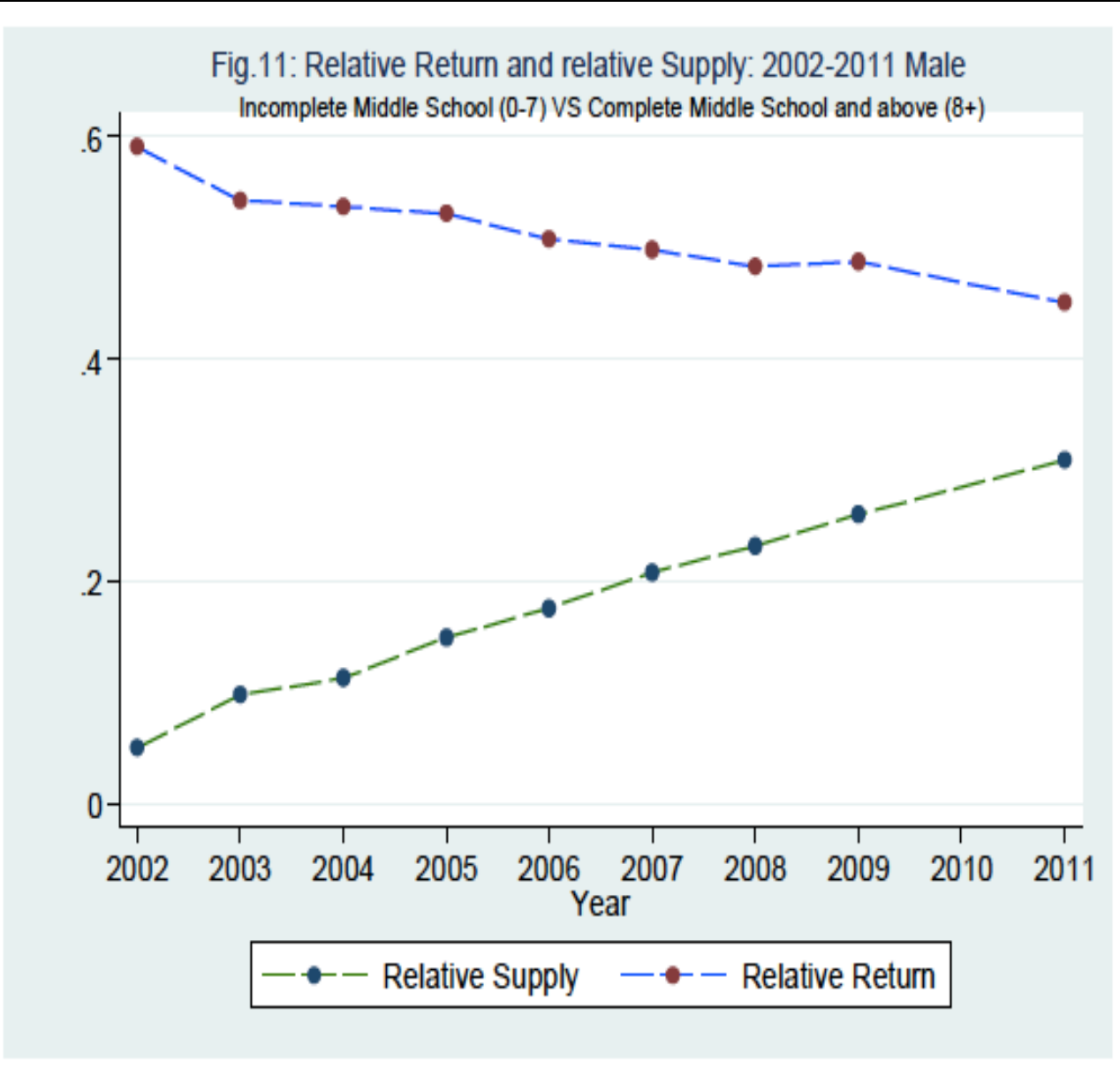
# Zooming in: Brazil

- Relative Wages effect:
  - Increase in relative supply of skilled workers (educational expansion)
  - Increase in relative demand of low-skilled workers (agricultural commodity boom)
  - Rising minimum wages
  - Declining absolute real wages for workers with tertiary => degraded tertiary or skills obsolescence?

# Brazil: Decline in relative returns to education

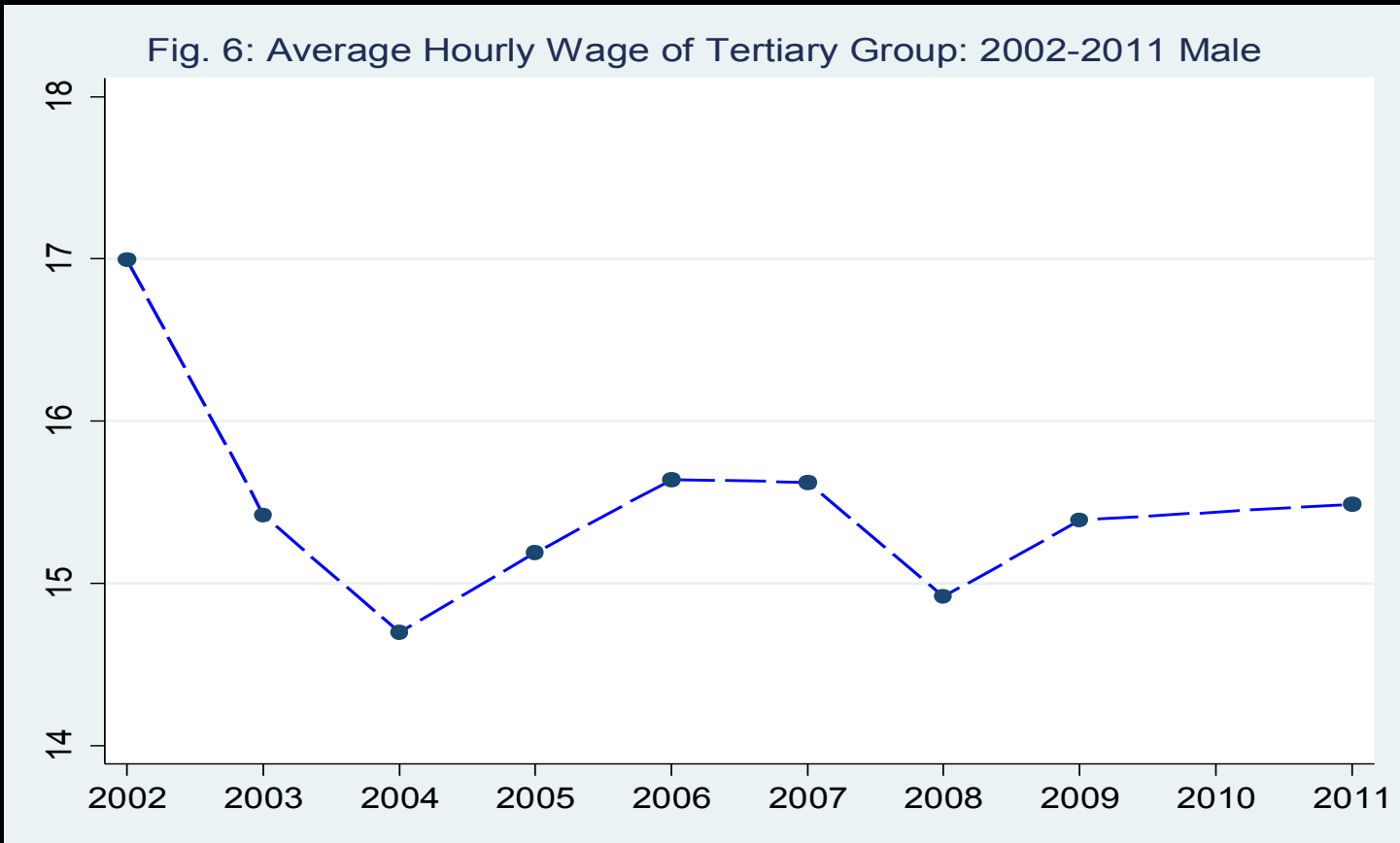


Brazil: Decline in skill premium coincides with the expansion of the relative supply of workers with post secondary education



Wang, Yang. 2013. "Decomposing the Changes in Male Wage Distribution in Brazil." Tulane University, Ph.D. field paper

# Brazil: Decline in real wages for workers with tertiary



# Zooming in Mexico

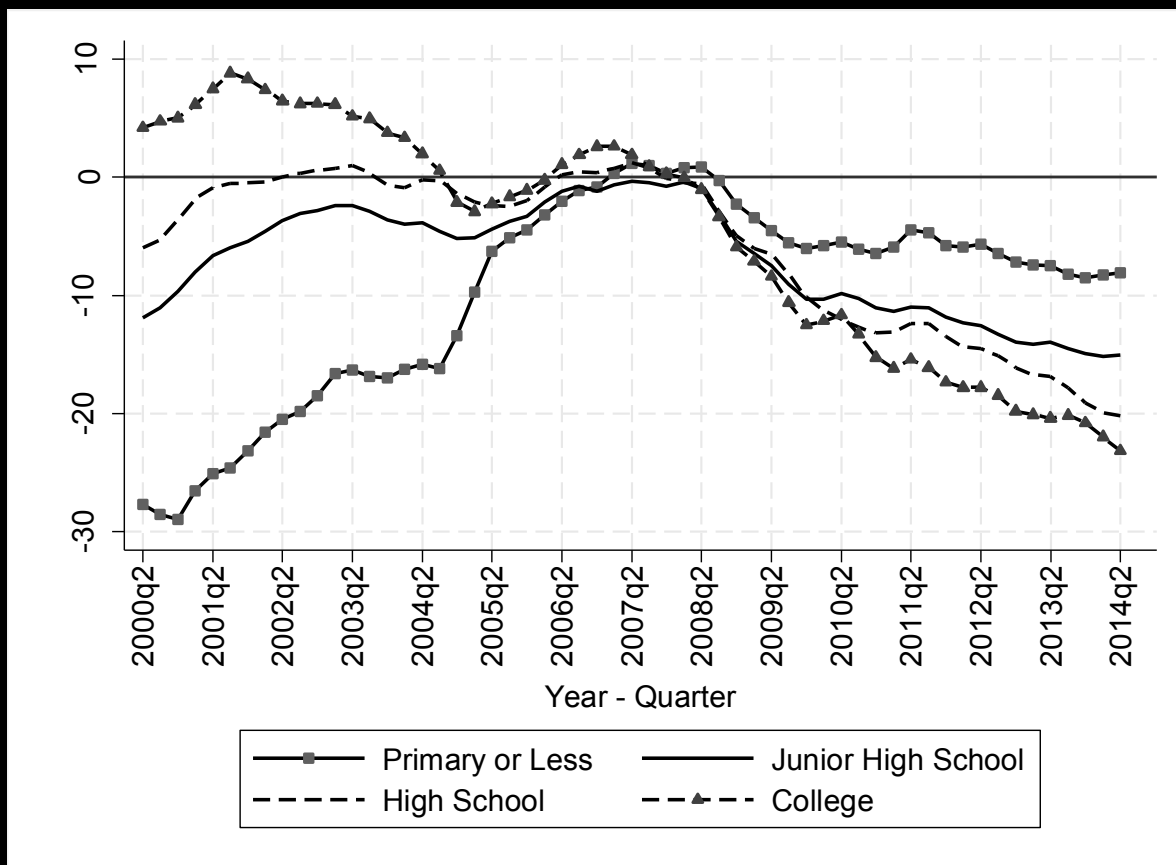


# Mexico: Decline in Inequality (Gini)



Campos, R., G. Esquivel and N. Lustig. 2014. "The Rise and Fall of Income Inequality in Mexico, 1989–2010," Chapter 7 in Giovanni Andrea Cornia, ed., *Falling Inequality in Latin America: Policy Changes and Lessons*, WIDER Studies in Development Economics, Oxford University Press,

# Mexico: Wages by Education Level Difference in Log Hourly Wage. Base Period 2008:1

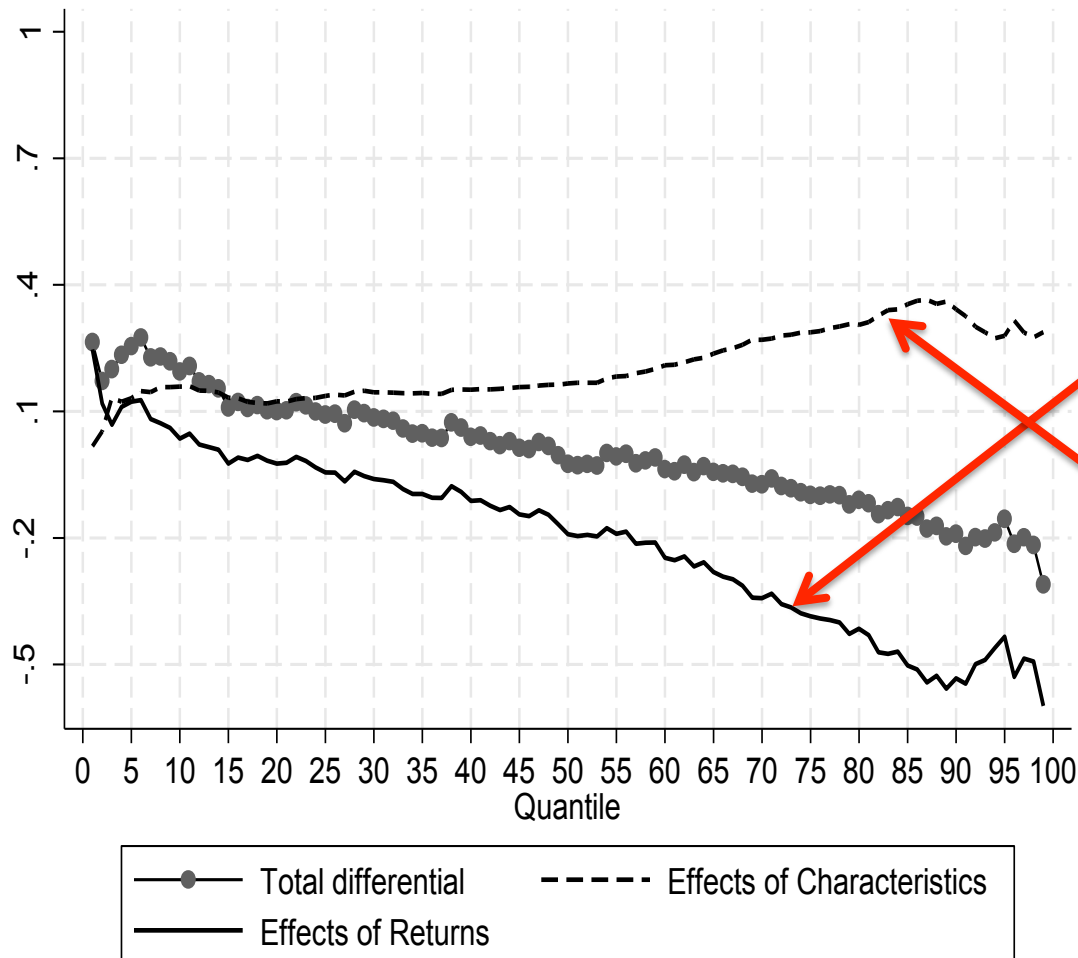


Campos, Lopez-Calva and Lustig “Declining wages for college-educated workers in Mexico: disentangling the age, cohort and education effects,” to be presented at *Latin American Inequality in the Long-run*, Buenos Aires, December 5, 2014

# Zooming in: Mexico

- Decomposition of change in wage inequality:
  - Pay Structure Effect: Change in Relative Wages => Equalizing
  - Endowment Effect: Change in Composition for Education and Experience => Slightly Unequalizing ( “paradox of progress” )

## Mexico (1996-2010):



- Relative Wages  
=> Equalizing
- Composition Education & Experience  
=> Slightly Unequalizing

# Zooming in: Mexico

## Change in Returns

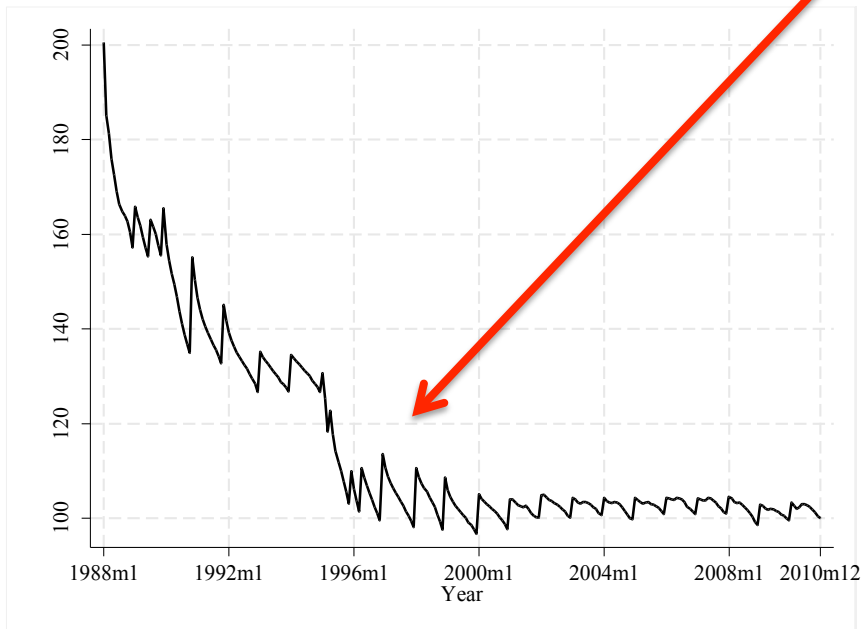
- Minimum wages and unionization no effect
- Increase in relative supply of skilled workers
- Degraded tertiary?
- Skills obsolescence?

Campos, Lopez-Calva and Lustig (in progress)

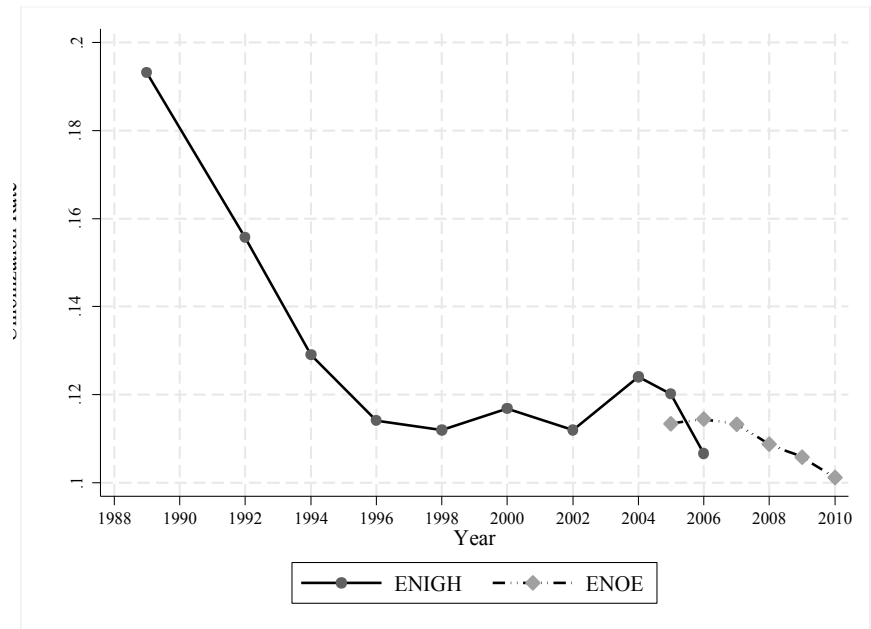
# In contrast to Brazil, in Mexico minimum wages did not increase at all...

## Real Minimum Wage and Unionization: 1988-2010

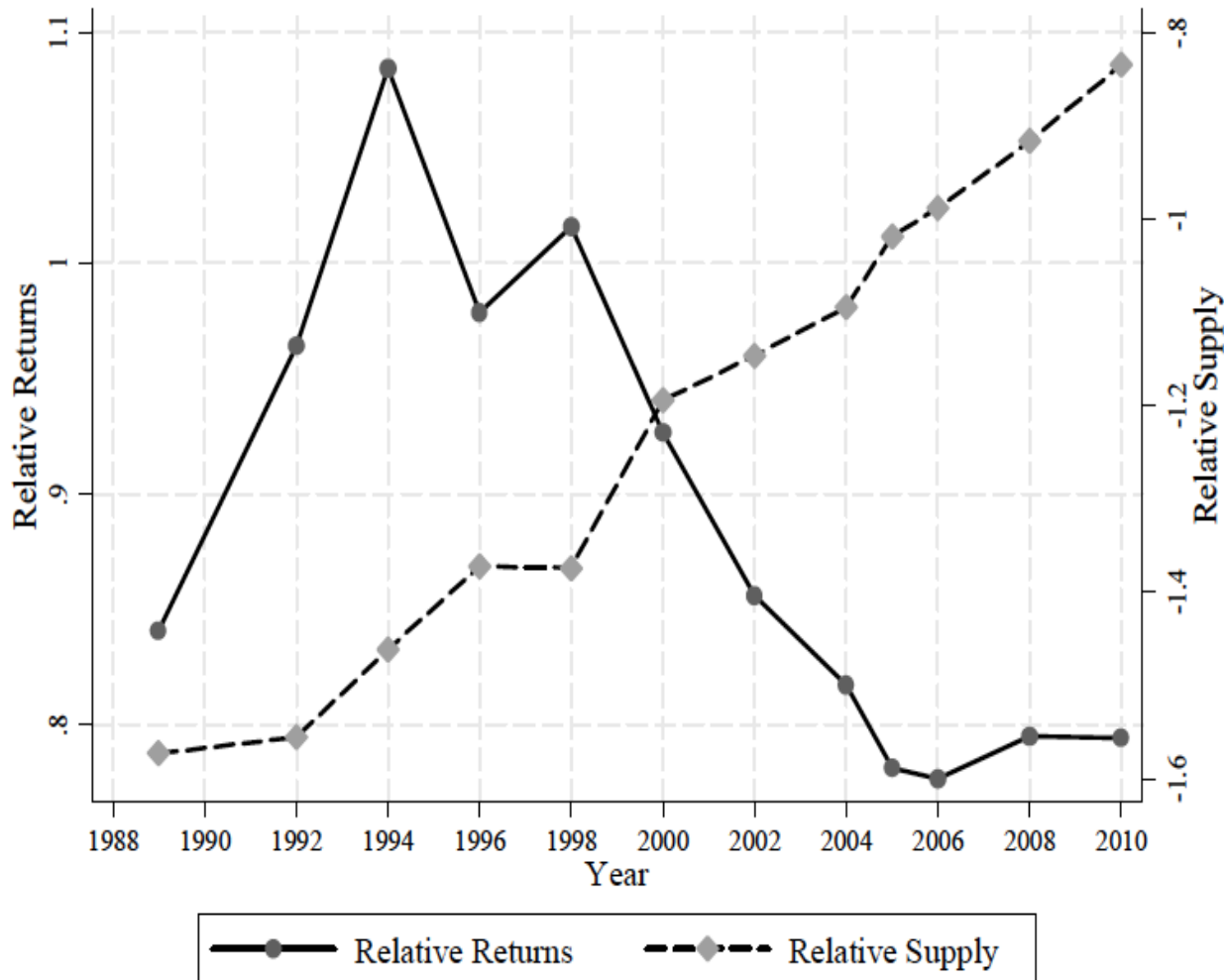
A. Real Minimum Wage Index (December 2010=100)



B. Unionization Rate



Campos, R., G. Esquivel and N. Lustig. 2014. "The Rise and Fall of Income Inequality in Mexico, 1989–2010," Chapter 7 in Giovanni Andrea Cornia, ed., *Falling Inequality in Latin America: Policy Changes and Lessons*, WIDER Studies in Development Economics, Oxford University Press,



Mexico:  
Decline in  
skill premium  
coincides with the  
expansion of the  
relative supply of  
workers with post  
secondary  
education

# Mexico: Average Monthly Earnings for College-Educated Workers



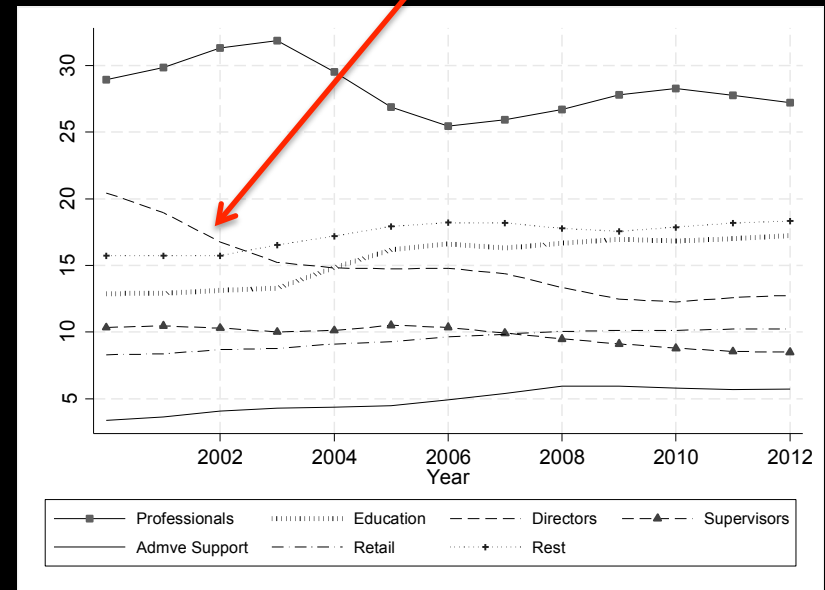
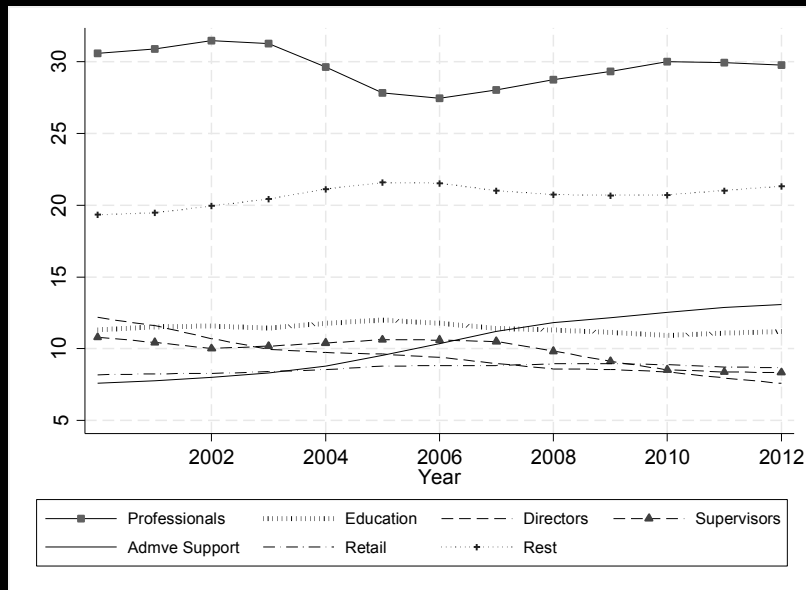
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# Mexico: Employment Structure of College-Educated Workers

A. Age 23-44

B. Age 45-65

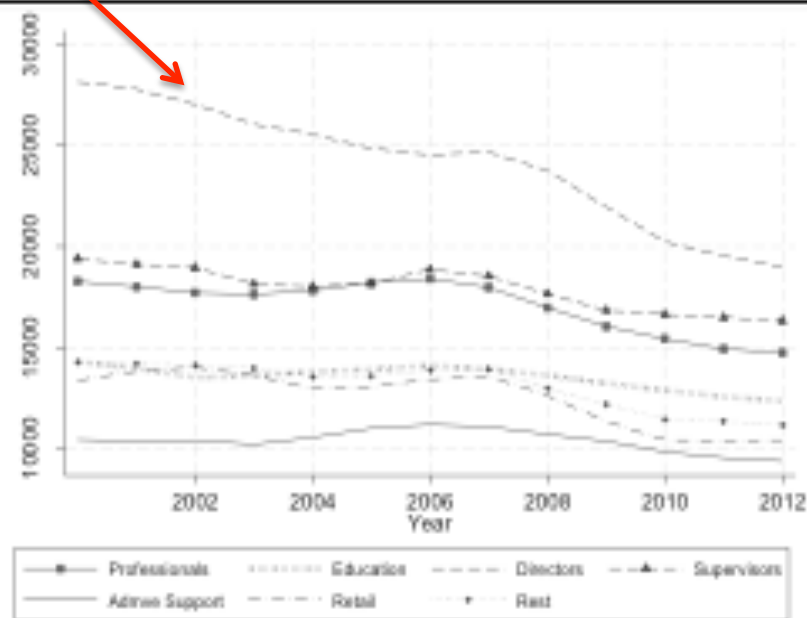
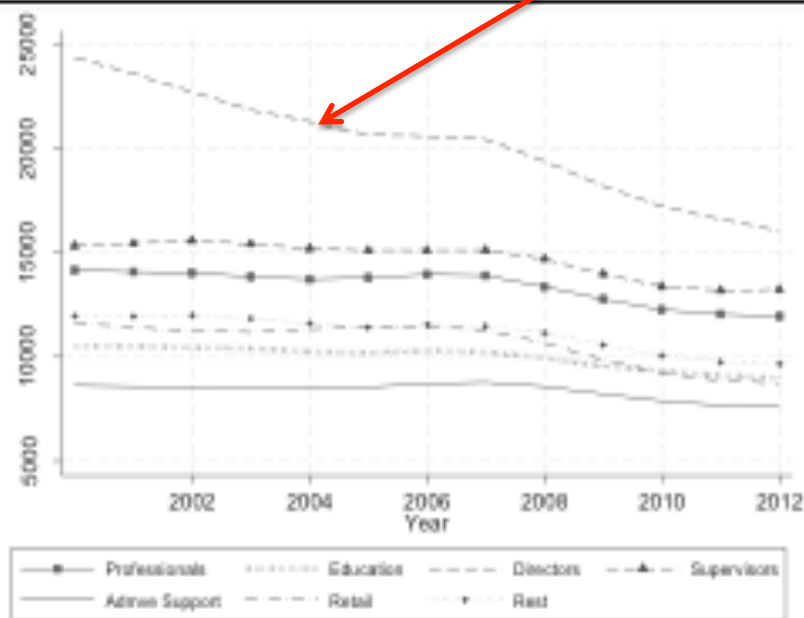


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# Mexico: Earnings by profession of College-Educated Workers

A. Age 23-44

B. Age 45-65



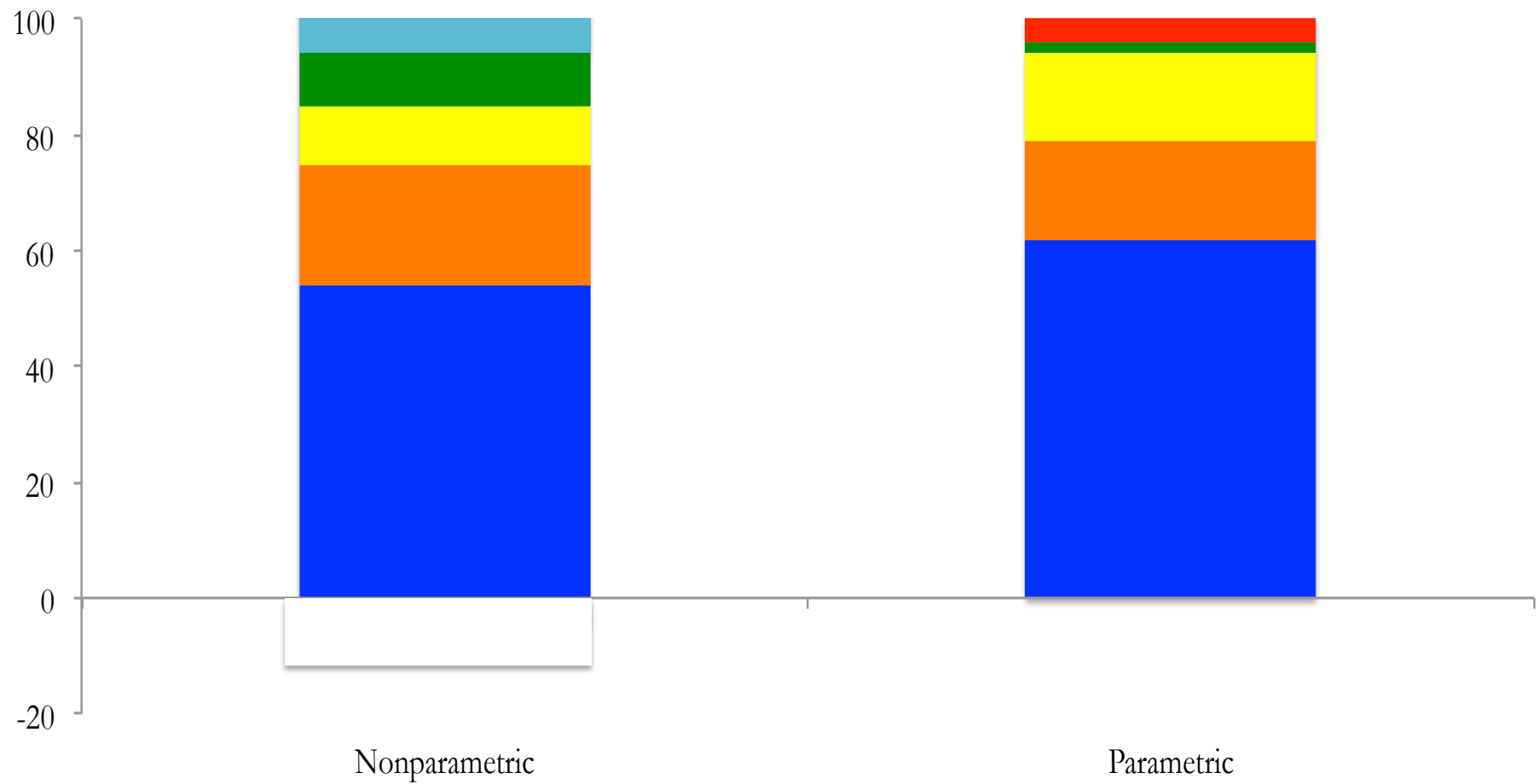
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# Transfers and Declining Inequality

# How redistributive are Latin American governments?

- Decomposition of changes in inequality by income source show that transfers is, on average, the second most important proximate determinant of decline in overall inequality
  - 17 or 21 percent on average

[www.commitmentoequity.org](http://www.commitmentoequity.org)



**Labor income**

**Transfers**

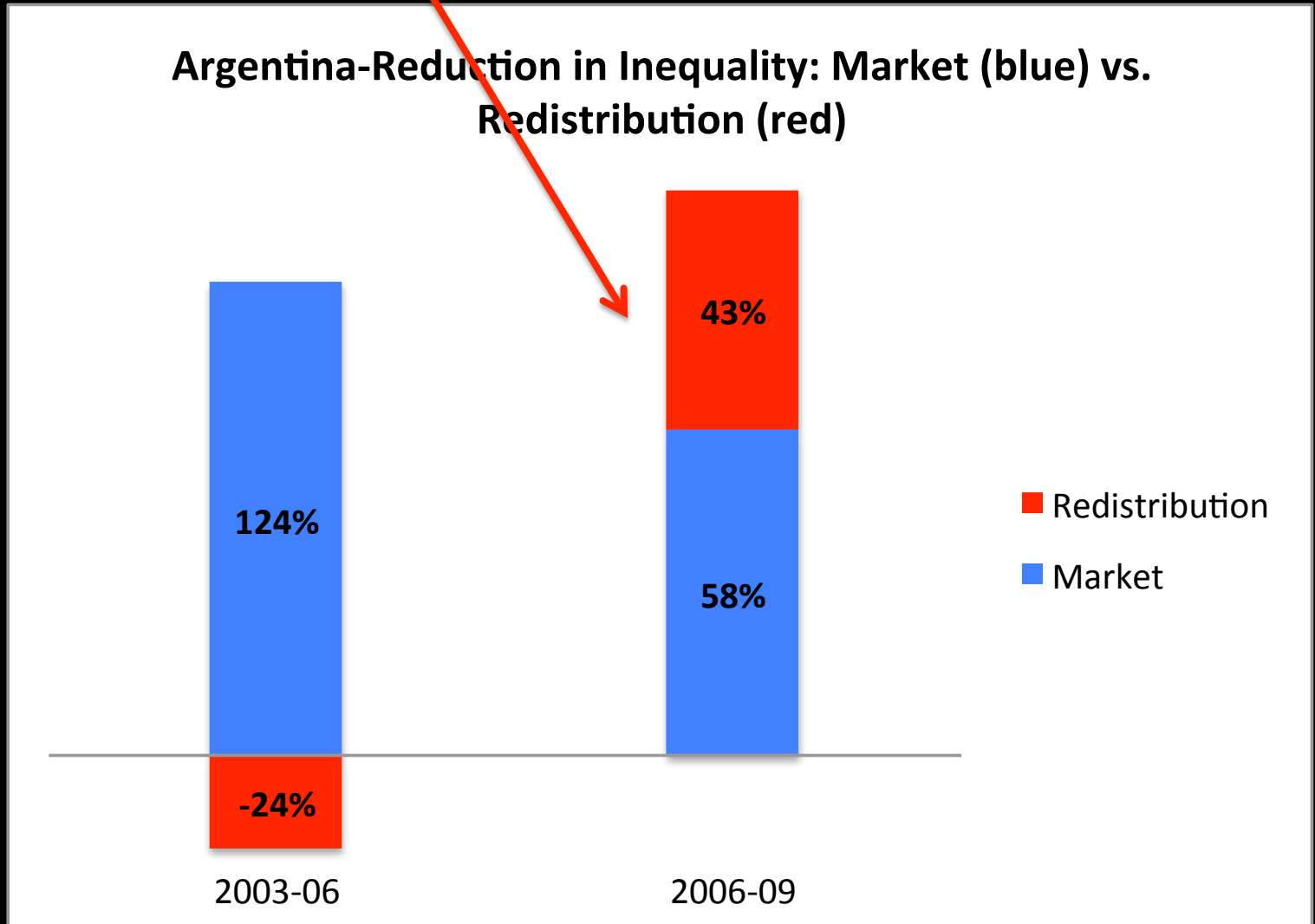
**Other non-labor income**

**Pensions**

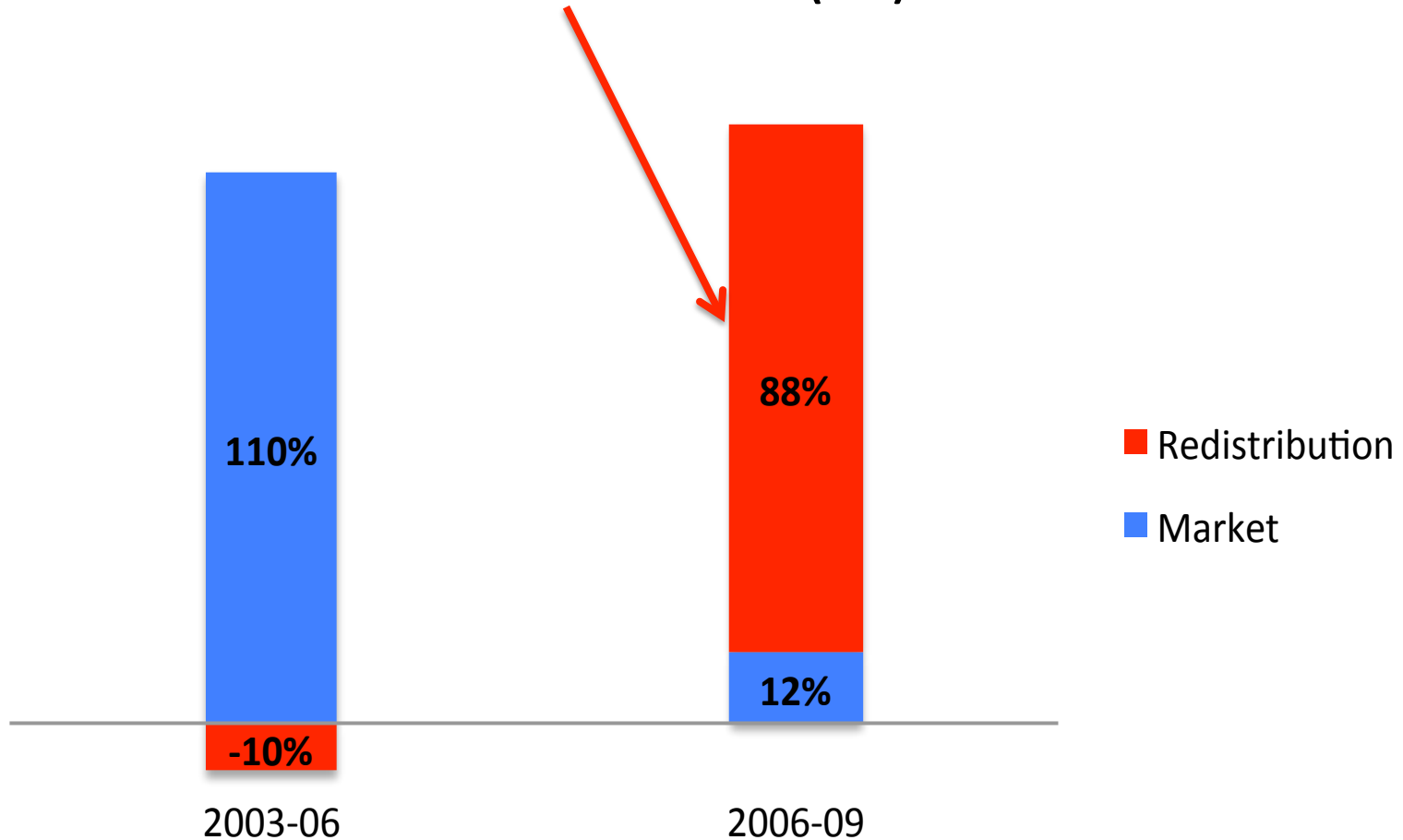
**Capital**

**Adult population**

# Argentina: Rising role of transfers



## Argentina-Reduction in Poverty: Market (blue) vs. Redistribution (red)



# Mexico: Rising role of transfers

Mexico: The impact of cash transfers on inequality and poverty, 1996, 2000 and 2010

		Net market income	Disposable income
1996	Gini	0.522	0.520
	% change with respect to net market income	—	-0.4%
	Headcount index (\$2.5 PPP)	30.2%	29.9%
	% change wrt net market income	—	-1.0%
2000	Gini	0.544	0.539
	% change wrt net market income	—	-0.9%
	Headcount index (\$2.5 PPP)	22.1%	21.6%
	% change with respect to net market income	—	-2.3%
2010	Gini	0.503	0.495
	% change wrt net market income	—	-1.7%
	Headcount index (\$2.5 PPP)	13.8%	11%
	% change with respect to net market income	—	20.1%

Campos, R., G. Esquivel and N. Lustig. 2014. "The Rise and Fall of Income Inequality in Mexico, 1989–2010," Chapter 7 in Giovanni Andrea Cornia, ed., *Falling Inequality in Latin America: Policy Changes and Lessons*, WIDER Studies in Development Economics, Oxford University Press,



Thank you!

# References

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