
Growth, Inequality and Poverty in post-NAFTA Mexico

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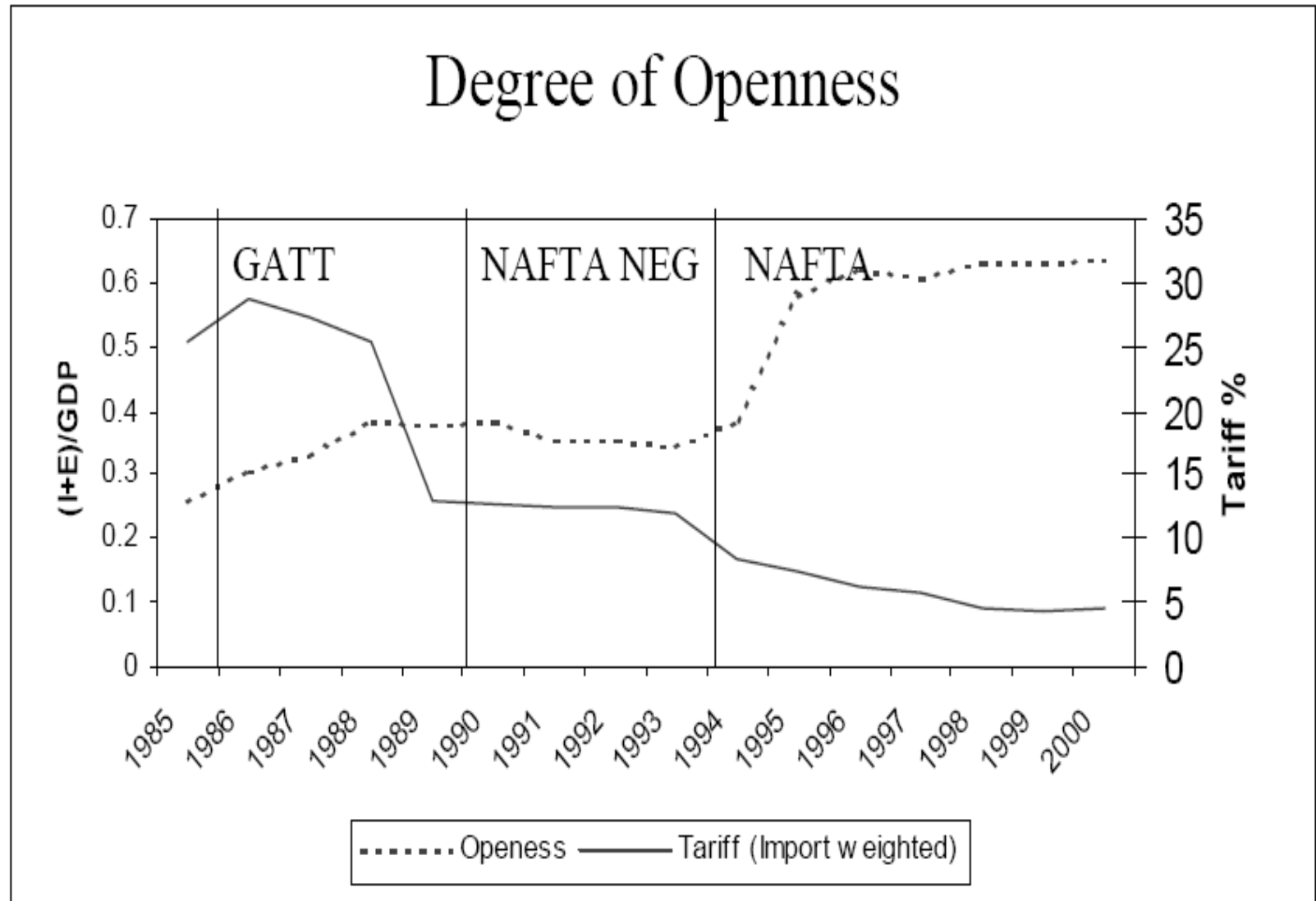
“NAFTA at Fifteen”

March 27, 2009, GWU

Post-NAFTA Mexico

- **Economic Growth**
- **Distribution of Household Income**
- **Incidence of Poverty**

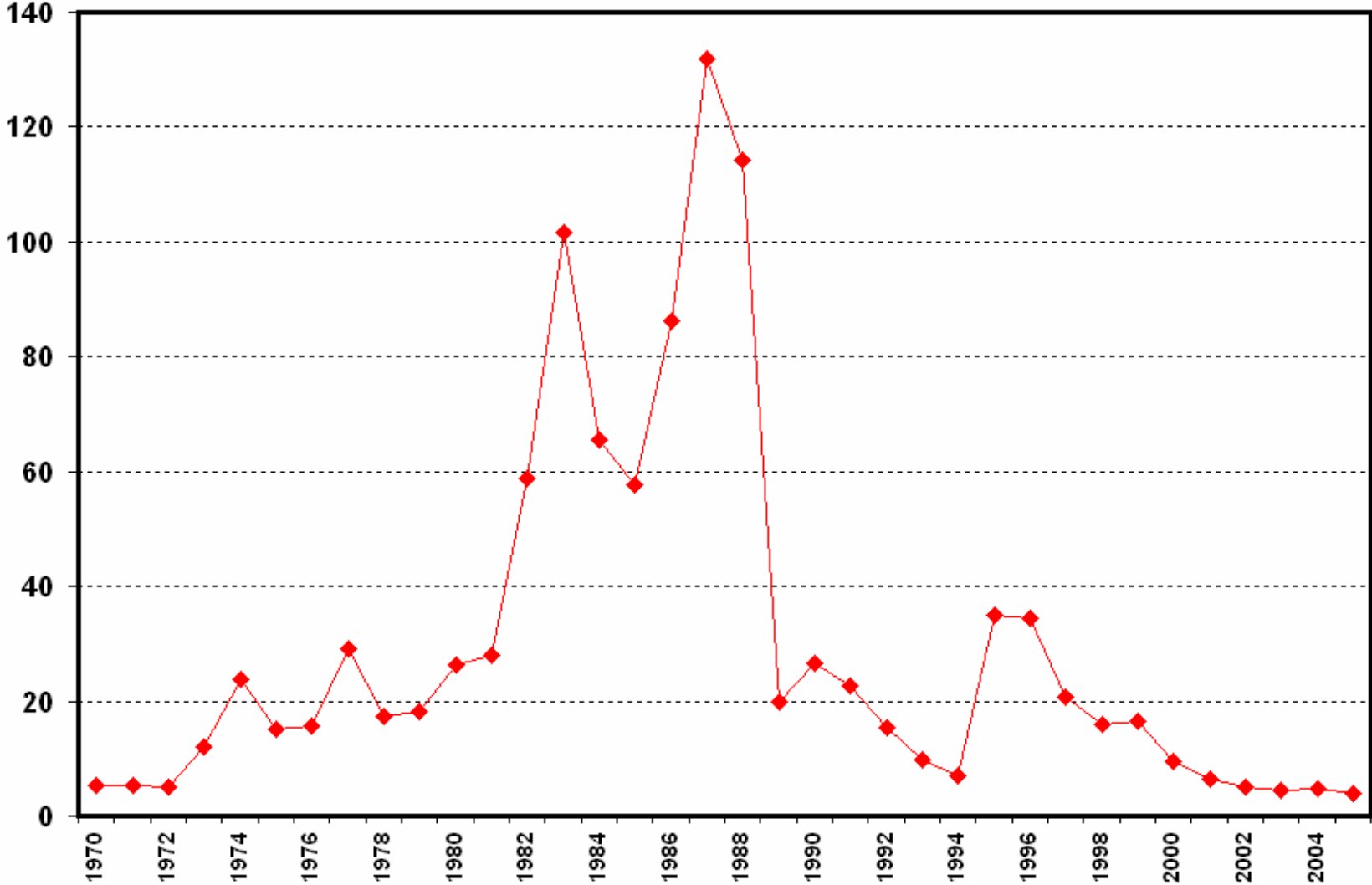
Figure 2.1 – Mexico's degree of Openness



Since NAFTA came into effect...

- **Macroeconomic stability: +**
 - Controlling inflation
 - Ability to withstand external shocks
 - Except for 1995 peso crisis
- **Economic growth: -**
 - GDP growth has been lackluster
 - Productivity has not increased beyond the sectors integrated with the global economy
 - No signs of convergence with US; but correlation with US business-cycle rose
- **Poverty and inequality reduction: +**
 - Poverty has fallen
 - Income inequality has fallen
 - Regional disparities exacerbated (migration flows (internal)?)

Mexico: Annual Inflation



NAFTA was expected to contribute to Mexican growth through its impact on:

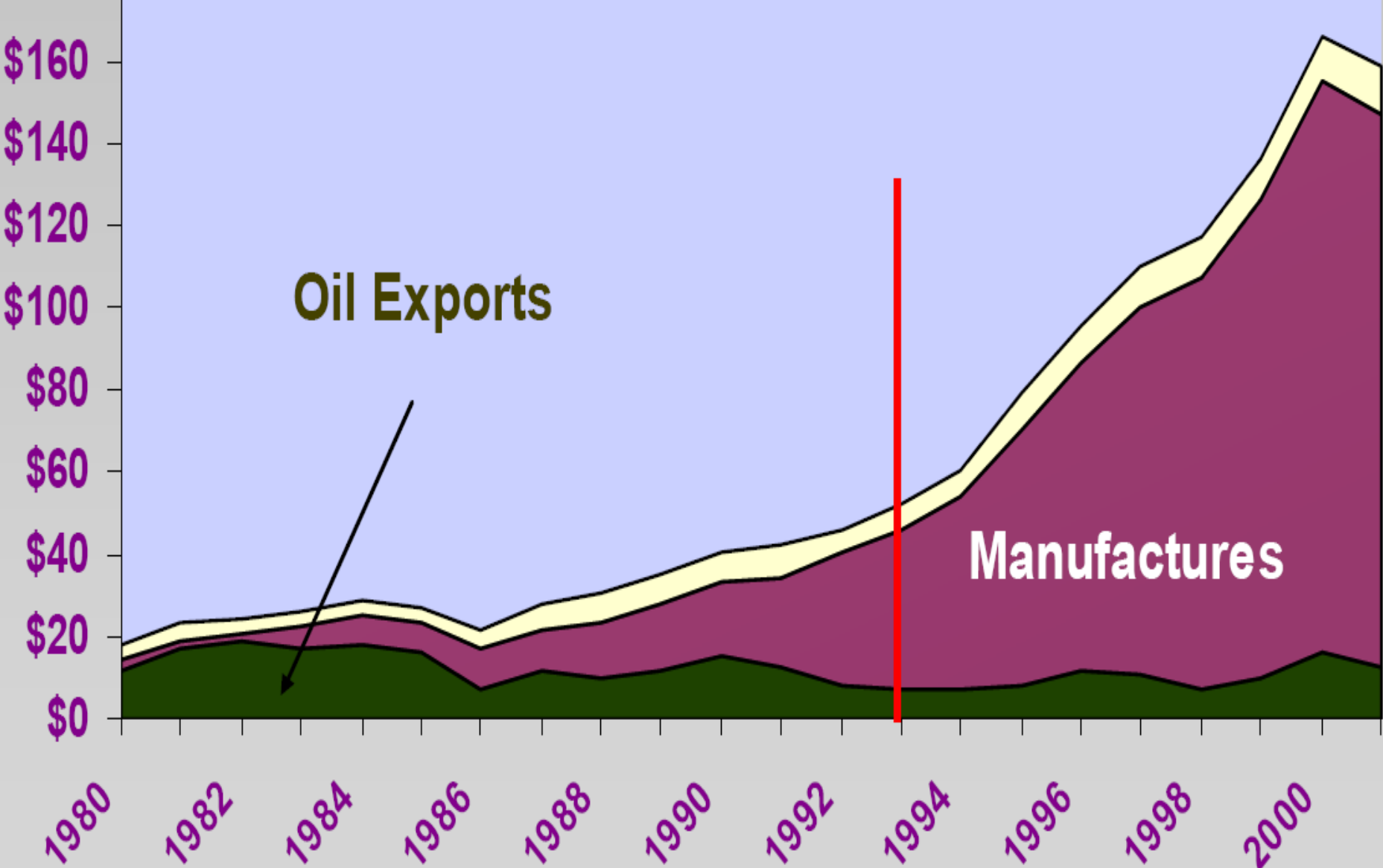
- **A more efficient allocation of resources**
- **Access to state-of-the-art technology**
- **Economies of scale (access to largest market)**
- **Competitiveness enhanced**
- **Boon to private investment**
- **Credibility of gov. policies enhanced**

**Export growth (average annual rate in percentage) and
Share of international trade in GDP (percent)**

	Before	After
Exp	NAFTA	NAFTA
Growth	5.8	11.1
	1982-1984	2001-2005
Export		
Share	27.0	58.2

(Moreno Bid and
Ros, 2009)

Mexico Exports (\$ billions)



Results have been disappointing in terms of growth, however

- **GDP growth per year:**

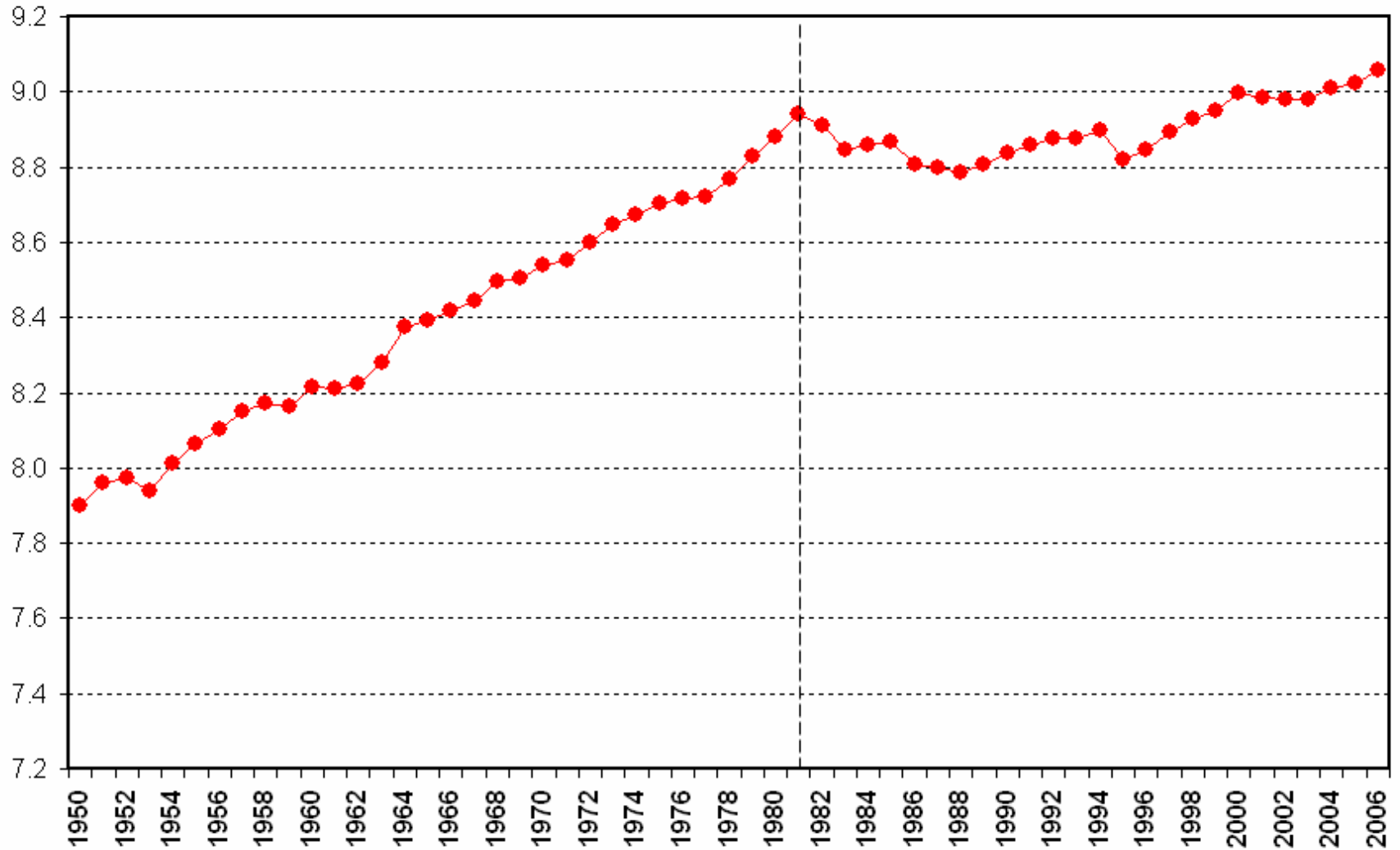
- 1960-79: 6.5%

- 1980-2003: 2.6%

- 1996-2003: 3.5%

Mexico: Real Income Per Capita, 1950-2006

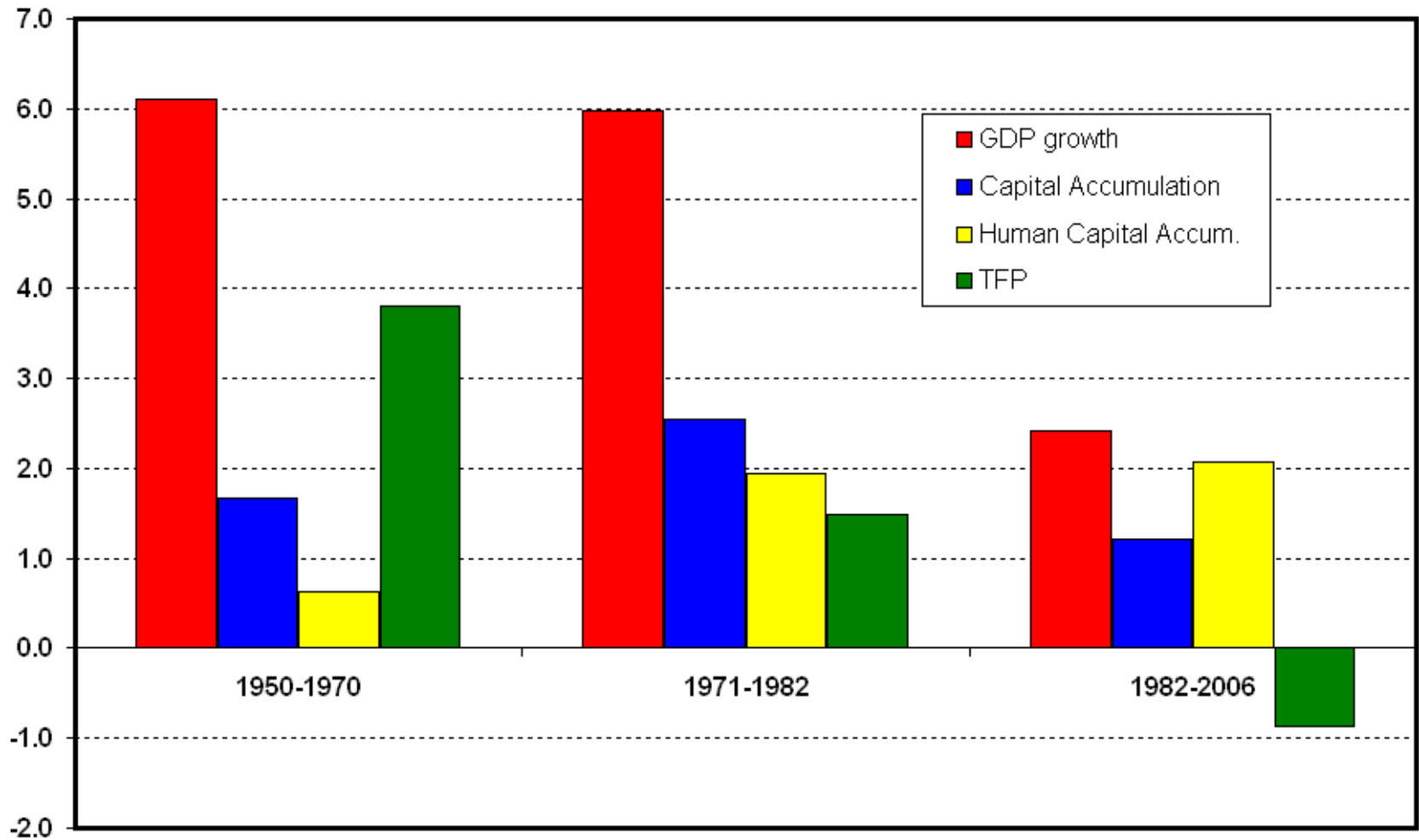
(in logs of constant dollars)



Total Factor Productivity

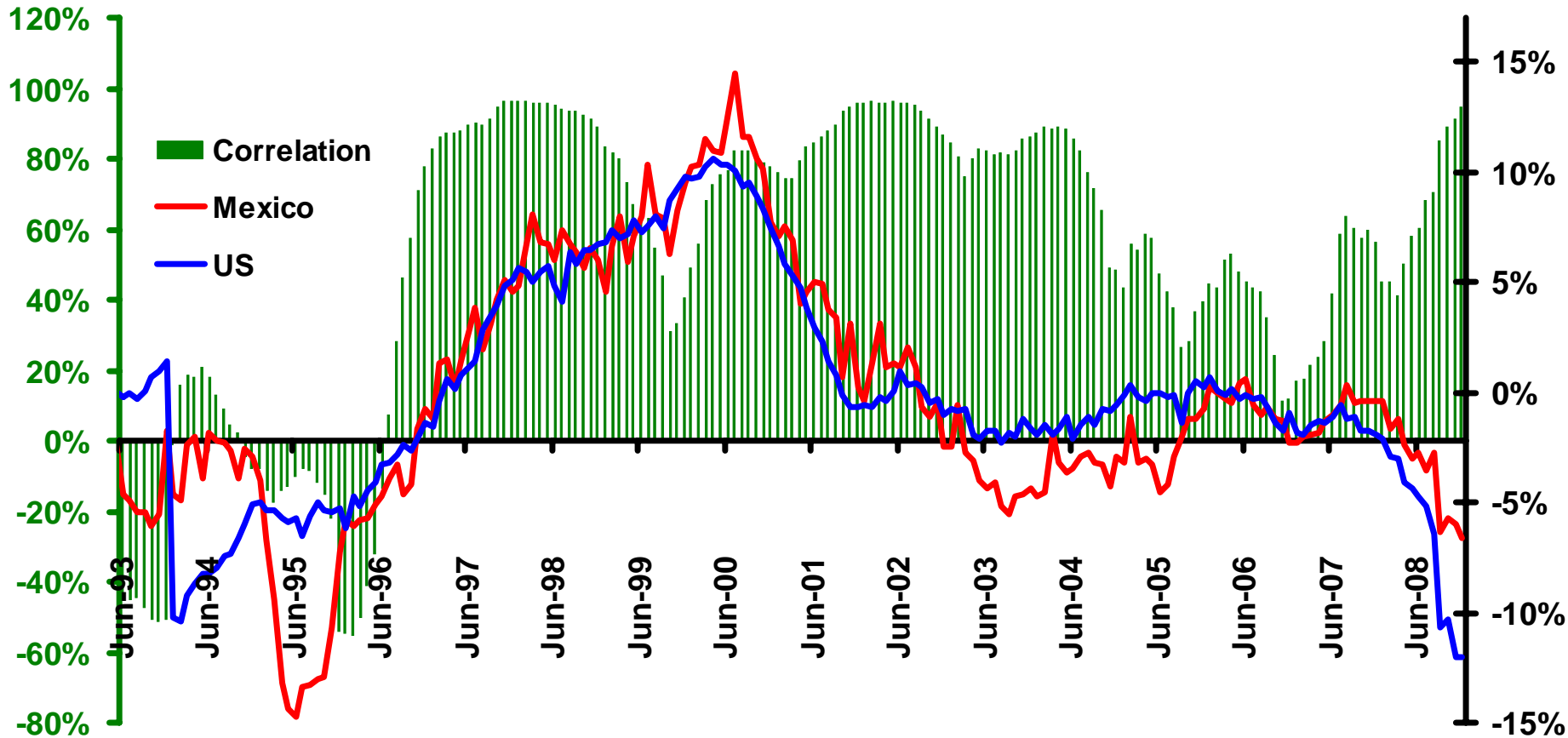
- Declined at a rate of 0.5% a year between 1980-2003, when GDP grew at 2.6 per year
- Explains two-thirds of the decline in the rate of GDP growth (reduction of 3.9 percentage pts. Comparing 1980-2003 to 1960-79) (Faal, 2005)
- Since NAFTA, TFP growth improved, but little:
 - Grew at 0.7% between 1996 and 2003
 - Contribution to overall growth 20%

Mexico: Growth Accounting 1950-2006



Source: García-Verdú (2007)

US and Mexico: correlation of business-cycles, manufacturing sector (Feliz, 2009)

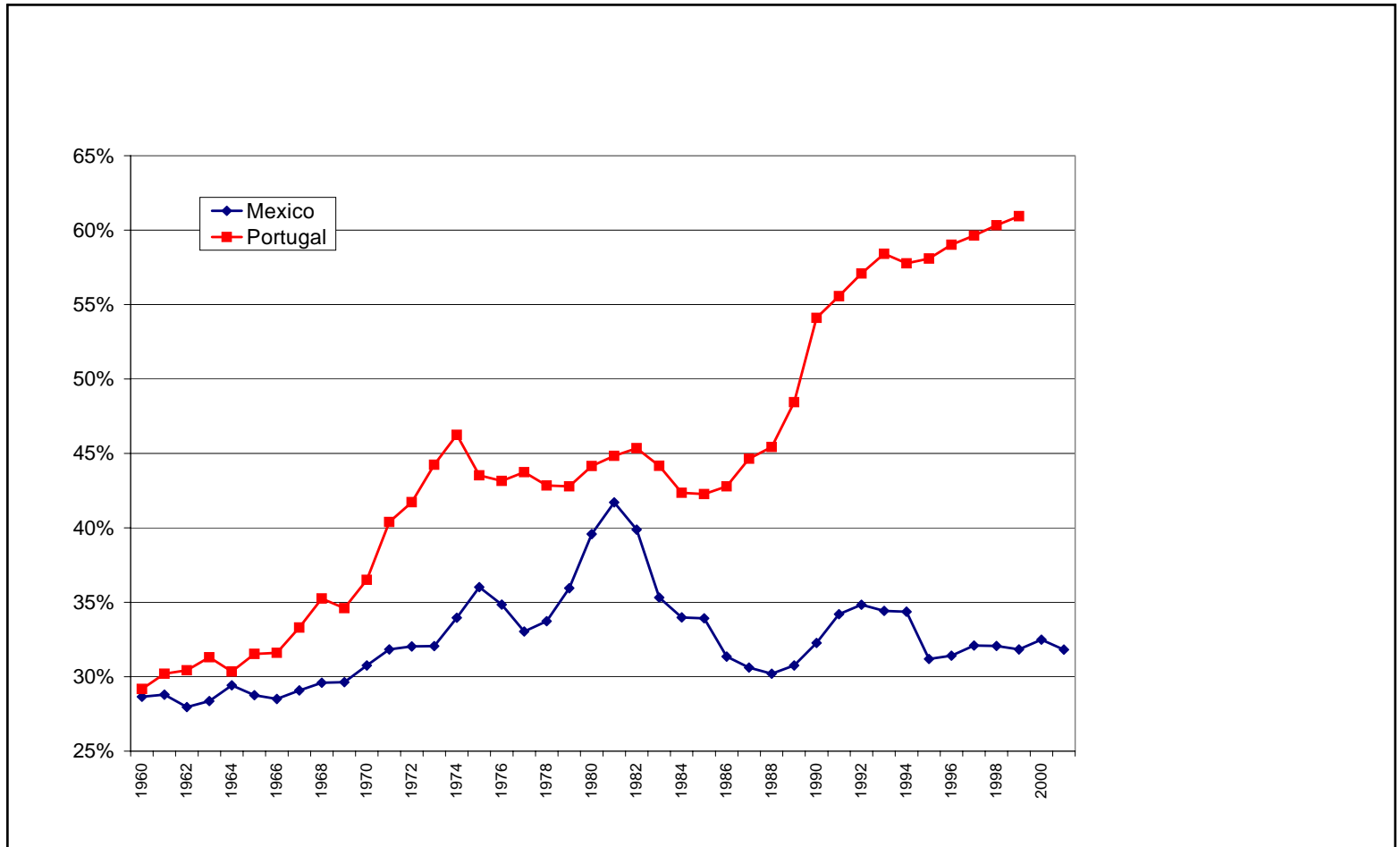


Convergence

- **No evidence of convergence with US**
- **Differences in productivity between US and Mexico explain more than 80% of divergence in income per capita**

(Easterly, Fiess and Lederman, 2003)

Real GDP per capita in relation to leading regional economy



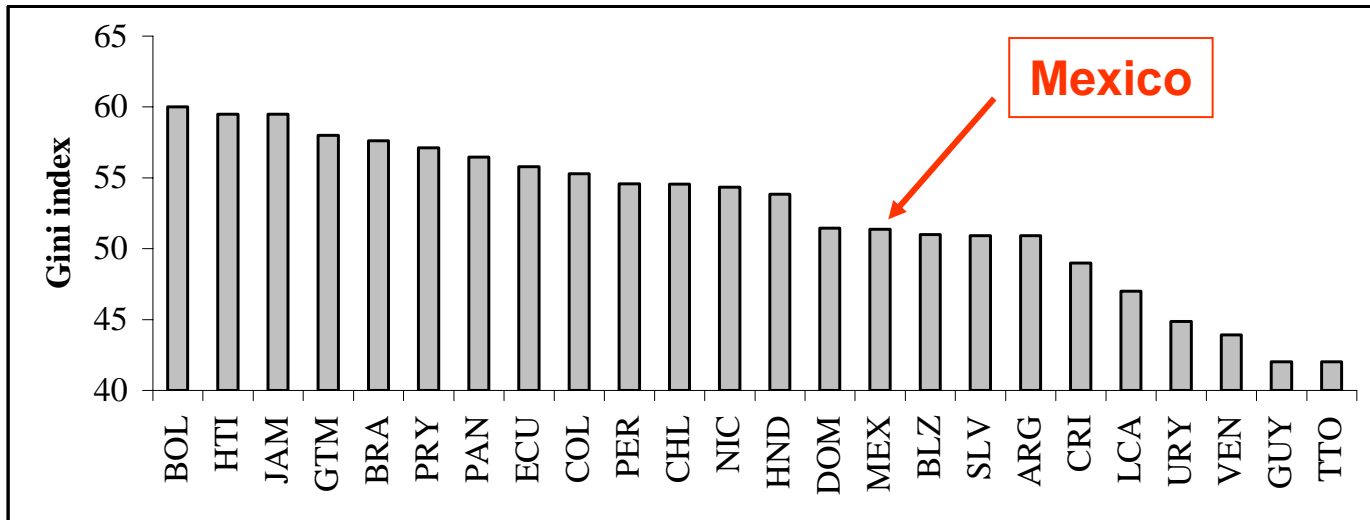
Source: World Bank, Global Development Network Database. Leading economy for Mexico: US; for Portugal: UK-Germany-France average.

Inequality and Poverty in post-NAFTA Mexico

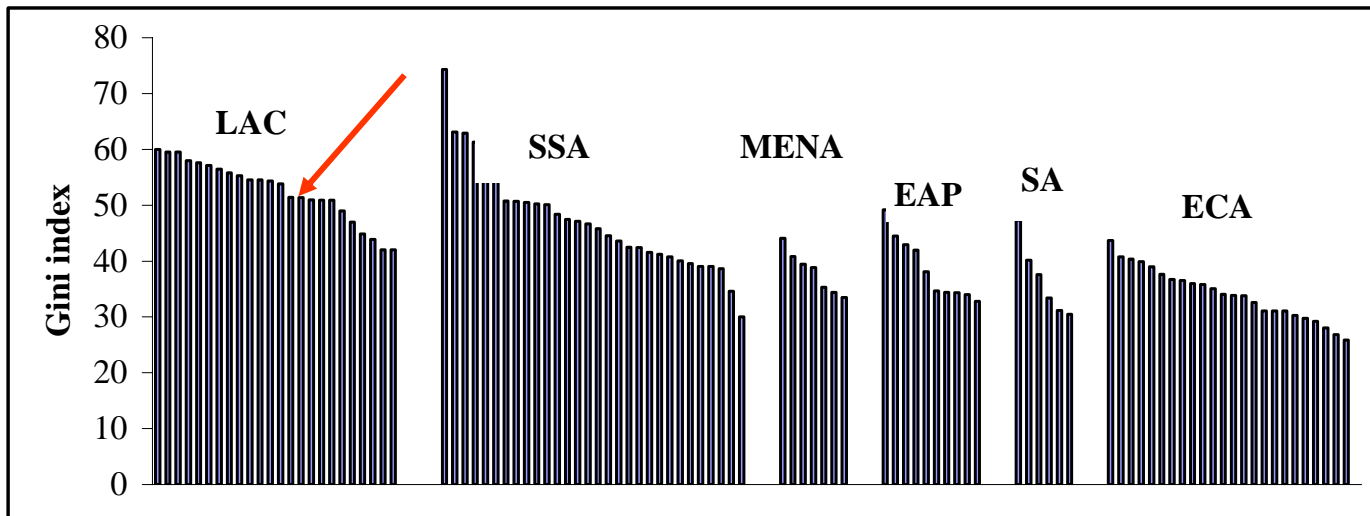
- Between 1998 and 2006 household income inequality fell, reversing a previous trend. Gini coefficient dropped by 4.5-5 percentage points, a significant decline
- Between 1994 and 2006, “food” or extreme poverty fell. The headcount ratio declined from 21.2% to 13.8%

Inequality in Mexico

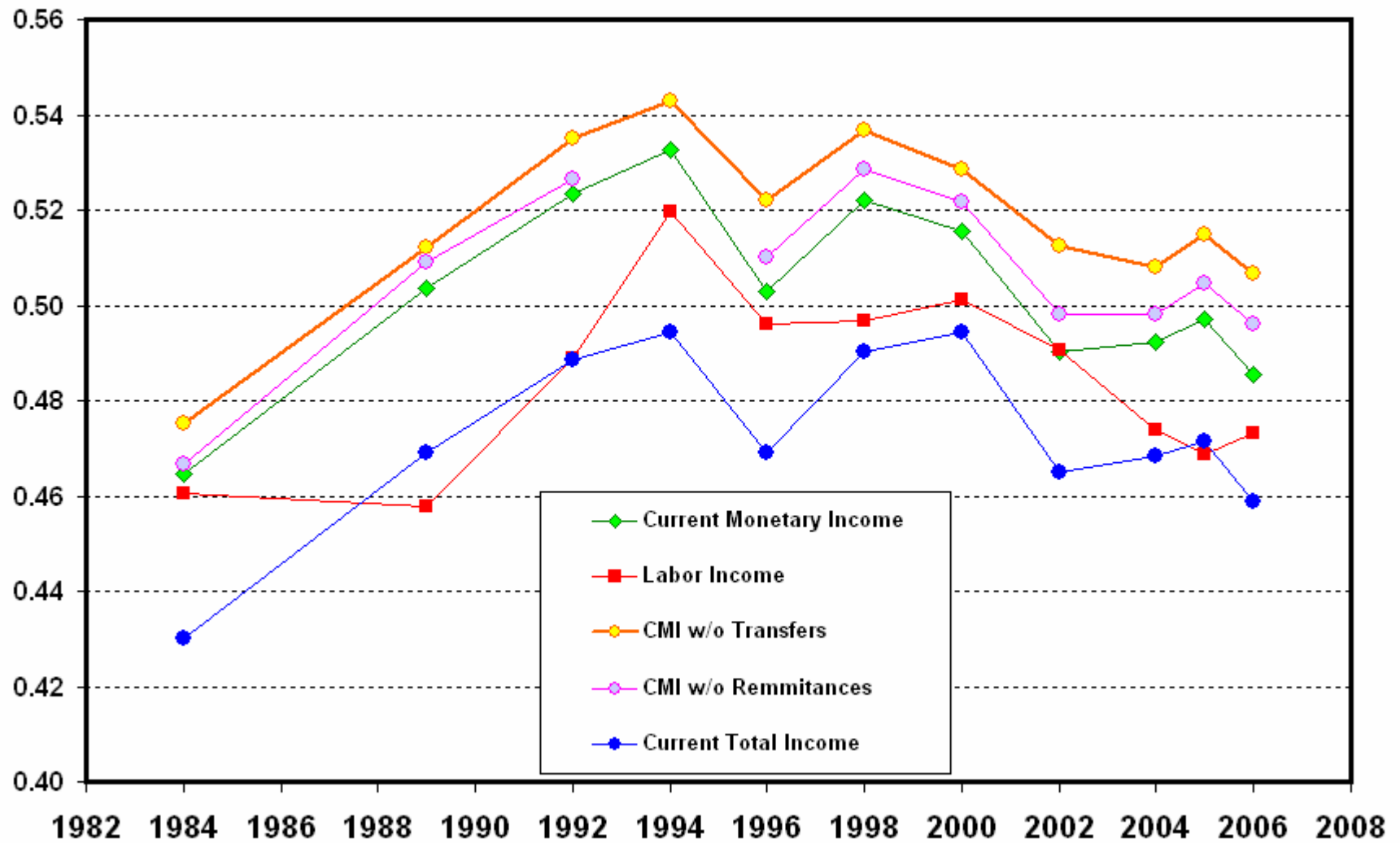
Panel A. Inequality in Latin America



Panel B. Latin America in the global context

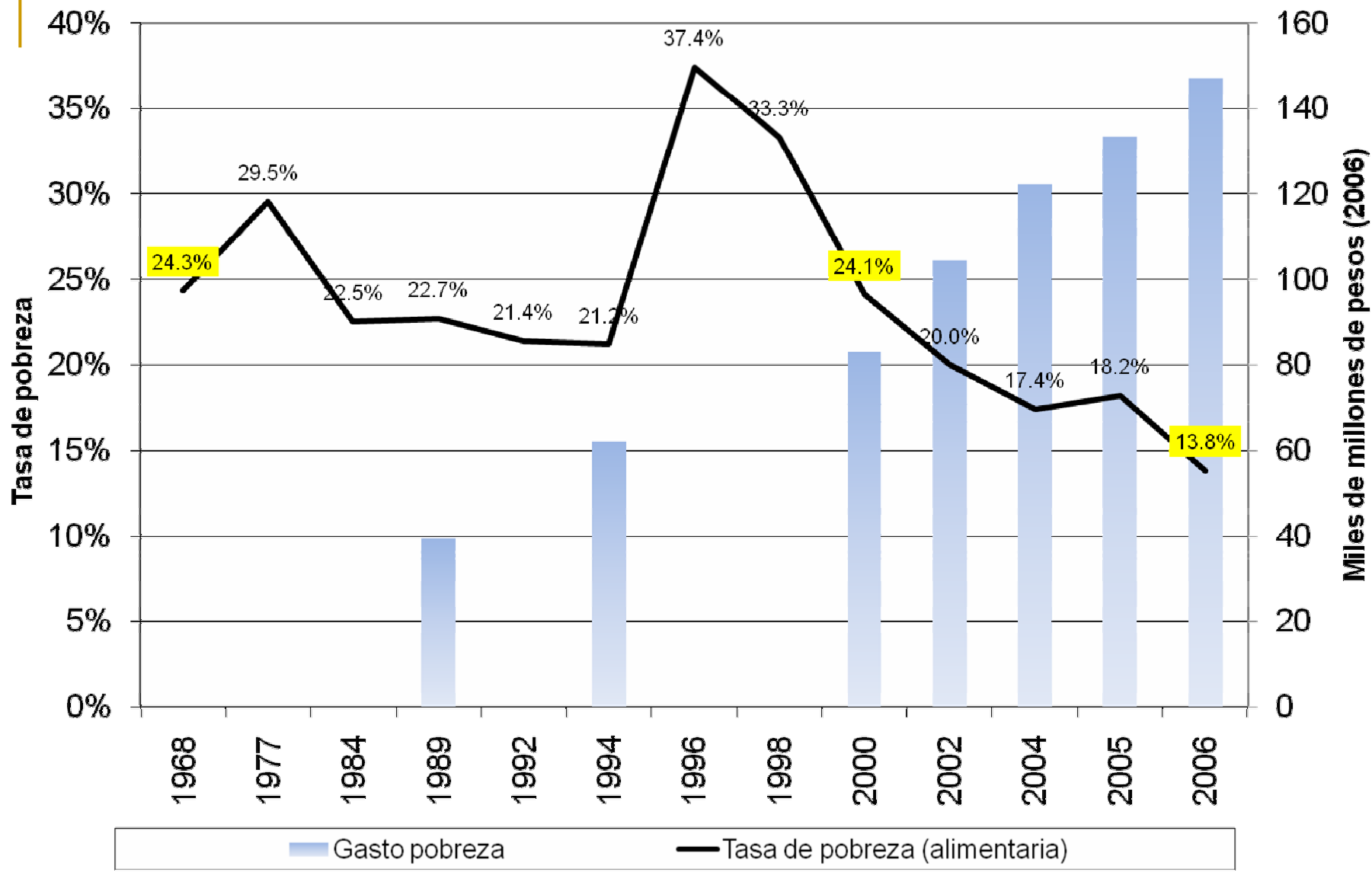


Gini Coefficients for Alternative Income Components



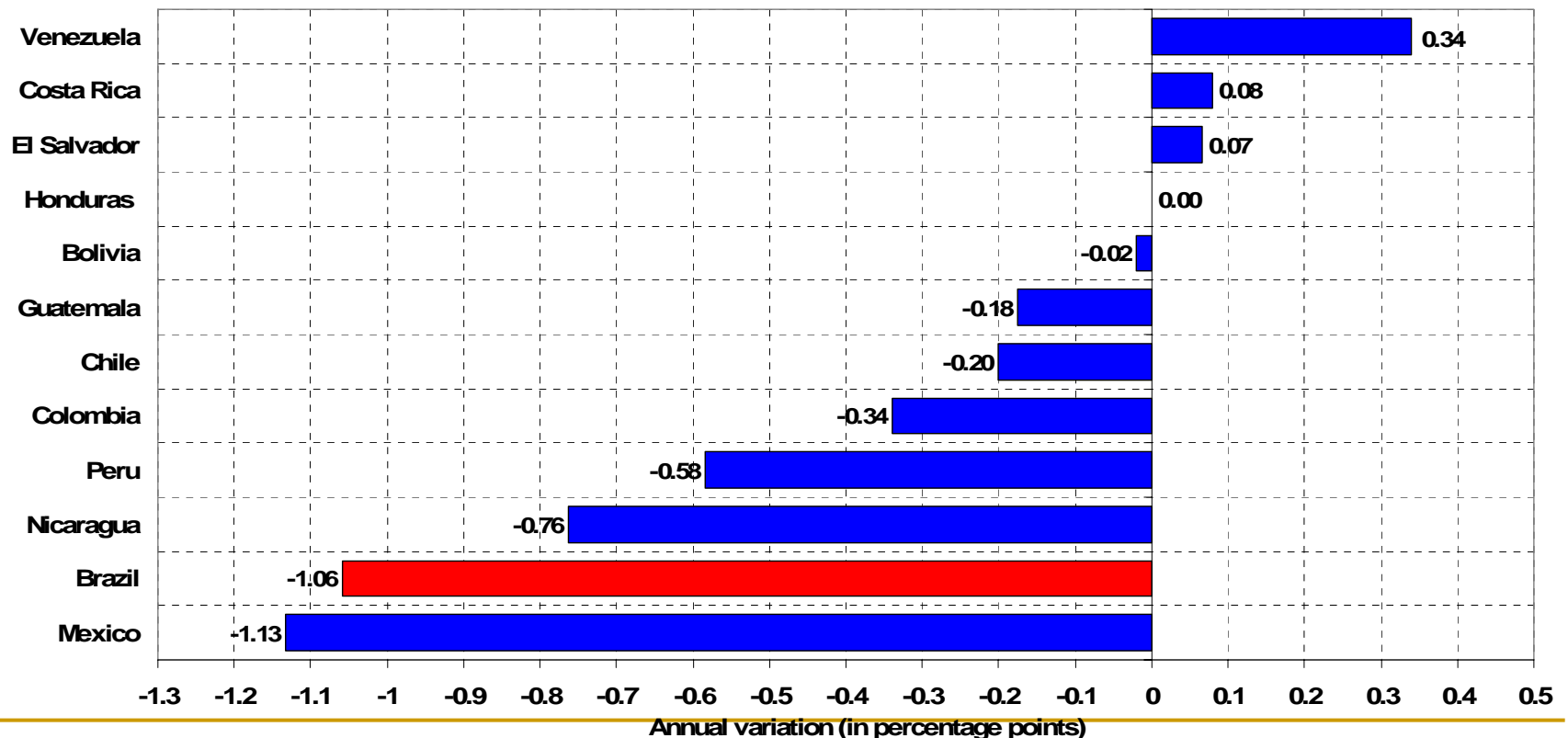
Latin America: Changes in Inequality mid-1990s-mid-2000s (Cruces et al., 2009) Note: Gini Coefficients

Países	Mediados 1990	Inicio 2000	Mediados 2000	Med. '90 - Inicio '00		Inicio '00 - Med. '00	
				Variación (1)	Cambio % ⁽²⁾	Variación (1)	Cambio % ⁽²⁾
Argentina	47.7	50.0	47.1	2.3	4.8	-2.9	-5.7
Bolivia	58.0	61.6	58.1	3.7	6.3	-3.5	-5.7
Brasil	59.0	58.5	55.6	-0.4	-0.8	-2.9	-5.0
Chile	55.5	55.9	52.4	0.4	0.6	-3.5	-6.2
México	54.3	52.9	49.8	-1.4	-2.6	-3.1	-5.8
Nicaragua	55.9	49.5	52.2	-6.4	-11.4	2.7	5.5
Rep. Dom	47.2	52.3	52.7	5.0	10.7	0.5	0.9
Venezuela	46.5	44.1	45.2	-2.4	-5.2	1.1	2.6



Changes in poverty in Latin America (Paes de Barros et al., 2009)

Figure 3.2: Annual variation in extreme poverty - Latin American countries¹



Source: Estimates based on CEPAL (2006) and Pesquisa Nacional por Amostra de Domicílios (PNAD) - 2001 and 2005.

Note: 1. For most countries the information refers to the period 1997-2002.

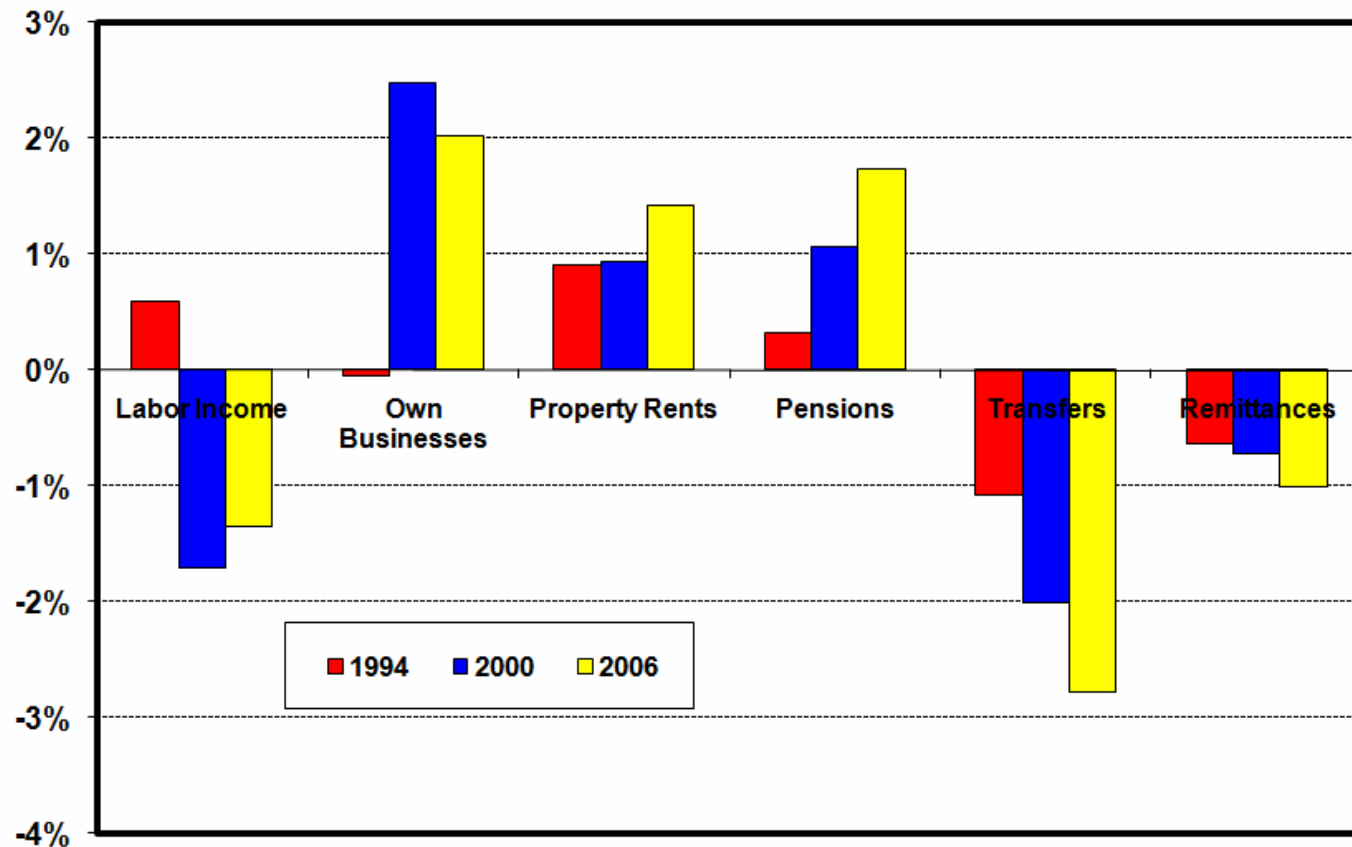
What explains the reduction in household income inequality?

- **Equalizing Factors:**
 - Labor income per worker
 - Remittances
 - Government transfers (excluding pensions)

- **Unequalizing Factors:**
 - Income from property
 - Income from own-businesses
 - Pensions

Mexico: Income Inequality Sources

Marginal Effect on Gini Coefficient by Income Source



What explains the reduction in household income inequality?

- Decomposition exercises reveal that the contribution of the reduction in labor income inequality explains more than 70 percent of the reduction of overall inequality
- In turn, the latter is accounted for a reduction in the inequality of average remuneration per worker (i.e., wages) and, to a much lesser extent, to a “better” distribution of employment (i.e., the ratio of employed adults rose relatively more at the bottom of the distribution)

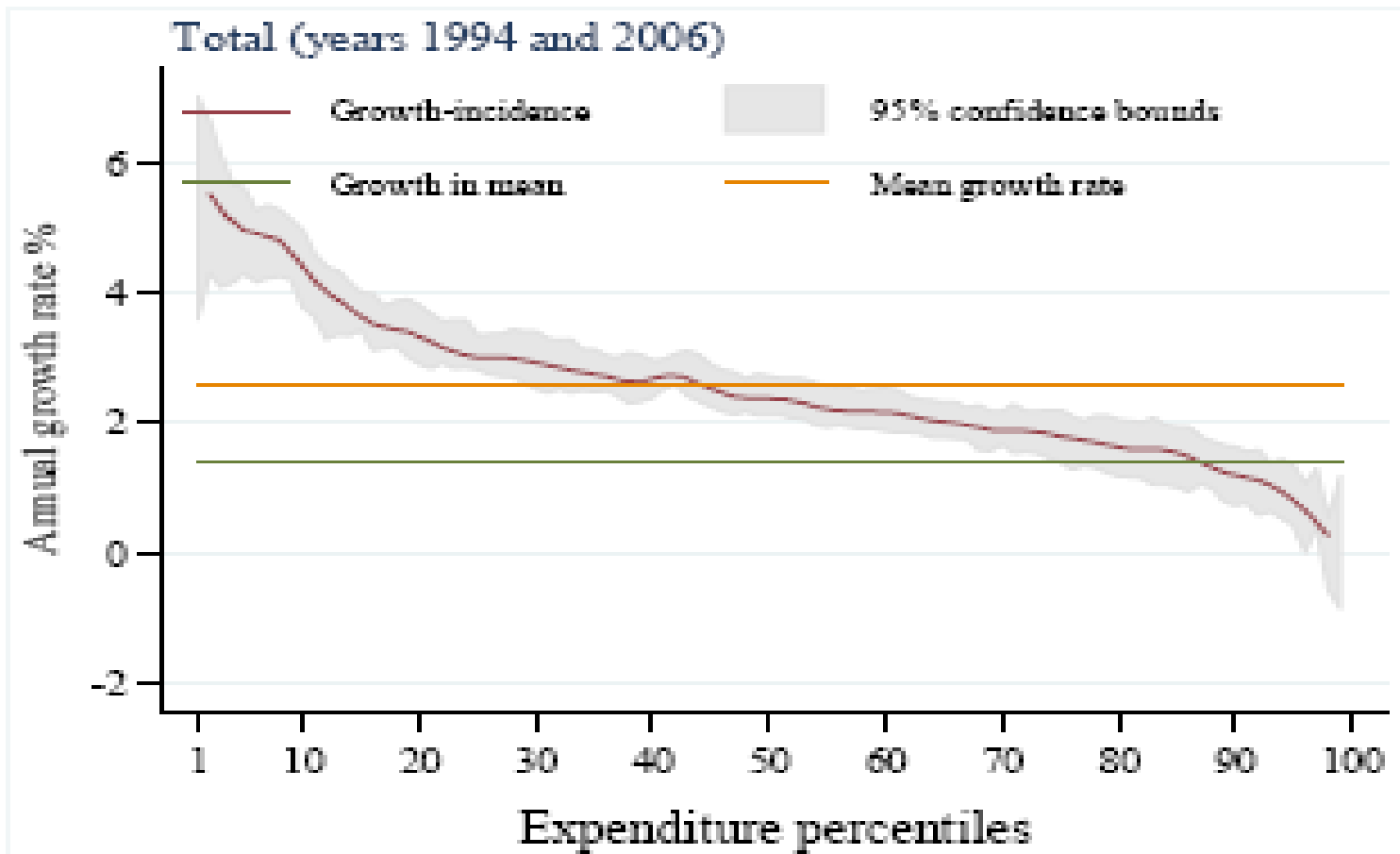
Conclusion:

- The significant reduction in household income inequality can be attributed to a reduction in wage inequality in the post-NAFTA period. This is observed using other measures of wage inequality as well (see next graph)
- This result together with the evolution of average productivity means that a lot of the job creation occurred at the bottom of the distribution, in low-productivity low-wage employment but that the “low-wages” increased => “pro-poor or grassroots growth”

Skilled/Unskilled Wage Ratio (Esquivel, 2009)



Mexico: Growth Incidence Curve, 1994-2006 (Esquivel, 2009)



Caveat

- Household surveys are not accurate when it comes to measure incomes from capital at the very top
- => underestimation of concentration of income at the top (Carlos Slim's income is not counted)
- => if top incomes from capital were included, the growth incidence curve might have risen sharply in the extreme right

What explains the inverted-U pattern followed by the skilled-unskilled wage gap?

- From standard trade theory, analysts expected that trade liberalization in mid-1980s would have resulted in higher demand/higher wages for unskilled workers
- As we saw, the results were the opposite
- Why?

Was the rise in *wage* inequality caused by the mid-1980s trade liberalization (before NAFTA)?

- Two views:
 - 1. Factors affecting wages at the top: relative demand/wages for skilled workers increased because of
 - Larger presence of foreign investment (Feenstra and Hanson, 1997);
 - skill-biased technical change (Cragg and Eppelbaum, 1996; Esquivel and Rodriguez-Lopez, 2003);
 - ~~quality-upgrading induced by exports (Verhoogen, 2008)~~

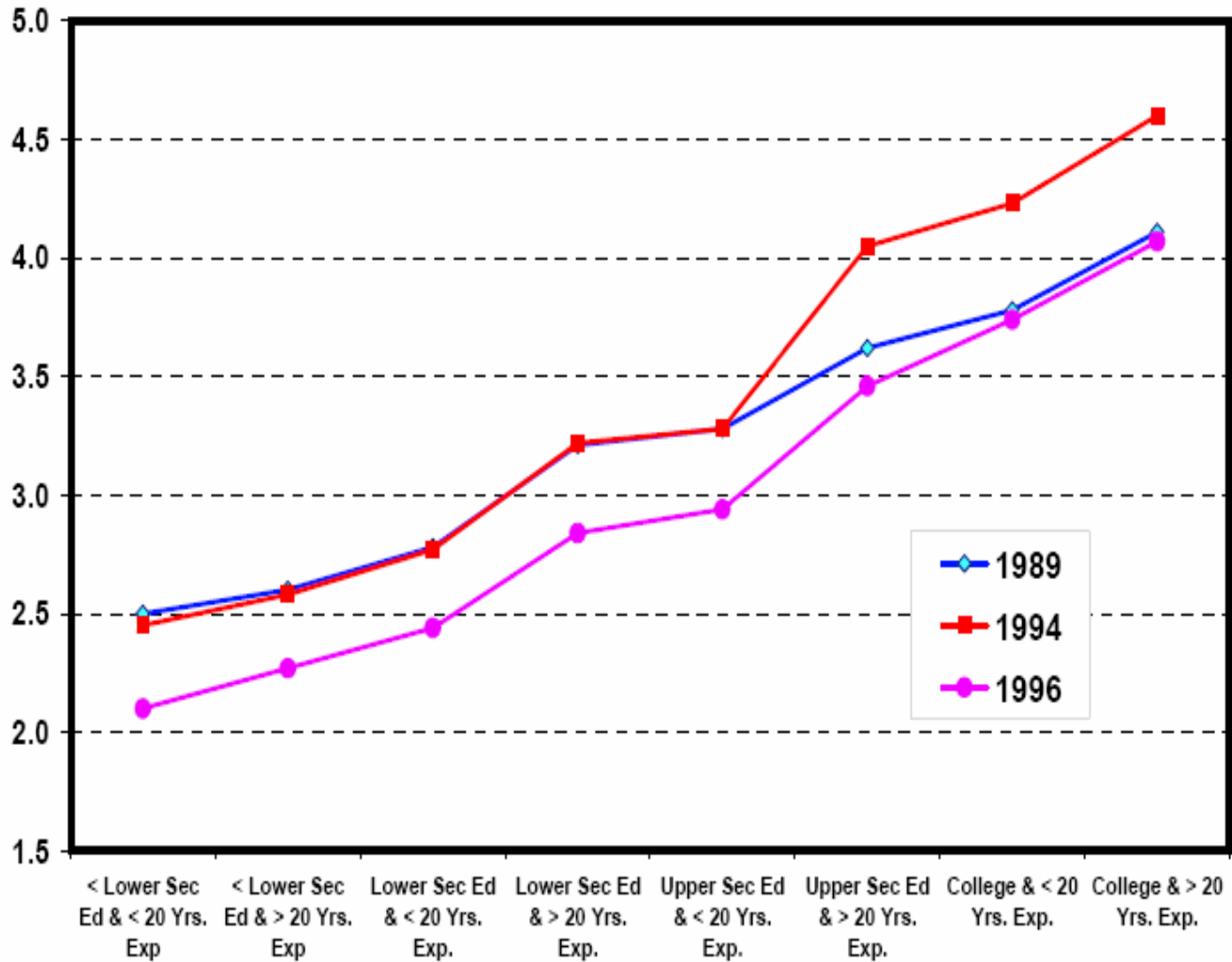
Was the rise in *wage* inequality caused by the mid-1980s trade liberalization (before NAFTA)?

- Two views:
 - 2. Factors affecting wages at the bottom:
 - mid-1980s reductions in tariffs disproportionately affected unskilled intensive industries (Hanson and Harrison, 1999)
 - Reductions in the minimum wage (Farris, Popli and Zepeda, 2008)

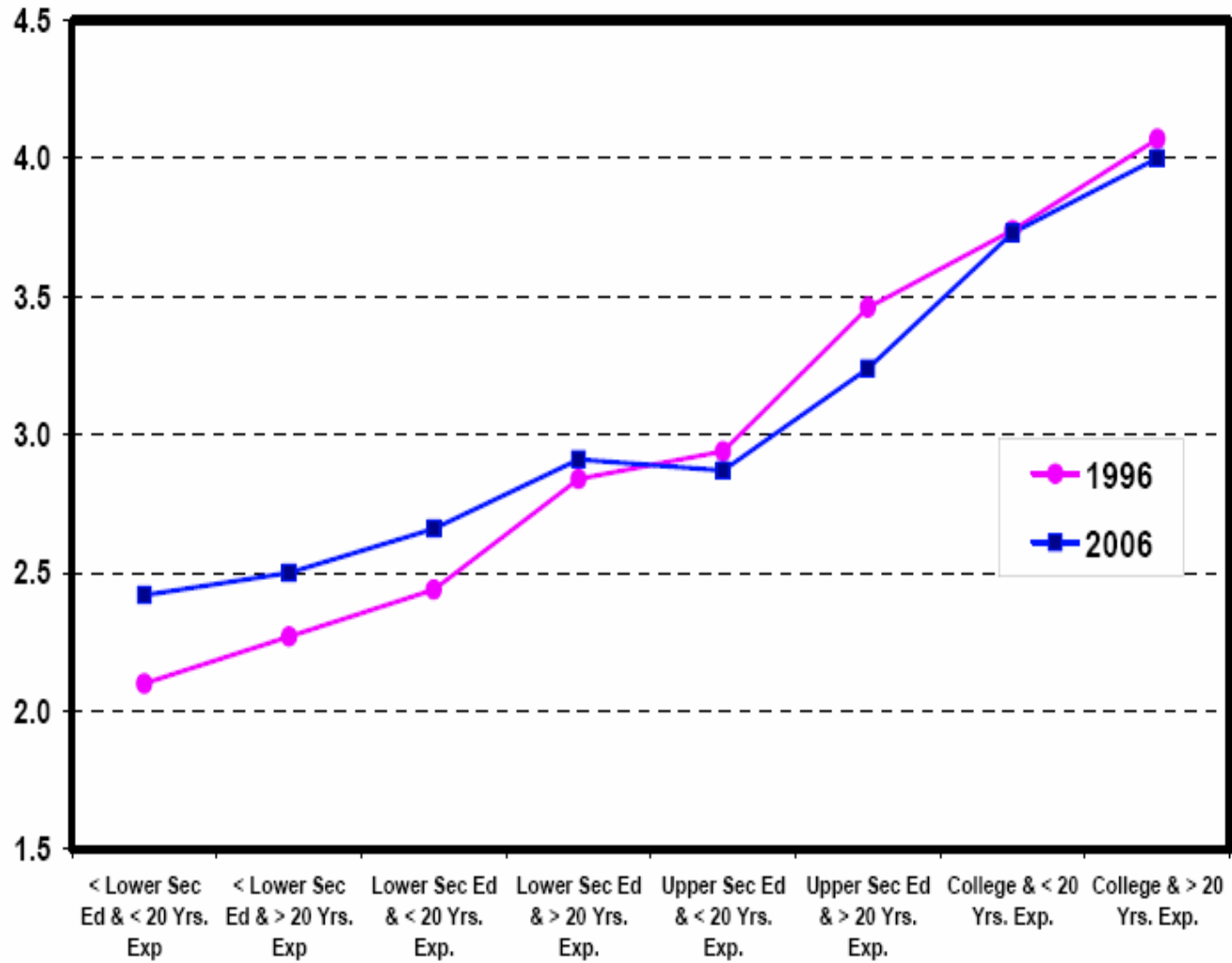
Was the fall in *wage* inequality in post mid-90s caused by NAFTA? (Esquivel, 2009)

- **No: relative supply of skilled and unskilled workers (Campos, 2008)**
- **Yes: workers in US and Mexico have become complements rather than substitutes (“maquiladoras”) (Robertson, 2007). Also,**
- **Delayed effect of mid-1980s trade lib. (Canonero and Werner, 2002)**

Mexico: Mean Log Wage of Male Workers by Education and Experience



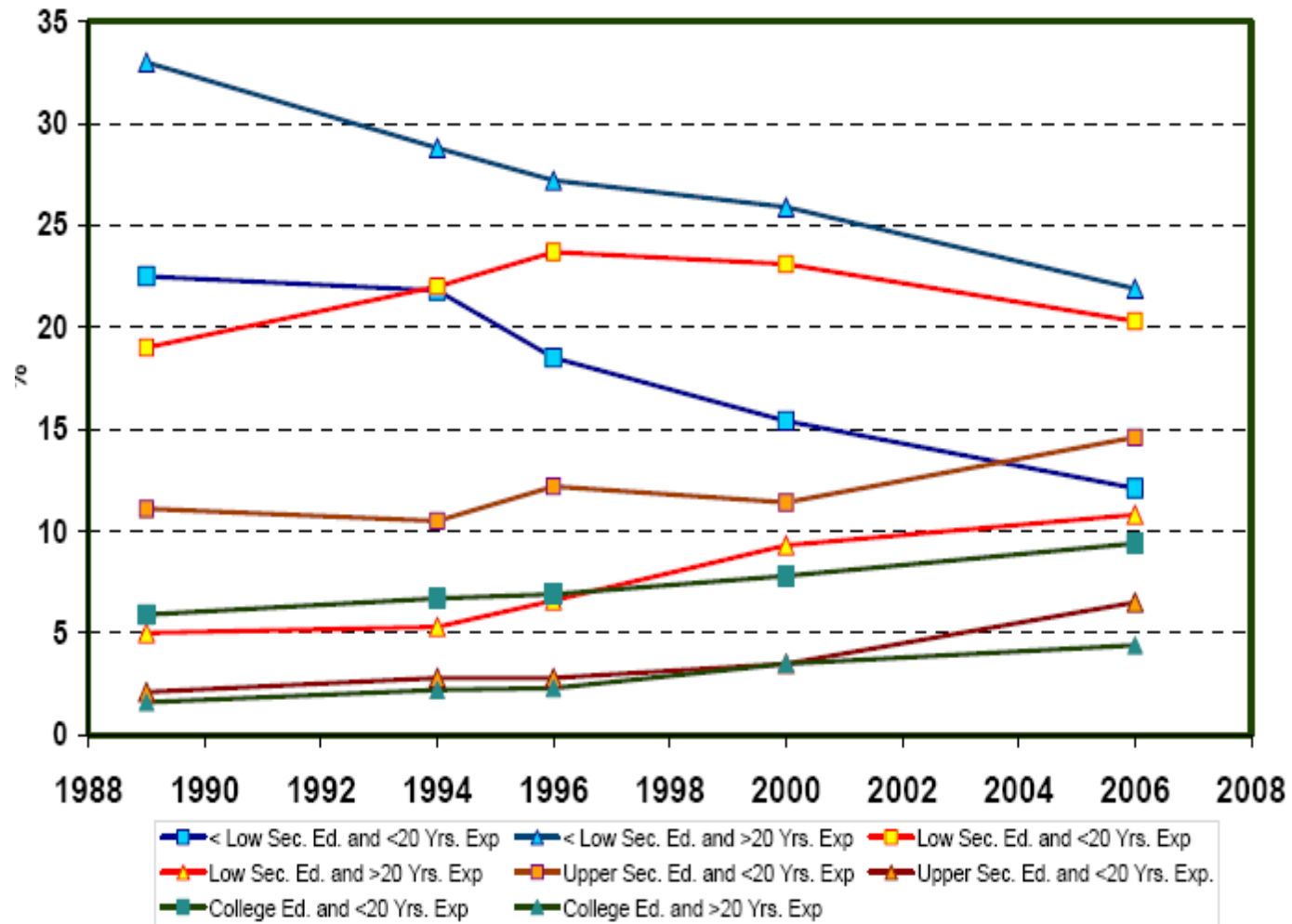
Mexico: Mean Log Wage of Male Workers by Education and Experience



Was the fall in *wage* inequality caused by NAFTA? (Esquivel, 2009)

- There clearly has been a change in the composition of the workforce by education levels:
 - The share of less-skilled workers (those with less than secondary education) went from 55% in 1989 to 32% in 2006
 - The share of skilled workers rose (not nearly as dramatically)

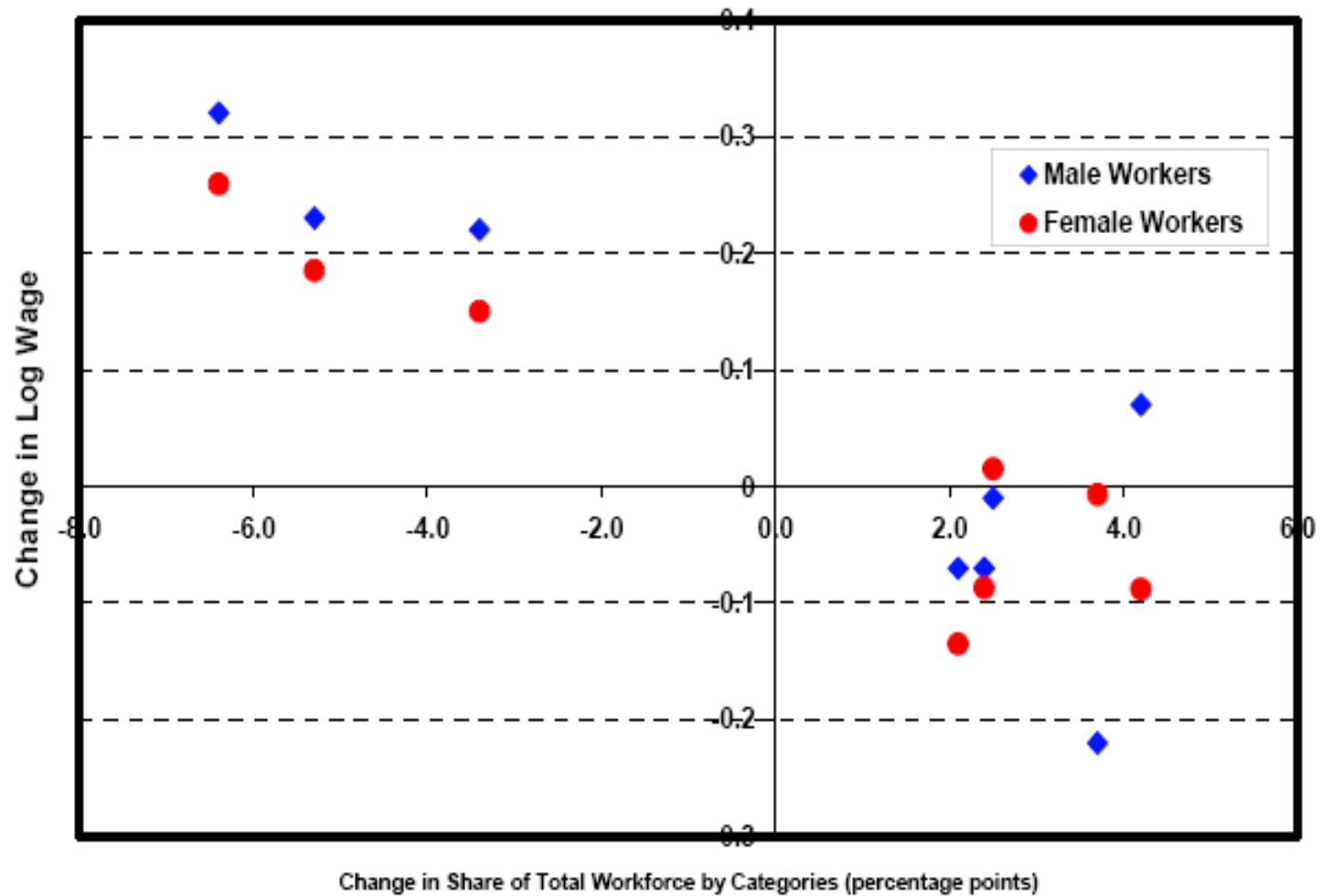
Mexico: Workforce Composition by Education and Experience Levels, 1989-2006



Was the fall in *wage* inequality caused by NAFTA? (Esquivel, 2009)

- Changes in the distribution of the stock of education coupled with demand for labor by skill patterns, both may explain the reduction in wage inequality
- Relative weight of each, remains to be answered, but next graph shows how wages rose (fell) for workers whose share declined (increased) suggesting supply-side of the story may be the most important

Mexico: Change in Share of Total Workers by Education and Experience vs Change in Log Wage by Gender, 1996-2006



THANK YOU
