What are the main drivers of Brazilian income distribution changes in the new millennium?

UNU- WIDER: Inequality in the Developing Giants – Brazil[1]

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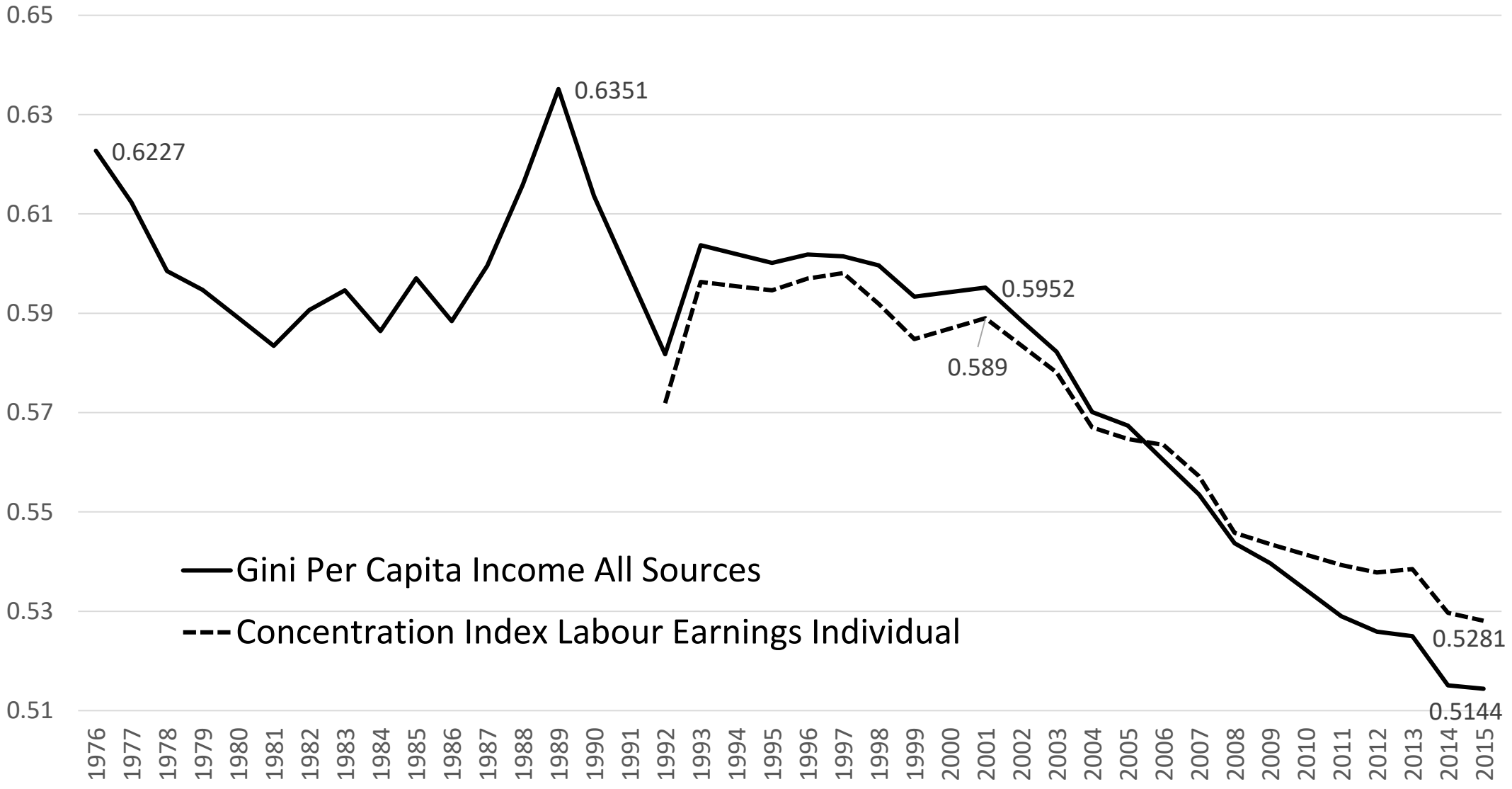
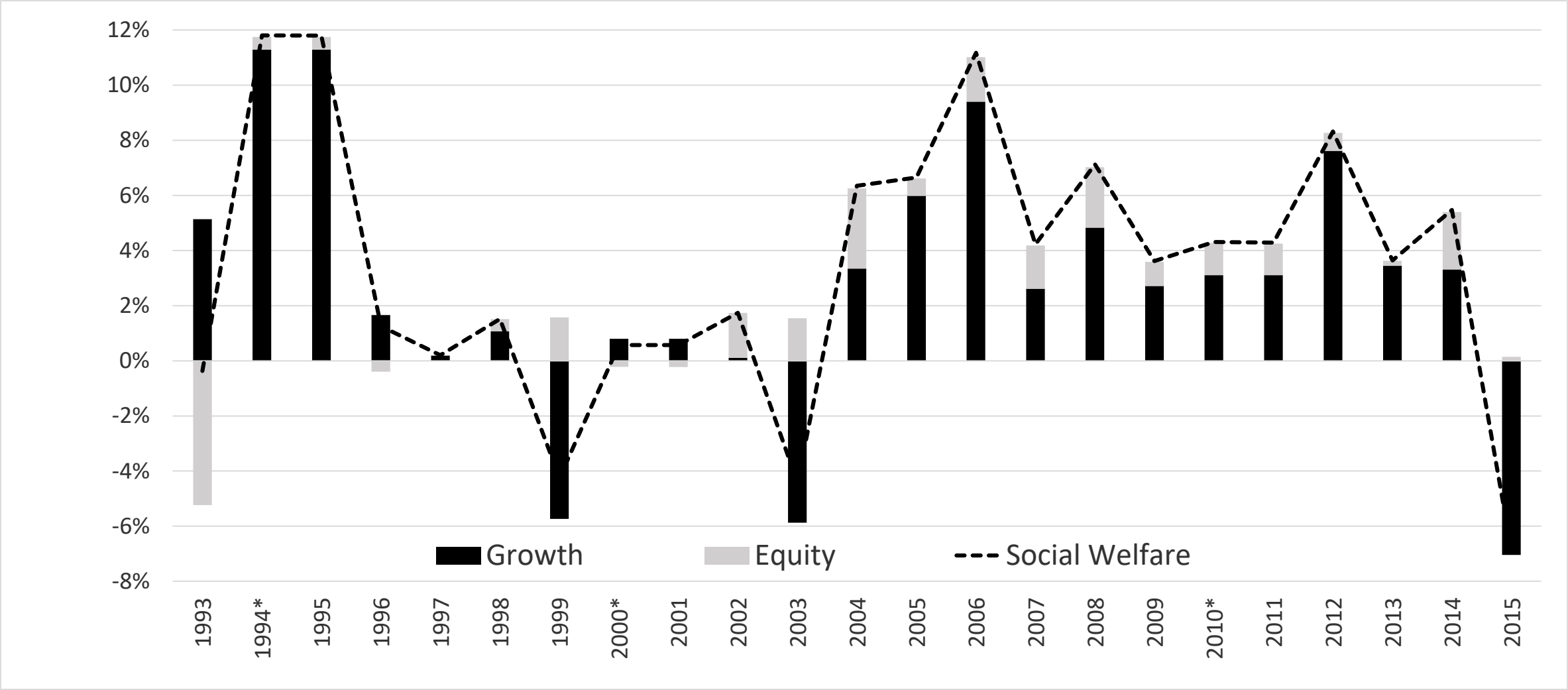
1 - The research is part of the UNU-WIDER project "Inequality in the Developing Giants" that also includes studies on China, India, Mexico, and South Africa

Inequality of per capita income (Gini) and of individual earnings (Concentration)



Source: PNAD/IBGE microdata. Harmonized series in terms of regional coverage.

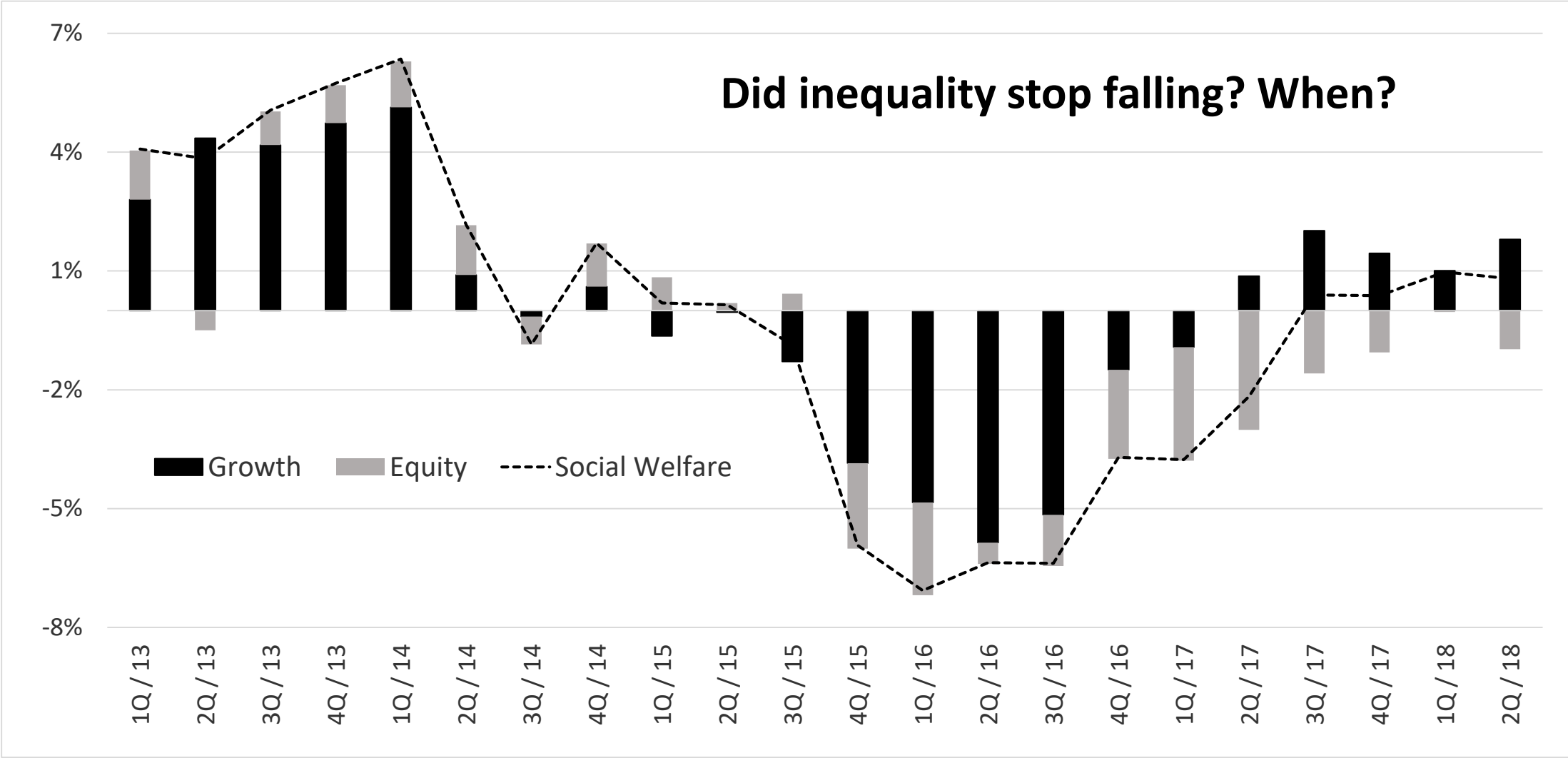
Growth, Equity (Gini) and Social Welfare Annual Growth Rates



Source: PNADC/IBGE – Per Capita Income

Social welfare growth was evenly divided by falling inequality of household income, the differential of mean incomes between surveys and national accounts and real GDP growth.

Growth, Equity and Social Welfare Annual Growth Rates by Quarters in Brazil



Source: PNADC/IBGE – Per Capita Earnings based 15 to 60 years

In 2014, a reversal of almost all distributive-growth trends happened, starting with the labor market, which was the main driver behind former distributive changes.

Objective

This project pursues the measurement and analysis of the second moment of Brazilian income distribution without losing sight of the first moment, or existing synergies between them.

Joint look at inequality, mean and social welfare are key to depict what has been happening in Brazil since the 1990s.

The second general point in all contributions proposed here is to emphasize changes and not only levels of these dimensions in different points in time.

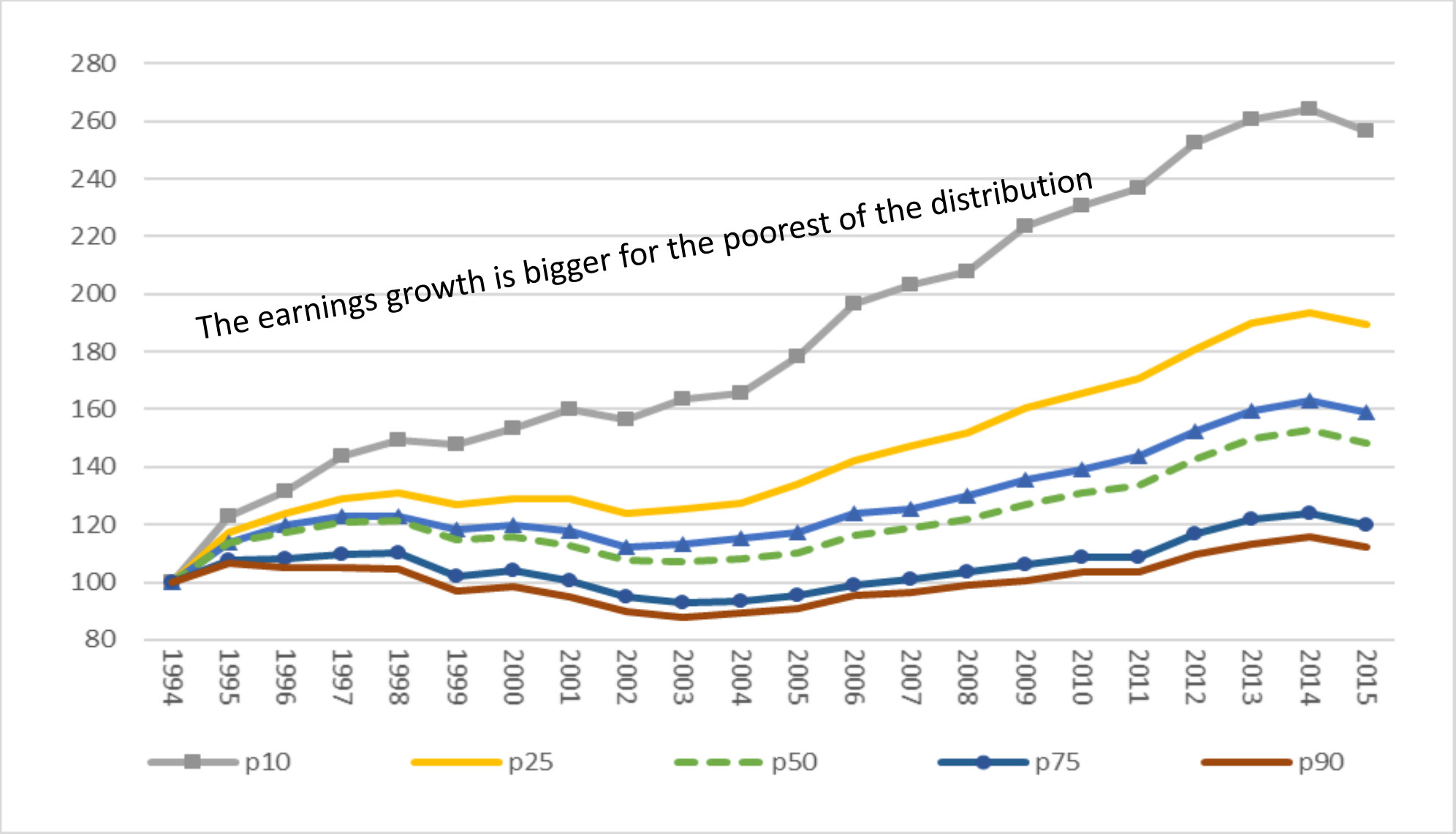
First, measurement and causal issues that affect inequality should also have implications on the mean, and vice-versa. Second, differences across time are a way to deal with measurement issues and to identify causality. Makes it easier to compare different data sets and periods of analysis

Project Overview

Inequality in Brazil by Topic, Technique, Dataset, Period of Time and Income Concept				
Inequality Topic	**Technique**	**Dataset Used**	**Period of Time**	**Income Concept**
Firms Effects	J-Divergence Decompositions	RAIS (matched employer-employee)	1994 – 2015	Individual Formal Earnings
Gender Gap	Regression Models	RAIS (matched employer-employee)	1994 – 2015	Individual Formal Earnings
Intergenerational Transmission of Education & Returns	Omitted Variables, Measurement Error and Markov Regressions	PNAD special supplements (household survey)	1996 & 2014	Individual Earnings
Missing Incomes Imputation	Combine Regressions and Stochastic Imputation	PNAD (household survey)	2001 - 2015	Per capita (All Sources)
Fiscal Policy Instruments	Microssimulation Dynamic	PNAD + POF + AR (income & expenditures surveys and administrative records)	2003 - 2015	Per capita (All Sources)
Top Incomes	Pareto Interpolation	PNAD + PIT (household survey and income tax records)	2007 - 2015	Individual (All Sources)

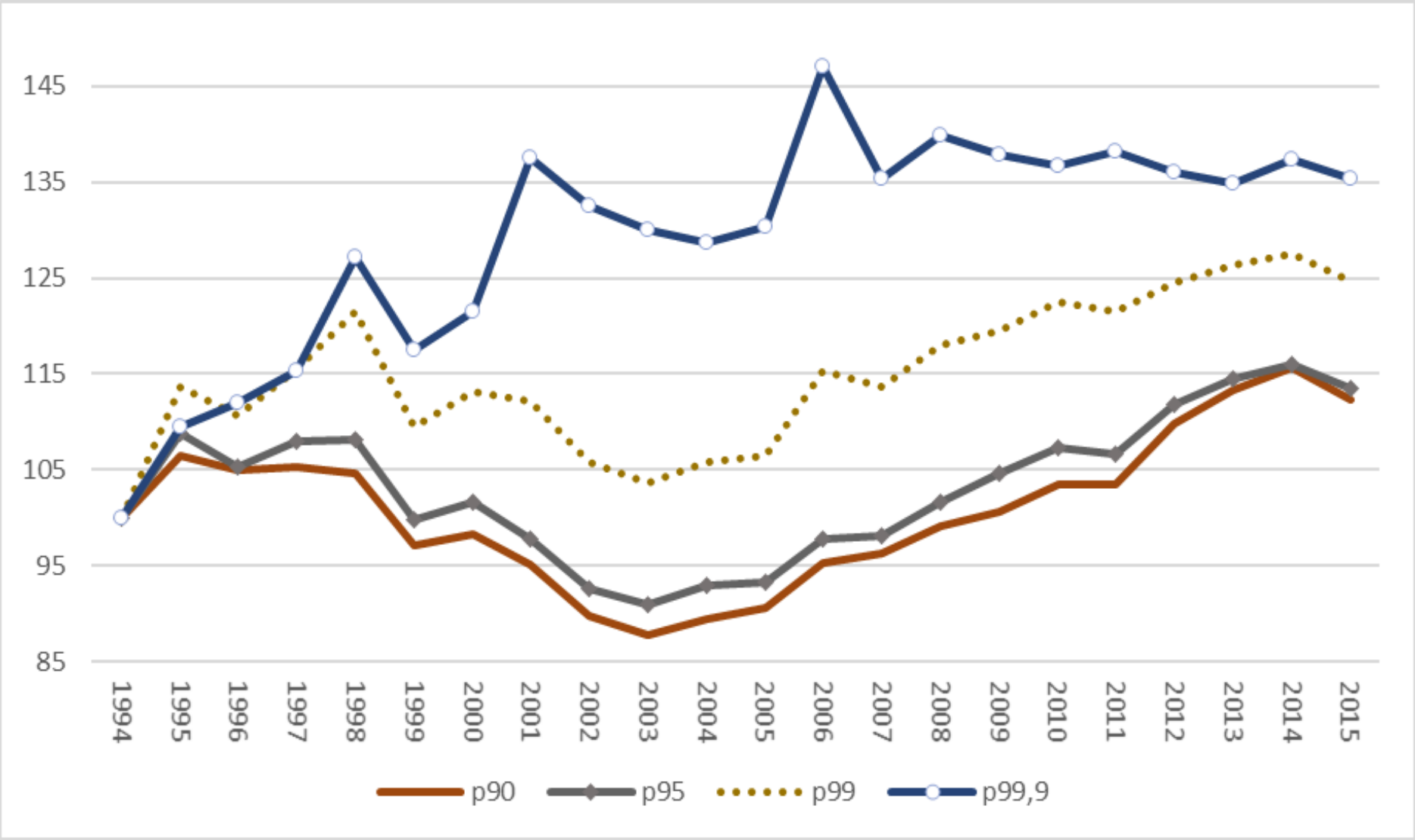
Formal Labour Market in Brazil: Cumulative Growth Curve 1994 – 2015

- Lower percentiles

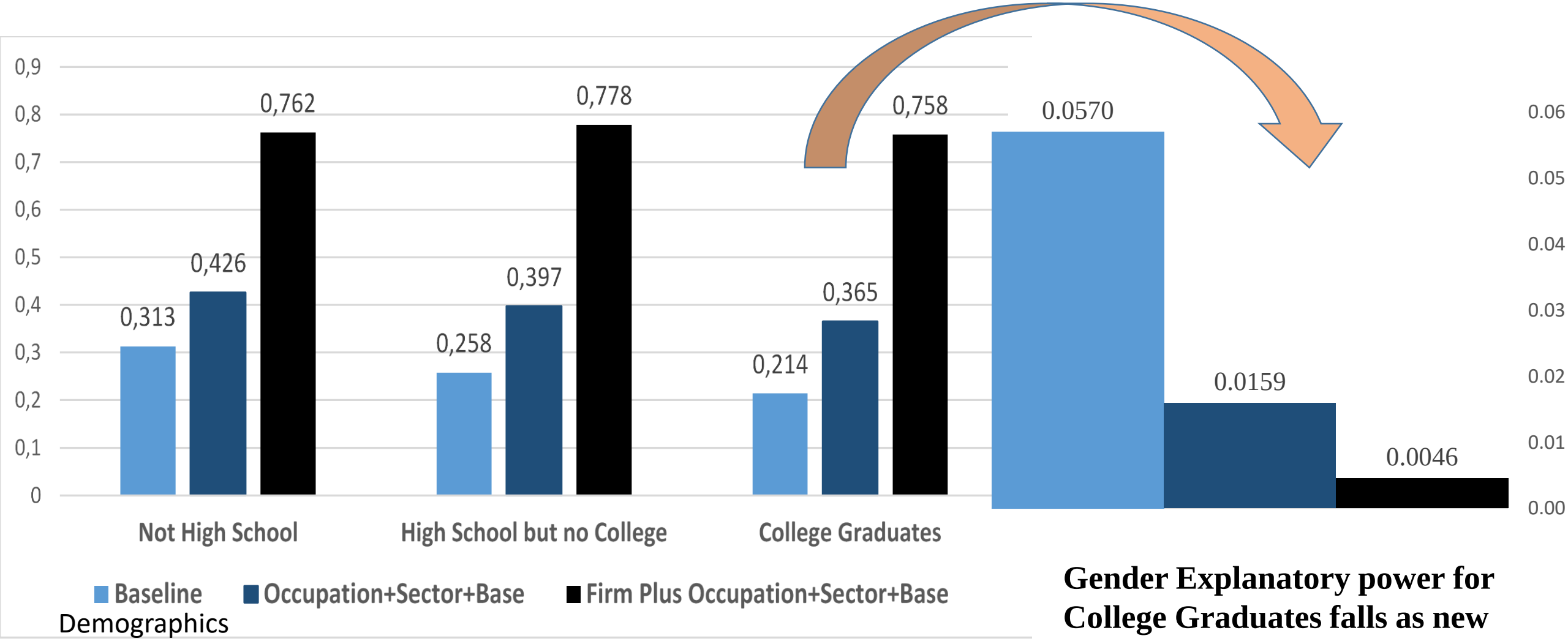


Formal Labour Market in Brazil: Cumulative Growth Curve 1994 – 2015

- Top percentiles



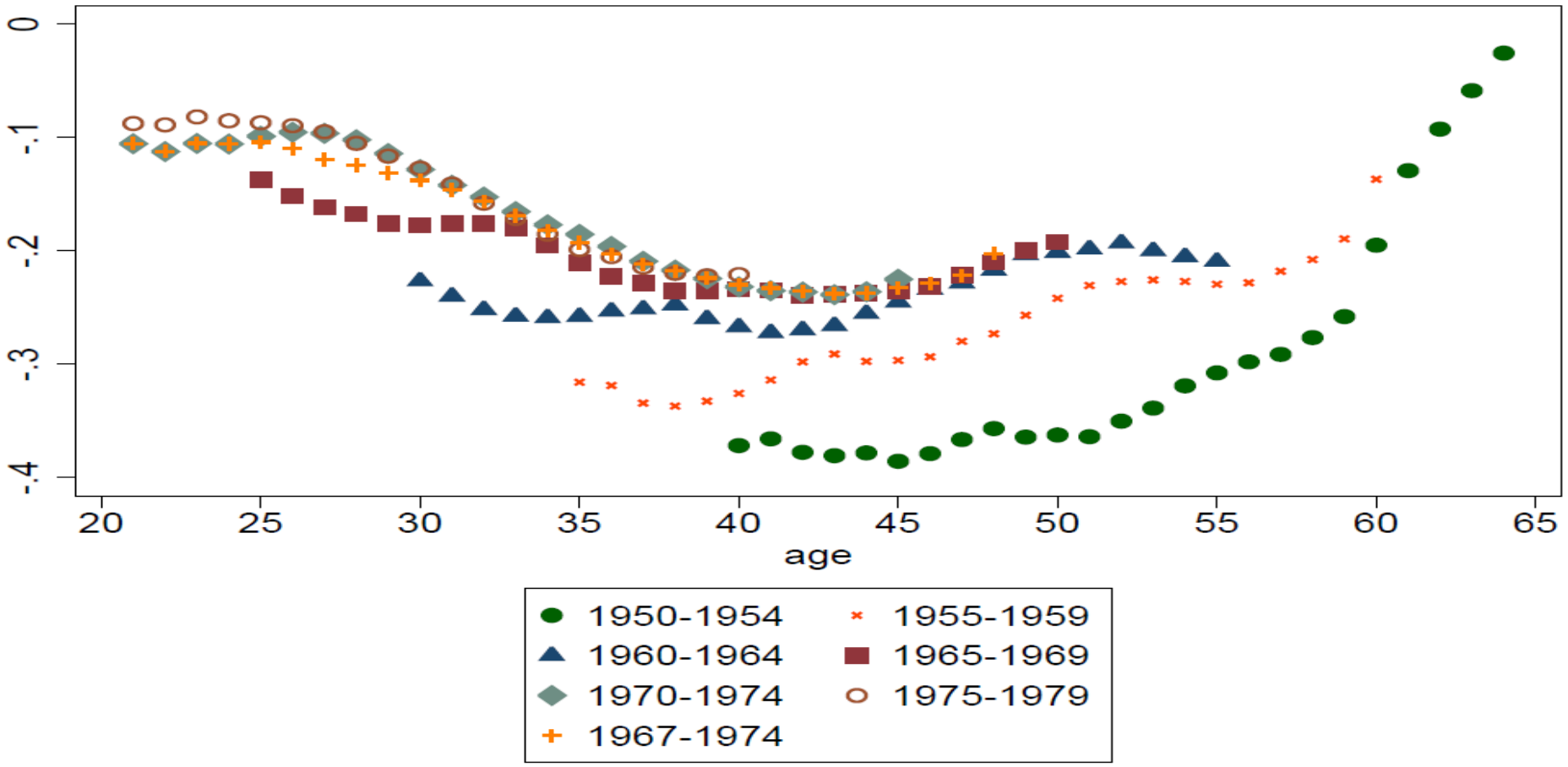
Regression Framework: Analyses of earnings inequality within educational groups. How much do variables explain? Firms fixed effects are key!



Gender Explanatory power for College Graduates falls as new variables are added into the model.

Source: Rais microdata 1994 to 2015

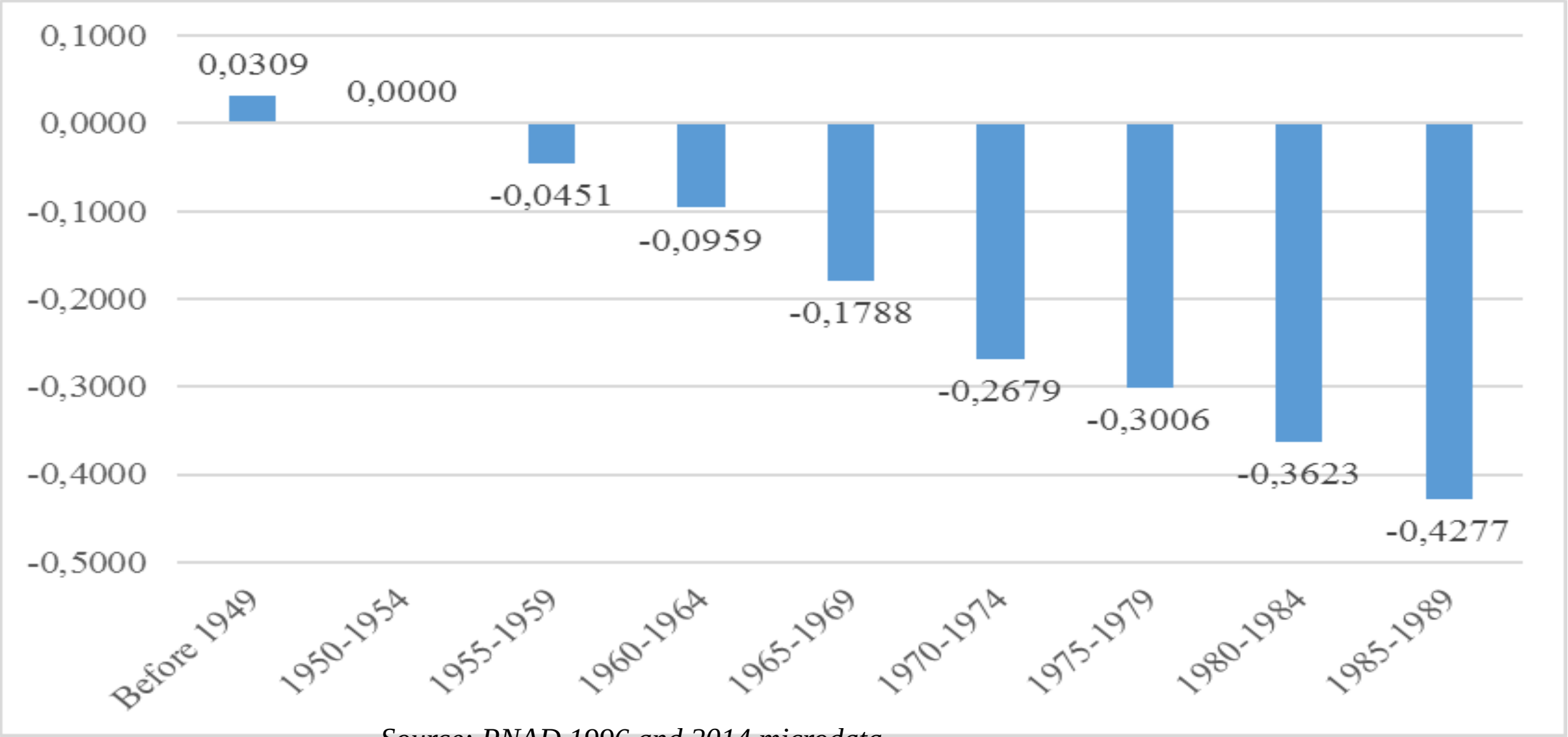
Evolution of the Earnings Gender Gap throughout the Life Cycle by Birth



Source: RAIS microdata 1994 to 2015

How did intergenerational mobility in education evolved?

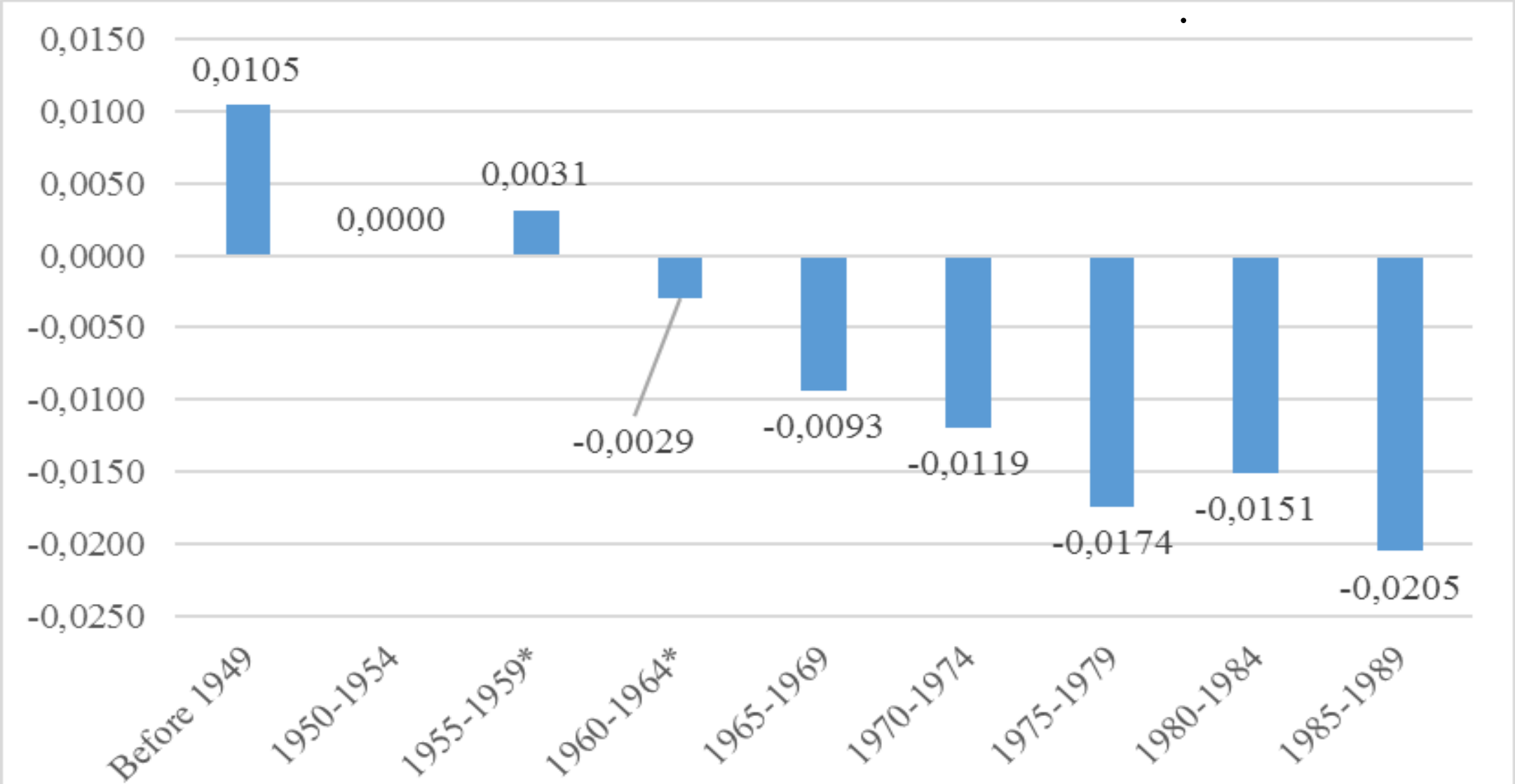
Persistence in the Intergenerational Mobility of Education by Cohorts – Interaction between fathers education and cohort effects



Source: PNAD 1996 and 2014 microdata.

What was the evolution of wage premiums with respect to schooling?

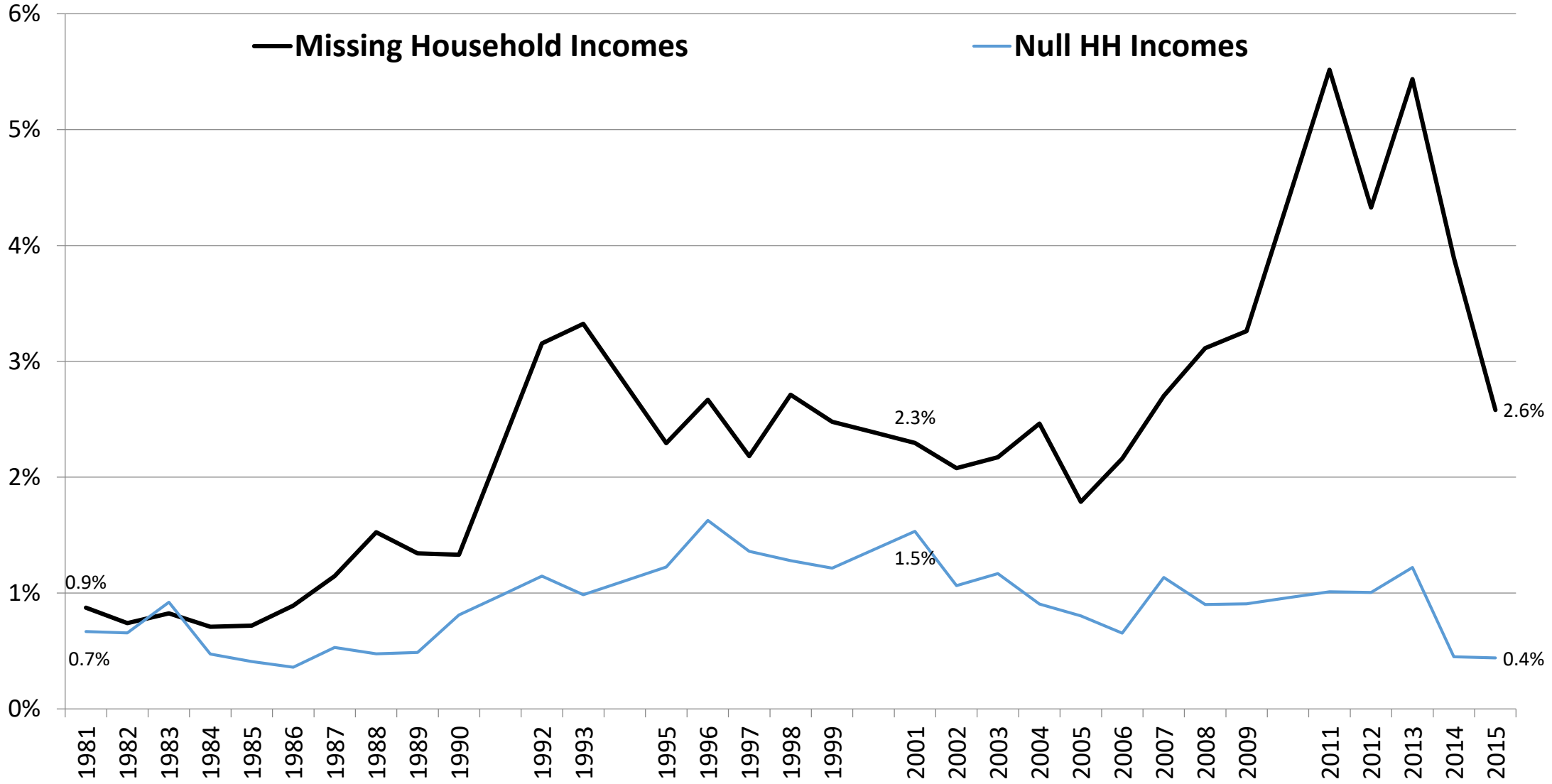
Differences in the Education Premiums by Cohorts - Interaction between individual schooling and cohort effects



Source: PNAD 1996 and 2014 microdata.

Does missing income on data affect distributive trends? No

Share with null and unavailable household income on PNAD



How taxes and transfers steered distributive changes?

Income, Equality and Social Welfare: Contribution to Disposable Income (2003 to 2015)

(Contribution of each Income Concept to Disposable Income Growth)	2003 to 2015 (Annual)		
	Mean Income	Equality	Welfare
Initial income	0.0276	0.0072	0.0349
Cash Transfers	0.0110	0.0055	0.0165
Public Pensions	0.0083	0.0016	0.0099
Poor Elderly/Disability Benefits - BPC	0.0010	0.0013	0.0023
Wage Bonus + Family Wage	0.0004	0.0003	0.0008
Unemployment Benefit	0.0004	0.0004	0.0008
Family Grant (CCT)	0.0013	0.0022	0.0034
Gross Income	0.0387	0.0127	0.0514
(-) Direct Taxes	0.0038	-0.0010	0.0028
Personal Income Tax	0.0018	-0.0013	0.0005
Social Security Contribution	0.0021	0.0003	0.0023
Disposable Income	0.0348	0.0137	0.0486
(-) Indirect Taxes	0.0080	0.0029	0.0109
Final Income	0.0269	0.0108	0.0377

official cash transfers → accelerated the growth of social welfare (+1.65%)

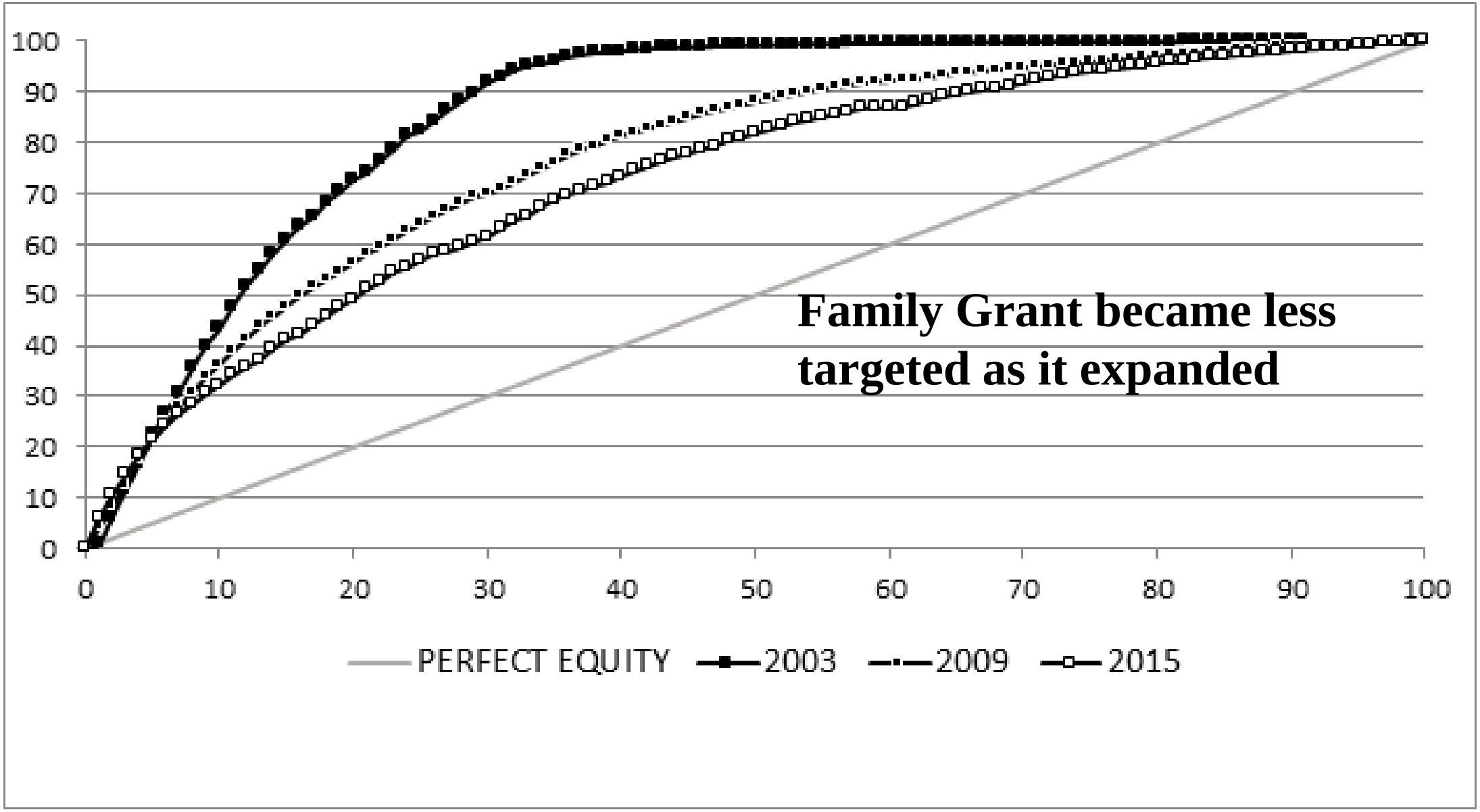
direct and indirect taxes changes operated in the opposite direction (0.28% and 1.09%,)

more to mean income growth (72%) than inequality reduction (28%).

Source: FGV Social with BRAHMS microsimulations

The Gini index based social welfare grew 4.86% per year. Higher than the respective growth rate associated with initial income (3.49%) and final income (3.77%), but not of gross income (5.14%).

Distributive impact of public policies: Concentration Curves for the Family Grant Programme ordered by Disposable Income



Source: FGV Social with BRAHMS microsimulations

Household Surveys Disposable Income 2003-2015

- 1. The trend in Gini, mean and Social Welfare of disposable income is close to gross income.
- 2. The role of earnings (market incomes) in that trend. 79,3% of mean income; 52,6% of Gini inequality; 71,8% of Social Welfare
- 3. Differences between GDP and Household Income Growth (2003-13): 1,9% annual

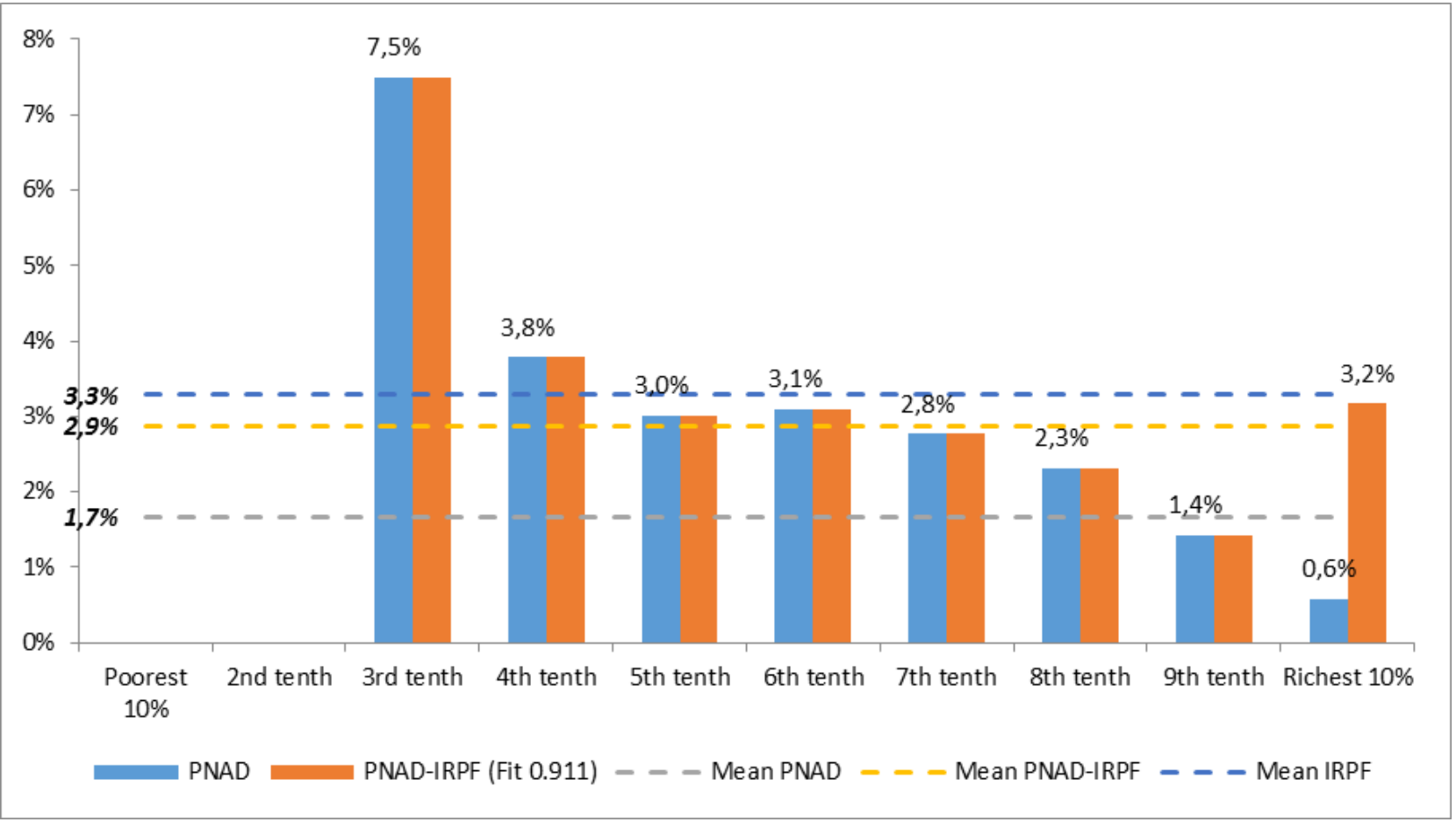
	Nominal GAP PNAD/GDP	Temporal Adjustment	CPI/Implicit Deflator (ID) Private Consumption (C)	ID Private Consumption(C)/ID Domestic Demand (C+G+I)	ID Domestic Demand (C+G+I)/ID Total Demand (C+G+I+X-M)
Contribution to GAP %	18	0	41	24	17

It is the deflator!

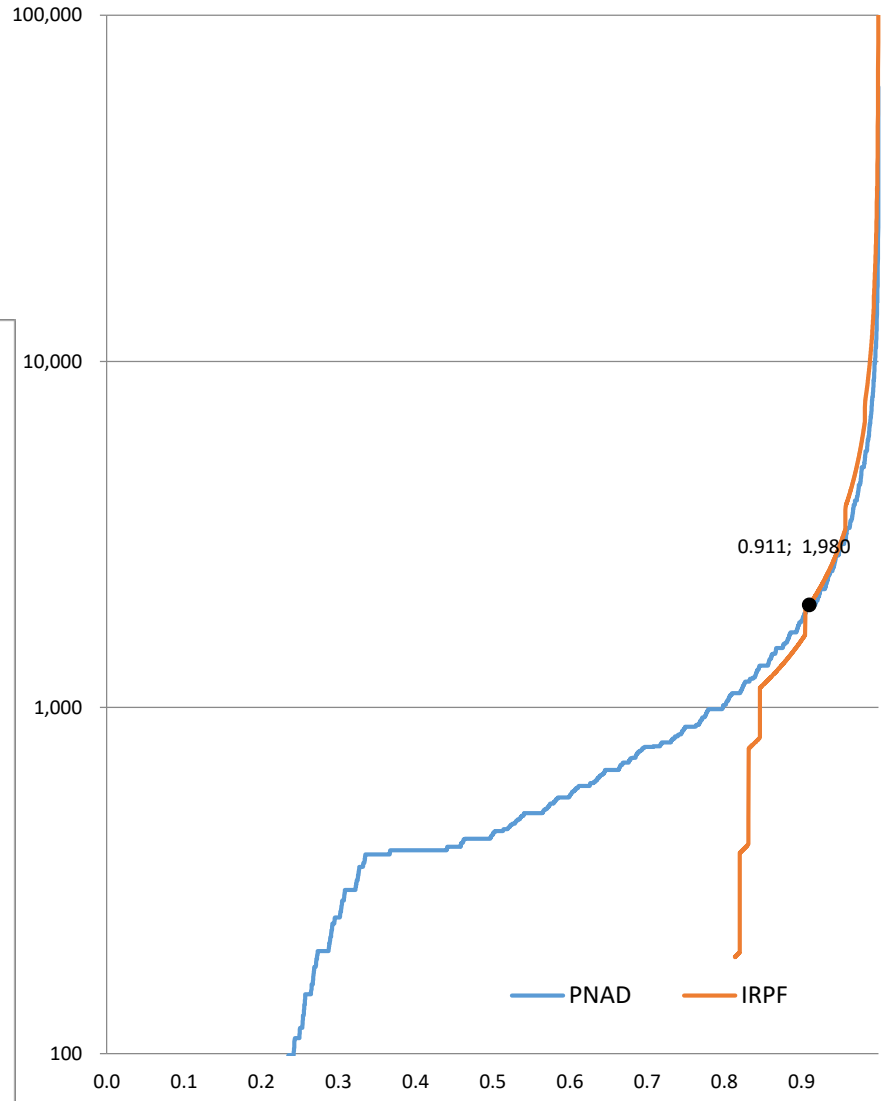
- 4. Role of top incomes: 1%+: (-1,52%), 10%+: (-1,35%), 40%- (2,69%), 10%- (2,69%)

Top Incomes

Real growth rate of income per tenth of the population per year (2007-2015)



Combining PIT (IRPF) and PNAD In Levels 2015



Did the rich boost social welfare?

- Annual growth of PIT taxpayers' average declared income (10.1%) was much higher than that of GDP (3%) from 2007 to 2011. Would the rich filers of PIT have experienced an "economic miracle" unnoticed by the National Accounts or in surveys like PNAD? Not necessarily. Deflators and formalization can explain the difference..

- What drove PIT income growth was exempt incomes. While the population ages and grows, PIT taxpayers become younger and declare more dependents (a reduction in the number of elderly declarants and their reallocation as dependents of their sons and daughters is observed) and non-taxable incomes.

- At least part of these differences can be linked to changes in the incentives provided by Brazilian tax laws. Thus, it is risky to conclude on the trend of Brazilian inequality using PIT available tabulations at face value.

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Thanks!

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