Fiscal Policy and Inequality

24. Inequality II

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Outline

Milanovic (2013)

Piketty (2014): Capital in the 21st Century

Milanovic (2013): Three Measures of Inequality

- Measure 1: Inequality between countries
  - Compare income per capita across countries
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- Measure 1: Inequality between countries
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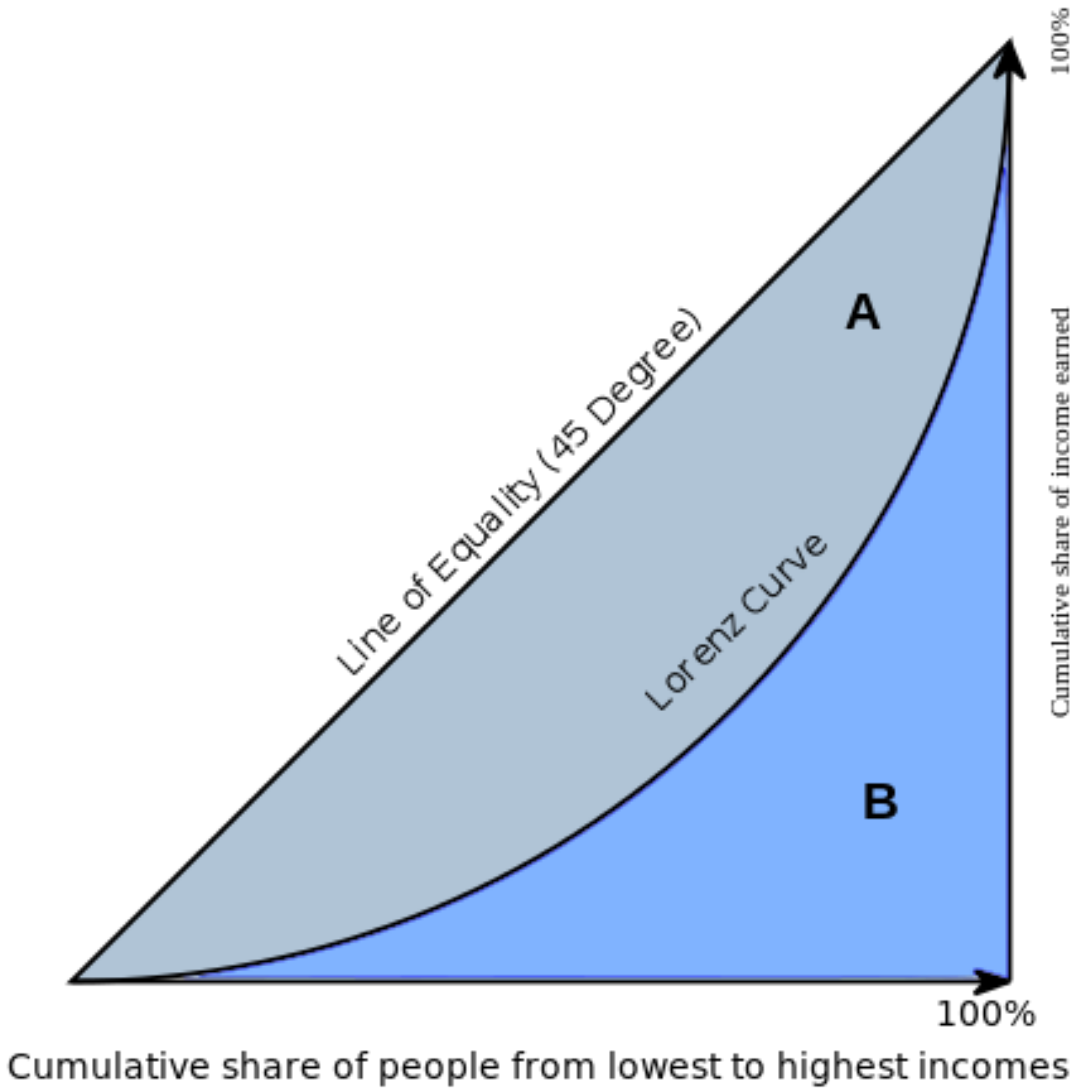
- Measure 2: Inequality between countries, weighed by population
  - Same as above, but now using population weights
- Measure 3: Global Inequality at the individual level
  - This measure goes beyond the nation-state
  - Focus on individuals, regardless of nationality

Gini Coefficient



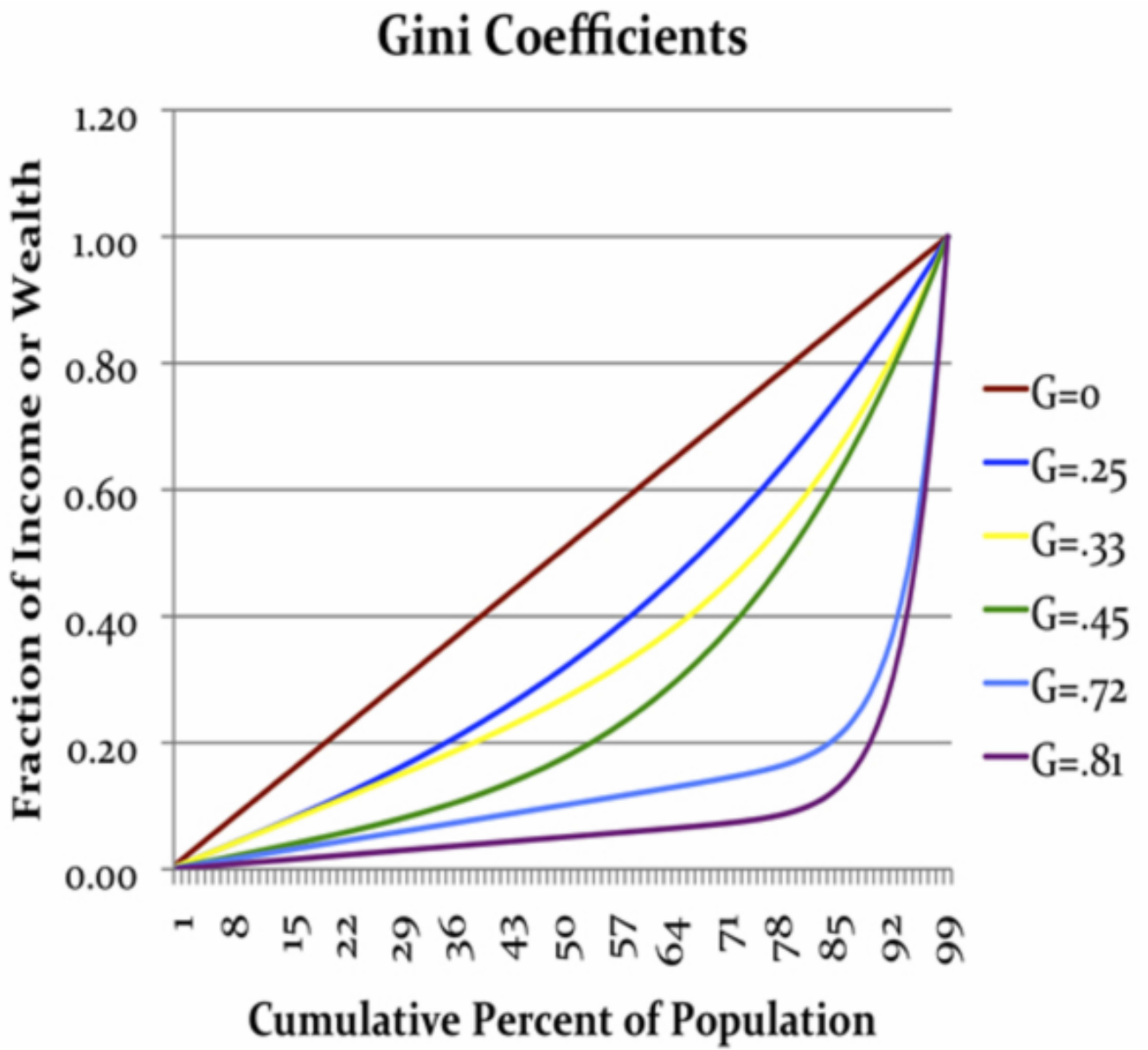
Gini Coefficient

- Formula:

$$G = \frac{A}{A+B}$$

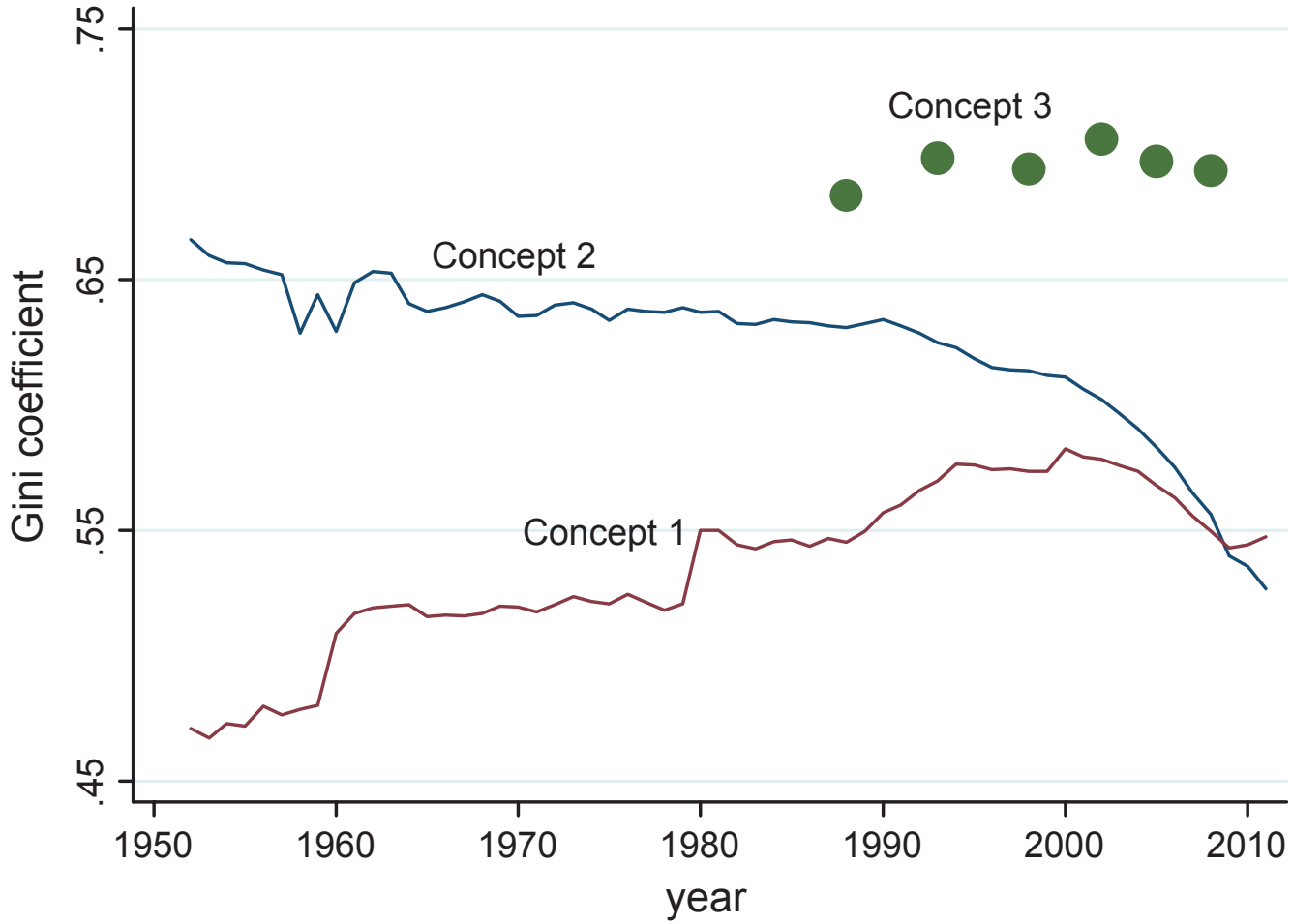
- $G = 0 \Rightarrow$ Complete Equality
  - Everyone has exactly the same income
- $G = 1 \Rightarrow$ Perfect Inequality
  - One person has all income

Gini Coefficient



Milanovic (2013): Global Inequality over Time

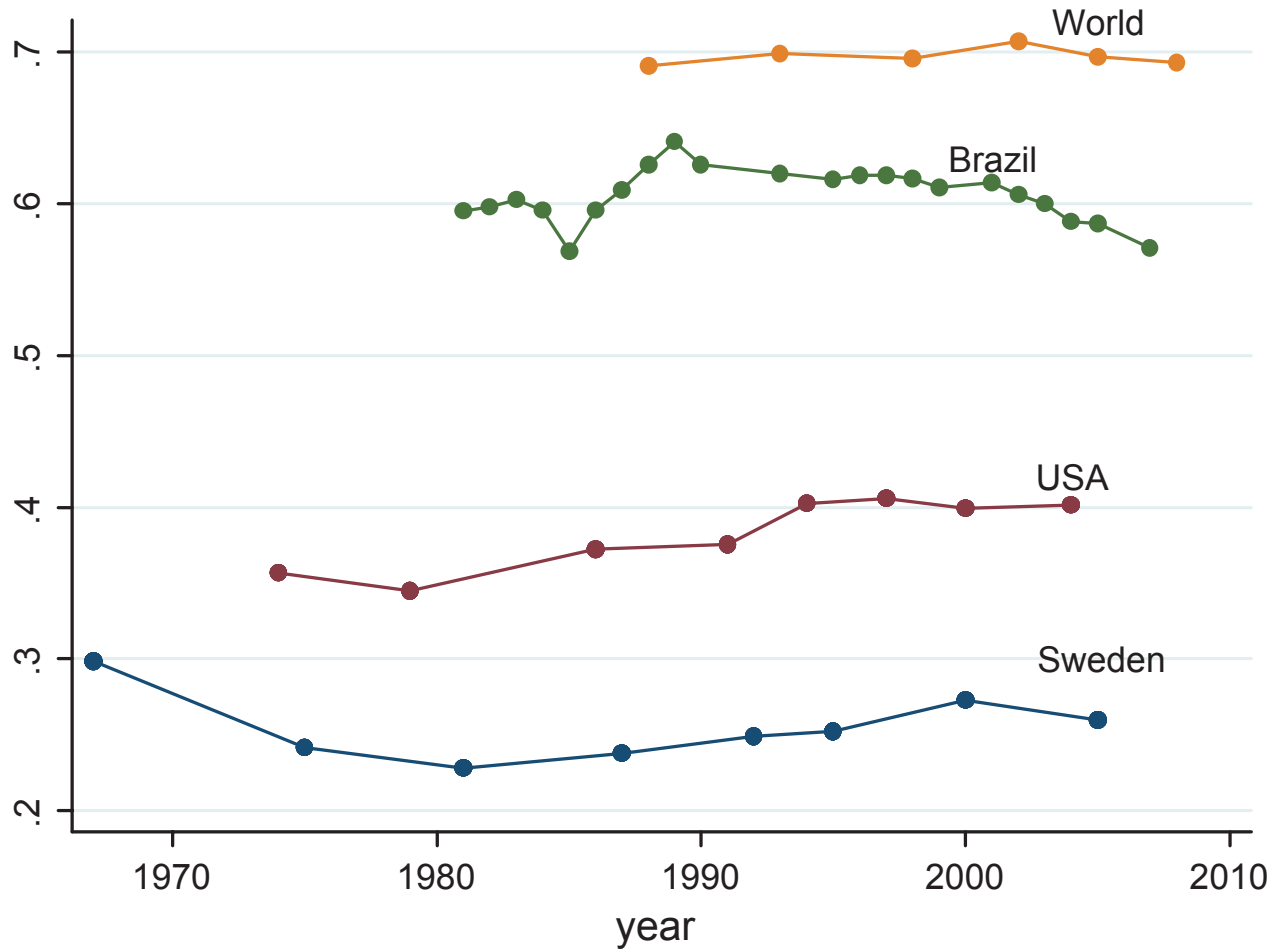
Figure 2. International and global inequality, 1952–2011: 'the mother of all inequality disputes'.



Source: Milanovic (2013)

Milanovic (2013): Inequality Across Countries

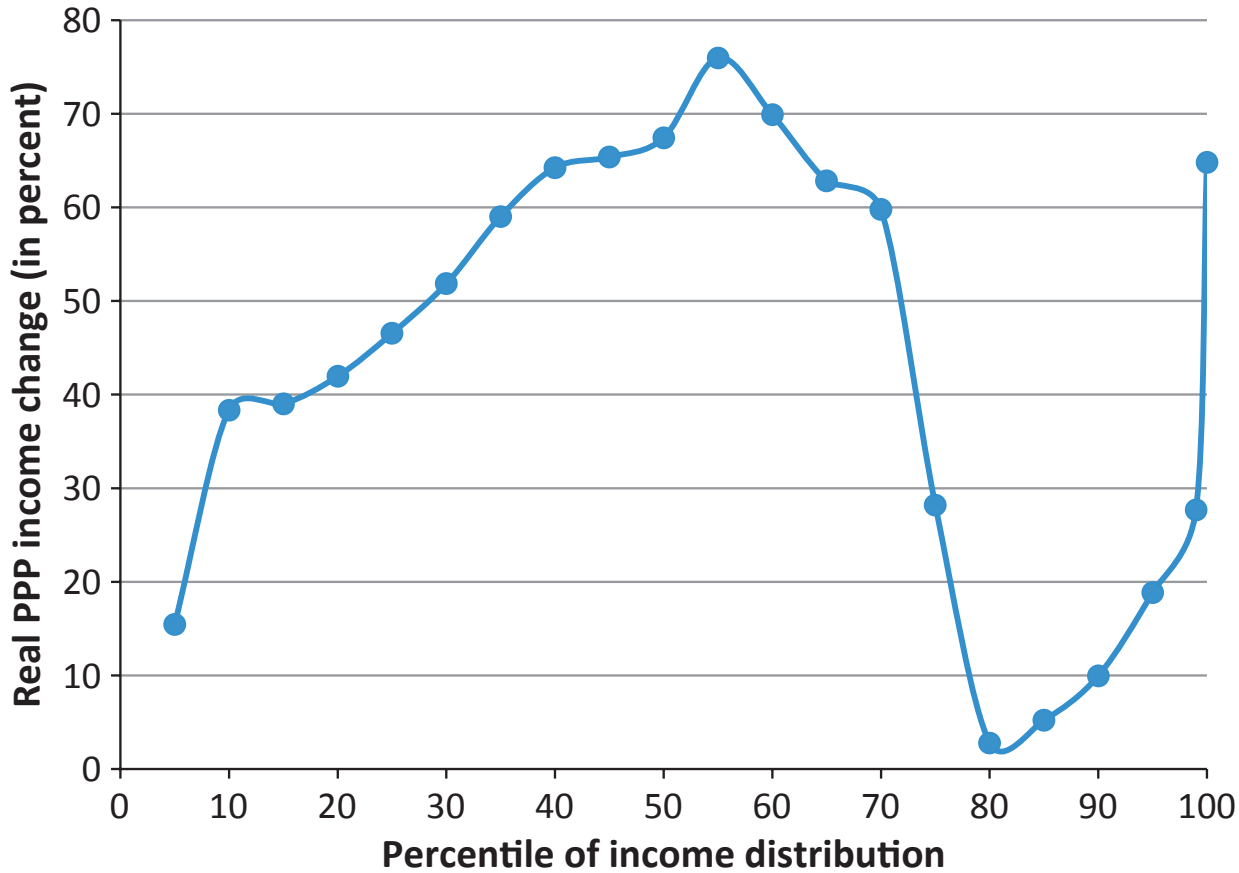
Figure 3. Global Gini coefficient compared to the Ginis of selected countries.



Source: Milanovic (2013)

Milanovic (2013): Winners and Losers, 1988-2008

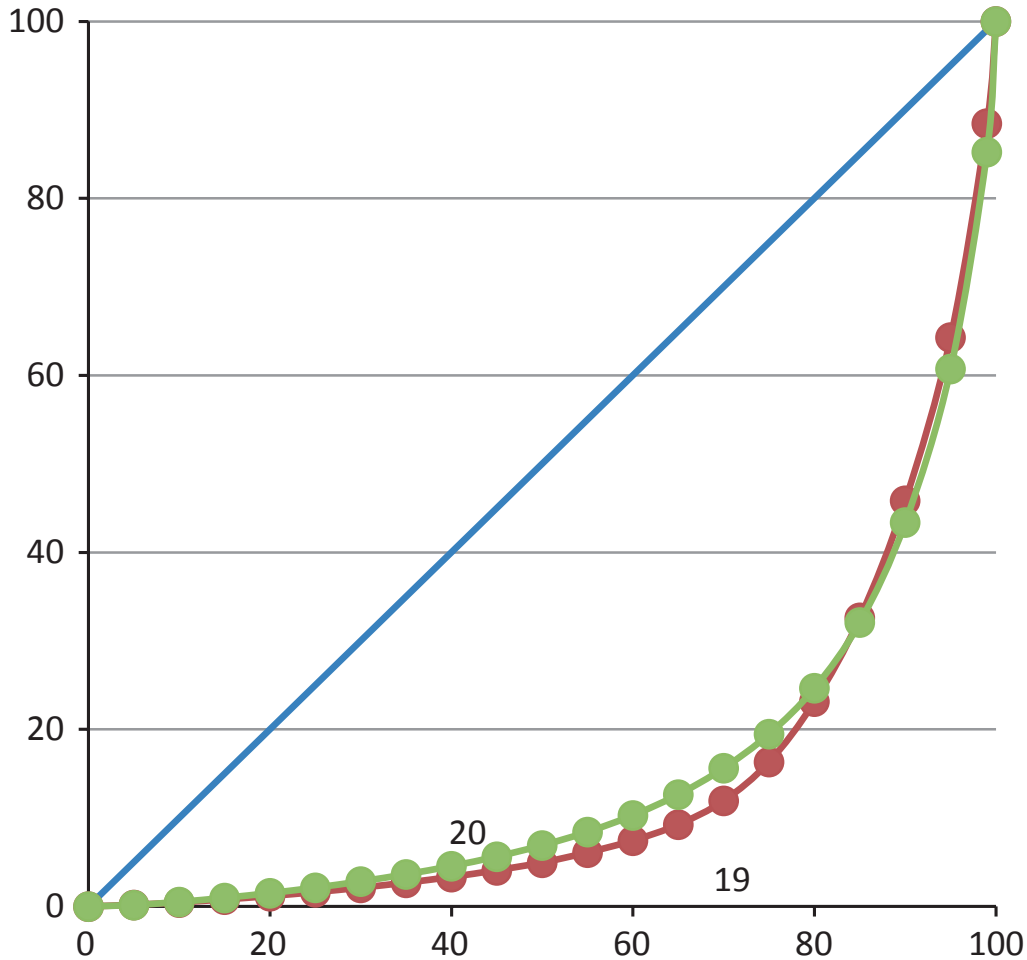
Figure 4. Change in real income between 1988 and 2008 at various percentiles of global income distribution (calculated in 2005 international dollars).



Source: Milanovic (2013)

Milanovic (2013): Global Gini, 1988 vs 2008

Figure 5. Lorenz curves for global income distributions in 1988 and 2008.



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- Economic factors:
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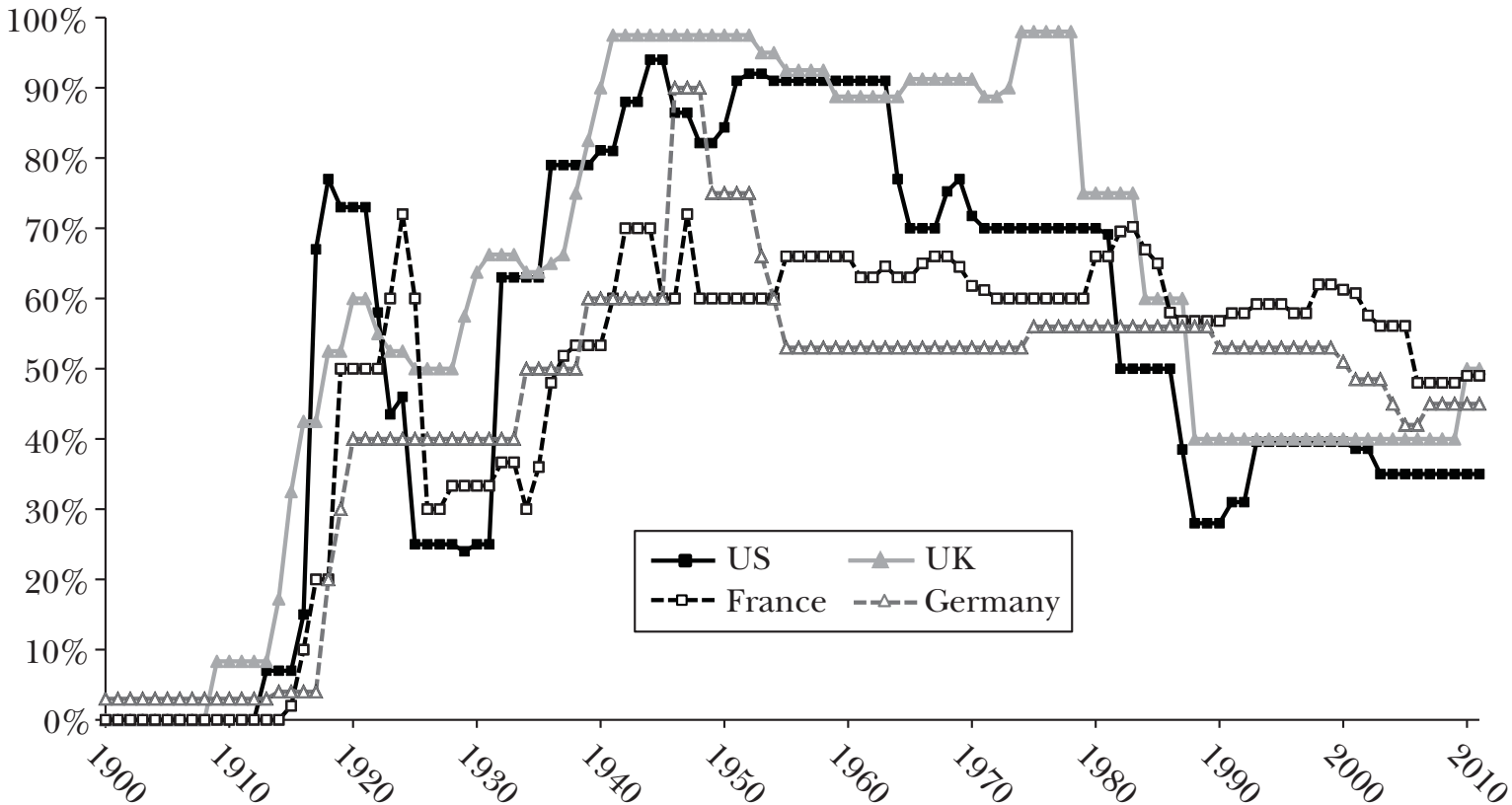
  - Taxes on high-income/high-wealth individuals
  - Transfers to low-income individuals: CCT, EITC
    - Underlying these policy choices (often, not always): equity-efficiency trade-off

Tax Policies (at the top) Across Countries

Top Marginal Income Tax Rates, 1900–2011

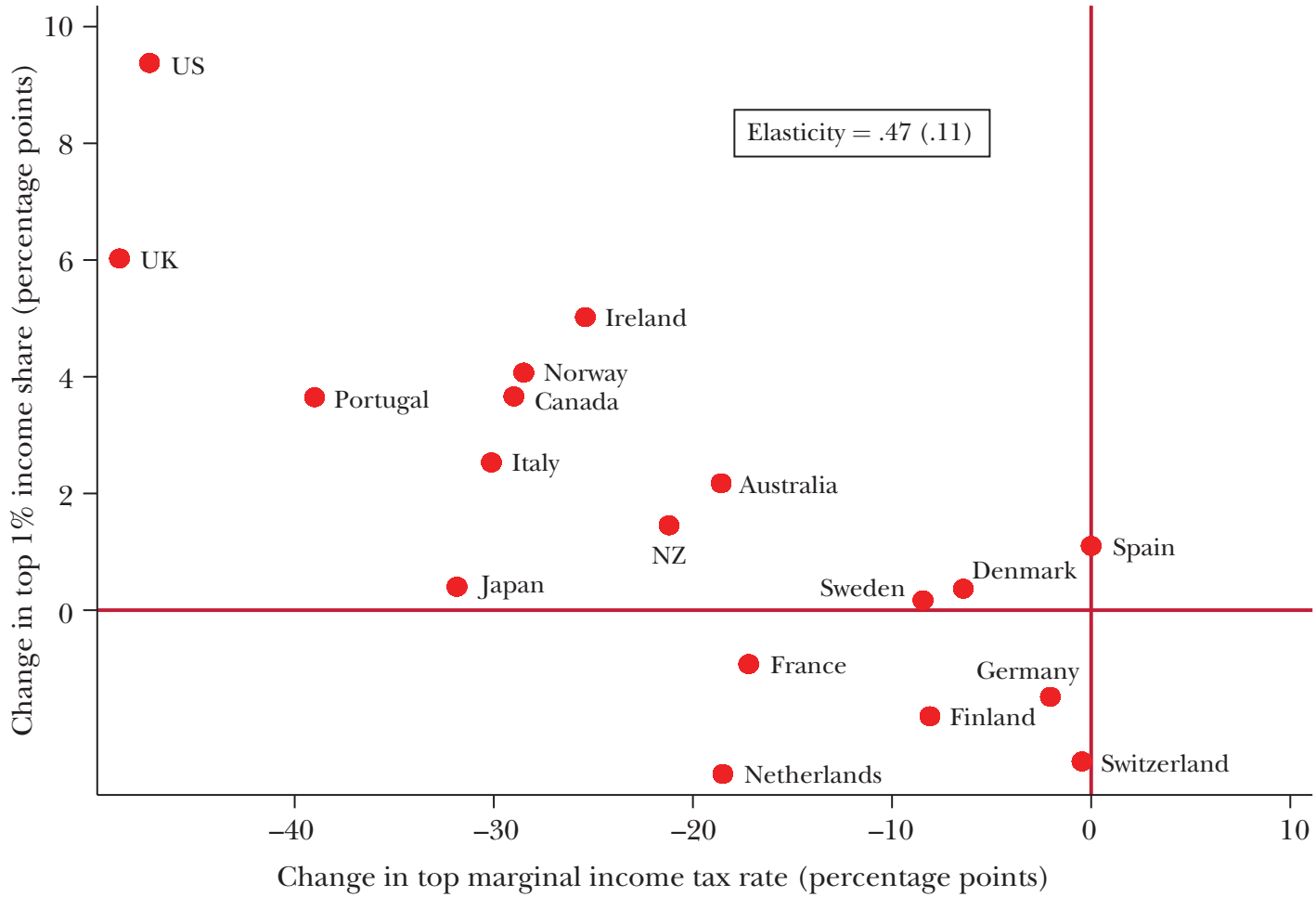


Source: Piketty and Saez (2013, figure 1).

Source: Alvaredo, Atkinson, Piketty and Saez (JEP, 2013)

Tax Policies vs. Changes in Inequality

Changes in Top Income Shares and Top Marginal Income Tax Rates since 1960
(combining both central and local government income taxes)



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- Under this hypothesis, not clear that cuts in top rates lead to more economic growth
  - Resources not allocated optimally
  - How do we calculate the marginal product of a CEO?

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  - National balance sheet data for capital/income ratio
  - 19th Century novels (Balzac, Jane Austen)

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  - $r > g$: capital's annual rate of return is larger than the overall rate of economic growth
    - Inherited wealth grows faster than incomes and output
    - Marxist logic: capital's share of national income rises steadily
  - Steady increase in income inequality within countries (top 1%)
    - Mainly present in the U.S.

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  - Example: if $\beta = 600\%$ and $r = 5\%$, then $\alpha = r \times \beta = 30\%$

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  - $g =$ rate of growth of output, $\beta = \frac{K}{Y}$ capital-income ratio, s savings rate out of national output (net of depreciation)
  - Derivation:

$$\begin{aligned} savings = sY &= K_{t+1} - K_t \\ &= \left(\frac{K_{t+1}}{Y_{t+1}} Y_{t+1}\right) - \left(\frac{K_t}{Y_t} Y_t\right) \\ &\approx \frac{K}{Y}\left(Y_{t+1} - Y_t\right) \end{aligned}$$

  - Then, dividing both sides by Y:

$$\begin{aligned} s &= \frac{K}{Y}\left(\frac{Y_{t+1} - Y_t}{Y_t}\right) \\ s &= \beta \cdot g \end{aligned}$$

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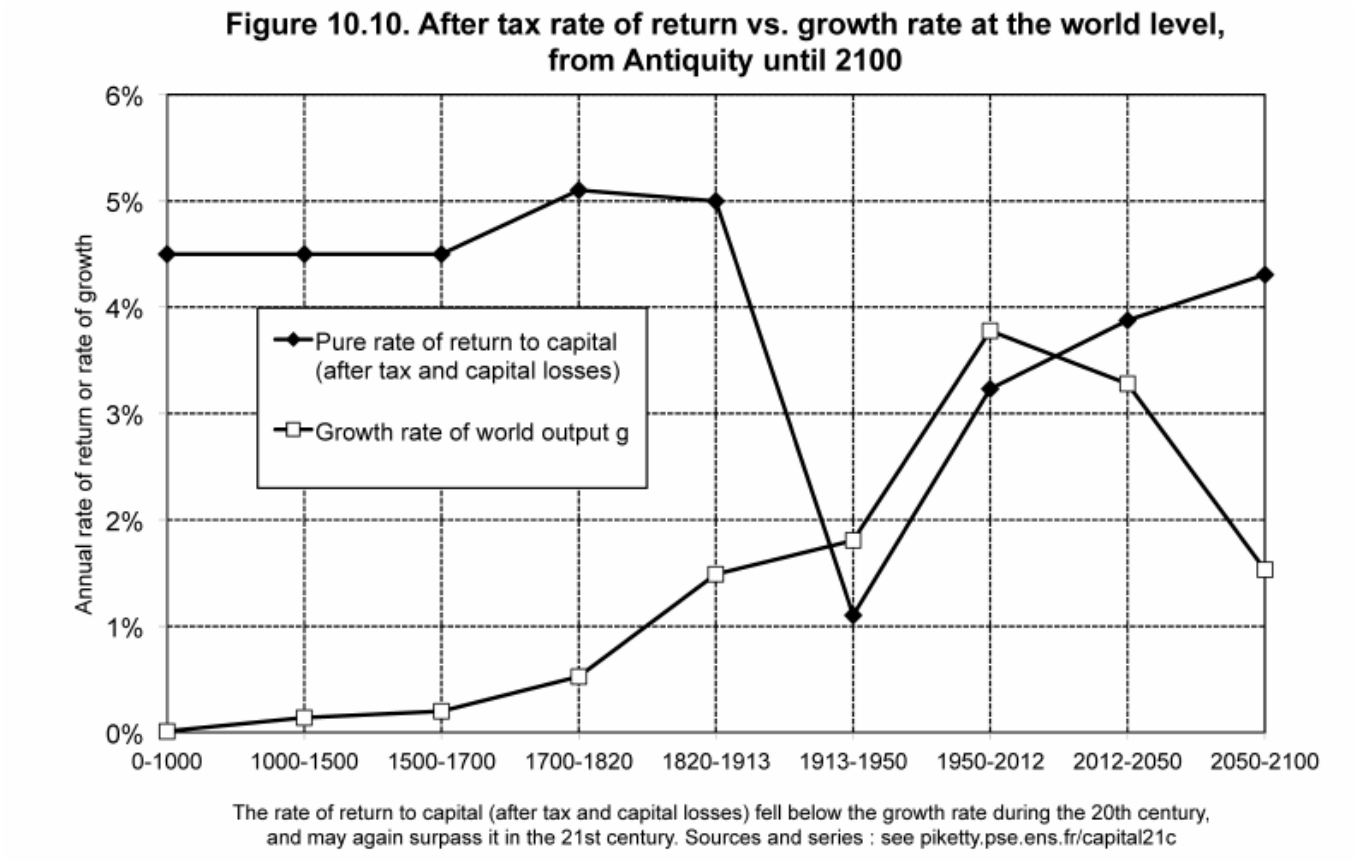
  - In words: "The rate of return on capital systematically exceeds the overall rate of growth of income"
  - Empirically true for most of history, according to Piketty's data
  - Also true in most standard growth models (eg, Solow, Harrod-Domar), but it depends on each model's assumptions

Piketty (2014): r vs. g in Historical Perspective



Source: Piketty (2014)

Piketty (2014): Main Conclusions

- Using historical sources and a basic theoretical framework, Piketty argues that forces of divergence are likely to dominate over forces of convergence
  - *As long as* there is no policy intervention
  - In some cases (eg, Interwar period) forces of convergence might prevail

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- Using historical sources and a basic theoretical framework, Piketty argues that forces of divergence are likely to dominate over forces of convergence
  - *As long as* there is no policy intervention
  - In some cases (eg, Interwar period) forces of convergence might prevail
- Combining these factors with the "secular stagnation" hypothesis, Piketty predicts an increase in inequality in the 21st Century
  - Low rates of economic growth (g) make it more likely that we live in a world with $r > g$
  - Capital/Income ratio and capital's share of national income could rise back to 19th Century levels

Piketty (2014): Policy Recommendations

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  - What is the elasticity of taxable wealth?
    - Land cannot move, but stocks and IP can
  - Extensive margin responses, eg. migration
  - How to ensure all jurisdictions abide by the tax?

IMF (2014): "Redistribution, Inequality & Growth"

- **Main result**: inequality negatively correlated with growth, and redistribution is not so bad!
- **Data**: use two measures of inequality
  1. Market inequality (*before* taxes & transfers)
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- **Main result**: inequality negatively correlated with growth, and redistribution is not so bad!
- **Data**: use two measures of inequality
  1. Market inequality (*before* taxes & transfers)
  2. Net inequality (*after* taxes & transfers)
- Redistribution defined as $R = \text{Gini}_{Market} - \text{Gini}_{Net}$
- Huge data effort to homogenize household surveys in many countries, done by Solt (2009)
  - Varying data quality by country

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1. More unequal societies tend to redistribute more
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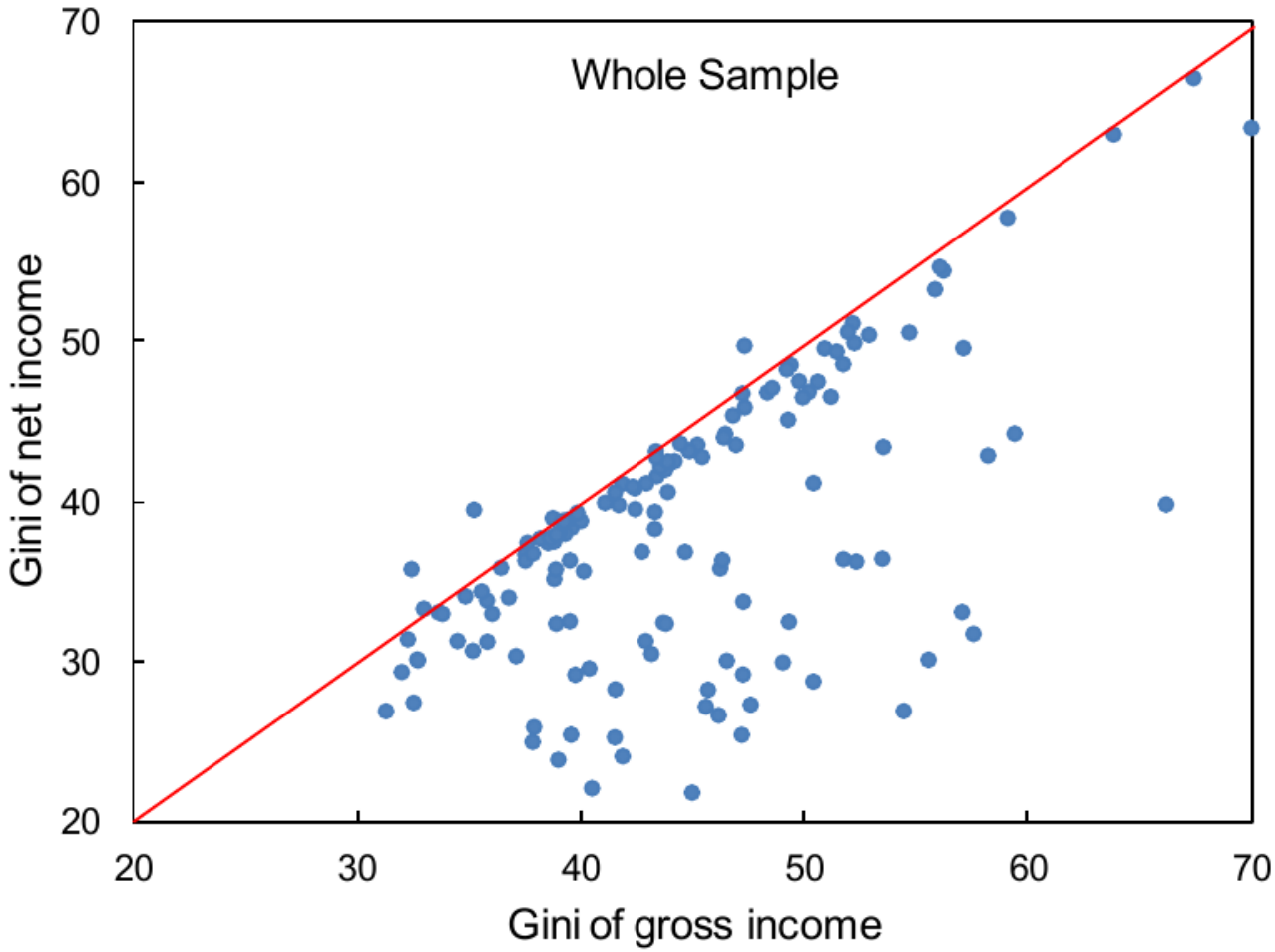
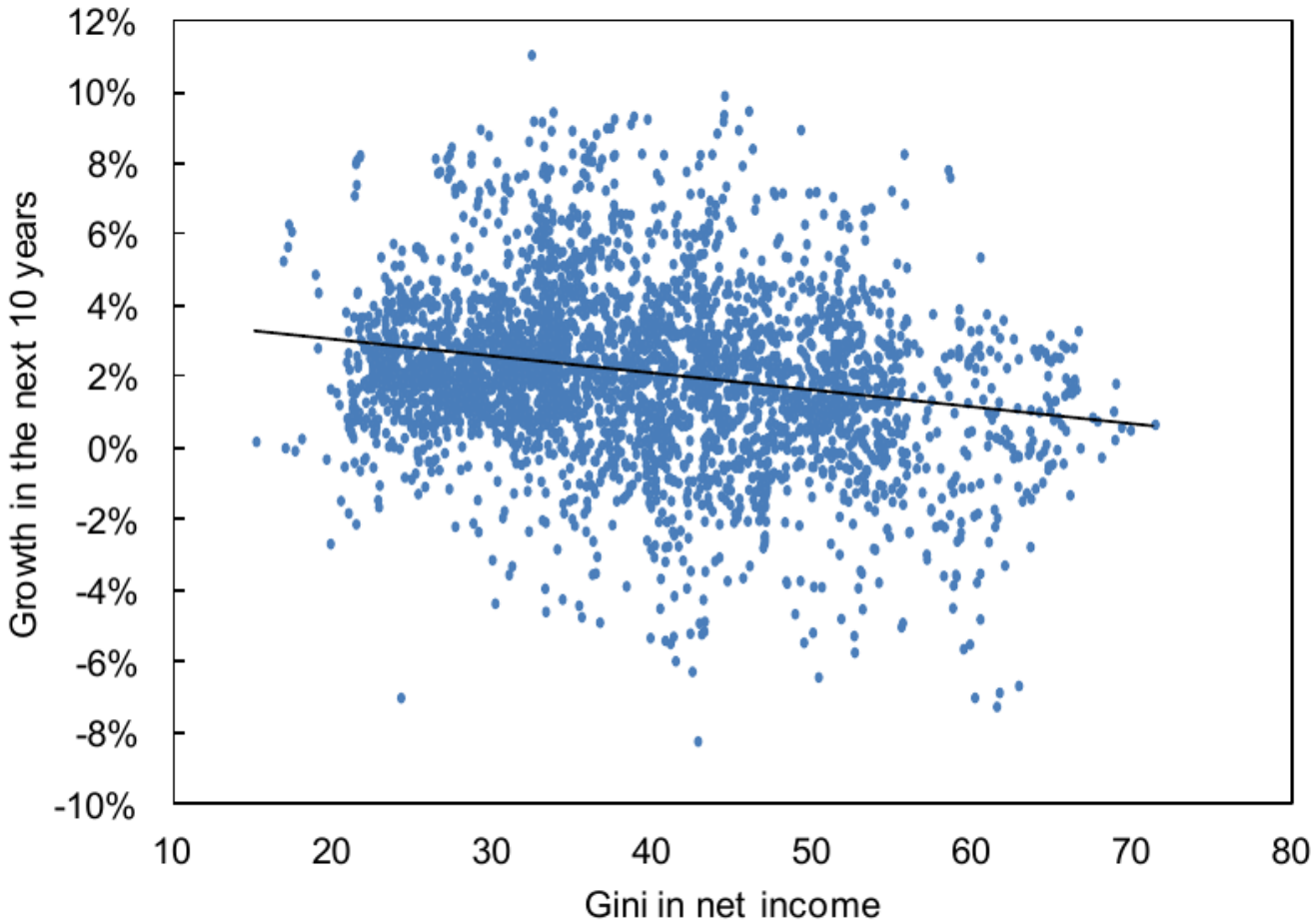
2. Lower net inequality is robustly correlated with faster and more durable growth (for a given level of redistribution)
3. Redistribution has a (weakly) positive impact on growth
   - Only in extreme cases there is some evidence of direct negative effects

Gross vs. Net GINI



Source: IMF (2014)

Result 2: Inequality vs. Future Growth



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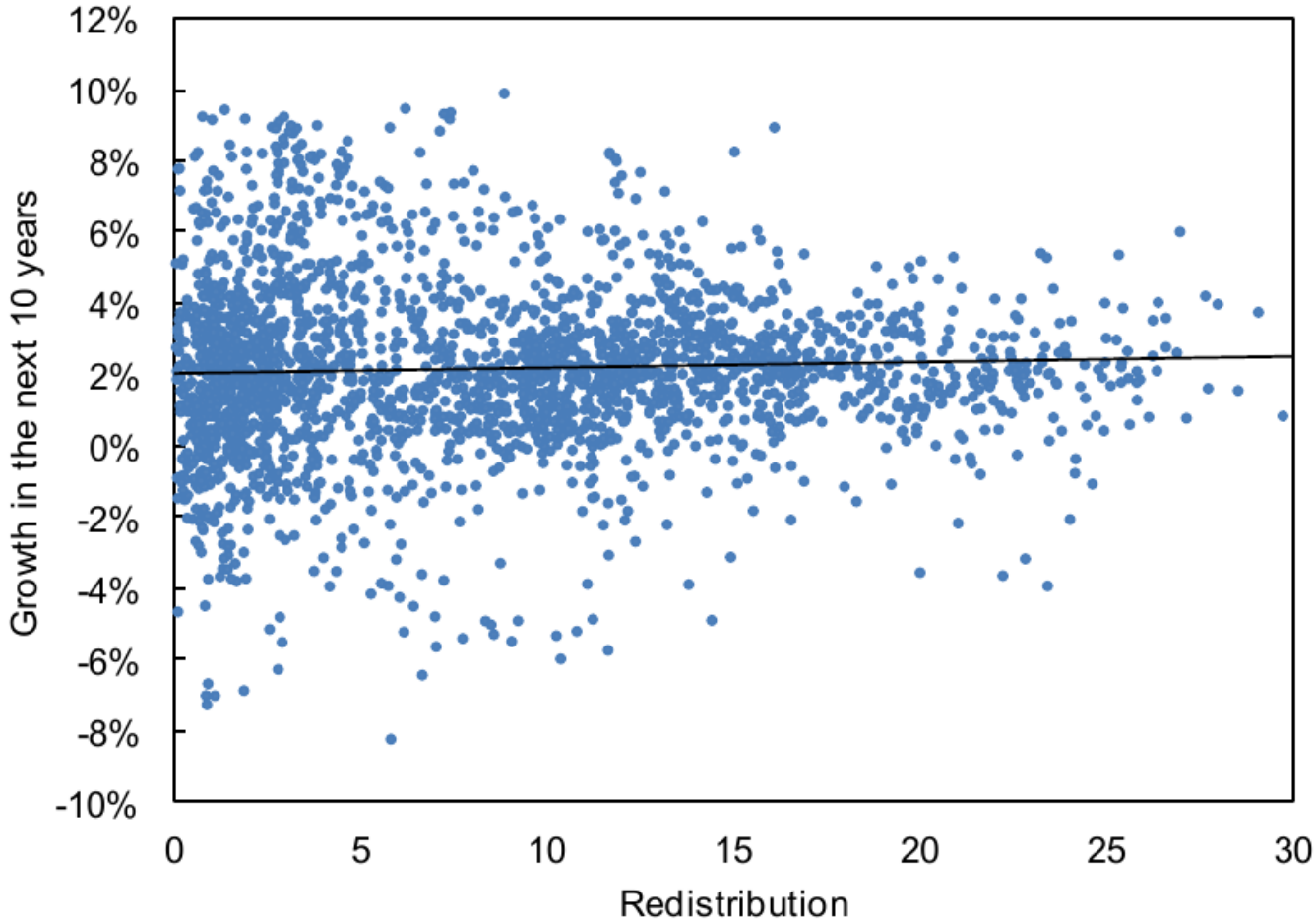

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Result 2 & 3 in Regression Form

Table 3. The effect of inequality and redistribution on growth 1/

	Dependent Variable: growth rate of per capita GDP			
	Baseline	Baseline + controls		
	(1)	(2)	(3)	(4)
Log(initial income)	-0.0069**	-0.0081**	-0.0140***	-0.0135***
	(0.0034)	(0.0035)	(0.0037)	(0.0046)
Net inequality	-0.1435***	-0.0914***	-0.0739***	-0.1057**
	(0.0444)	(0.0336)	(0.0266)	(0.0492)
Redistribution	0.0046	0.0258	0.0109	0.0530
	(0.0492)	(0.0516)	(0.0428)	(0.0494)
Log(investment)		0.0241***	0.0250***	0.0076
		(0.0077)	(0.0084)	(0.0125)
Log(population growth)		-0.0159	-0.0215	-0.0084
		(0.0182)	(0.0174)	(0.0160)
Log(total education)			0.0206***	0.0164*
			(0.0073)	(0.0099)
Large negative terms of trade shock				-0.0424***
				(0.0158)

IMF (2014): *What* Redistribution Policies?

- Some win-win policies (*pseudo-consensus*):
  - Taxes on activities with negative externalities consumed mostly by the rich
  - Cash transfers to encourage school attendance by children in low-income households (CCTs)
  - Efficient spending on infrastructure, education, and health

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  - Cash transfers to encourage school attendance by children in low-income households (CCTs)
  - Efficient spending on infrastructure, education, and health
- All of the above can increase *both* equity and efficiency
- Of course, many other redistributive policies face the standard equity vs efficiency trade-off.