

# Income Inequality

Roberto Rigobon

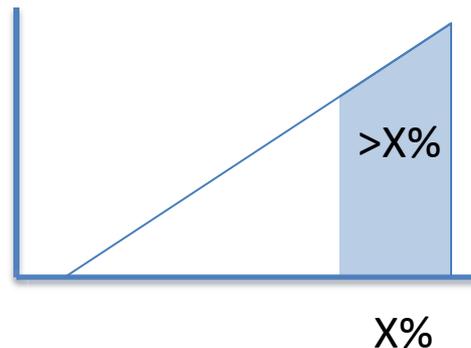
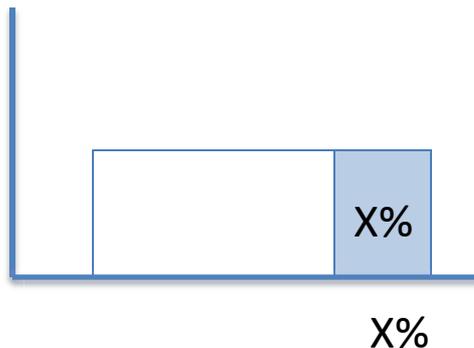
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# Capitalism

- Its main critique:
  - It generates substantial income inequality
- Issues:
  - How to measure it?
    - Income, consumption, standards of living?
  - How to correct it?
    - Tax
    - Regulation
    - Social welfare

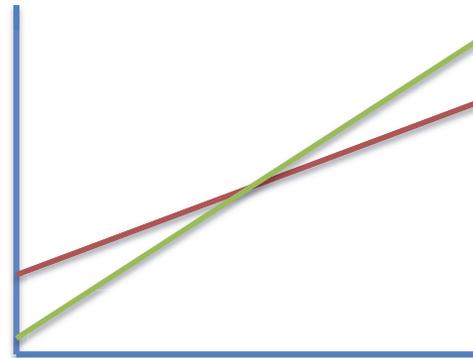
# Two measurements

- Inequality
  - A perfectly equalitarian society
    - Ratio of income share of top x%, divided by x%? **1!**
  - Inequality
    - Ratio of income share of top x% divided by x is larger than one



# Two measurements

- Social mobility
  - Income group of parents and average income group of kids
    - In a perfectly equalitarian society the expected income group of the kids is 50% regardless of the parent's income
    - When there is inequality the income group of the kids is correlated with the income group of the parents

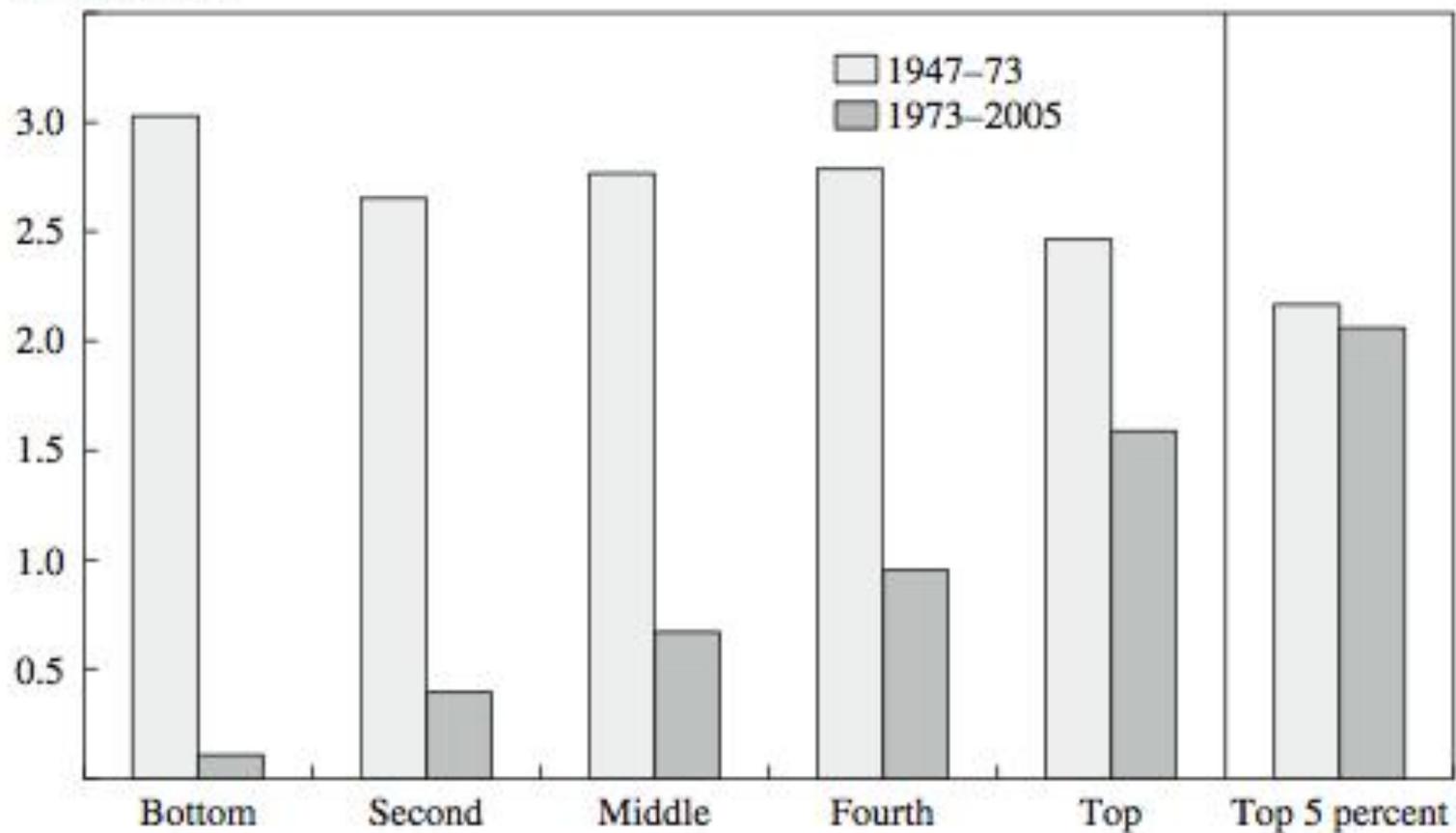


# Facts

growth and income inequality

**Figure 1. Growth in Real Mean Family Income by Income Quintile, 1947–73 and 1973–2005<sup>a</sup>**

Percent a year



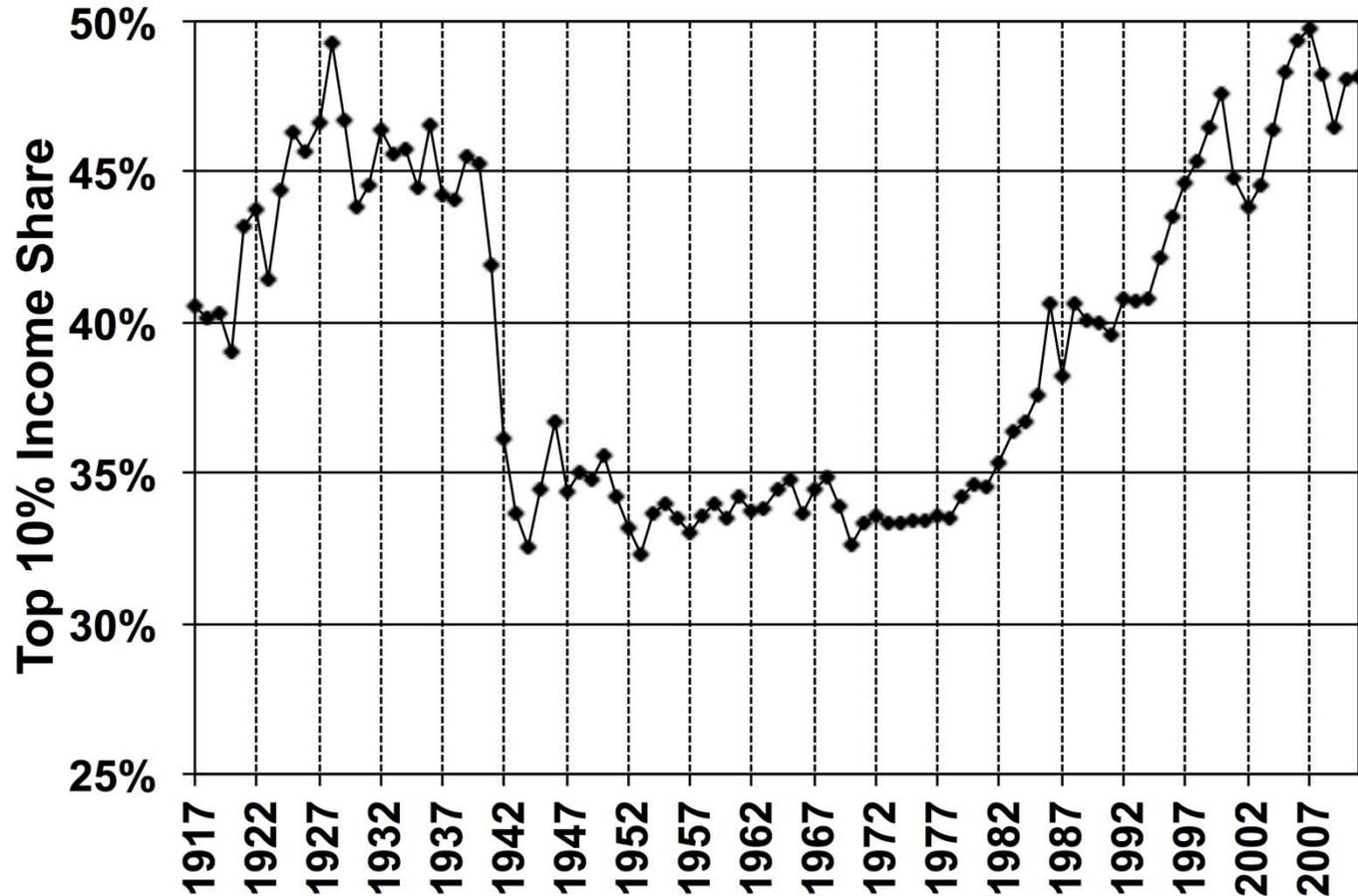
Source: U.S. Census Bureau, Historical Income Tables, tables F2, F3, and F7.

a. Money incomes before tax and after transfers are converted to constant dollars using the consumer price index research series (CPI-U-RS).

Source: Goldin and Katz from census data.

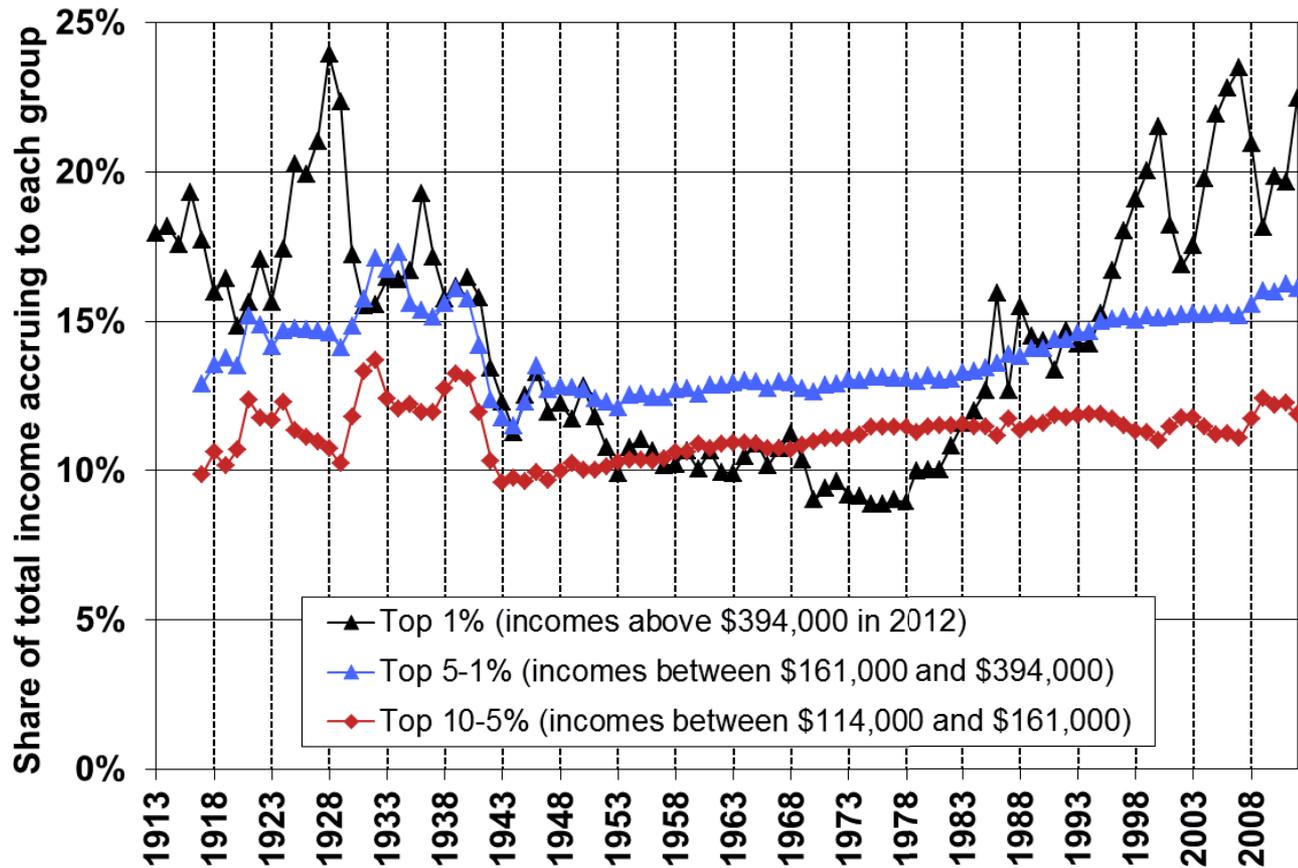
# Income Shares at the Top

Top 10% Pre-tax Income Share in the US, 1917-2011



Source: Piketty and Saez.

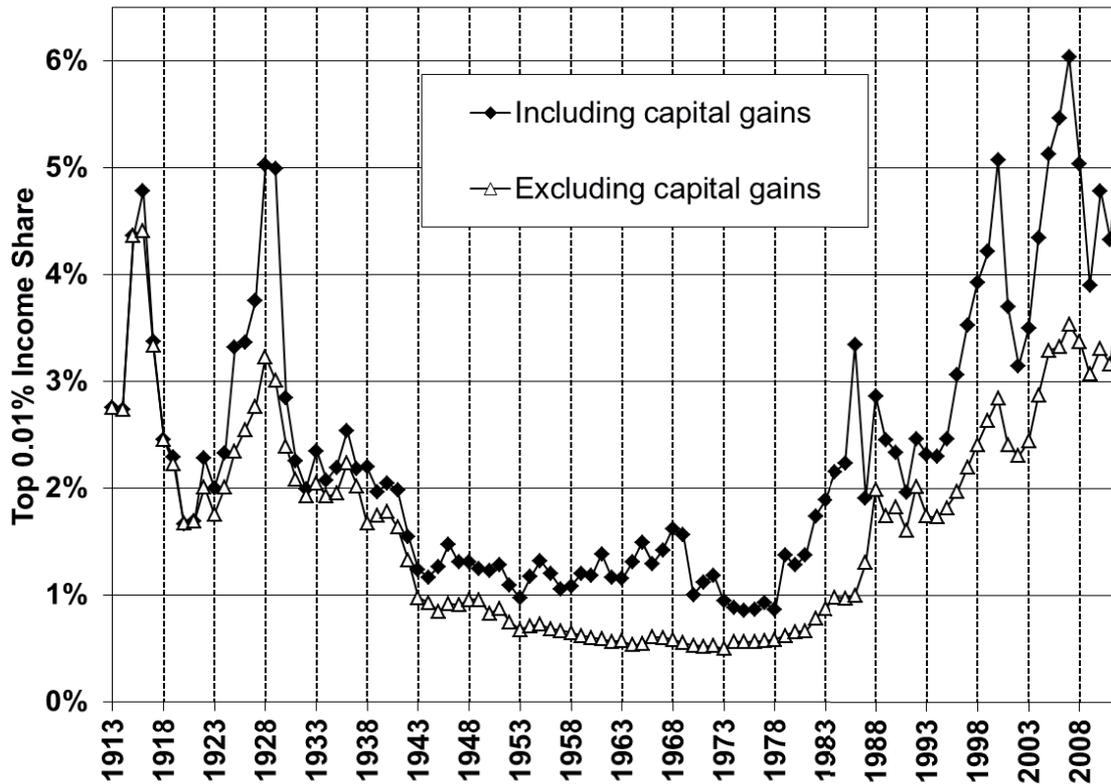
# Income Shares at the Top



Source: Piketty and Saez.

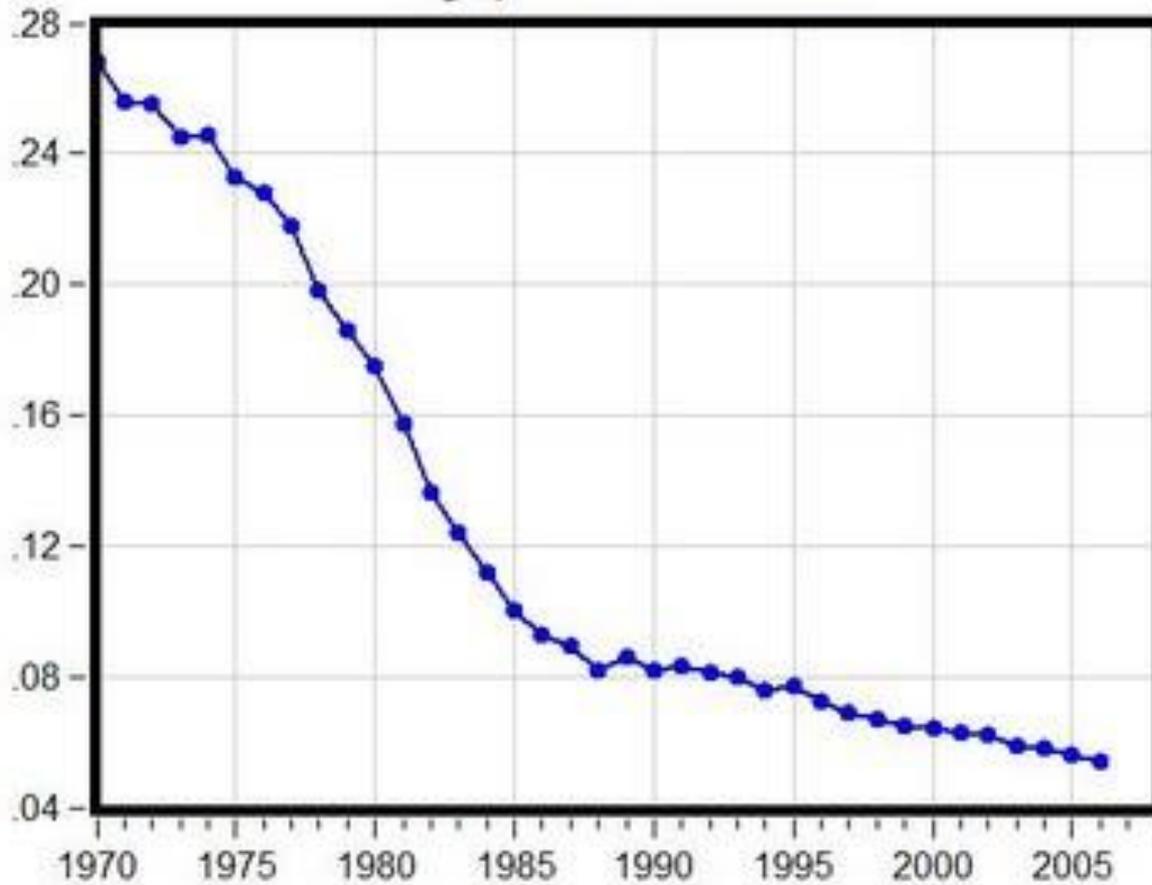
# Top 0.01 % Income Share

(Threshold is about \$10,000,000 in 2012)



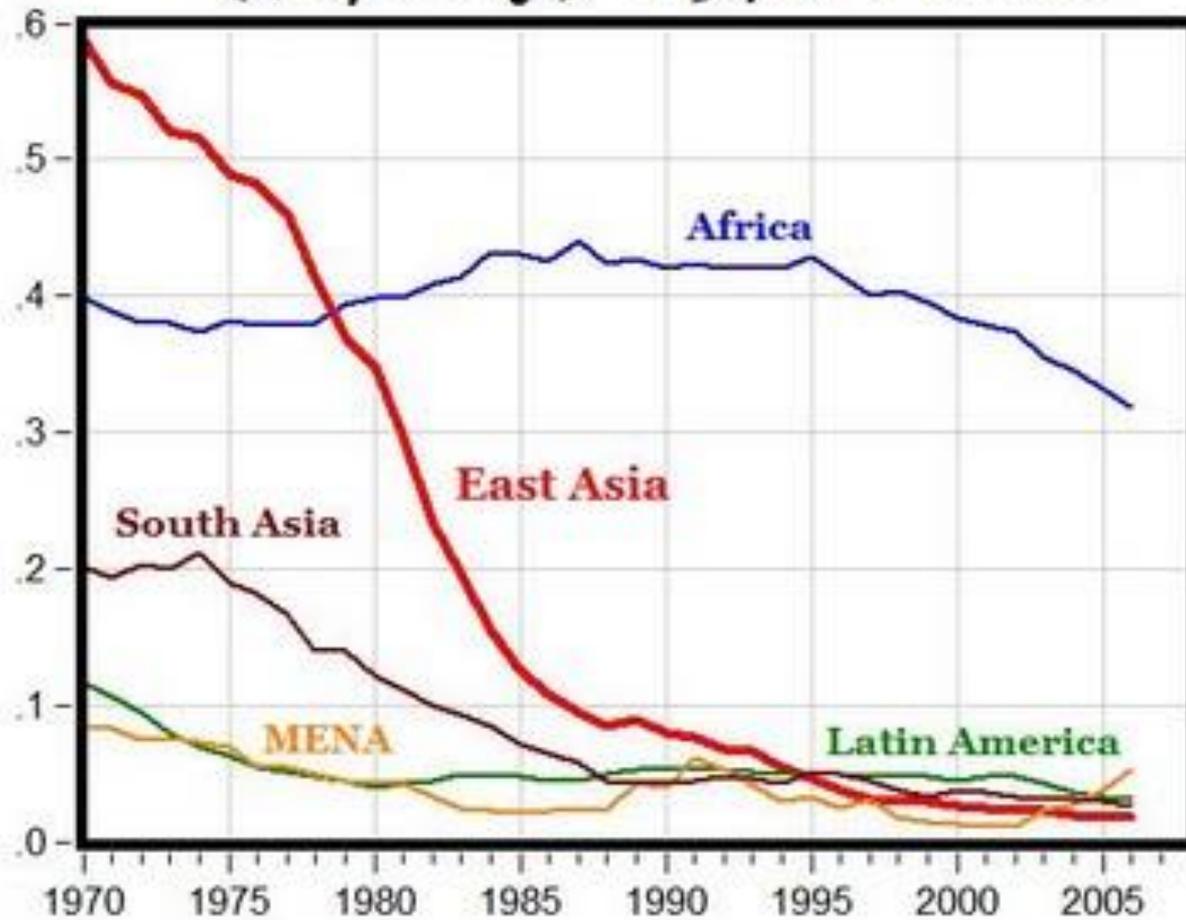
Source: Piketty and Saez.

# World \$1/Day Poverty Rate 1970-2006



Source: Pinkovskiy and Sala-i-Martin.

# Regional Poverty Rates (\$1/Day) 1970-2006

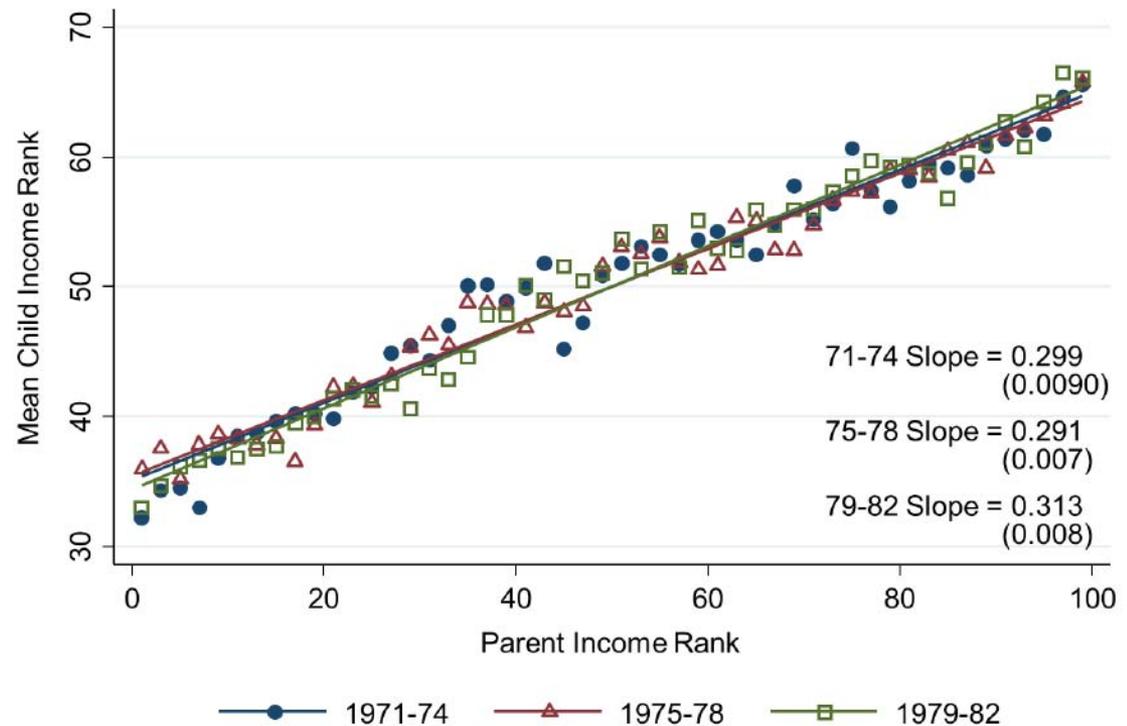


Source: Pinkovskiy and Sala-i-Martin.

# An Aside on Mobility

- If your income is at the 99<sup>th</sup> percentile, at what percentile should you expect your children to be?

Figure 1. Child Income Rank vs. Parent Income Rank by Birth Cohort

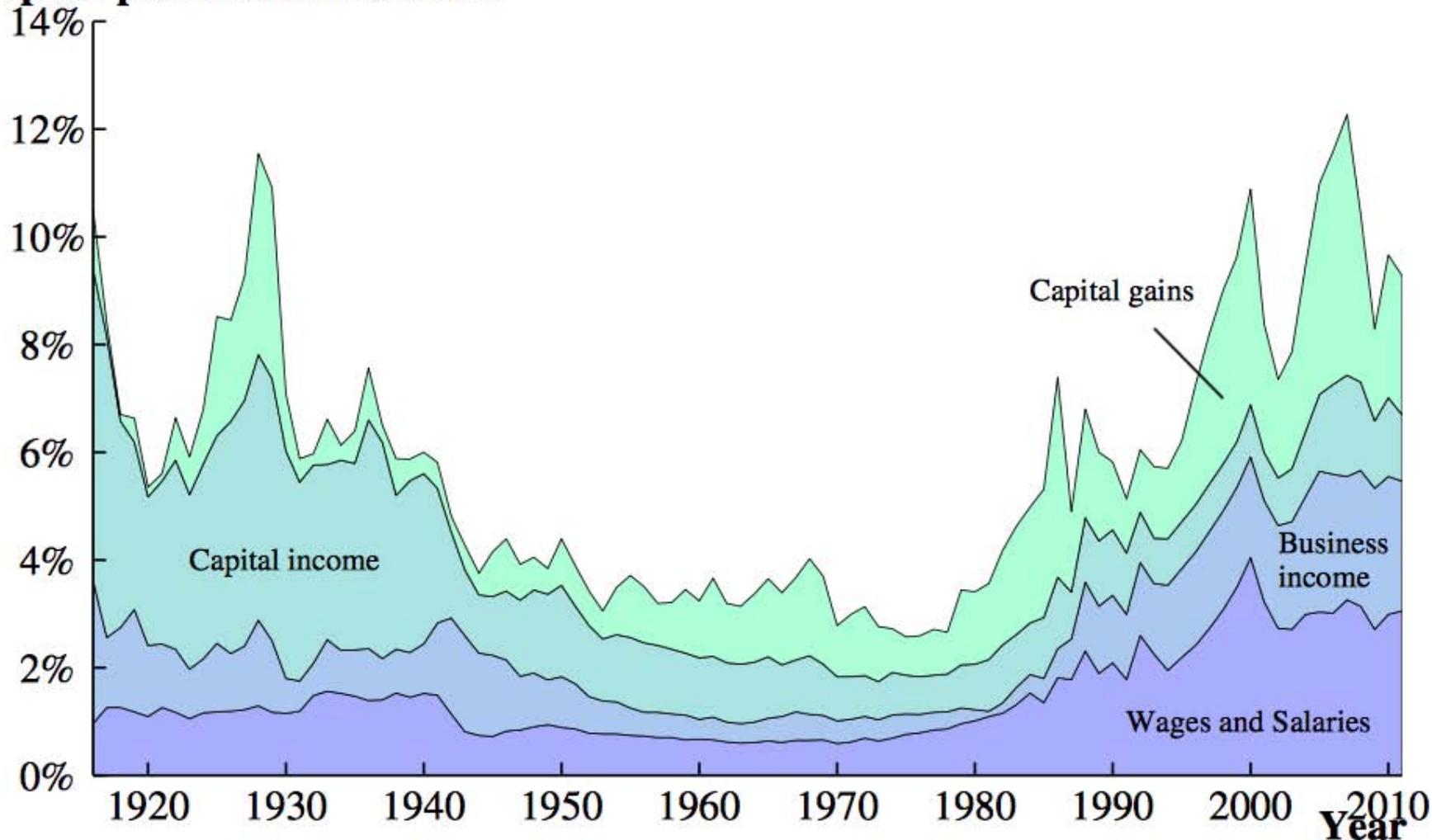


Source: Chetty et al., 2014.

**Why?**

# US Top 0.1% pre-tax income composition

Top 0.1 percent income share



# Piketty

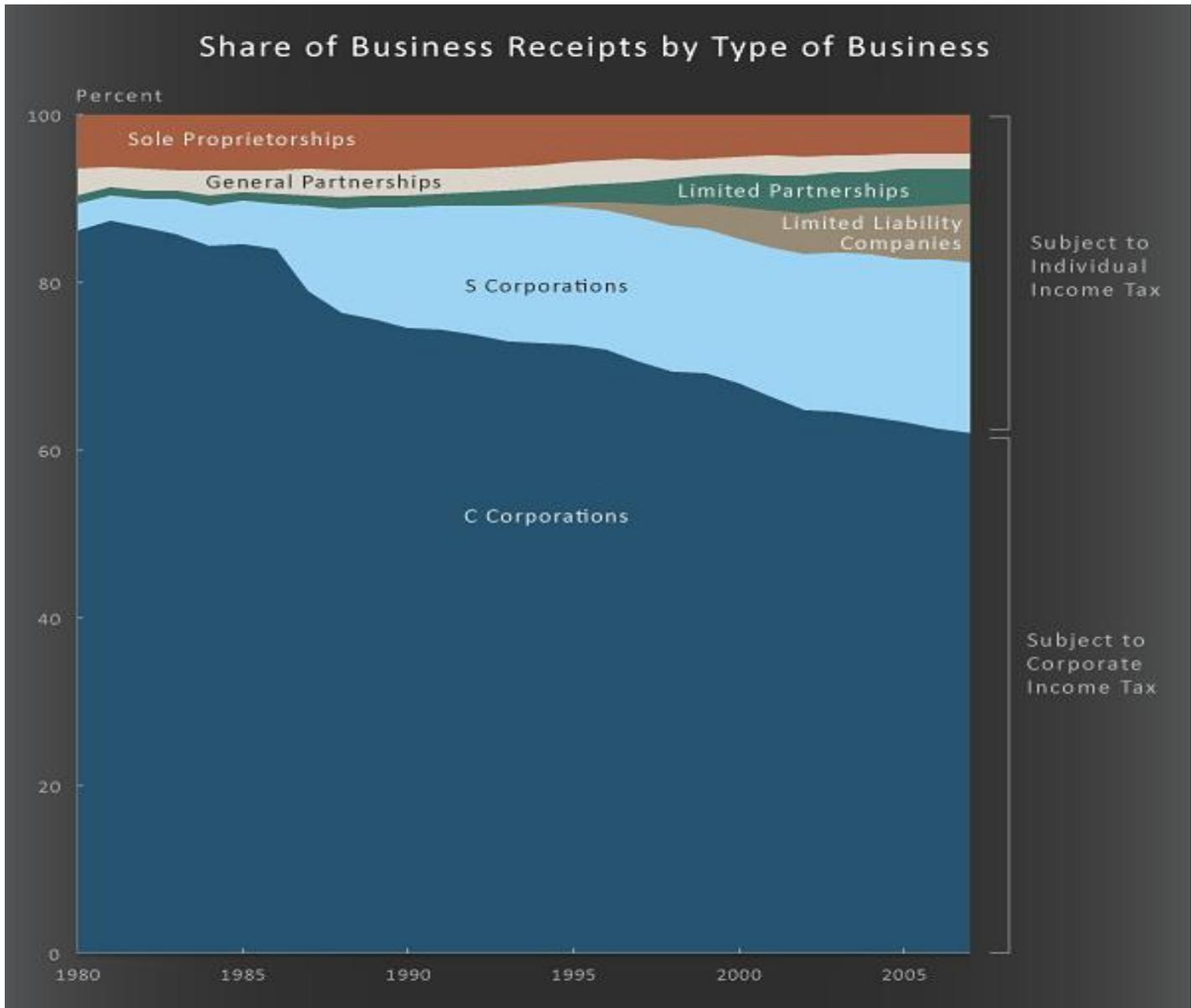
- There is a U shape – we are back to “bad” times
- Drop in inequality occurred because capital income collapsed
- Increase in inequality occurs because wages+salaries+business income

# Explanations for Rising Inequality

- Data problems
  - The big contribution of Piketty
    - Fringe benefits like employer-provided health insurance have risen from about 8 percent of compensation in 1960 to about 20 percent today.
    - Most of the previous studies do not include this income as part of the salary
    - Most studies never studied the 0.01% of the population because they were never surveyed

# Explanations for Rising Inequality

- Data problems:
  - The big contribution of Piketty
    - Fringe benefits
    - Changes in the tax code and the rise of path-through entities contributes to the inequality

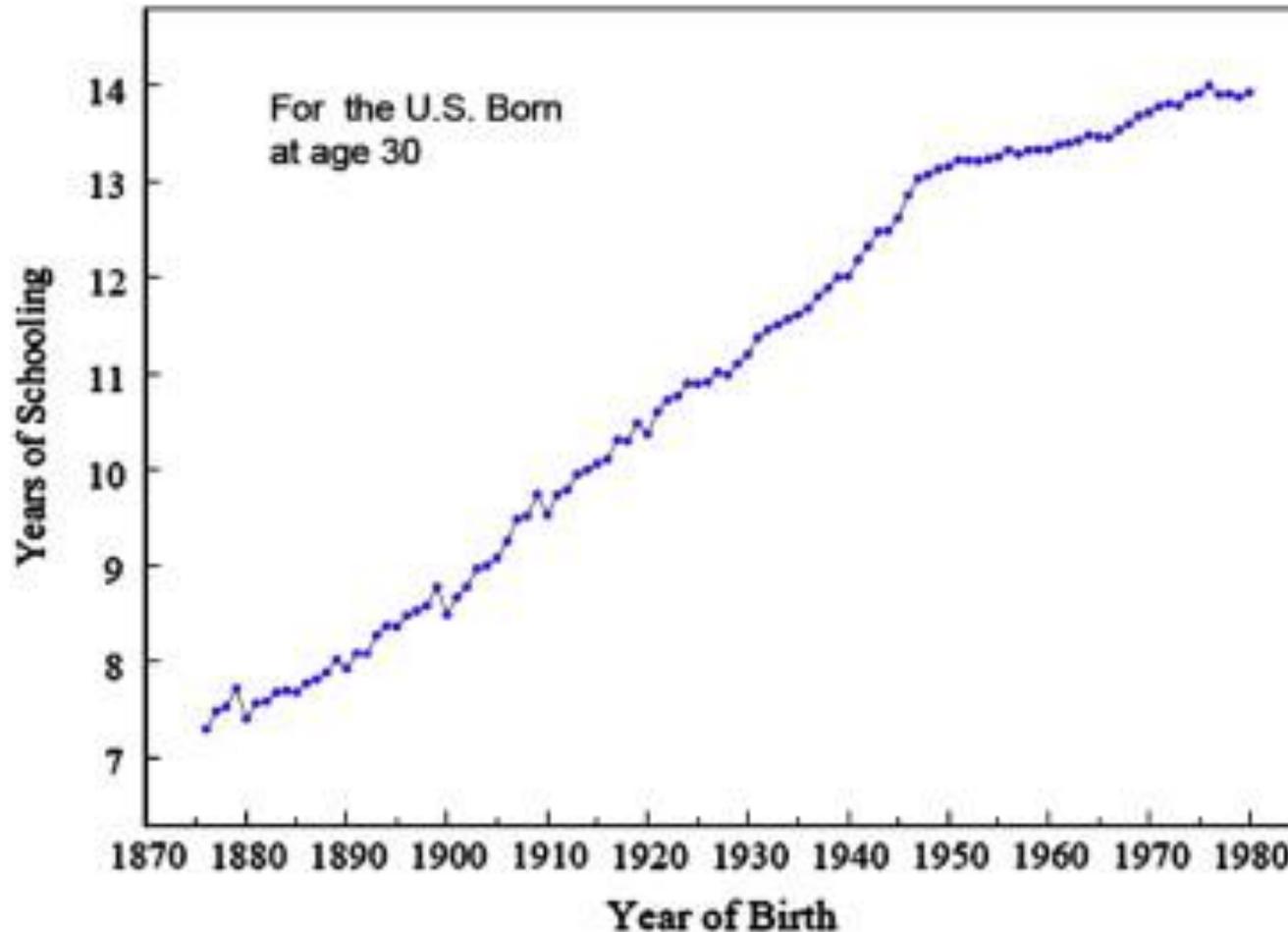


Graph is in the public domain. Source: CBO.

# Explanations for Rising Inequality

- Data problems
- Education
  - Slow down in college participation decreased supply of skilled workers (increasing their salaries)

# The Slowdown in Educational Attainment



Source: Goldin and Katz.

# Explanations for Rising Inequality

- Data problems
- Education
- Technology
  - Technology tends to be unskilled-substitute but skilled-complement.
  - Technology tends to dis-intermediate activities that are low skilled intensive
  - Technology allows for SuperManagers

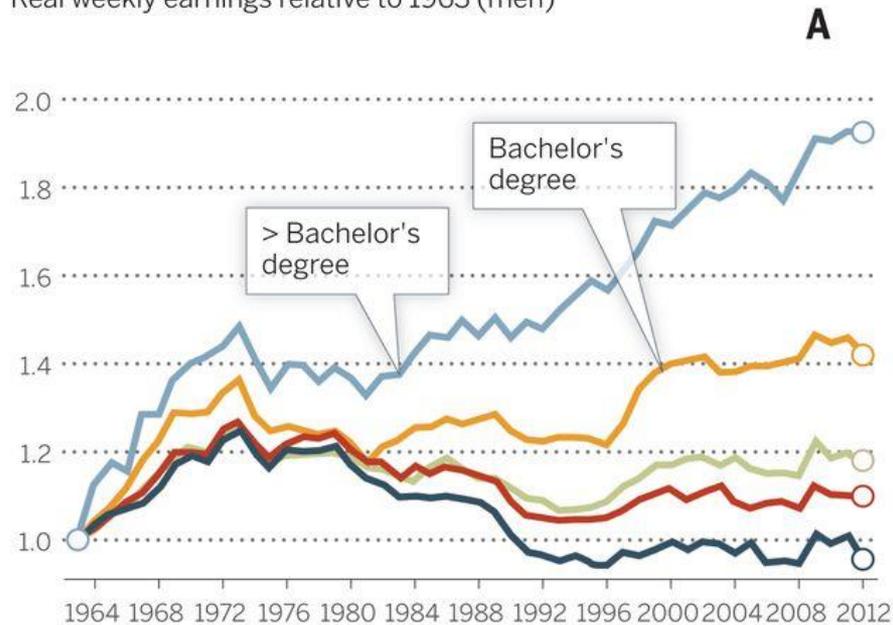
# Technology substitubility

- Erik Brynjolfsson
  - Technology substitutes unskilled workers
  - Technology complements skilled workers
  - Payment to skilled increase while payments to unskilled decrease. Returns to education should increase!

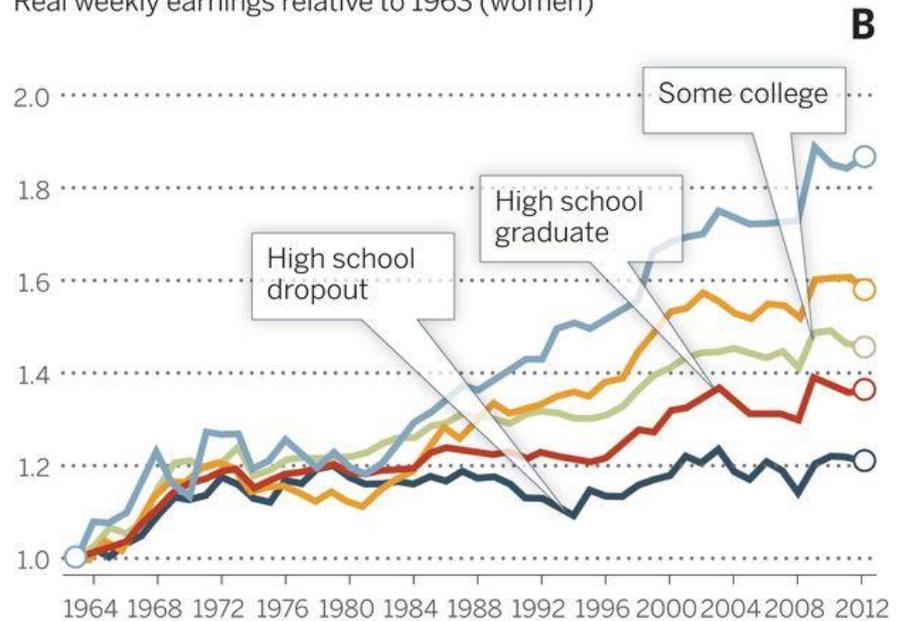
# The Rising Return to Education

## Changes in real wage levels of full-time U.S. workers by sex and education, 1963–2012

Real weekly earnings relative to 1963 (men)



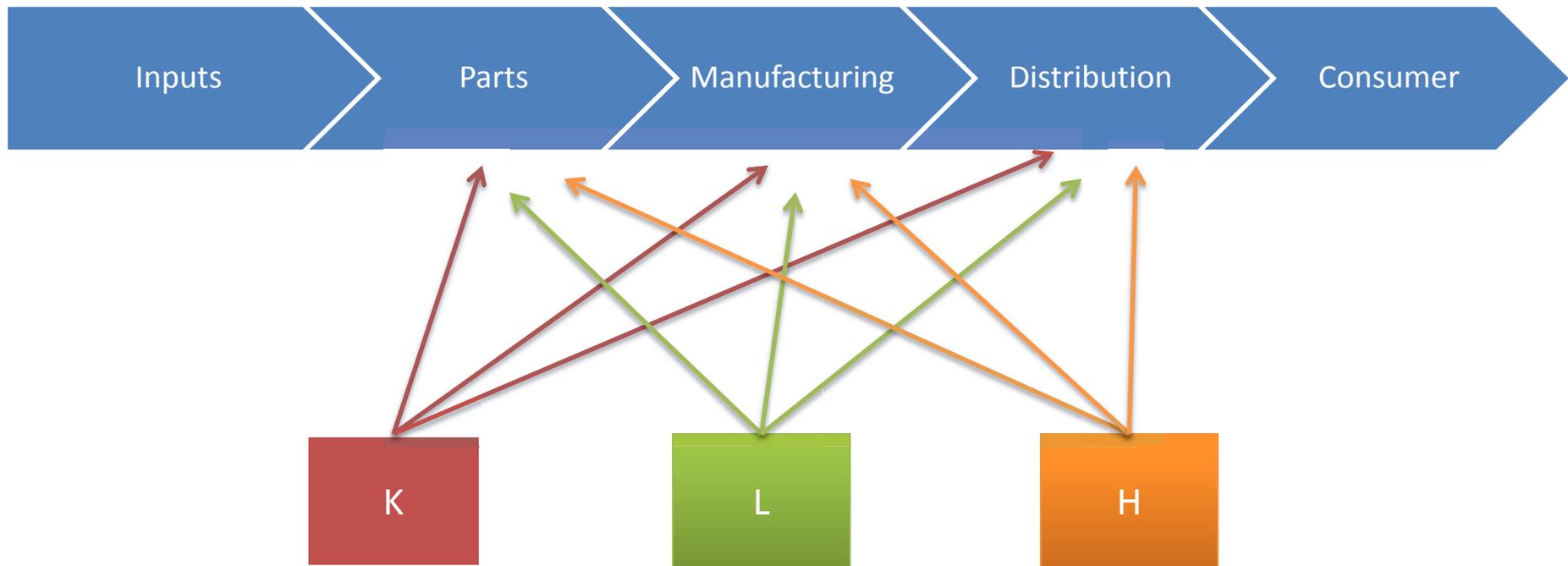
Real weekly earnings relative to 1963 (women)



Source: David H Autor, Science 2014;344:843-851

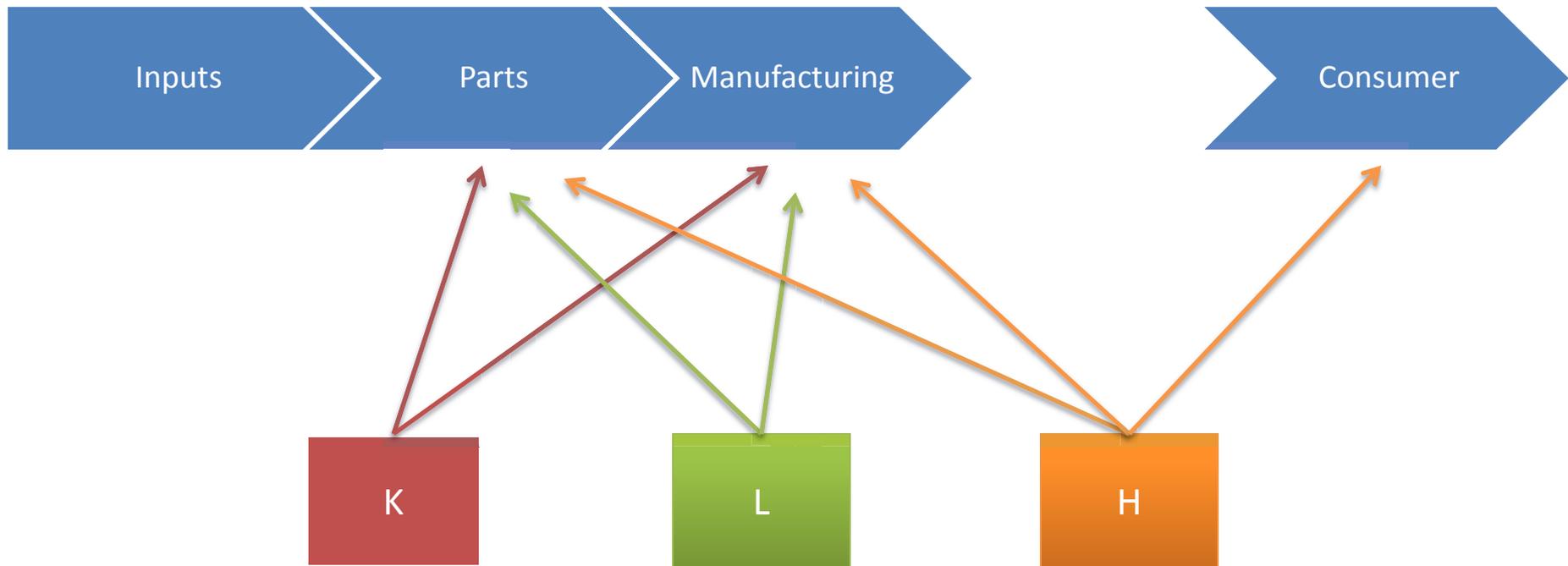
# Technology Des-intermediation

- Supply chain Des-intermediation



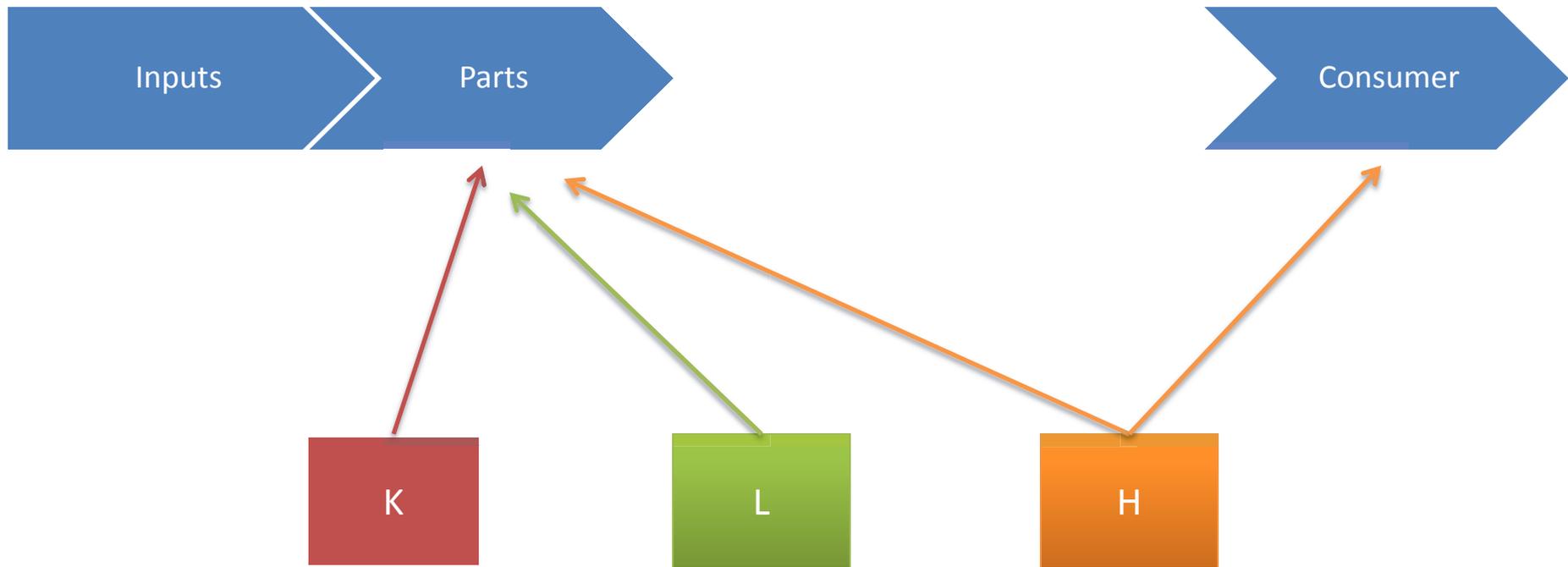
# Technology Des-intermediation

- Supply chain Des-intermediation



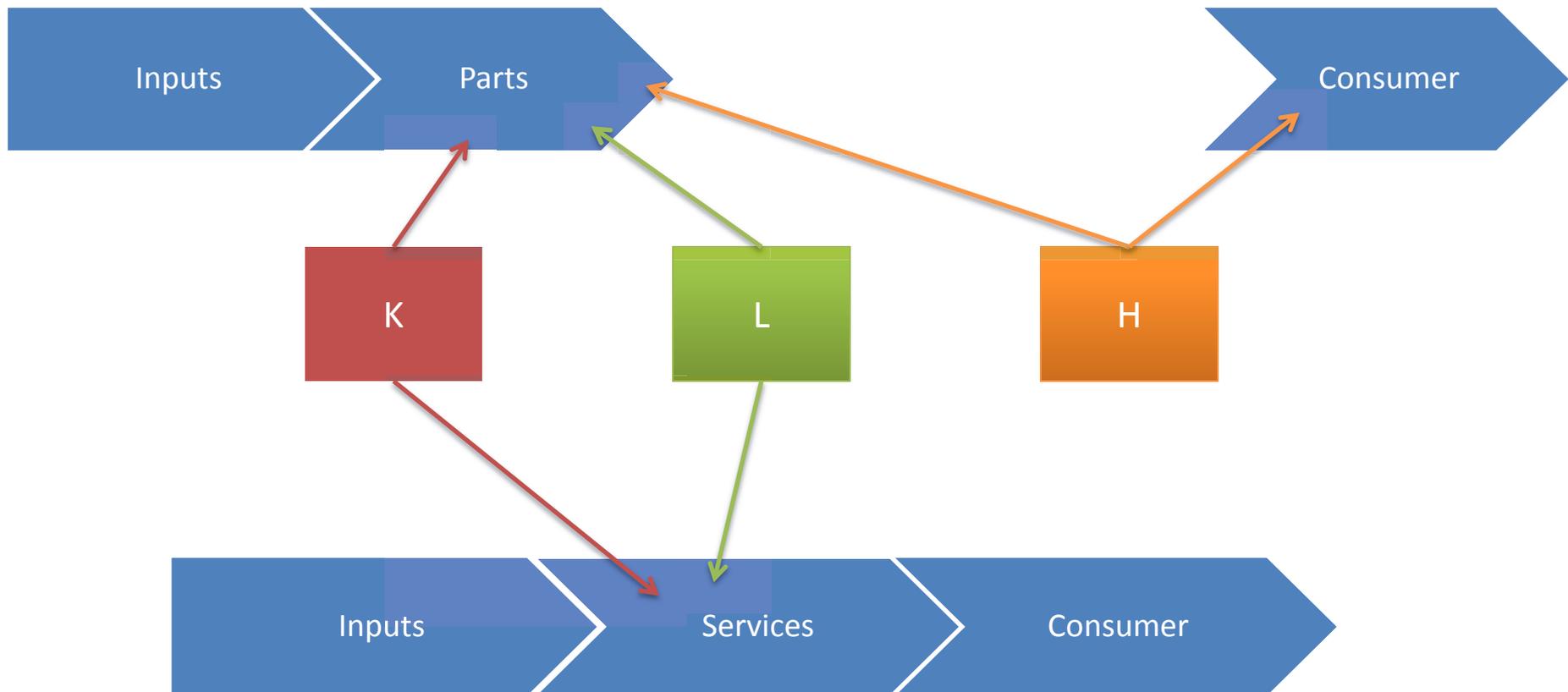
# Technology Des-intermediation

- Supply chain Des-intermediation



# Technology Des-intermediation

- From Manufacturing to Services



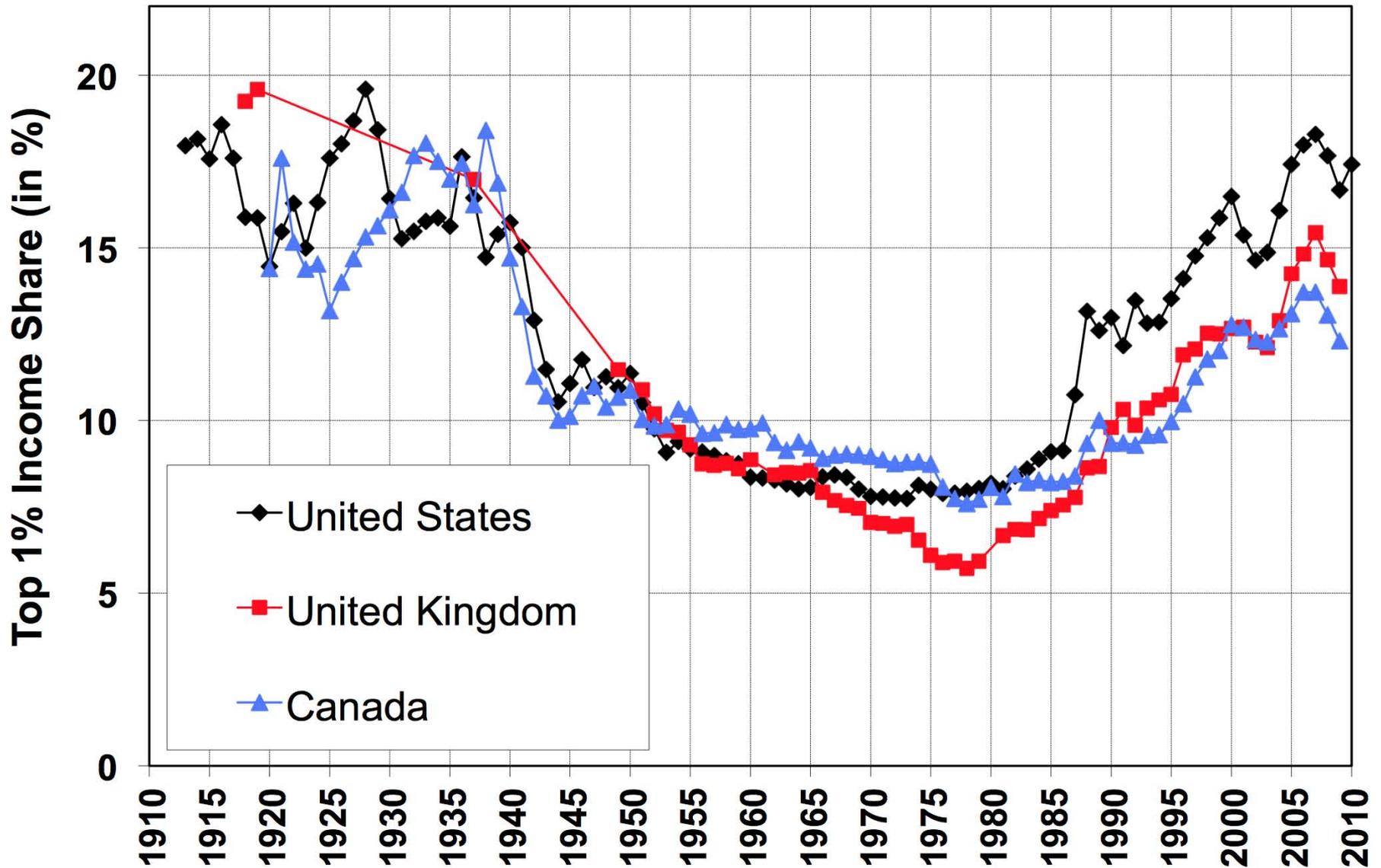
# Demand for Labor

- Disappearance of the middle class
  - Skilled labor is in high demand.
  - Unskilled labor is in low demand for the manufacturing activities (the ones that create high value added).
  - Technology increases the overall income of the society which implies an increase in the demand for services.
  - More low skilled workers are hired in low value added activities like retail and restaurants.
  - Demand for skilled workers is high in high value added sectors.
  - Demand for unskilled workers is high in low value added sectors.

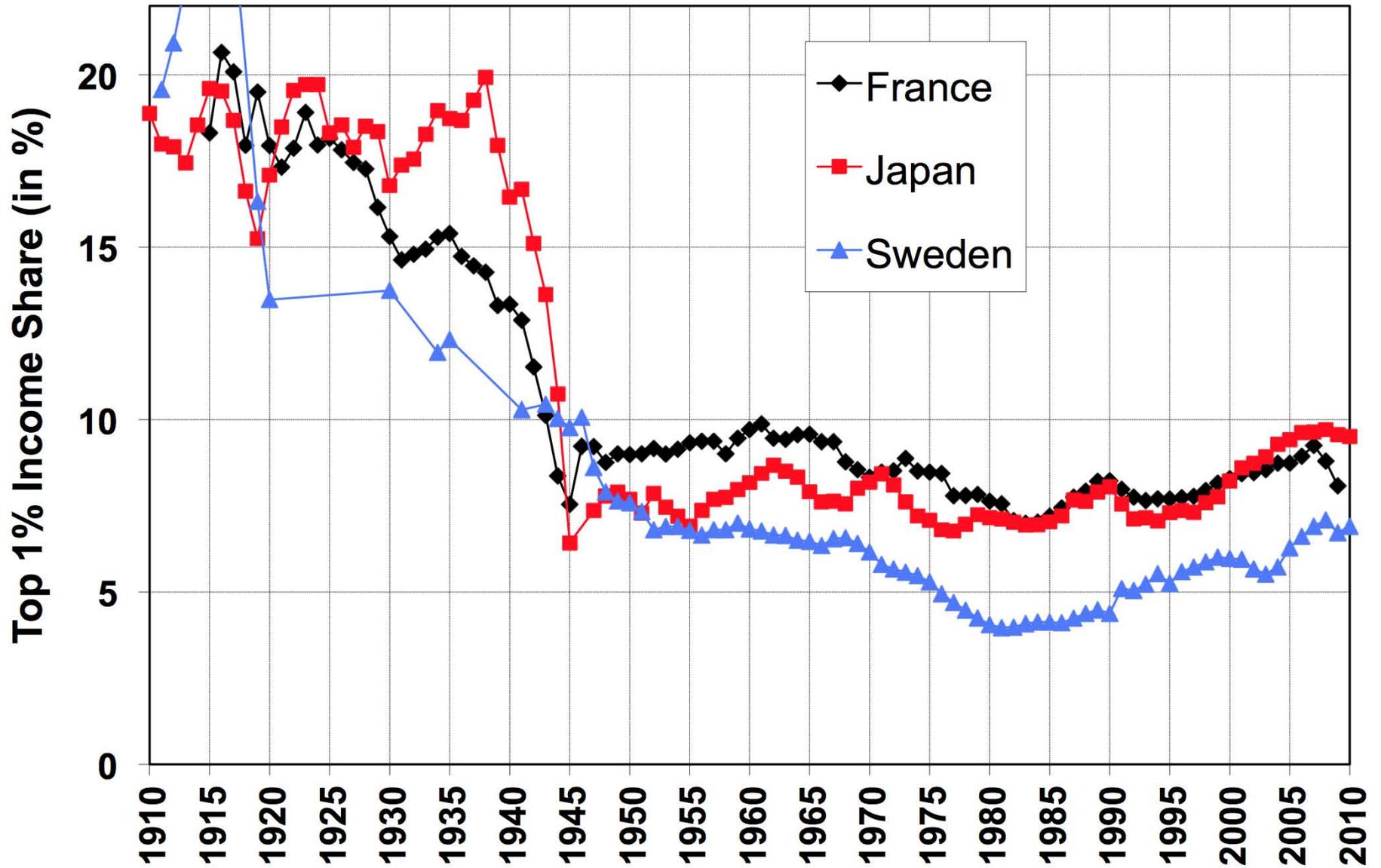
# Can technology and education explain what we see?

- Not entirely.
- The main difference is between English speaking countries and non-English speaking

# Top 1% share: English Speaking countries (U-shaped)



# Top 1% share: Continental Europe and Japan (L-shaped)



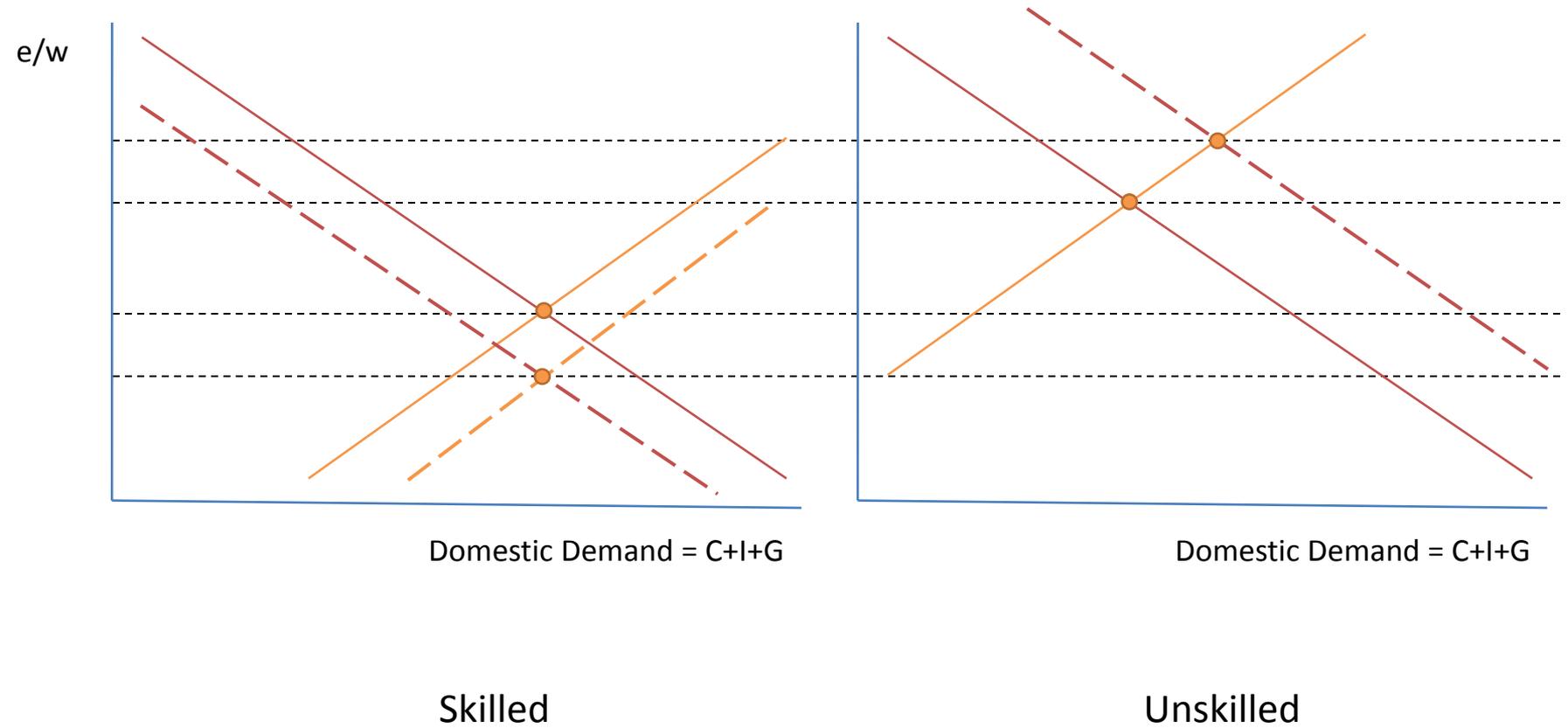
# Some results

- Drop in income concentration in the 1920's was due to drop in capital return
- Increase in concentration is due to wage earners
  - The “optimistic” view
    - Deregulation has opened new opportunities in english speaking countries
  - The “pessimistic” view
    - Top earners have been able to extract higher rents
  - Although explanations based on technological progress are good, they need more than that.
    - Institutions for wealth and income redistribution have played an important role

# Explanations for Rising Inequality

- Data problems
- Education and technology
- Globalization
  - Globalization in general has a negative impact on the salaries of the unskilled
  - Either trade opening or off-shoring will reduce unskilled labor income

# BBNN

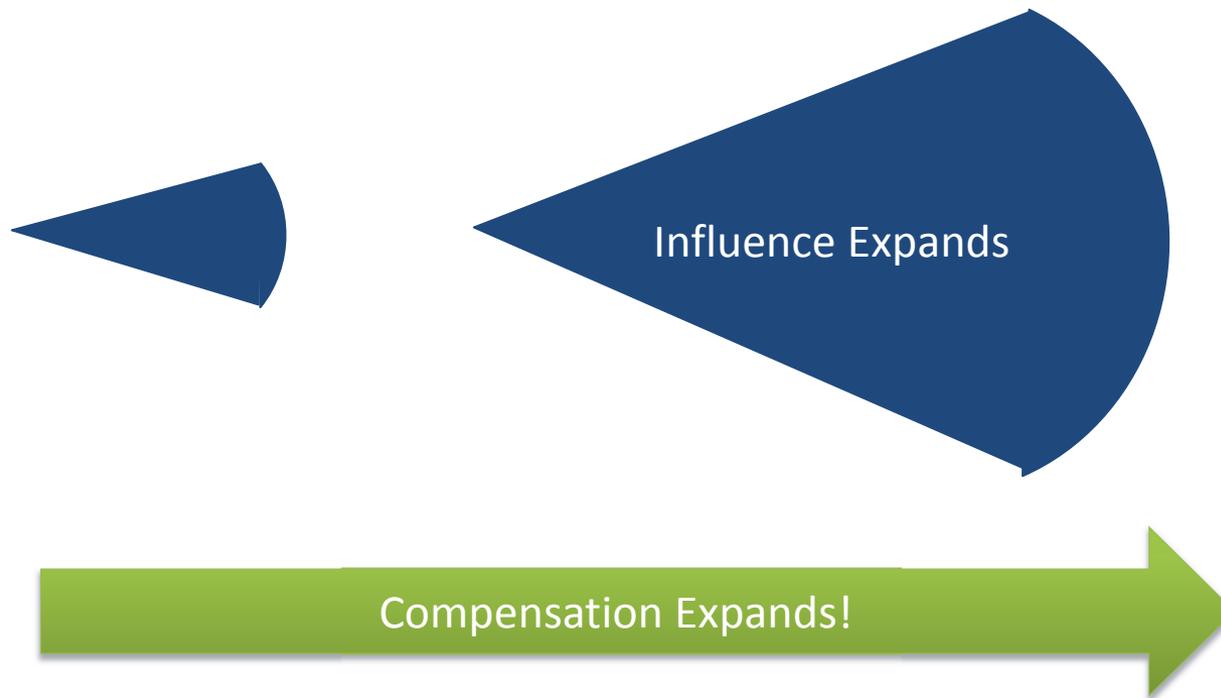


# Explanations for Rising Inequality

- Data problems
- Education and technology
- Globalization
- Superstars + CEO Pay
  - How much do private equity firms pay CEOs?

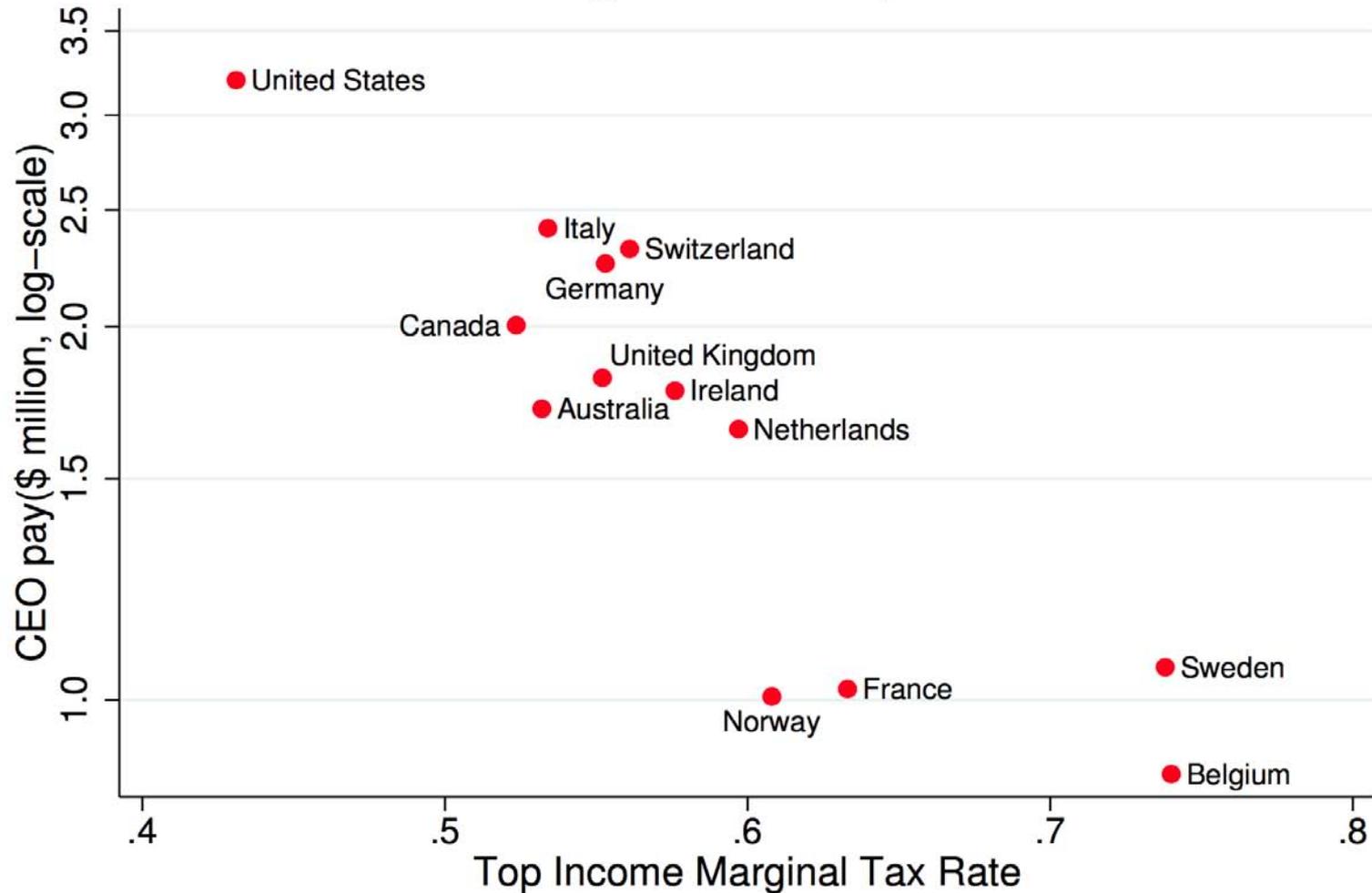
# Technology Super-Managers

- Technology allows to increase the scope of influence



# CEO Pay and Taxes

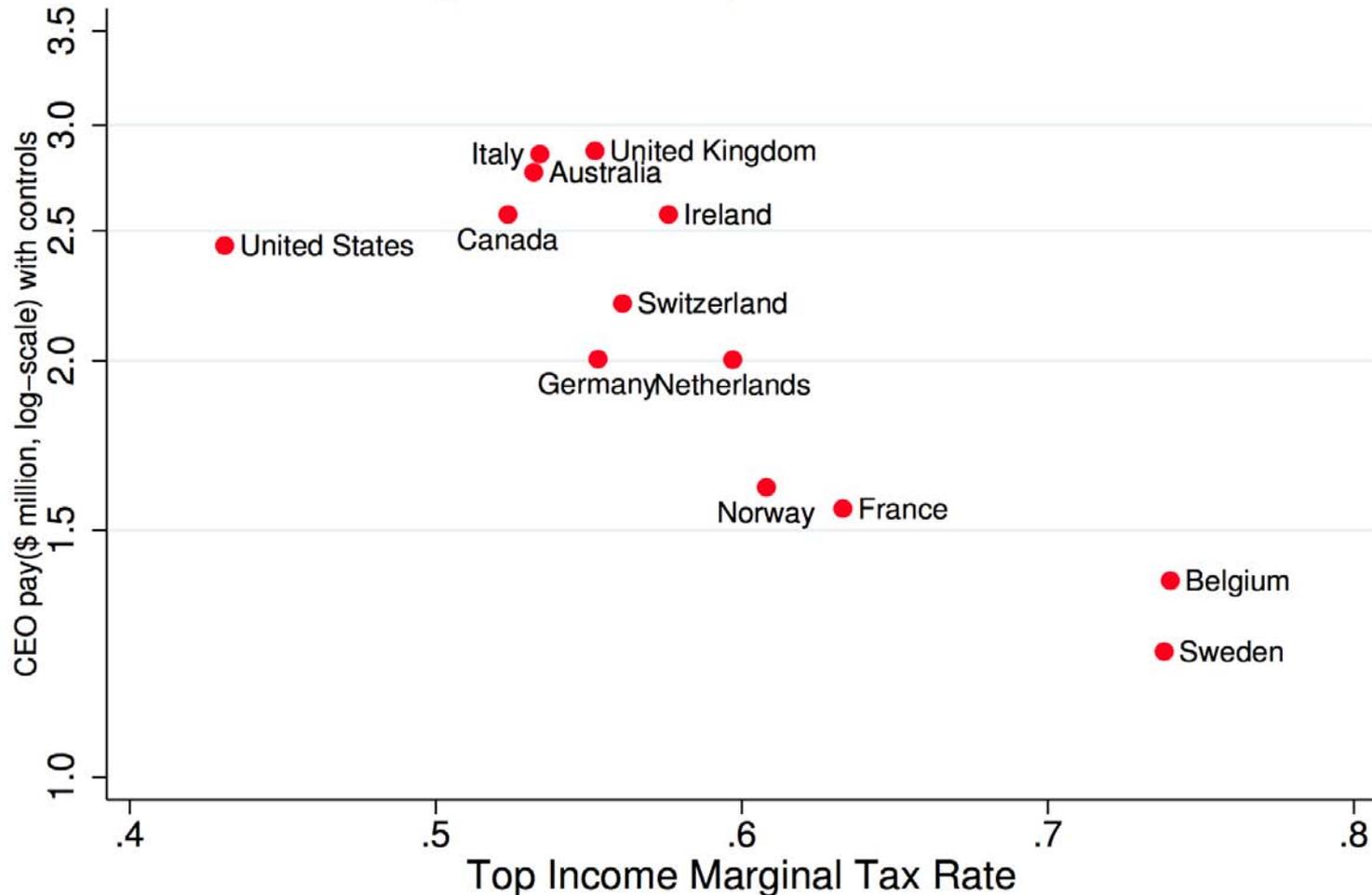
## A. Average CEO compensation



# CEO Pay and Taxes

Industry, Size, Governance, Profitability

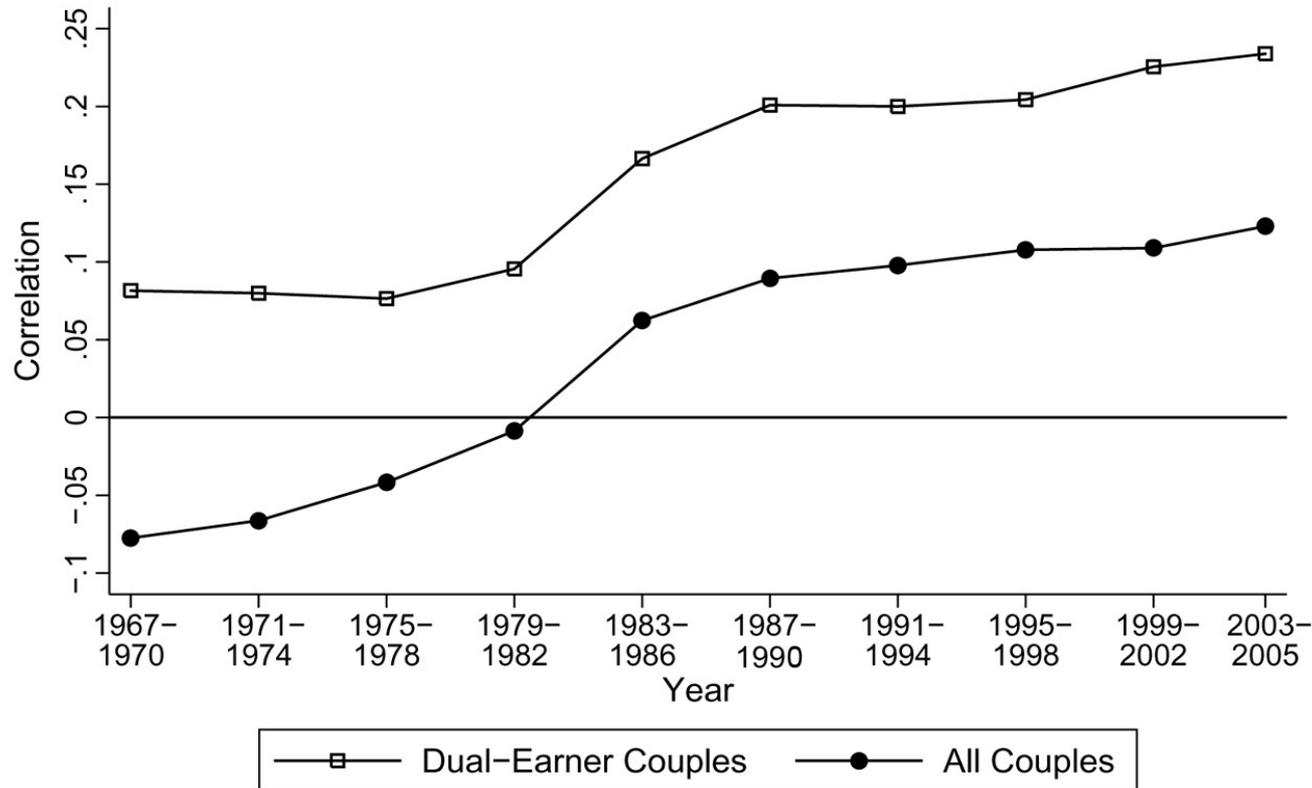
## B. Average CEO compensation with controls



# Explanations for Rising Inequality

- Data problems
- Education and technology
- Globalization
- Superstars + CEO Pay
- The women's movement and assortative matching

# Trends in the correlation between husbands' and wives' earnings



Source: Earnings Inequality and the Changing Association between Spouses' Earnings, Christine R. Schwartz, *American Journal of Sociology*, Vol. 115, No. 5 (March 2010), pp. 1524-1557.

# Policy Prescriptions

# What can be change?

- Education
- Technology
- Globalization
- Superstars + CEO Pay
- The women's movement
- Assortative matching

# Possible views

- Piketty
  - The wealthy have better opportunities and there is no social mobility.
  - Nothing self-corrects the system.
- Technology
  - There is nothing we can do.
  - Computers and robots are here to take our jobs.
- Education
  - We need to improve dramatically schooling participation, and school quality.

# Why income inequality bothers us?

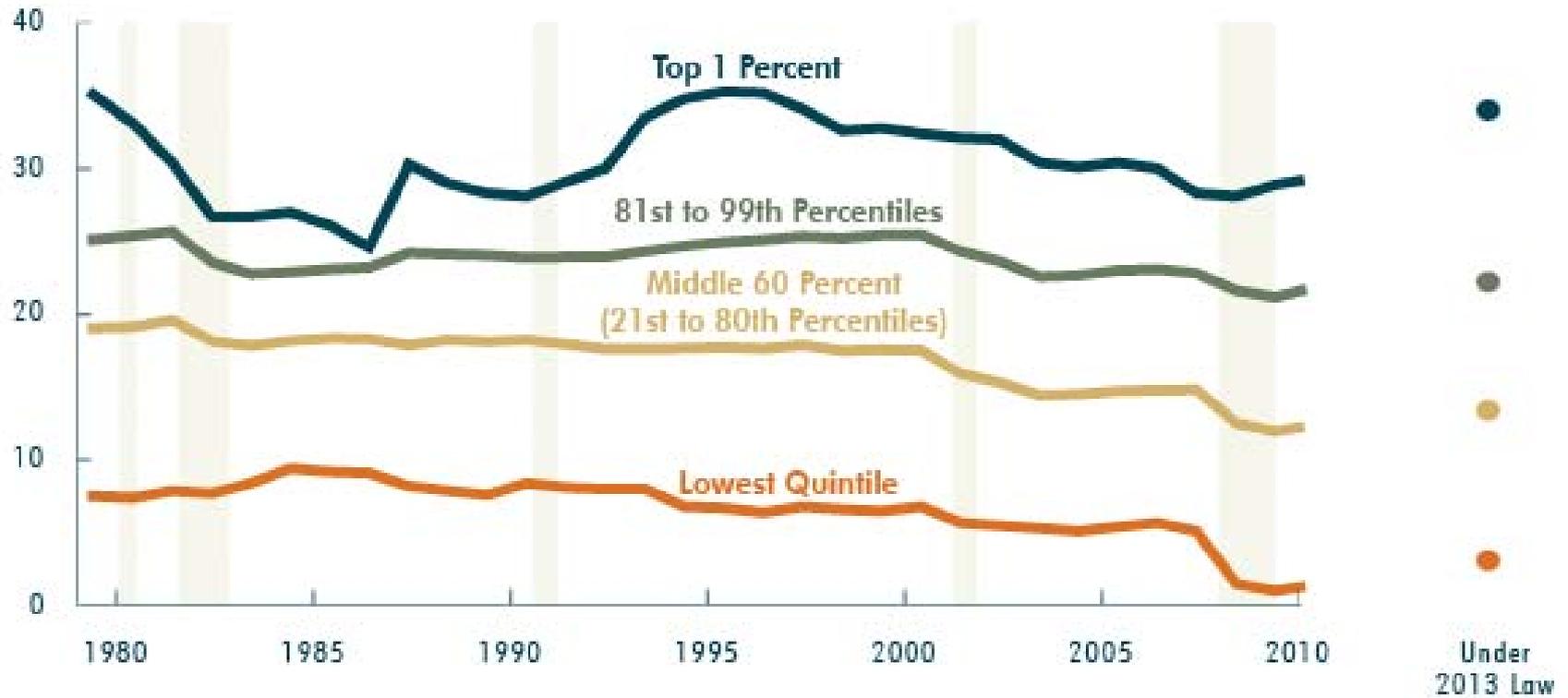
- Why people earn what they earn?
  - Wealth creators
  
  
  
  
  
  
  
  
  
  
  - Wealth diverters

# Addressing the Root Causes

- Unlikely to change
  - technology,
  - reverse globalization, or
  - alter assortative matching
- How to increase supply of skilled workers?
  - Pre-K
  - Equity financing of college degrees
  - Be more open to skilled immigrants
- Alternative is to treat the symptoms
  - Taxation and Redistribution

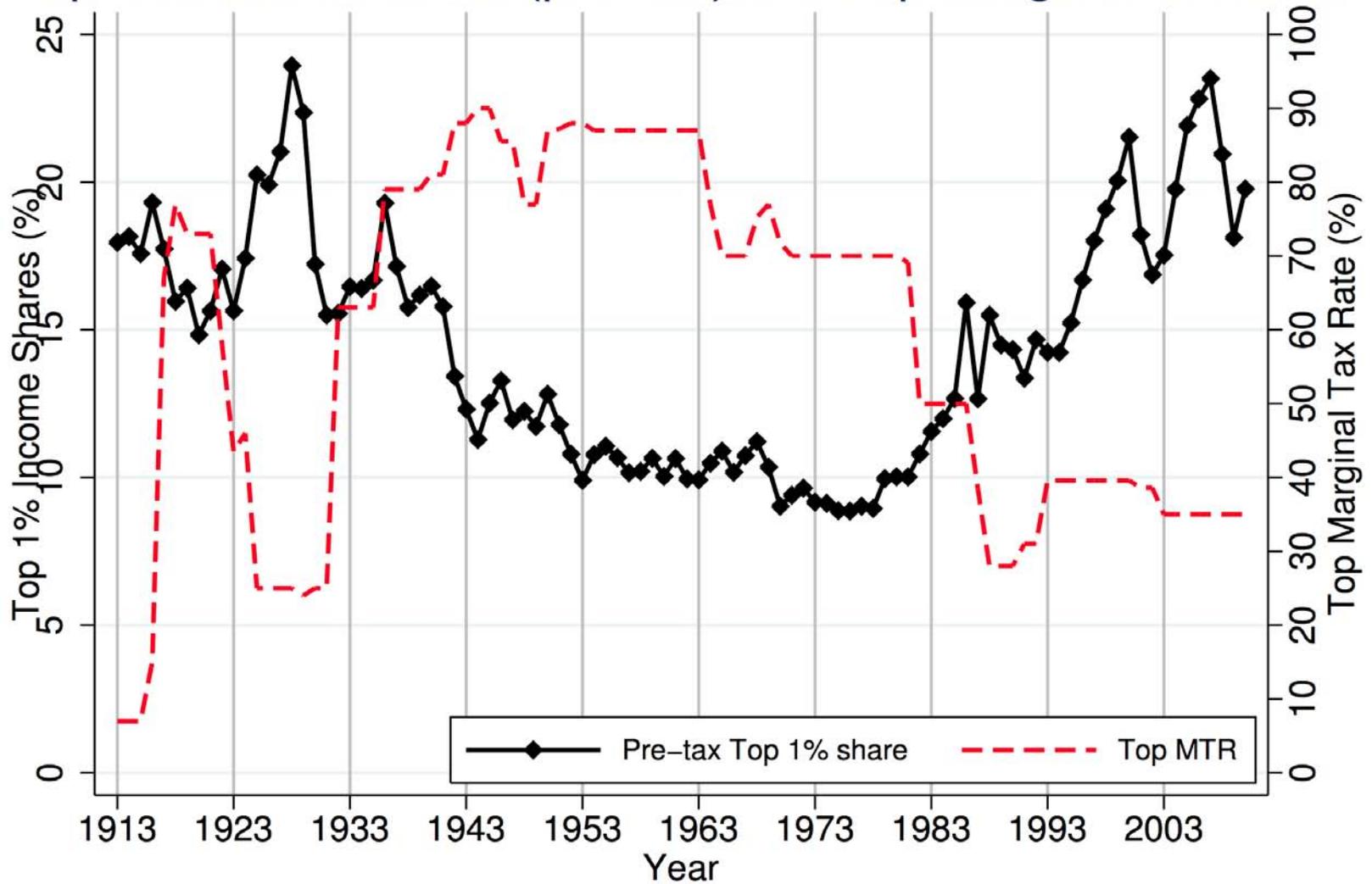
# Average Federal Tax Rates, by Income Group, 1979 to 2010 and Under 2013 Law

Percent



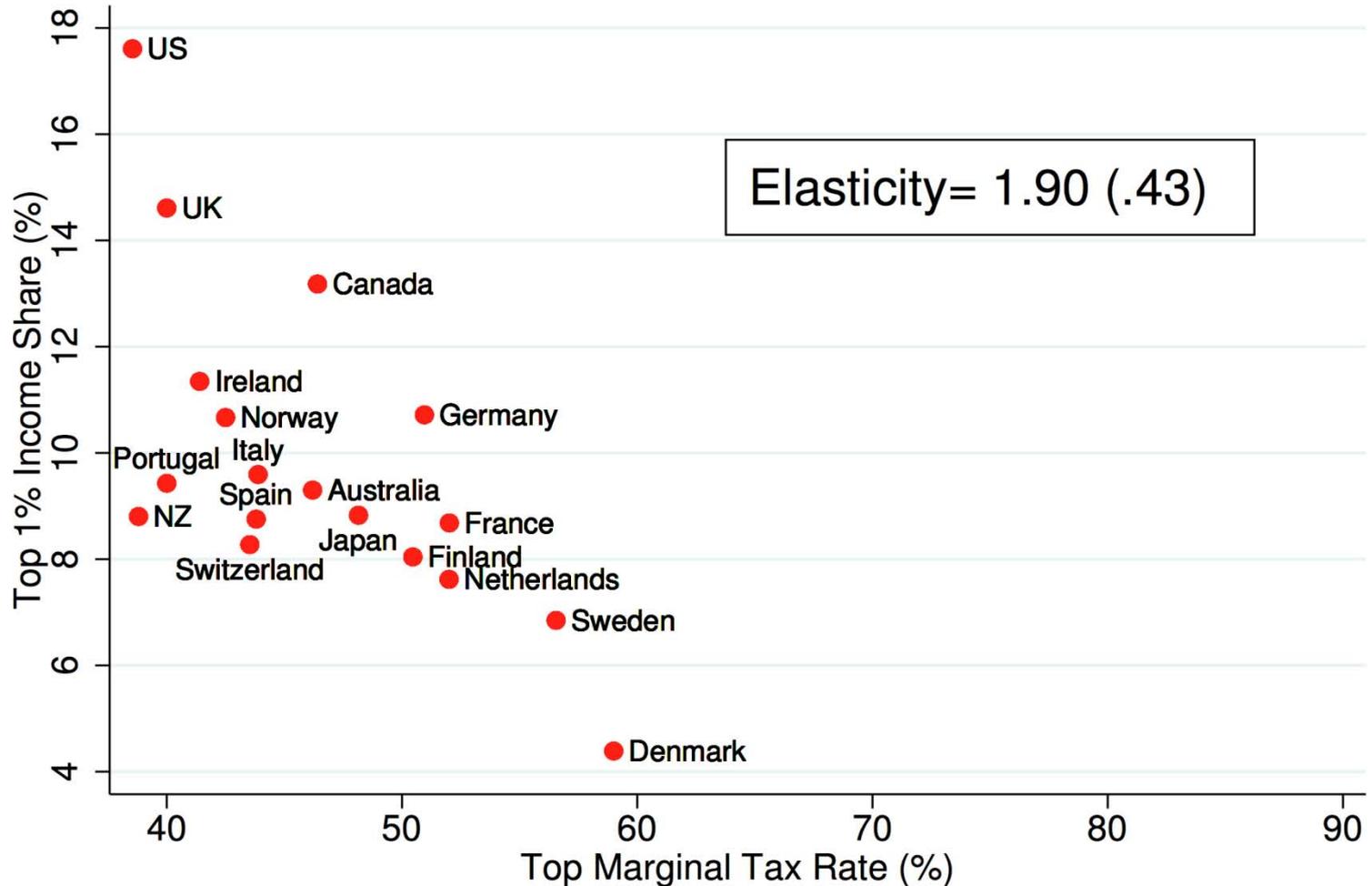
# Are we taxing enough?

Top 1% Income Share (pre-tax) and Top Marginal Tax Rate



# Are we taxing enough?

B. Top 1% Share and Top Marginal Tax Rate in 2005–9



	Principles	Policy	Management	Institutions
P				
R				
O				<ul style="list-style-type: none"> <li>Decision Rules</li> </ul>
M	<ul style="list-style-type: none"> <li>External Accounts (BB)</li> <li>Internal Accounts (NN)</li> </ul>	<ul style="list-style-type: none"> <li>Automatic Adjustment</li> <li>Active Adjustment (Fiscal, Monetary, Exchange, Wage)</li> <li>Structural Reforms</li> </ul>	<ul style="list-style-type: none"> <li>BBNN at the industry level</li> <li>Automatic and Active Adjustment</li> </ul>	<ul style="list-style-type: none"> <li>Product Markets</li> <li>Financial System</li> <li>Macro Prudential Regulation</li> <li>Fiscal and Monetary Institutions</li> </ul>
I	<ul style="list-style-type: none"> <li>Consistent Designed</li> <li>Market Inefficiency</li> </ul>		<ul style="list-style-type: none"> <li>Demand Institutionality</li> </ul>	<ul style="list-style-type: none"> <li>Public Choice</li> <li>Social Insurance</li> <li>Unacceptable outcomes</li> <li>Property Rights</li> </ul>
S	<ul style="list-style-type: none"> <li>Social Aspirations</li> <li>Political Aspirations</li> <li>Standards of Living (SP)</li> </ul>	<ul style="list-style-type: none"> <li>Message</li> <li>Representation</li> <li>Transparency</li> <li>Accountability</li> </ul>	<ul style="list-style-type: none"> <li>Political Influence</li> <li>Community Reach</li> <li>Corruption</li> <li><b>Commitment versus Involvement</b></li> </ul>	<ul style="list-style-type: none"> <li>Social &amp; Personal needs</li> <li>Political Voice &amp; Representation</li> <li>Justice &amp; equality</li> <li>Individual &amp; Civil rights</li> </ul>
E	<ul style="list-style-type: none"> <li>Environmental (EE)</li> <li>Regeneration and Harvesting</li> <li>Waste Generation and Recycling</li> <li>Technology Improvement and Stocks</li> </ul>	<ul style="list-style-type: none"> <li>Demand Control</li> <li>Biased Technological Improvement</li> <li>Biased Consumption Mixture</li> <li>Market Interventions: Prices and Quotas</li> </ul>	<ul style="list-style-type: none"> <li>Production Mix</li> <li>Inputs Mix (Materials &amp; Energy)</li> <li><b>Living at the Margin of the Unmeasurable</b></li> </ul>	<ul style="list-style-type: none"> <li>Regulation (Markets, Prices, Quotas)</li> <li>International Coordination</li> </ul>

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