The Long-Run Determinants of Inequality: What Can We Learn From Top Income Data?

Jesper Roine, Jonas Vlachos and Daniel Waldenström

(paper at: www.anst.uu.se/danwa175)

XXIV International Conference of the "Giordano Dell'Amore" Observatory
on the relationship between law and economics,

October 27, 2011

Waldenström: Long-run determinants of inequality

1

The issues

- Does economic growth benefit everyone?

- How does trade openness influence inequality?

- Is it really the poor that mainly gain from financial development − or is it the rich?

- What is the role of the state in all this?

This presentation

1. ## A long-run perspective
    - New inequality dataset covering most of 20th C.

2. ## What accounts for changes in inequality?
    - Trade, Finance, Growth, Redistribution?

3. ## Are patterns same for all?
    - High-income vs Low-income countries

4. ## Specific issues
    - Role of financial crises

Theories explaining top income shares

- **Economic growth**
  - Top incomes closely attached to economy (bonuses)

- **Trade openness**
  - Standard story: Capitalists in rich countries gain
  - "Superstars" gain from globalized labor markets

- **Financial development**
  - Typically regarded as *pro-poor* (reduced barriers)
  - But it can be *pro-rich* (power, early stages)

- **Redistribution**
  - May or may not reduce top income shares

Top income shares – a new source

- Traditional lack of long-run inequality evidence

- A solution: *historical tax data*
  - Available since early 20th C. ⇗ Long-run series
  - Available in most countries ⇗ cross-country comp.
  - Primarily observations of the highest incomes

- We focus on three groups in the distribution:
  - *"The Rich"* (Top 1 percentile)
  - *"The Upper Middle Class"* (Top10–1 percentiles)
  - *"The Rest"* (Bottom 90 percentiles)
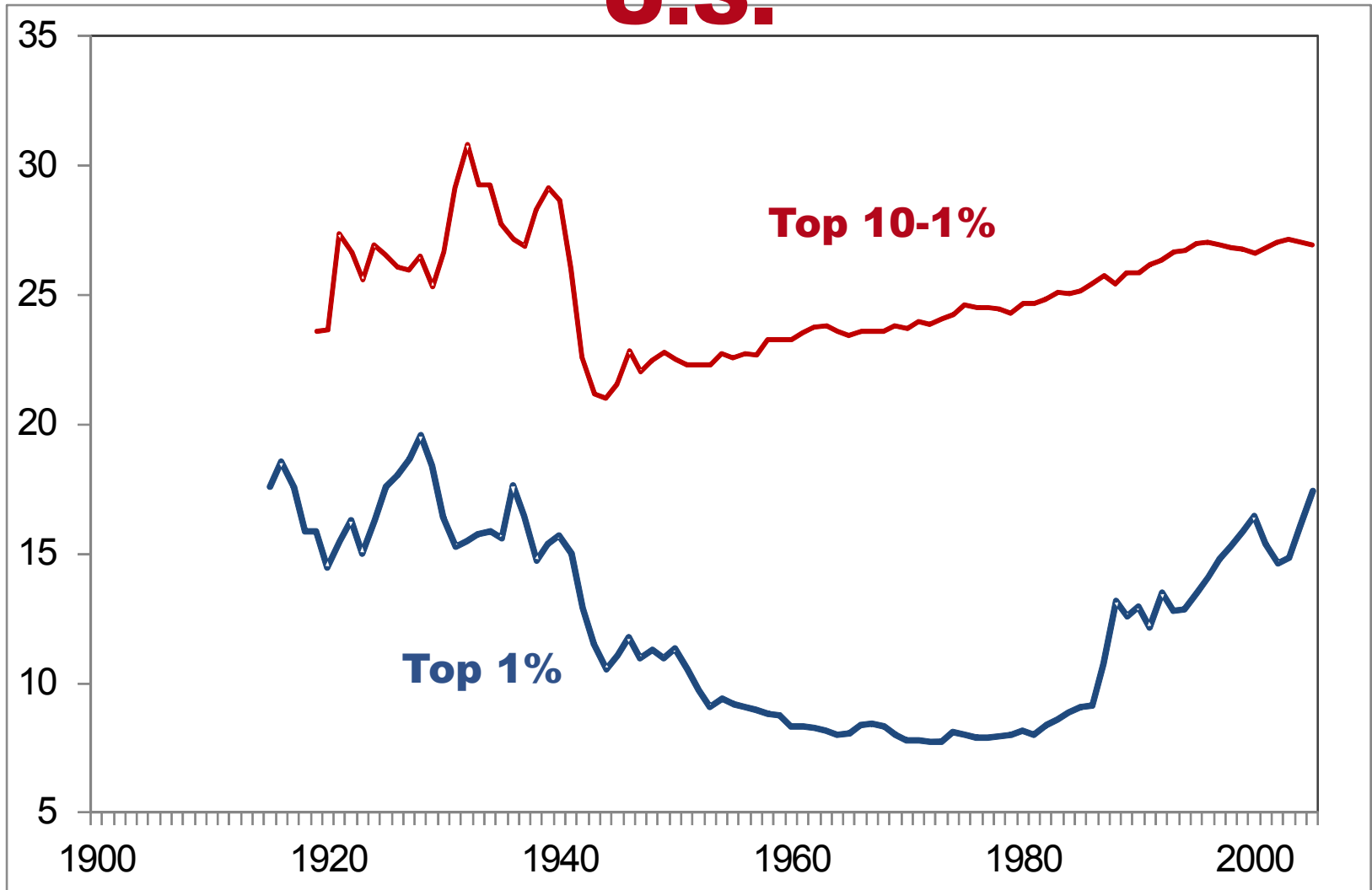
Differences across groups (Sweden 2008)

Average income

Top decile share over time: Sweden

"Upper Middle Class" (Top10-1%) and "Rich" (Top 1%) in Sweden
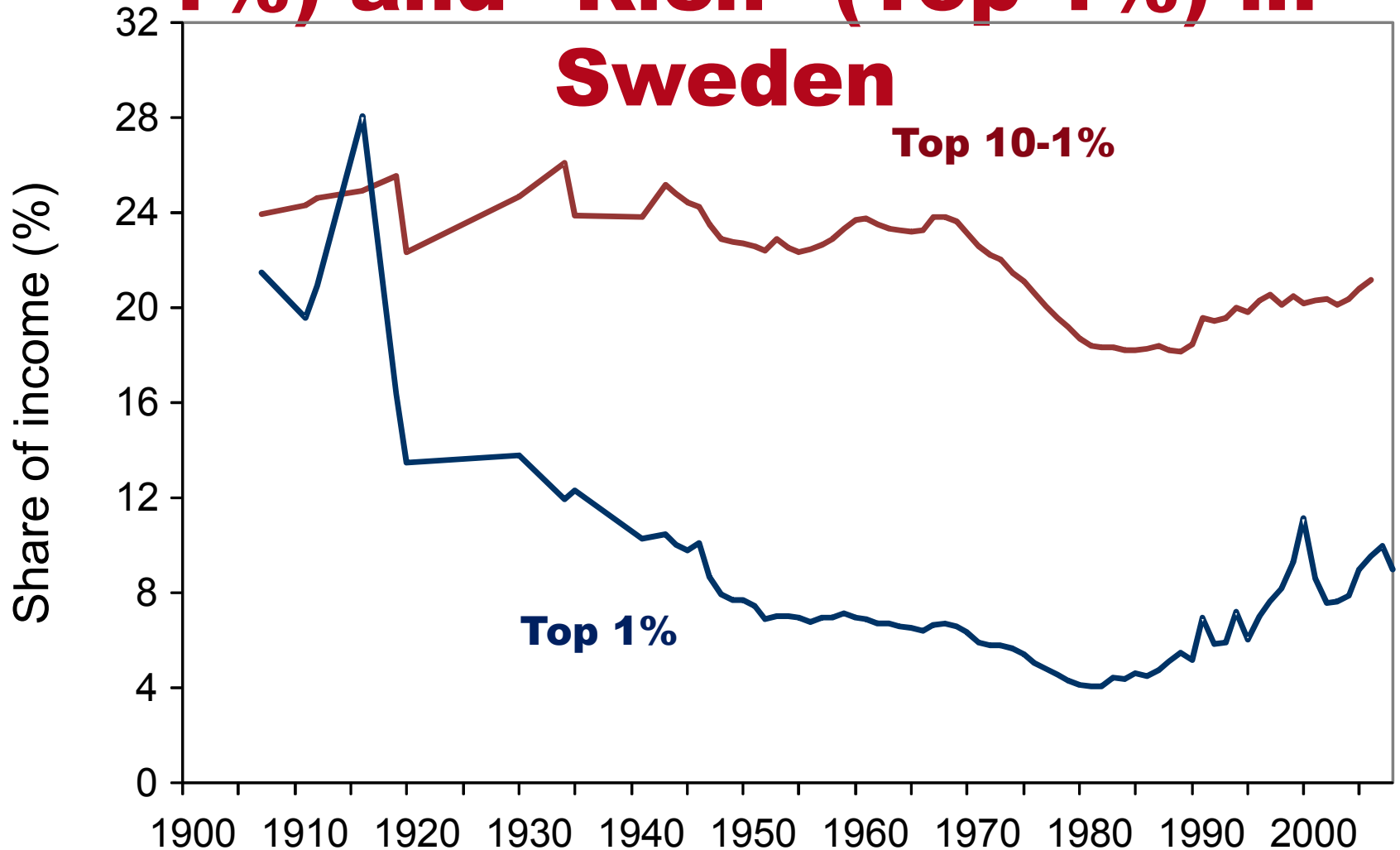
Source: Roine and Waldenström (2008, updates)

Waldenström: Long-run determinants of inequality

8

Top 10-1% and Top 1% in the U.S.

Source: Piketty and Saez (2003, updates)

Waldenström: Long-run
determinants of inequality

9

Data on income inequality

- ## Income data

  - *Gross market income* bef. most taxes and transfers
    - Includes labor, capital, business income
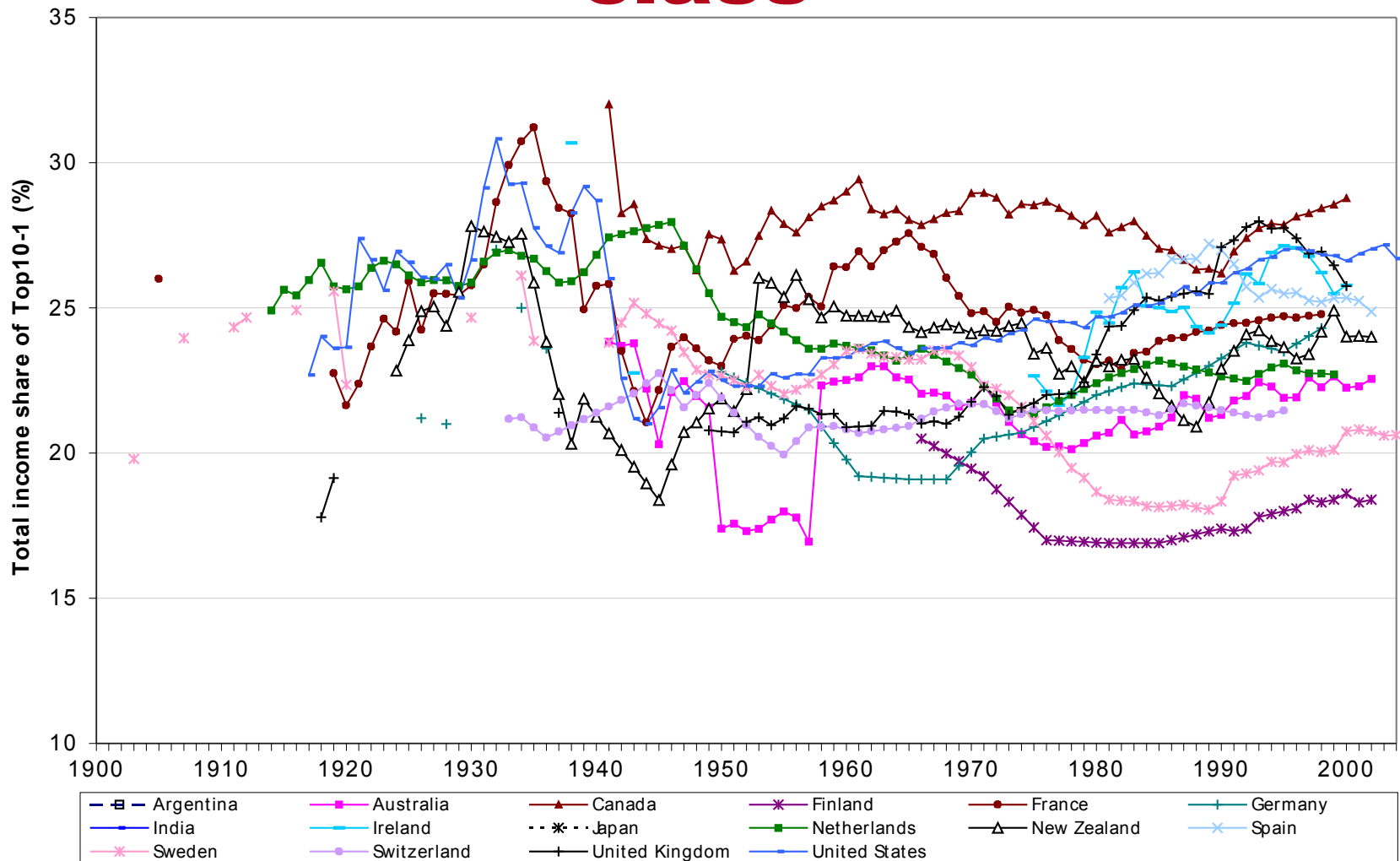   - Source: Past studies (cf Atkinson/Piketty 2007, 2010)

- ## Computation of top income shares

  - The share of total income that goes to the top 10, 5, 1, 0.1, etc % of all *potential* income earners.

 - **Three variables:** *Top 1%*, *Top 10-1%*, *Bottom 90%*

Top 1%: "The rich"
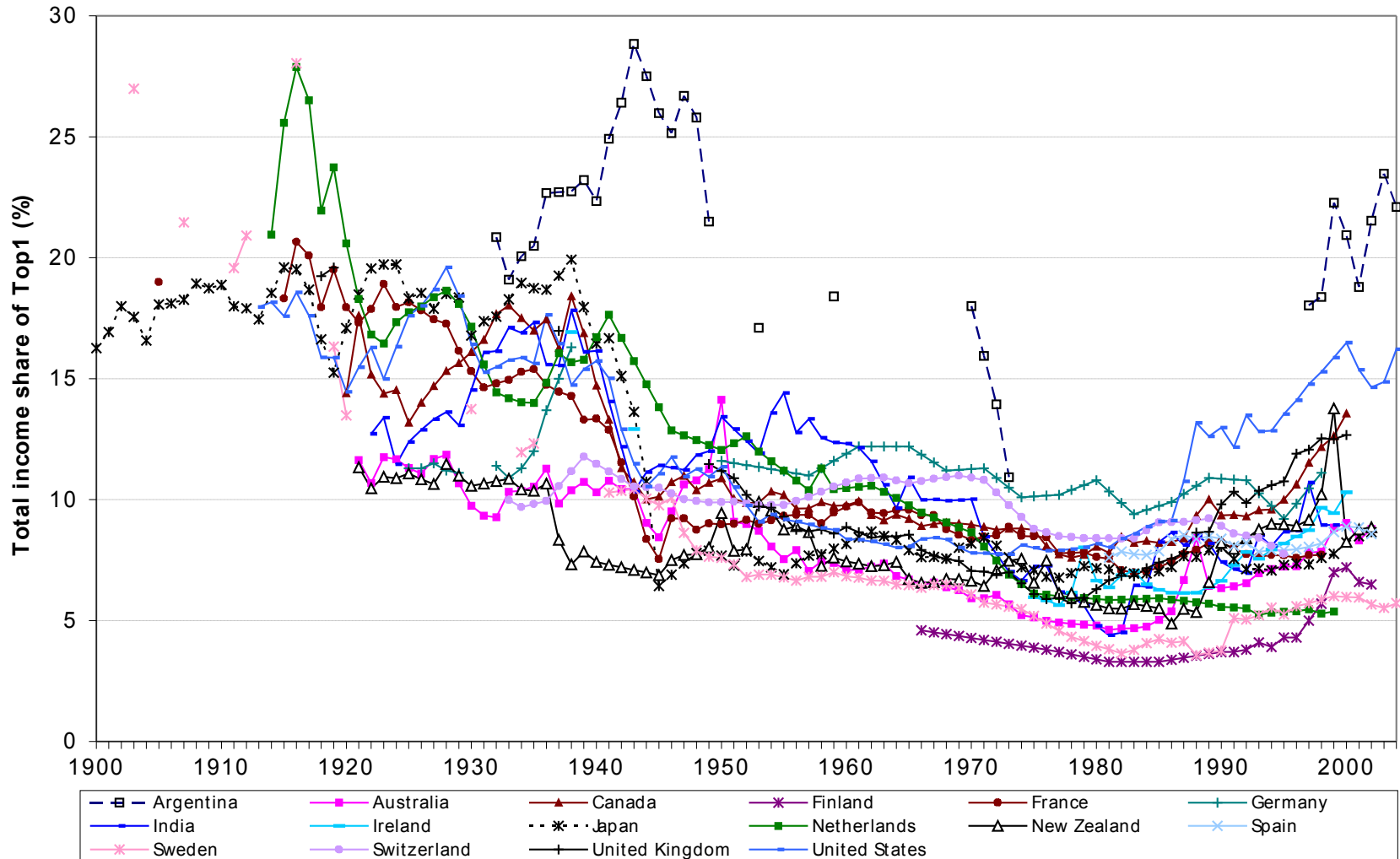
Top 10-1%: "Upper middle class"

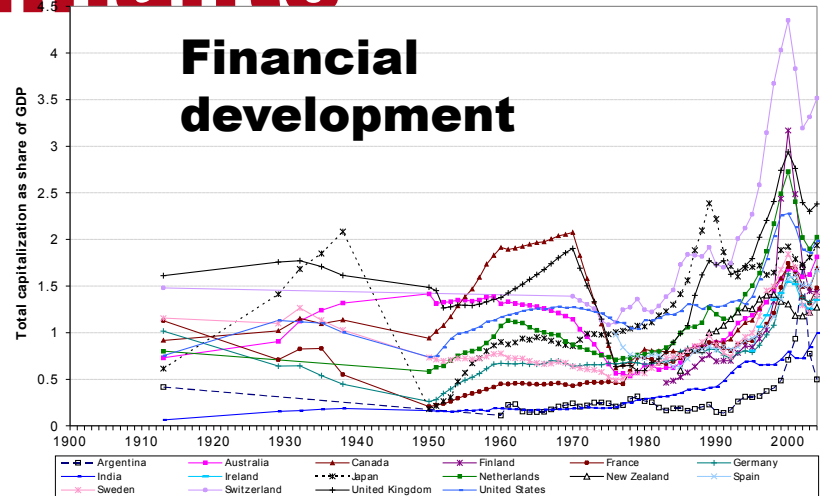# Potential determinants

- **GDP/capita** and **Population**
    - Source: Maddison

- **Financial development**: Bank deposits + Stock market
    - Sources: Mitchell, IFS, FSD, Bordo, Rajan & Zingales

- **Trade openness**: (Exports+Imports)/GDP
    - Sources: Mitchell, López-Córdoba & Meissner, Bordo
    - Robustness: *De jure* openness (Clemens/Williamson; IMF)

- **Central government spending**

Potential inequality determinants

GDP/cap

Financial development

Trade openness

Gov. spending

determinants of inequality
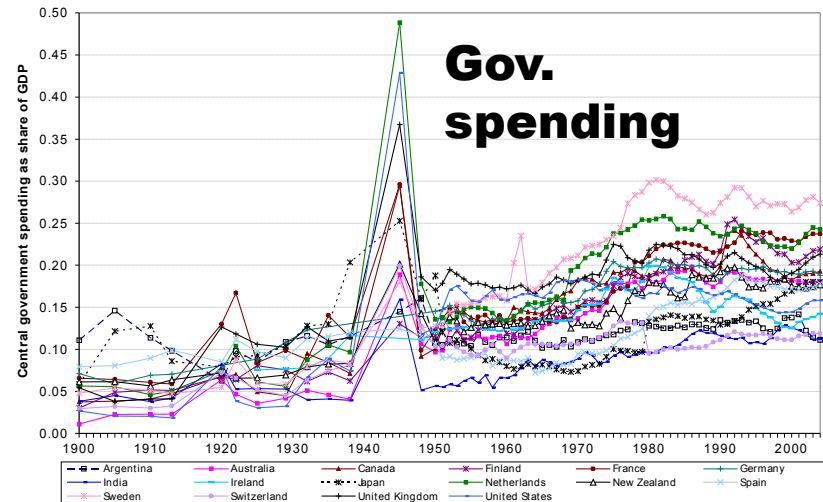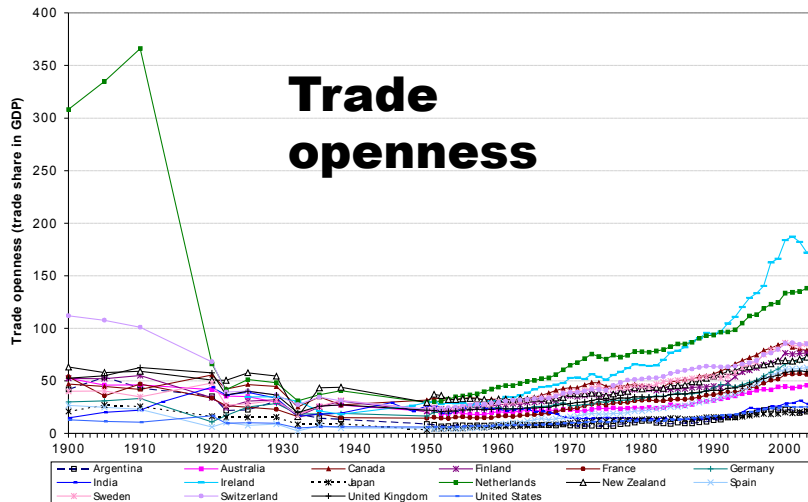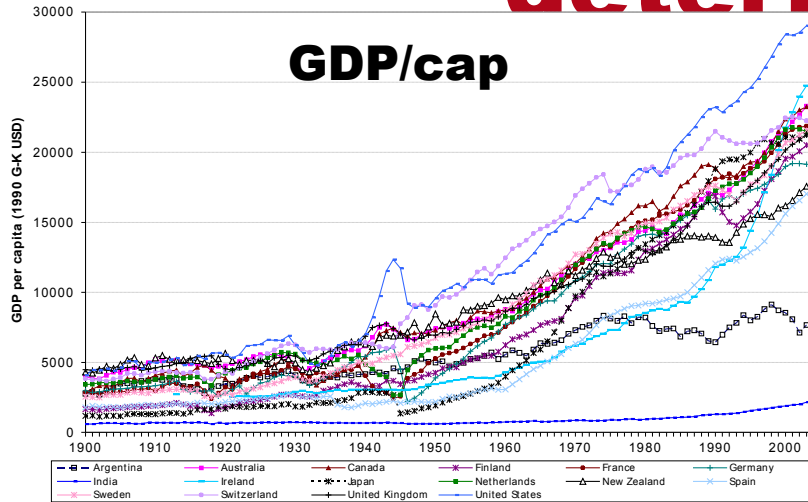
Income tax rates (top rates)
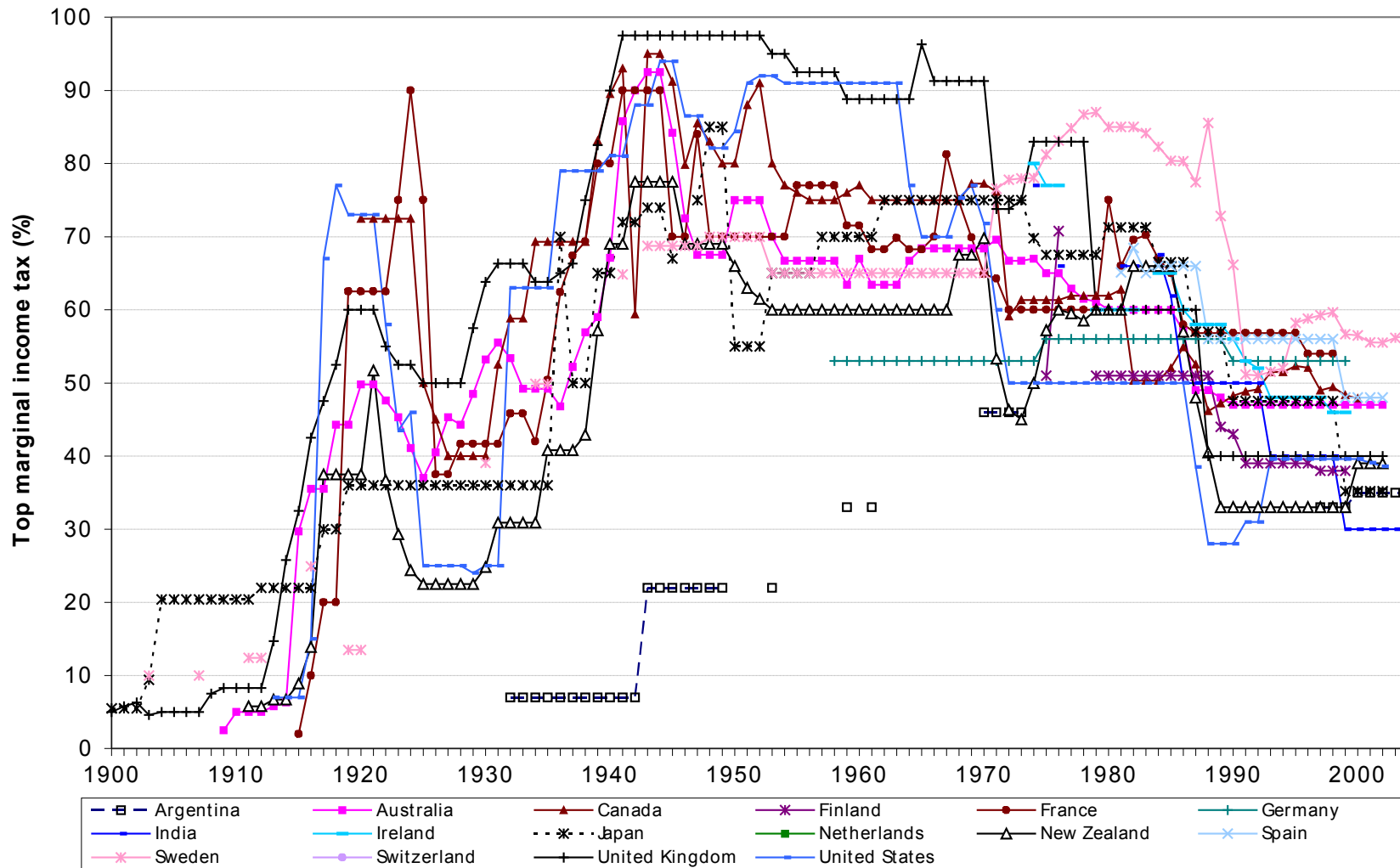
Empirical methodology

- Log-linear regression model:
  - Income shares (Top1, Top10-1,Bot90) are regressed on the potential determinants + controls

- No firm claims on causal relationships

- *Technicalities*:
  - Two estimators:
    - Dynamic first-difference (DFD)
    - First-difference GLS (FDGLS)
  - Control for unobserved time-invariant effects and country-specific trends

Baseline results

	Top 1%		Top 10-1%		Bottom 90%	
Finance	0.98***	1.27***	0.17	0.18	−0.53	−1.87***
Trade	−8.80***	−2.31	−0.20	0.35	3.15	−0.32
Growth	5.81***	6.56***	−8.82***	−7.02***	5.53**	−1.65
Gov.Spend	5.98	3.62	−16.51***	−24.05***	22.52***	23.94***
Taxation		−4.39***		−3.18**		10.18***
Obs	126	92	99	77	99	77
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N countries	14	12	12	10	12	10

Level of development

	Top 1%		Top 10-1%		Bottom 90%	
Growth×Low	5.07***		−9.03***		4.53	
Growth×Med	6.41***		−7.34***		5.98	
Growth×High	2.62		−9.84***		8.26*	
Finance×Low		1.65		−3.26		2.08
Finance×Med		0.88*		0.33		−1.02
Finance×High		0.86*		0.40		−0.88
F: Low=Med	0.31	0.45	0.52	0.02	0.74	0.18
F: Low=High	0.25	0.42	0.8	0.01	0.45	0.18
F: Med=High	0.07	0.98	0.34	0.94	0.59	0.9
Obs	126	126	99	99	99	99
N countries	14	14	12	12	12	12

Do financial crises matter?

	Top 1%		Top 10-1%	
Bank crisis	−1.07***	−1.08***	0.33	0.35
Currency crisis		−0.06		−0.31
Obs	171	171	132	132
Controls	Yes	Yes	Yes	Yes
N countries	16	16	14	14

Crisis data from Bordo et al. (2001) and Laeven and Valencia (2008)

Extensions and robustness

- ## Extensions

  - Role of democracy (Polity IV - *No role*)

  - Role of technology (Patents - *No role*; Share of GDP in agriculture- *No role*)

- ## Robustness

  - We use top shares *within* the top
    - Ex: Top1/Top10 and Top0.1/Top1

  - Restrict analysis to postwar period
    - Rules out influence from Great Depression

  - *Results in line with main analysis*

Conclusions

1. **Finance is strongly pro-rich**
   - Financial crises associated with reduced top shares

2. **Trade openness has no clear impact on inequality**

3. **Economic growth pos. correlated with top shares; neg. correlated with upper middle class share**
   - Extends Dew-Becker & Gordon (2005, 2007)
   - No sign of "global labor market" for elites

Main findings in top income literature

- Similarities across countries (mostly)
  - 1900-1980: Substantially reduced inequality
  - After 1980, Anglo-Saxon ↗ and Cont. Eur. ↘

- Potential determinants:
  - Shocks to capital income/wealth (pre-WWII)
  - Progressive taxation (postwar period)
  - Globalized labor markets (1980- , esp. Anglo-Saxon)