Long-run Trends in Wealth Inequality and the Role of Inheritance

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Winter School in Inequality and Social Welfare, Canazei, 2012
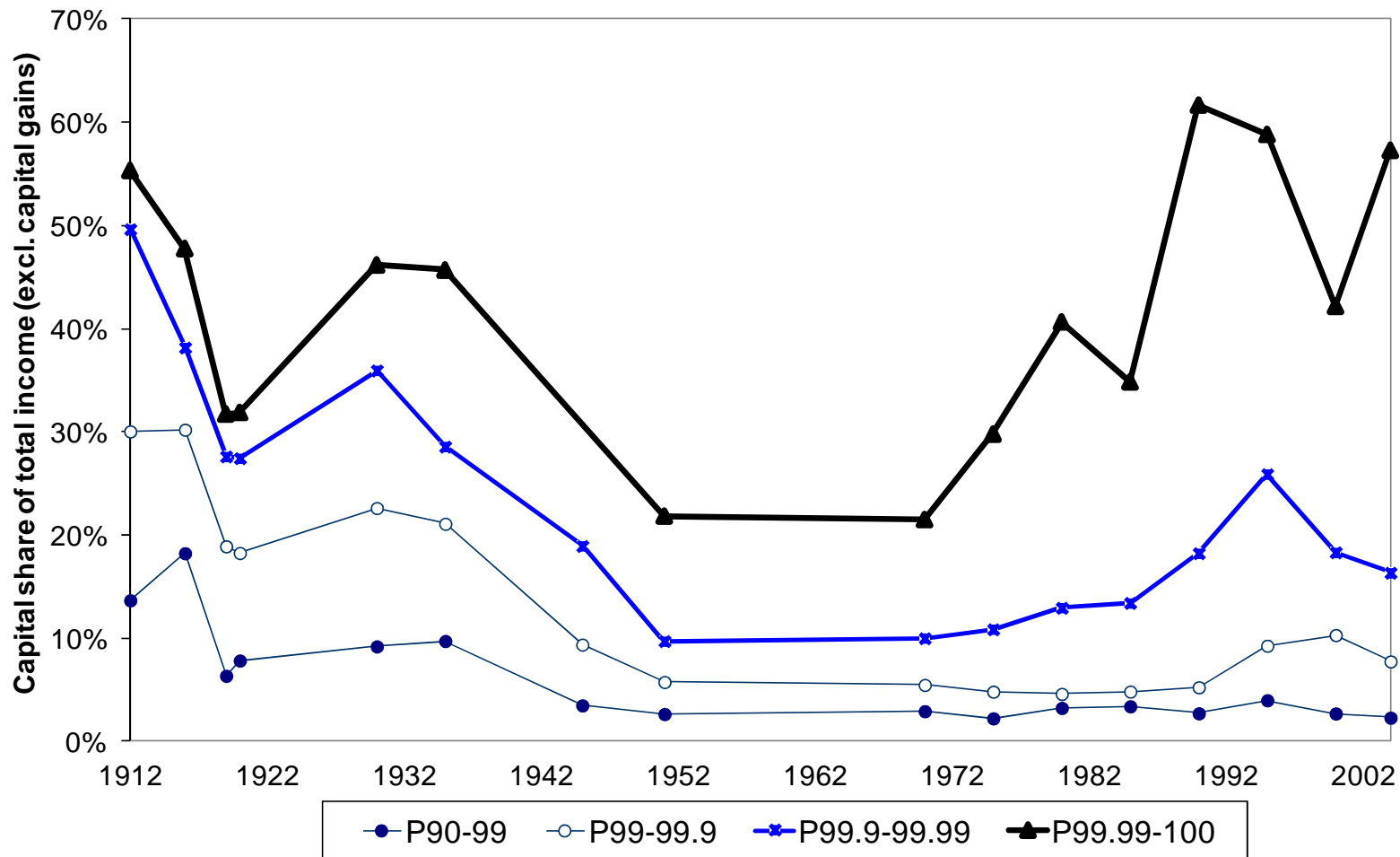
Outline of talk

1. Introduction: Role of wealth in inequality trends

2. Wealth concentration over the path of development

    –   Cross-country evidence, 1774-2006

    –   The case of Sweden, 1873-2006

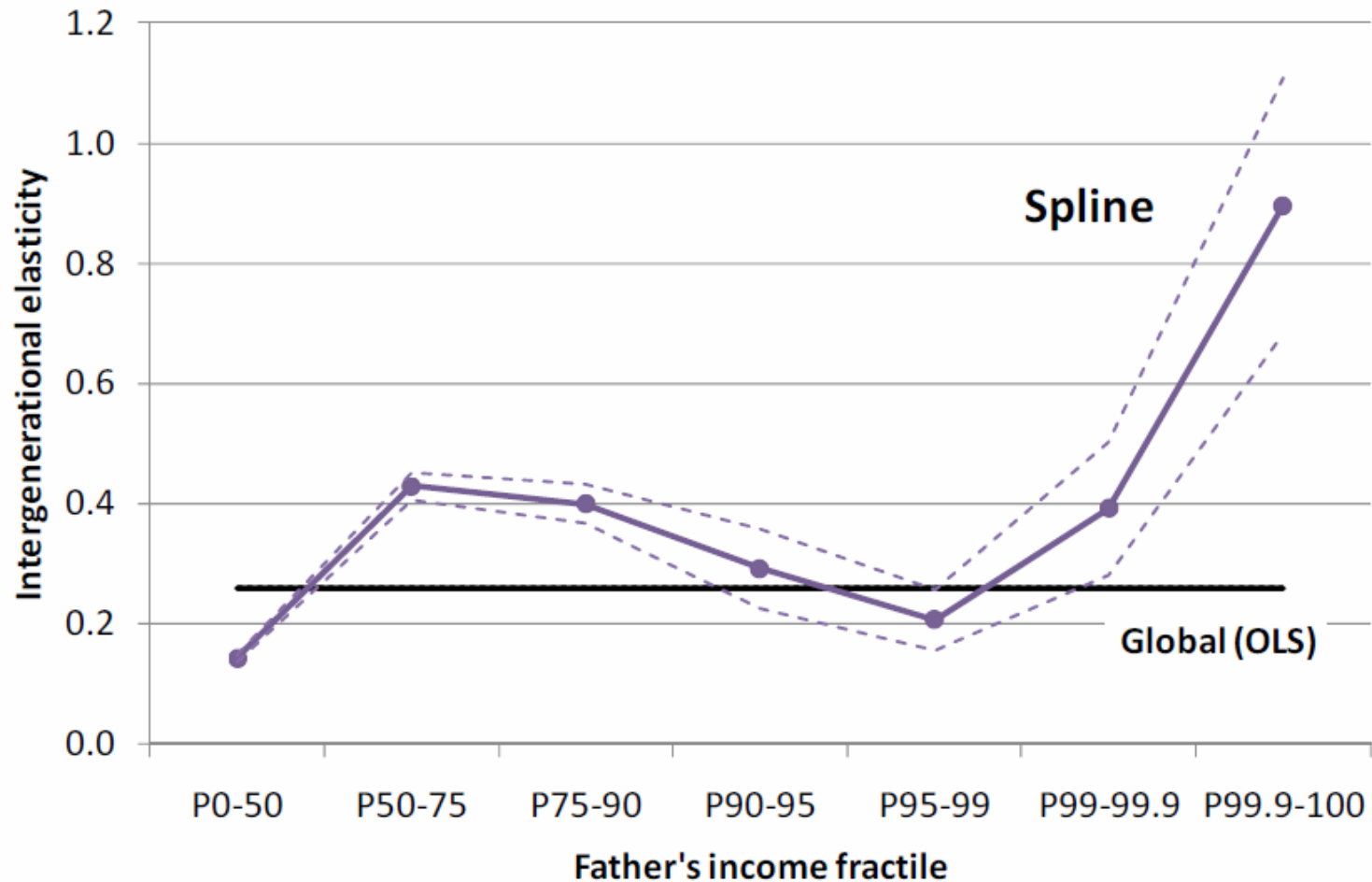3. Inheritance – the role of "old wealth"

4. Concluding remarks

(Part of the) Income/Wealth relationship
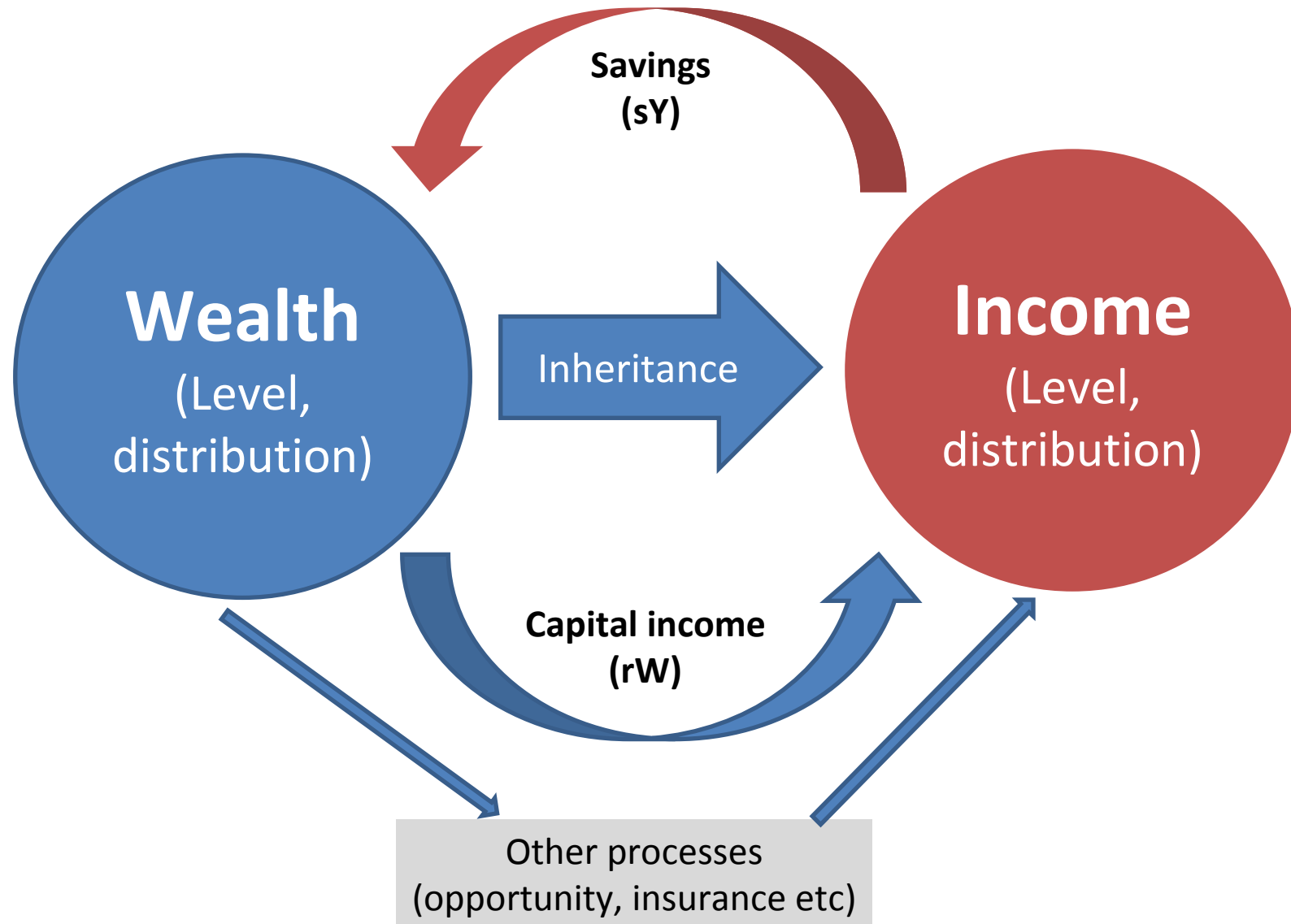
# Capital income share in total income, Sweden, top decile, 1912-2004

Wealth matters to income mobility: Intergenerational transmission in Sweden

Björklund, Roine and Waldenström (2011), "Intergenerational Top Income Mobility in Sweden – Capitalist Dynasties in the Land of Equal Opportunity?",

# Wealth matters to income mobility: Intergenerational transmission in Sweden

Björklund, Roine and Waldenström (2011)

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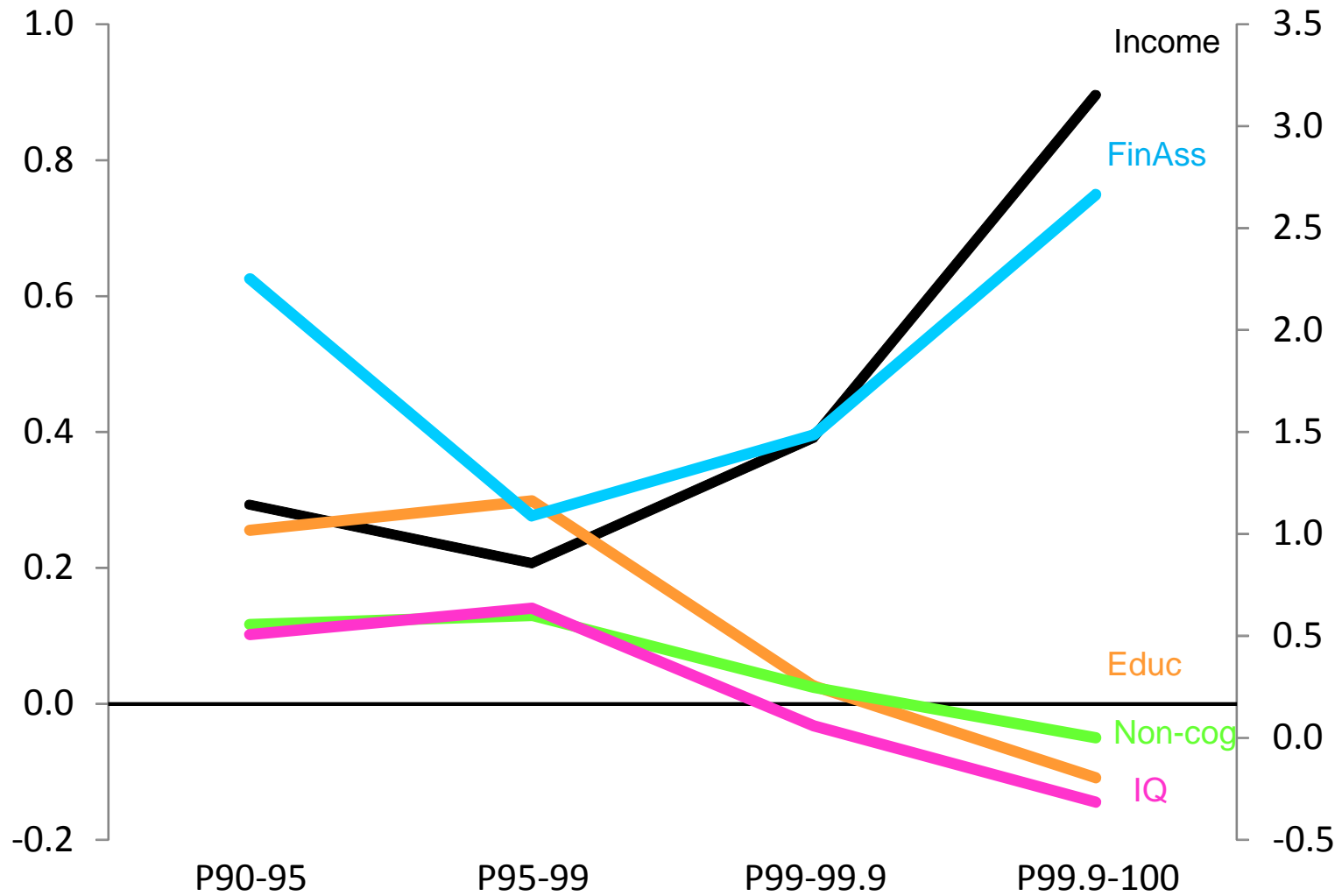
Link between inequality and development

- Large literature – no consensus
  - *Equalization view* (Stiglitz 1969; Becker & Tomes; Loury 1981)
  - *Disequalization view* (Ray; Mookherjee & Ray 2003)
  - *History matters* (Banerjee & Newman 1993; Galor and Zeira 1993)

- Kuznets (1953, 1955): Structural change
  - Shift from agericultural (trad.) to industrial (modern) sector generates inverted U-like relationship
  - Also: concentration of capital and savings boost inequality
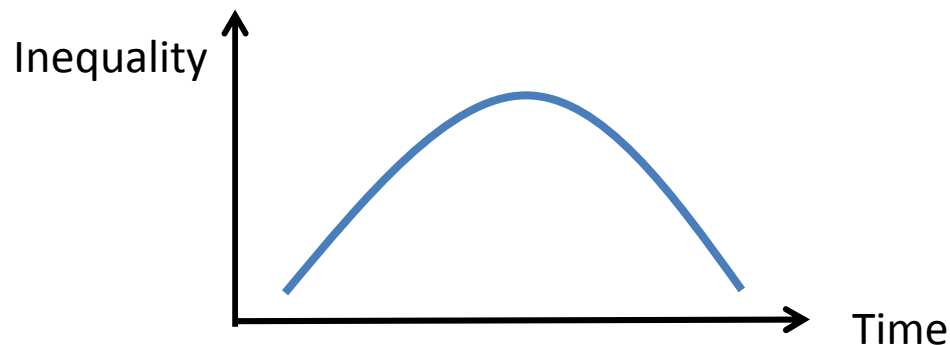
Is there a Kuznets Curve in income inequality?
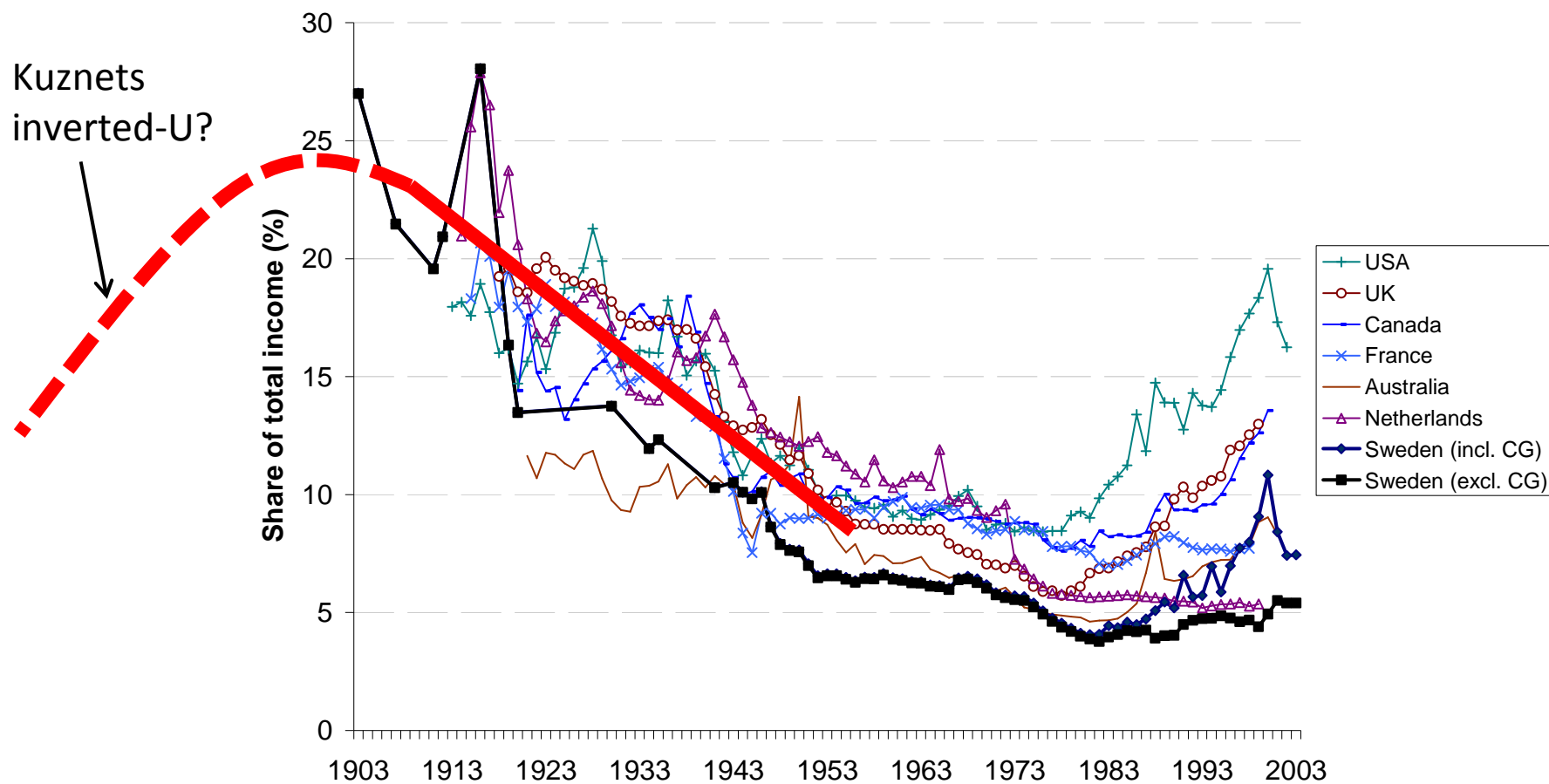
What about wealth inequality?

Long-run trends in wealth concentration: Cross-country evidence

Ohlsson, H, J. Roine and D. Waldenström (2008), "Long-Run Changes in the Concentration of Wealth: An Overview of Recent Findings", in Davies, J.B. (ed.), *Personal Wealth from a Global Perspective*, Oxford, Oxford University Press. Link

Starting point

- Main question: Is there a long-term linkage between development and inequality? (cf. Kuznets)

- Further questions:
  - Common vs. specific trends across countries

  - Potential heterogeneity within the top wealth decile

- This study:
  - Reviews recent empirical findings of others
  - Presents new evidence on Nordic countries

Measurement and data

- Estate data
  - Incentives to minimze tax - but also to divide fairly
  - Homogenous source over time
  - Problems: Sample size, W of deceased (mortality multipl.)

- Wealth tax data
  - Large samples; Relatively homogenous over time
  - Problems: tax incentives, asset valuation, excludes items

- Survey data
  - Covers most asset items; Scattered points; Short history
  - Problems: sample size, response rates, top-coding

Measurement and data

- Wealth concept: **Net worth**

  – Real + financial assets less debts (excl. pensions, human cap.)

- Wealth owners:

  – Wealth tax data: **Households** (tax units; >18yrs)

  – Estate data: **Adults** (18 yrs +); deceased

  – Survey data: **Households** (everyone in dwelling)

  – Historically, households difficult to define

Measurement and data

Main methodology:

- Compute *shares of total household wealth* (using Pareto interpolation) that goes to the top 1%, top10% etc of all potential wealth holders

- The shares of both wealth and population are defined in relation to *reference totals*

  - Reference total for wealth: All personal wealth in the economy (not only taxed wealth)

  - Reference total for the population: All potential tax units (not just those who file tax returns)
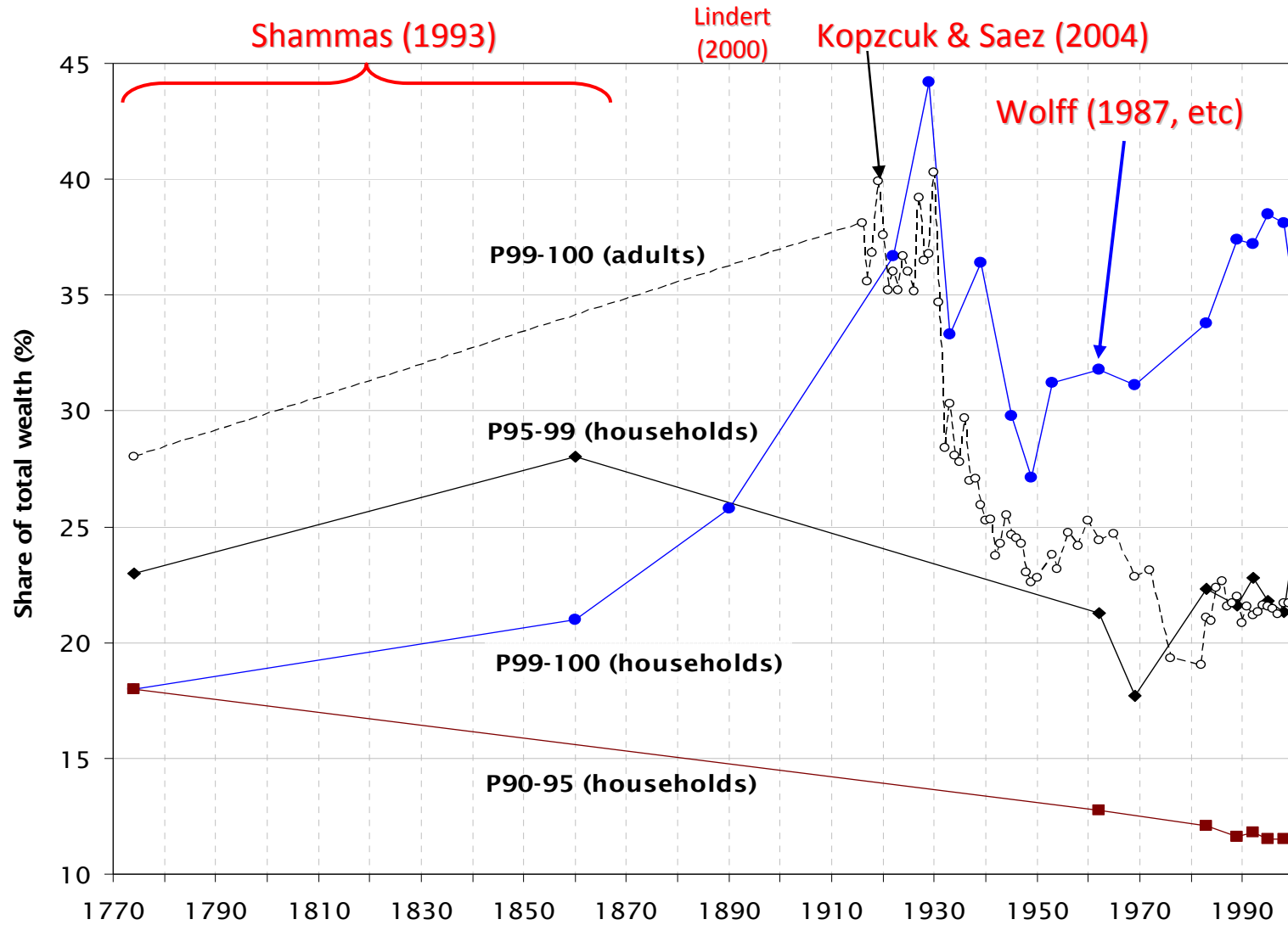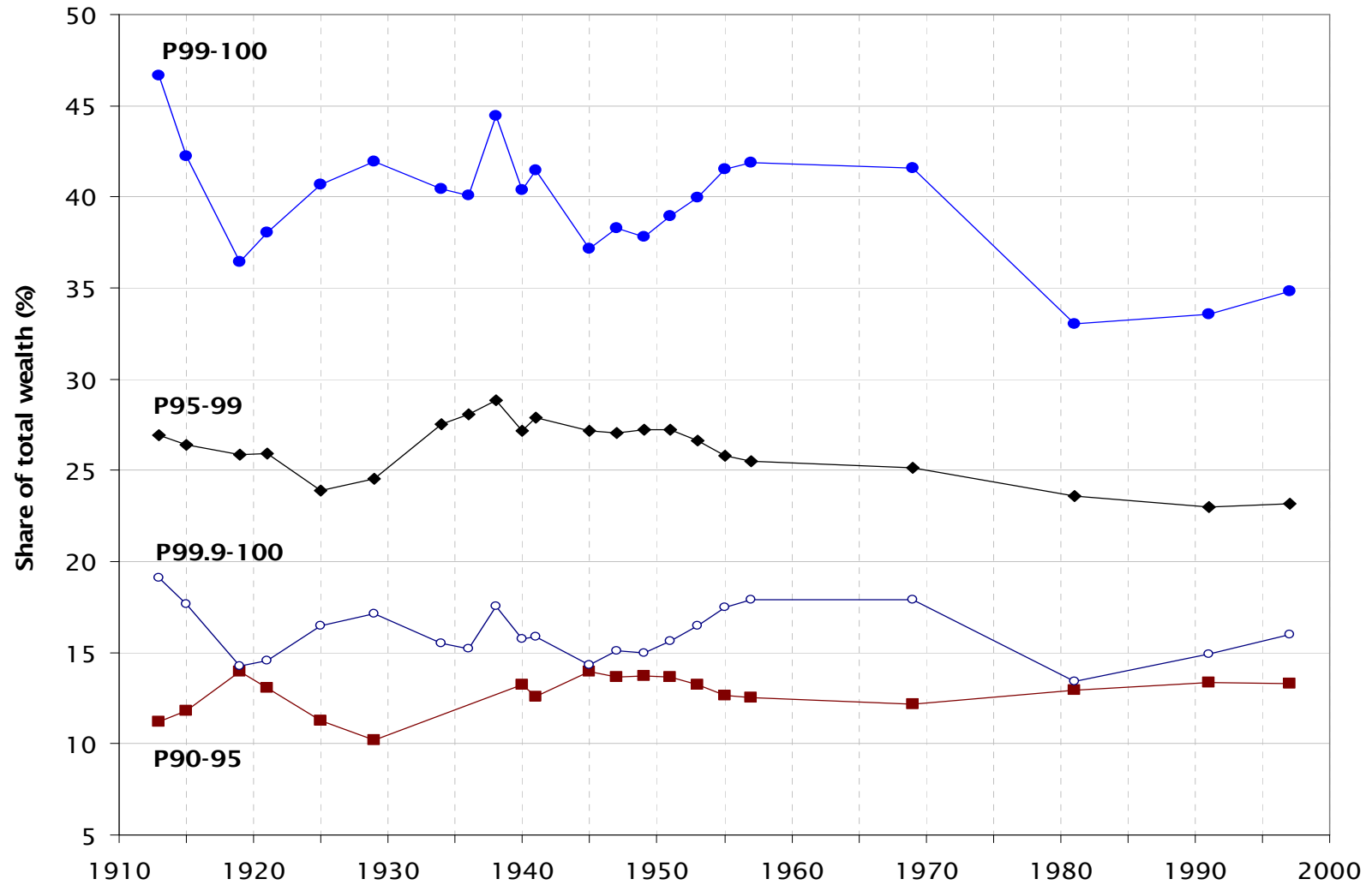
French wealth concentration, 1807-1994
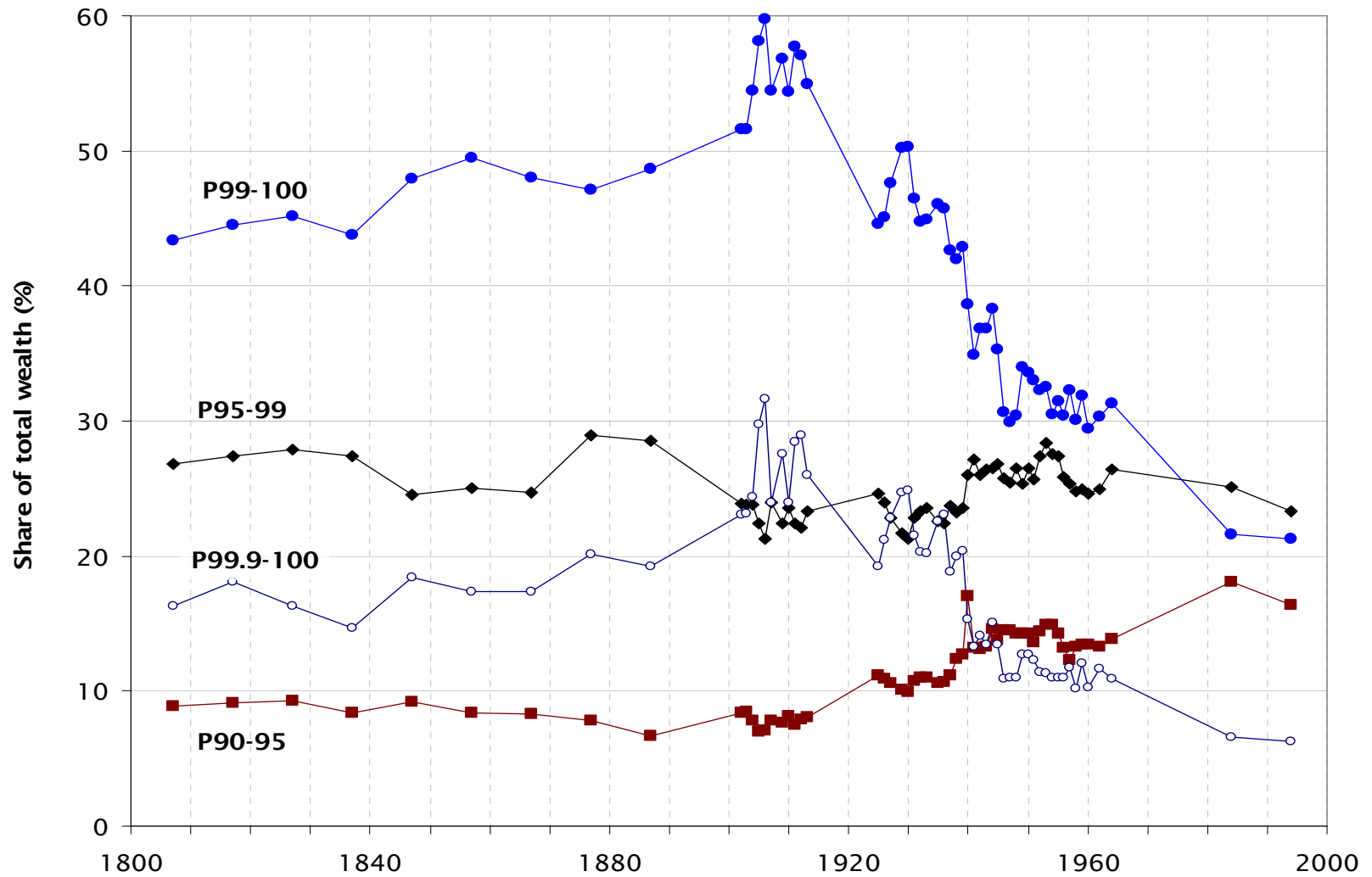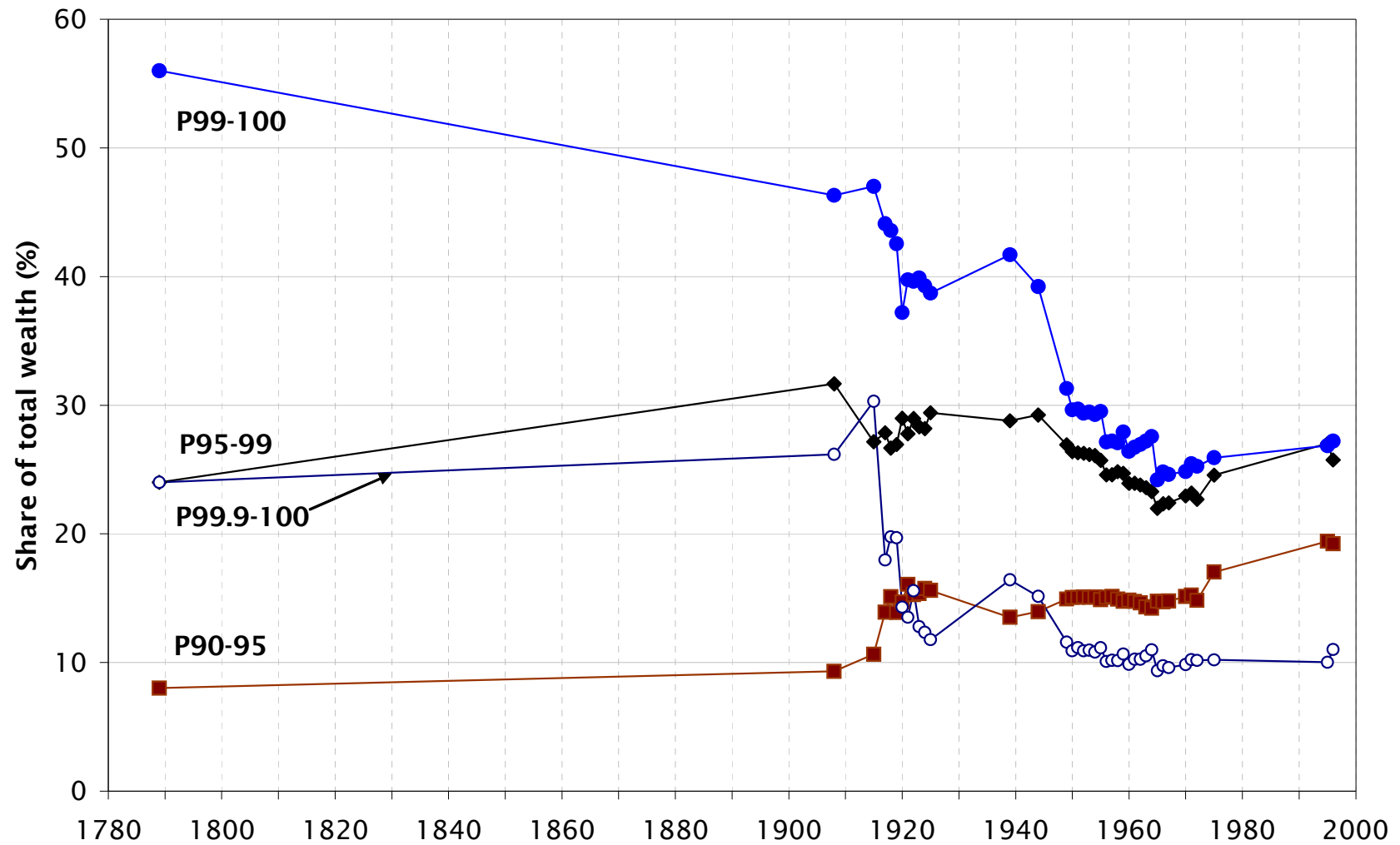
U.K. wealth concentration, 1774-2001
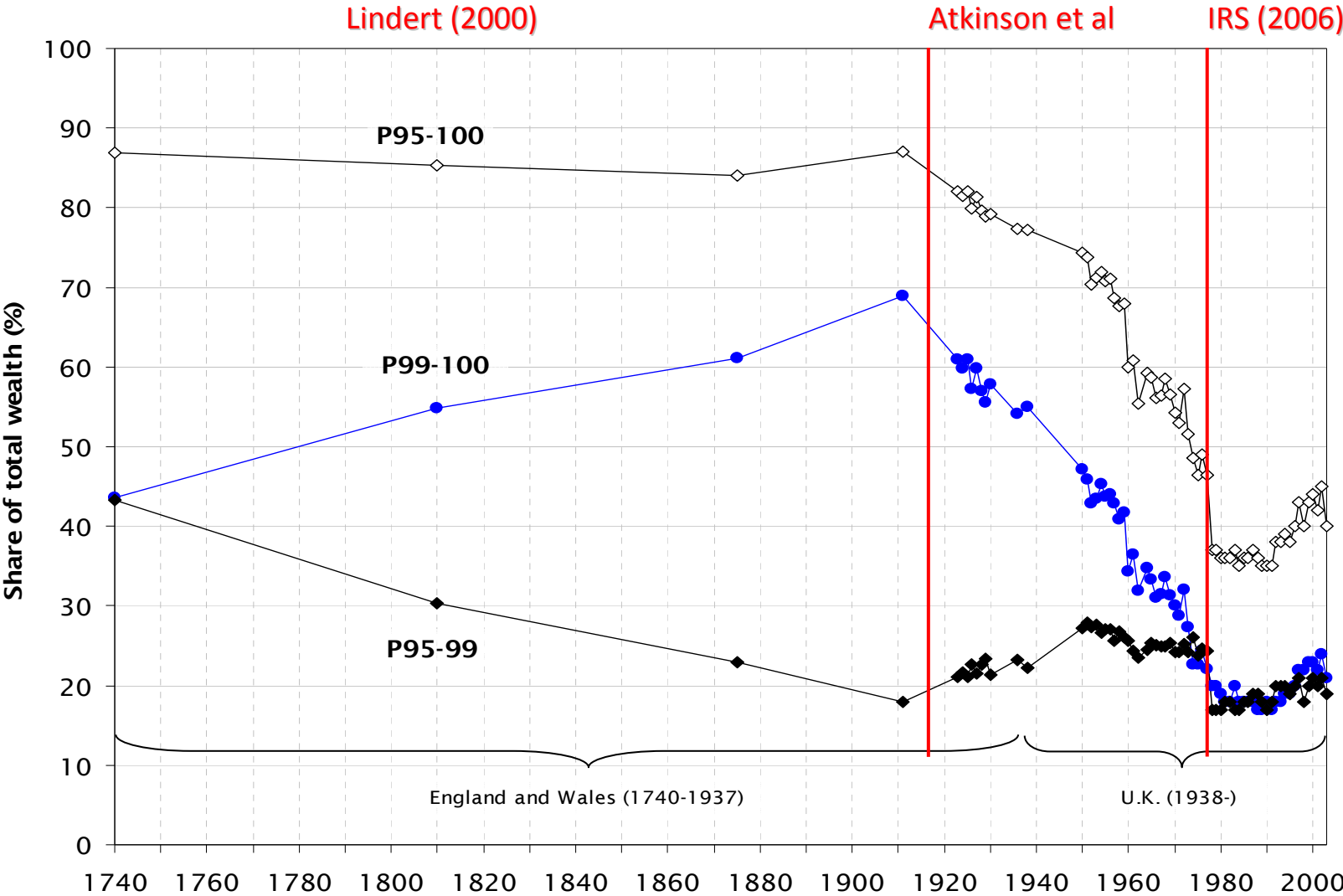
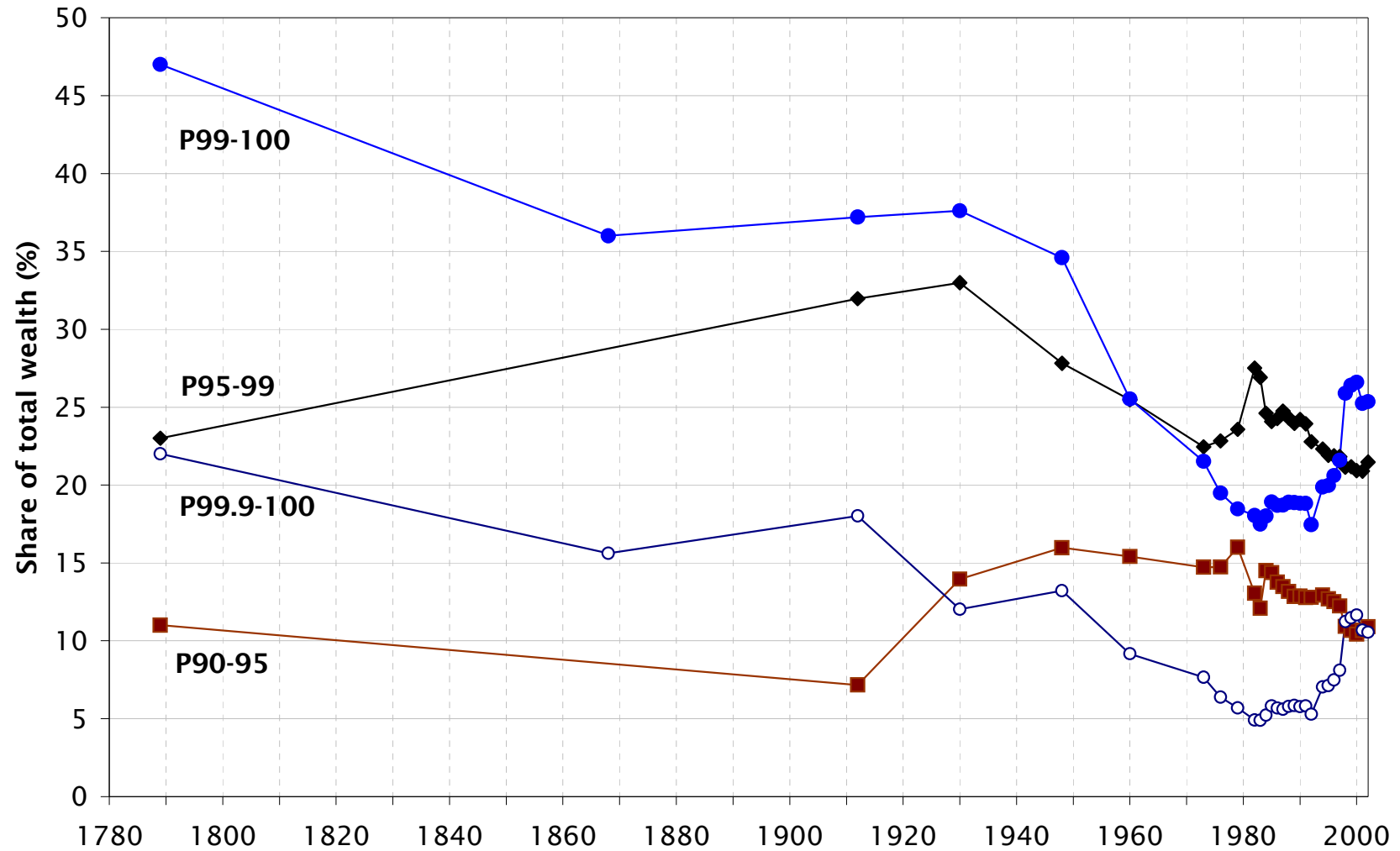# U.S. wealth concentration, 1774-2001

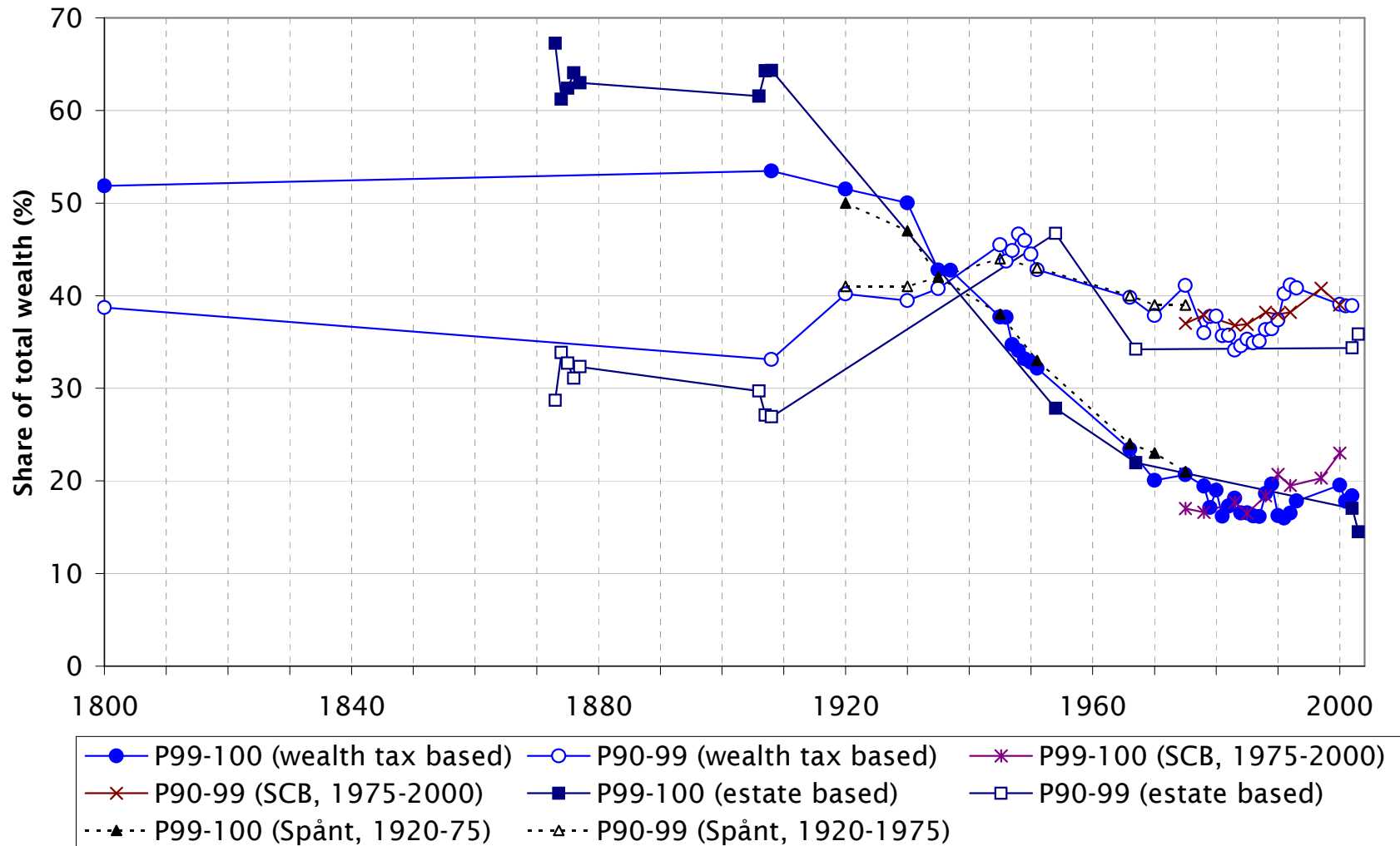# Swiss wealth concentration, 1913-1997
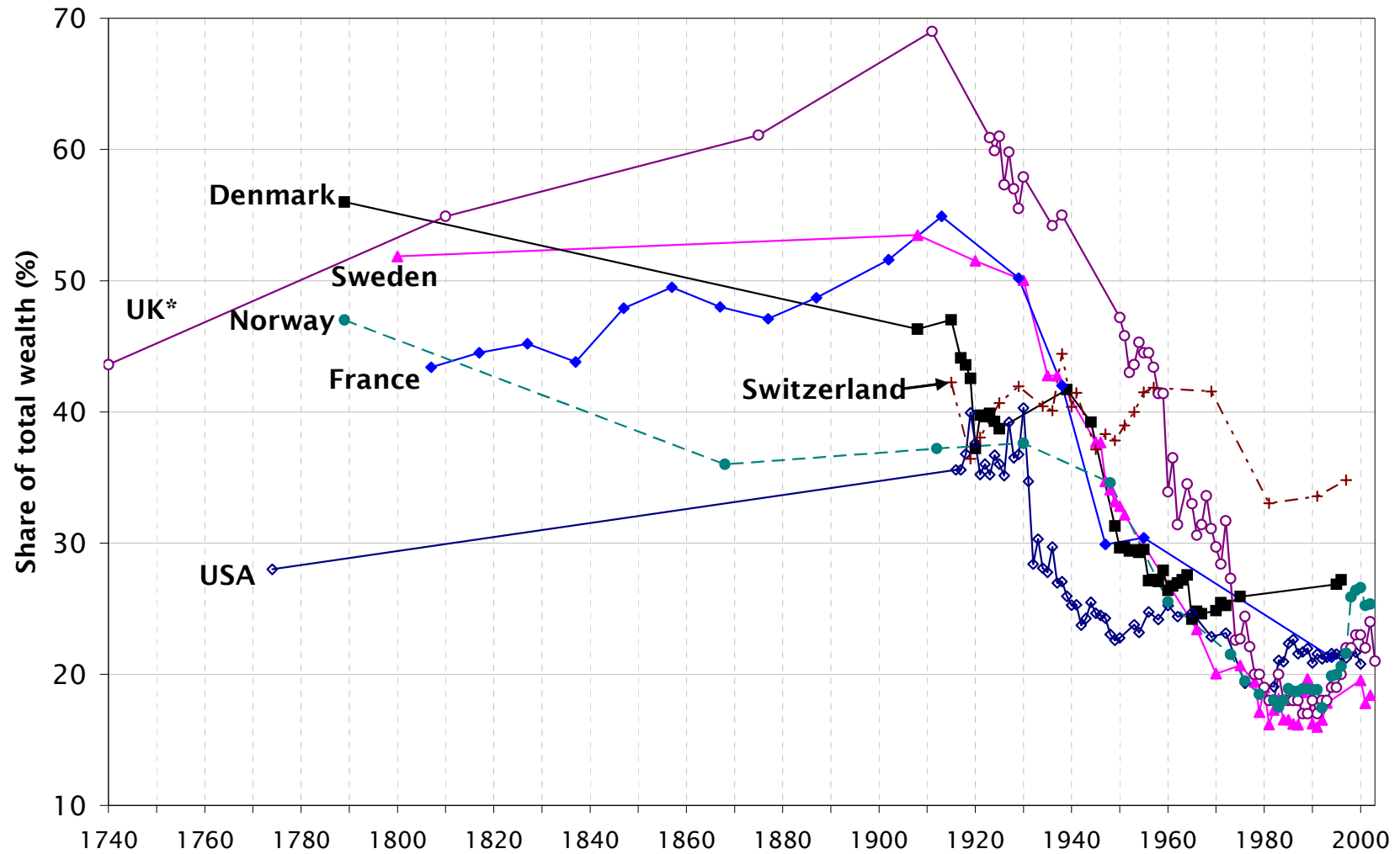
Danish wealth concentration, 1789-1996

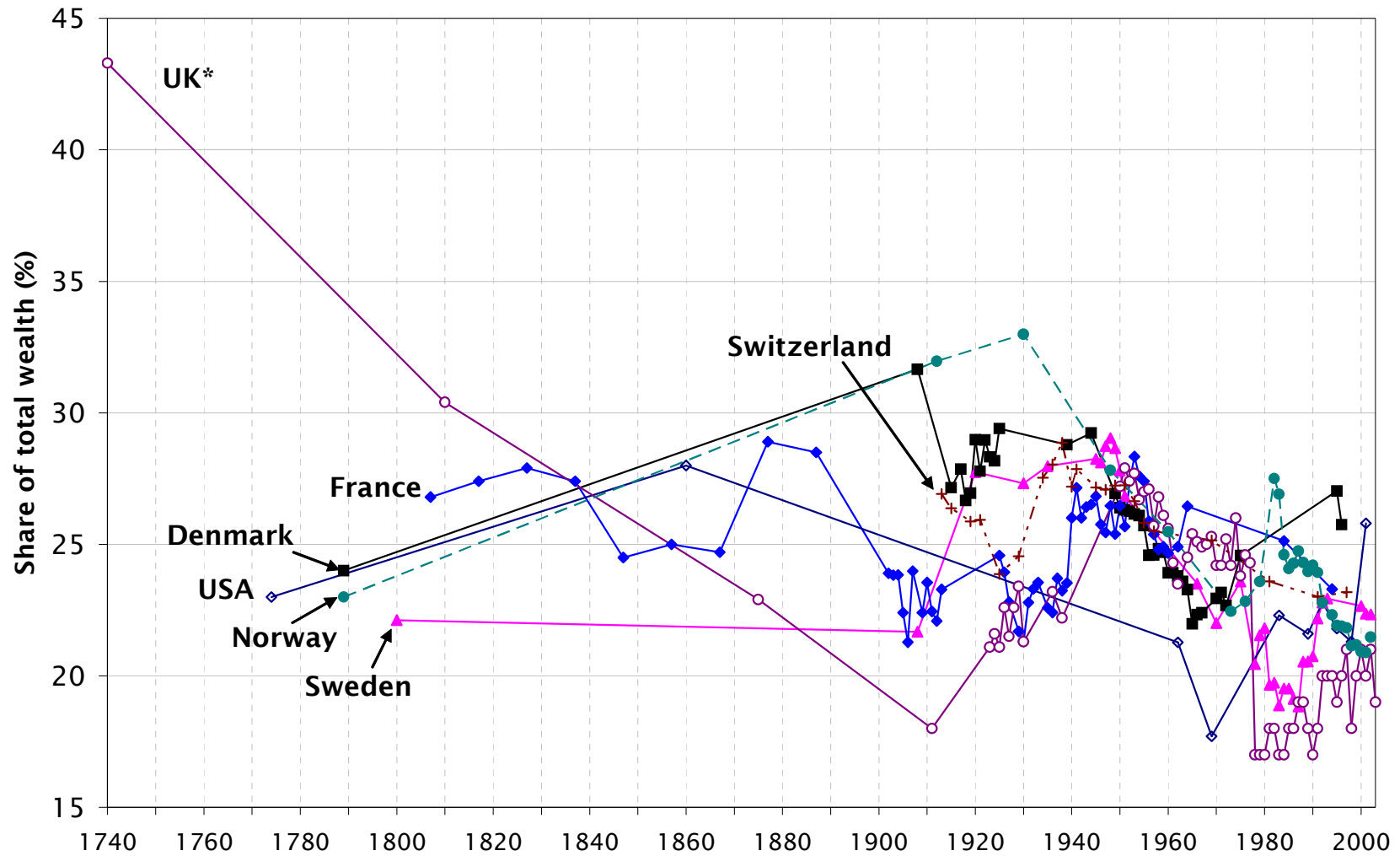# Norwegian wealth concentration, 1789-2002

Swedish wealth concentration, 1800-2002

Cross country top percentile (P99-100)

Cross-country "next four" (P95-99)

Heterogeneity between countries and within the top

Period:	≈1780-1914		1914-2000	
Fractile:	**Top1%**	**Next 4%**	**Top1%**	**Next 4%**
France	Increase	Flat	Decrease	Flat
Switzerland	-	-	Flat	Flat
UK	Increase	Decrease	Decrease	Flat
US	Increase	Flat?	Decrease	Flat?
Denmark	Decrease	Flat	Decrease	Flat
Norway	Decrease	Increase	Decrease	Decrease
Sweden	Flat	Flat	Decrease	Decrease*

Summing up cross-country evidence

1. Industrialization: no uniform impact on wealth inequality
    -   Inequality increased in the US, UK (top1%), France
    -   Flat (or decreasing) inequality in Nordic countries
    -   Role of country size? Timing of industrialization?

2. Other factors matter (20th experience)
    -   Geopolitical shocks, Crises, Redistribtion

3. Little support for Kuznets-type "inverse-U"
    -   Trends rather look like an *inverse-J* (or *inverse-S*)
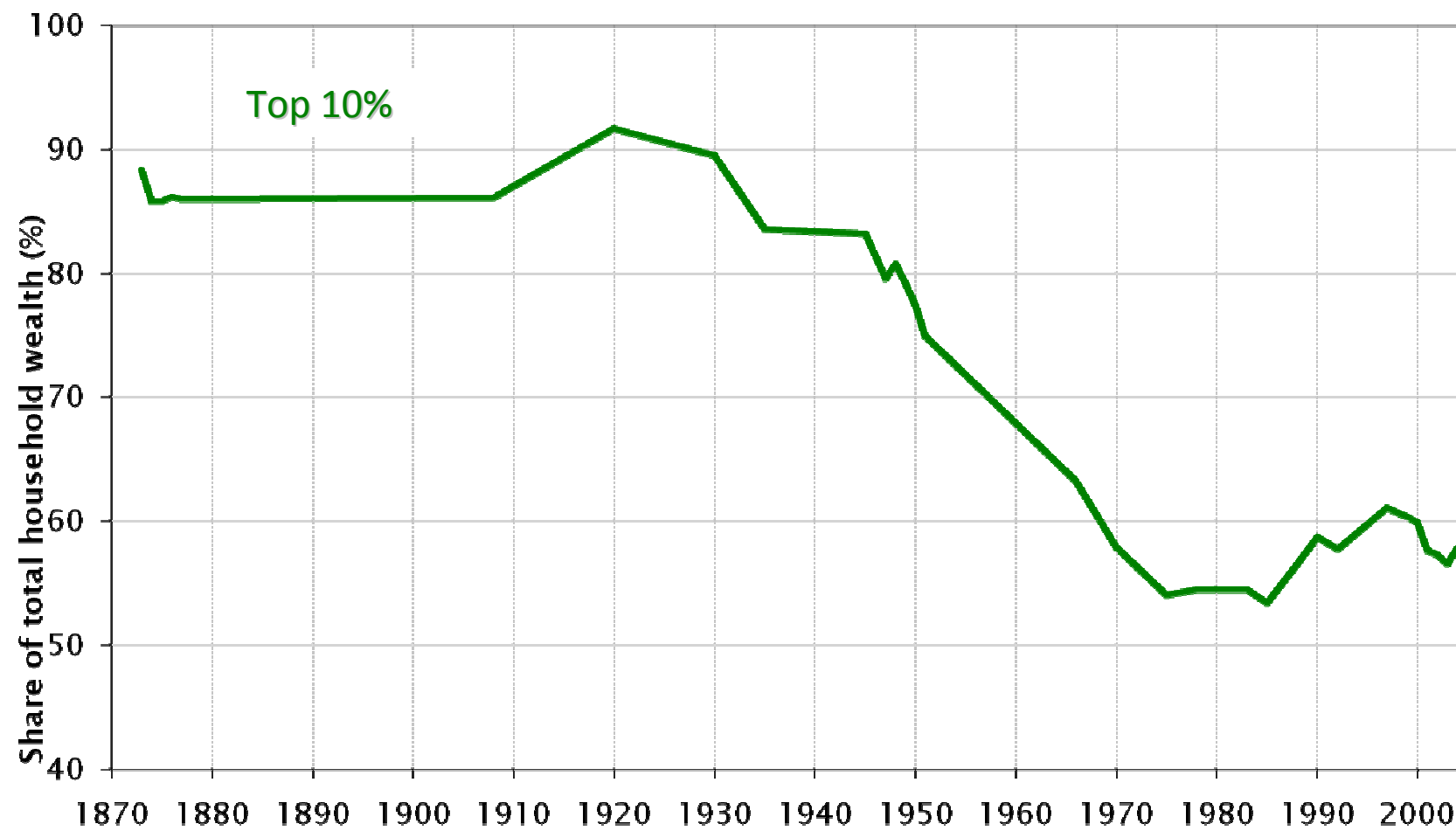
Wealth concentration in Sweden, 1870-2006

Roine, J. and D. Waldenström (2009), "Wealth Concentration over the Path of Development: Sweden, 1873–2006", *Scandinavian Journal of Economics*, 111(1), 151–187. Link
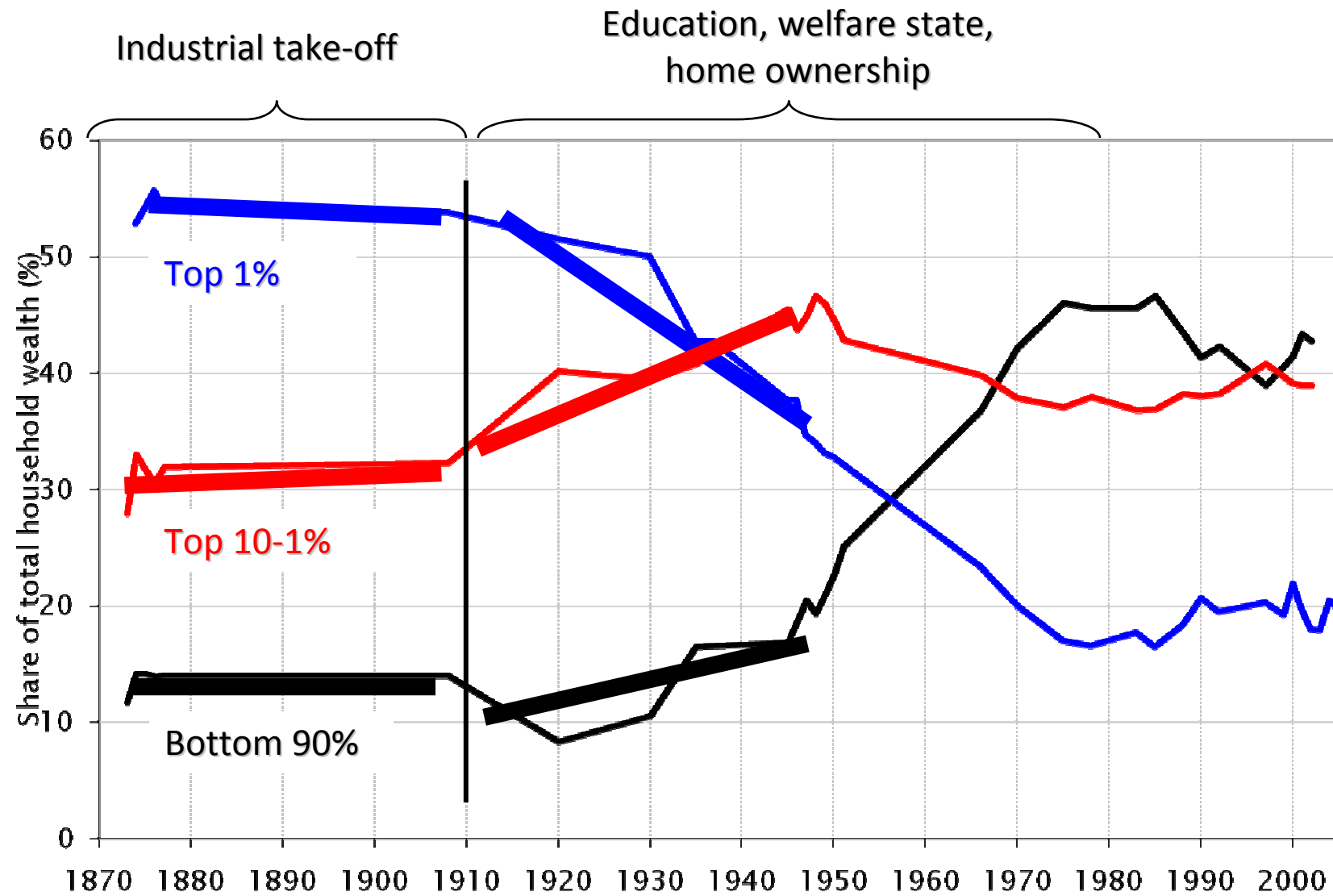
Questions

- Closer at changes in wealth concentration

- Evolution during episodes:

    – Industrial take-off (1870-1910)

    – Rise of the welfare state (educational reforms, home ownership, redistribution) (1930-1970)

    – Globalization and deregulation (1980-)
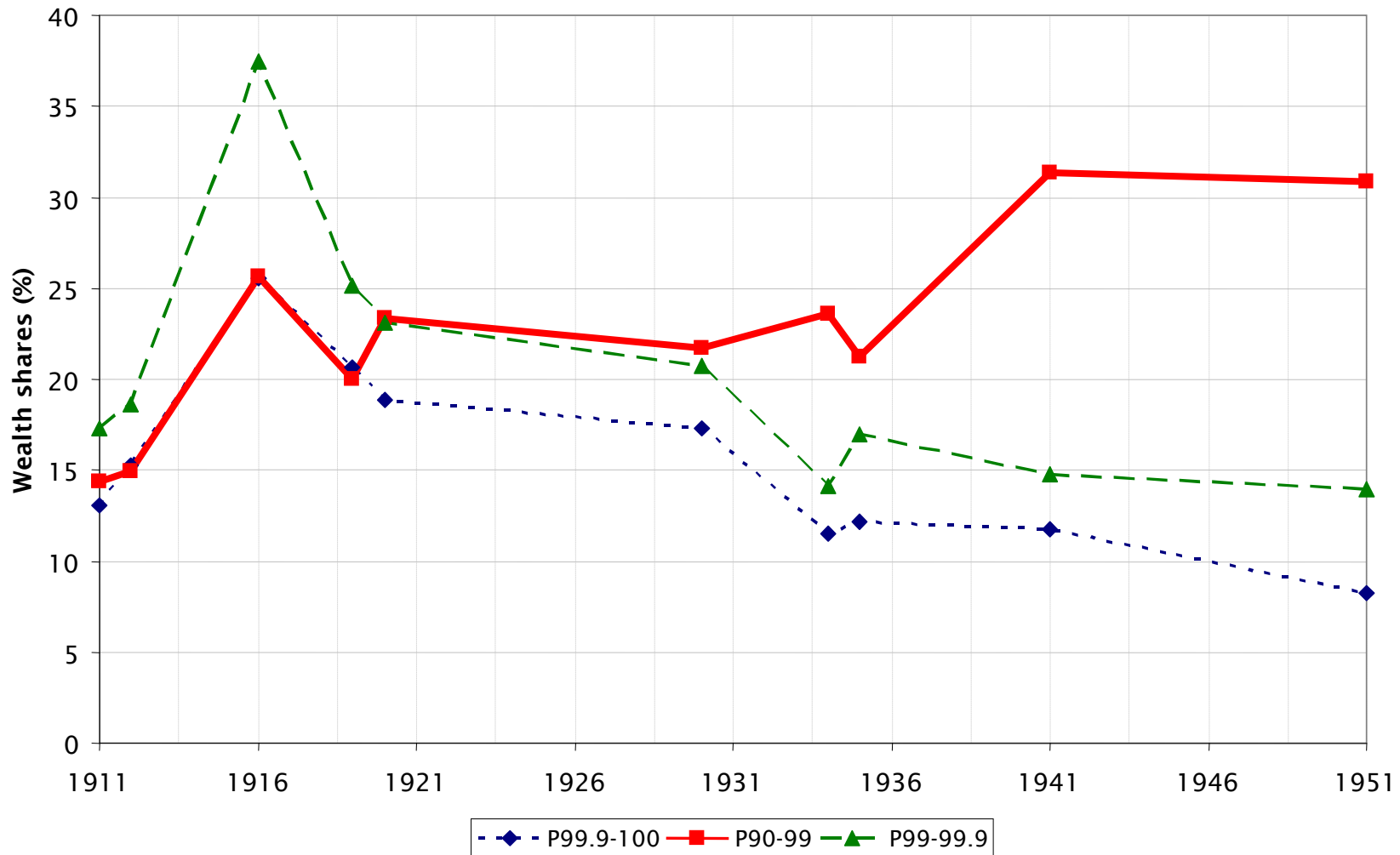
- Role of offshore wealth
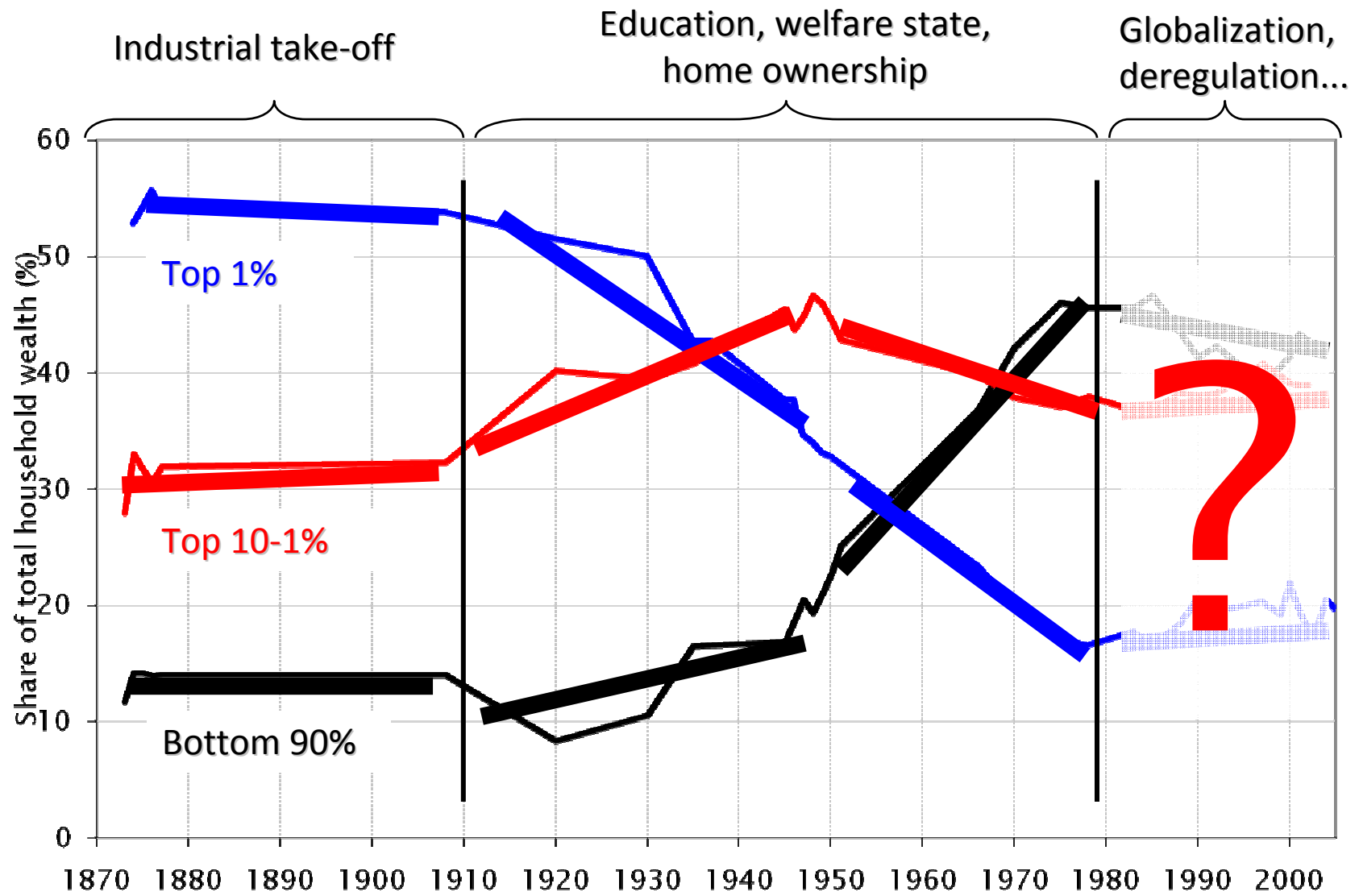
Top wealth decile in Sweden

Wealth distribution in Sweden, 1870-2005

Industrial take-off

Education, welfare state, home ownership

Top 1%

Top 10-1%

Bottom 90%

Share of total household wealth (%)

60
50
40
30
20
10
0

1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000

Interwar era: High-wage earners accumulate wealth

Wealth distribution in Sweden, 1870-2005

Industrial take-off

Education, welfare state, home ownership

Globalization, deregulation...

Share of total household wealth (%)

Top 1%

Top 10-1%

Bottom 90%

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What has happened since 1980?

- Sweden in the 1980s and 1990s:

  - High taxes on wealth, inheritance, property

  - Booming financial markets

  - Liberalized capital account (since 1989)

- Potential impact: Capital flight

  - Private wealth (and wealth owners) leaves Sweden

  - Wealth is moved to closely held companies

- If so, what is the effect on the wealth distribution?

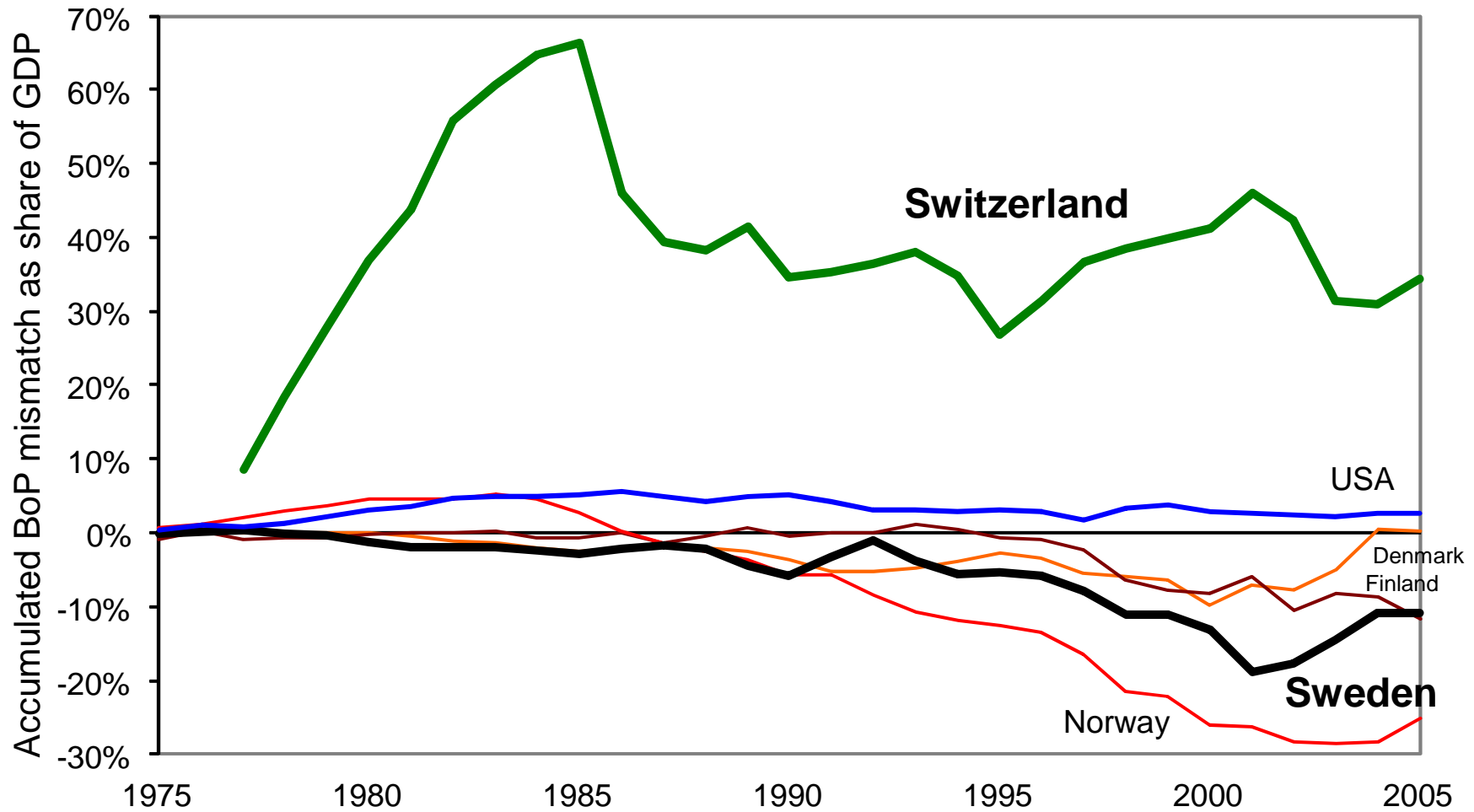# Wealth concentration in Sweden since 1950 (official series)
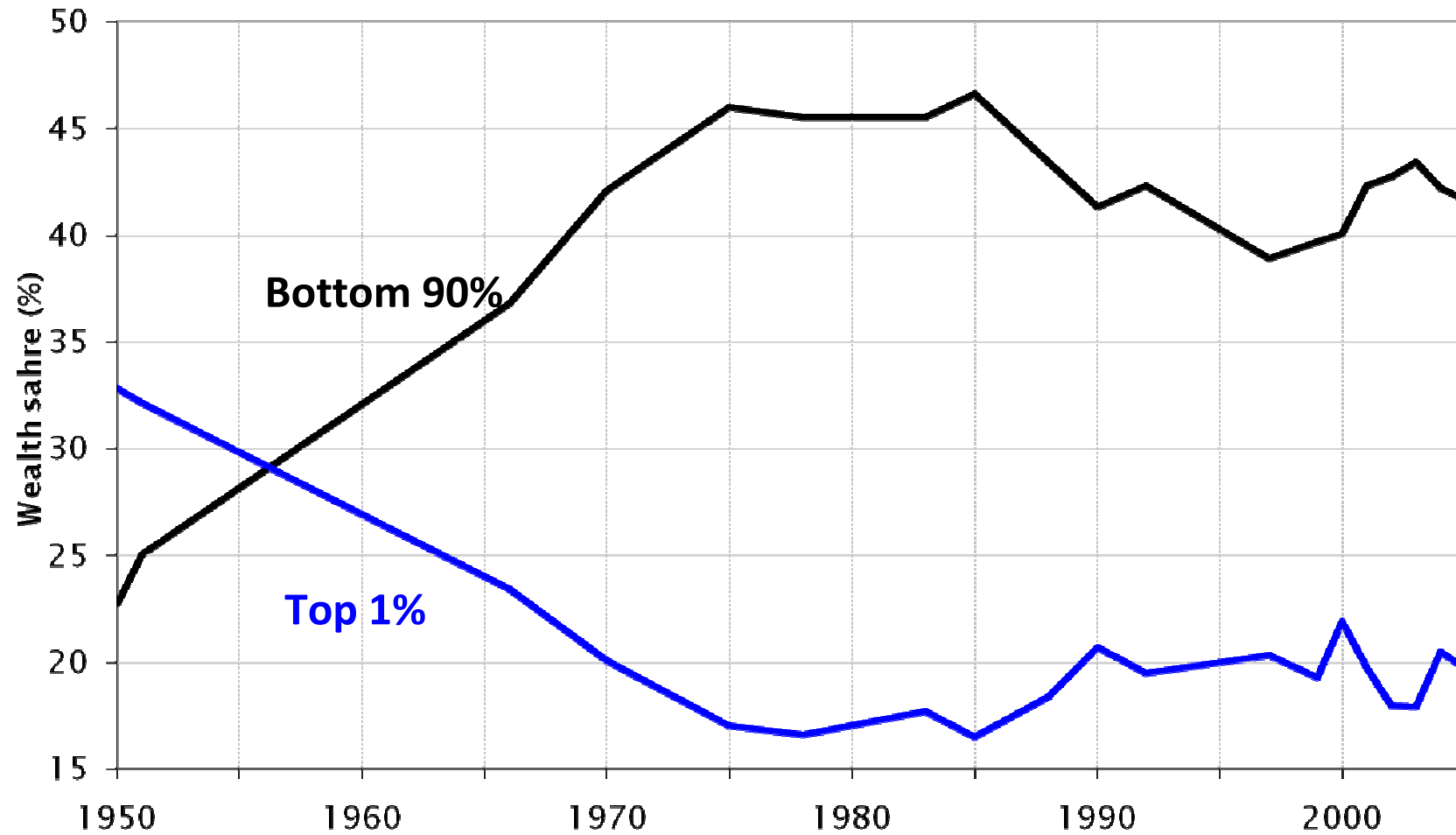
Wealth concentration in Sweden since 1950 (adjusted for *foreign wealth* of Swedish hh's)
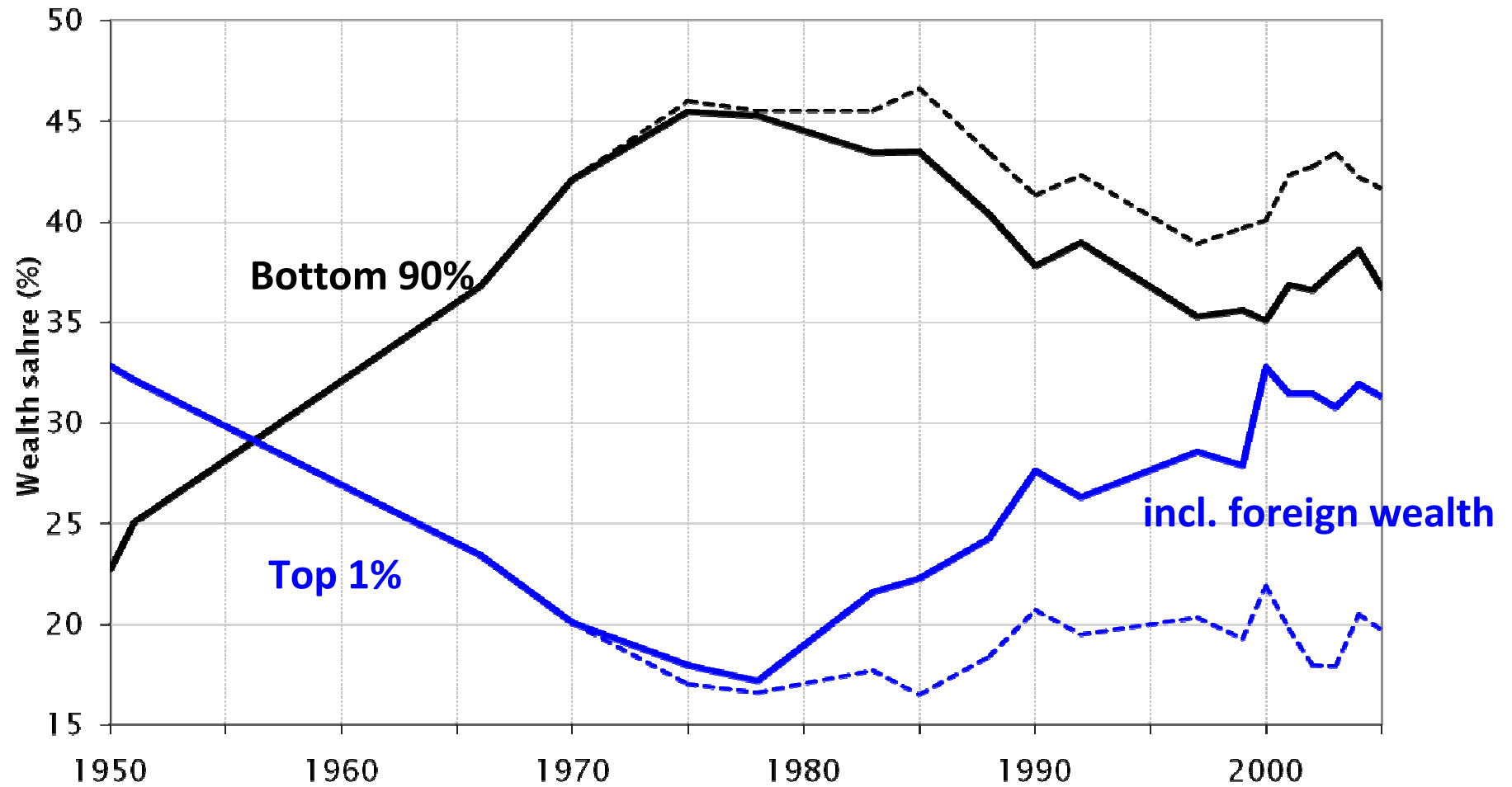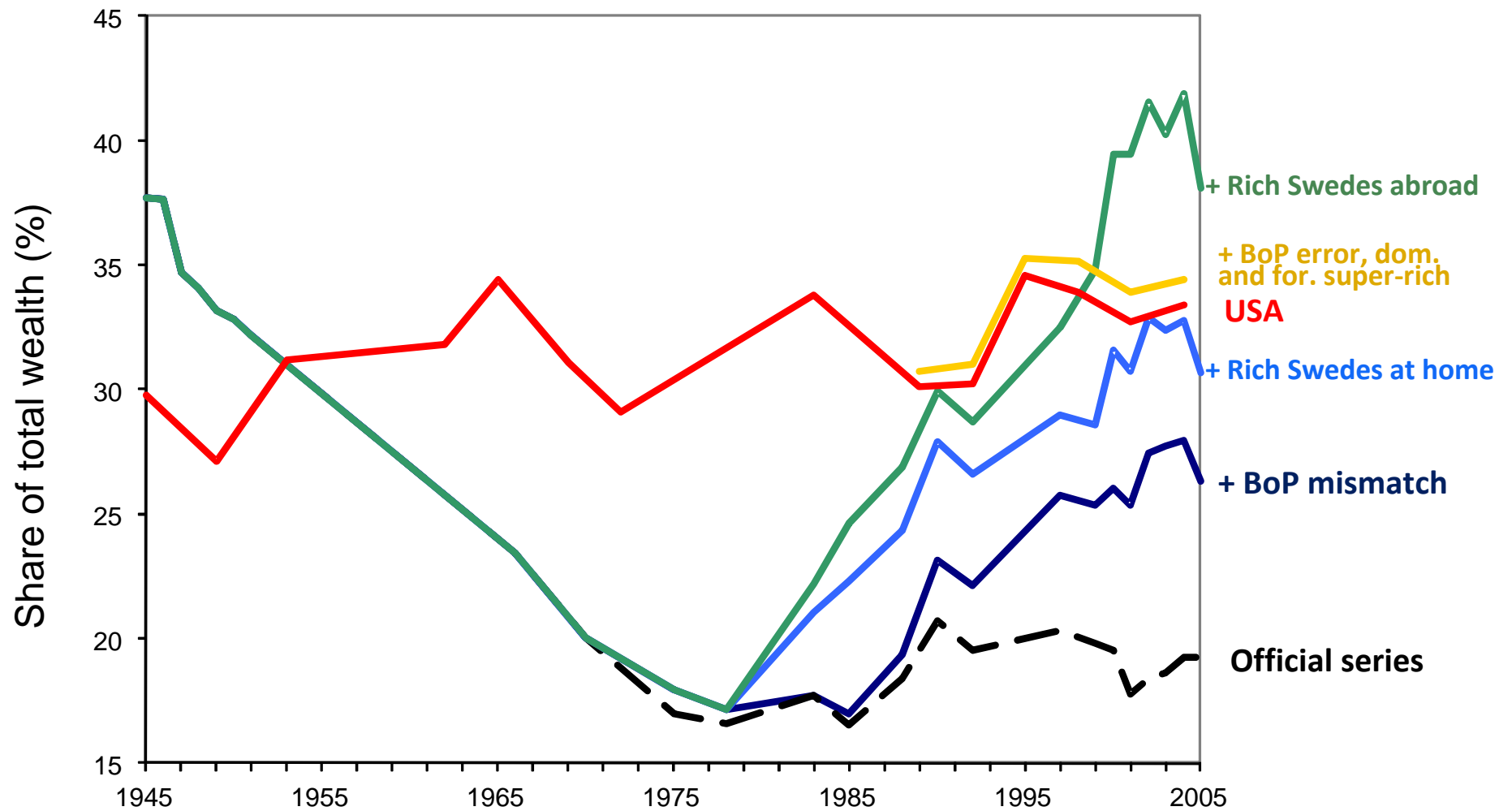
How estimate the wealth of the rich?

- We add wealth to the top percentile (≈50,000 hh's)

- Three additions:

  1. **Household wealth abroad**
     - Accumulated mismatches in Balance of Payment
     - Unaccounted savings in the Financial Accounts

  2. **Wealth of super-rich Swedes *in Sweden***
     - Unlisted wealth; Source: Rich Lists in magazines 1983-

  3. **Wealth of super-rich Swedes *abroad***
     - Unlisted wealth; Source: Rich Lists in magazines 1983-

Balance of Payments mismatch, six countries

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Comparing top wealth percentile: Sweden vs USA

Share of total wealth (%)

+ Rich Swedes abroad

+ BoP error, dom. and for. super-rich

USA

+ Rich Swedes at home

+ BoP mismatch

Official series

Summing up: Swedish wealth inequality trends

1. Industrial take-off had a small effect on wealth concentration

    – But possibly larger on the composition of the wealthy ...

2. 20th century: Equalization

    – Before 1950 the top 1% lost to the medium-rich

    – 1950-1980 rise of "popular wealth"

    – After 1980, wealth compression halts

3. Adding estimates of foreign wealth and large domestic unlisted fortunes reverses trend 1980-

# The Importance of Old Wealth: Estimating Long-Run Flows of Inheritance

Ohlsson, H., J. Roine and D. Waldenström (2012), "The Role of Inheritance in Sweden, 1860–2010", mimeo.

Waldenström (2012), "Household Wealth in Sweden, 1810–2010", mimeo.

How important is inheritance?

- Next question: How important are inheritances relative to other sources of income?

- Households get rich from two sources:
  - they save out of their income (*new wealth*)
  - they receive transfers from others (*old wealth*)

- Conventional story: Old wealth mattered in the past, today new wealth (growth-based) is all that matters.

- But is this really true…?

Annual inheritance flow as share of national income: France, 1820-2008
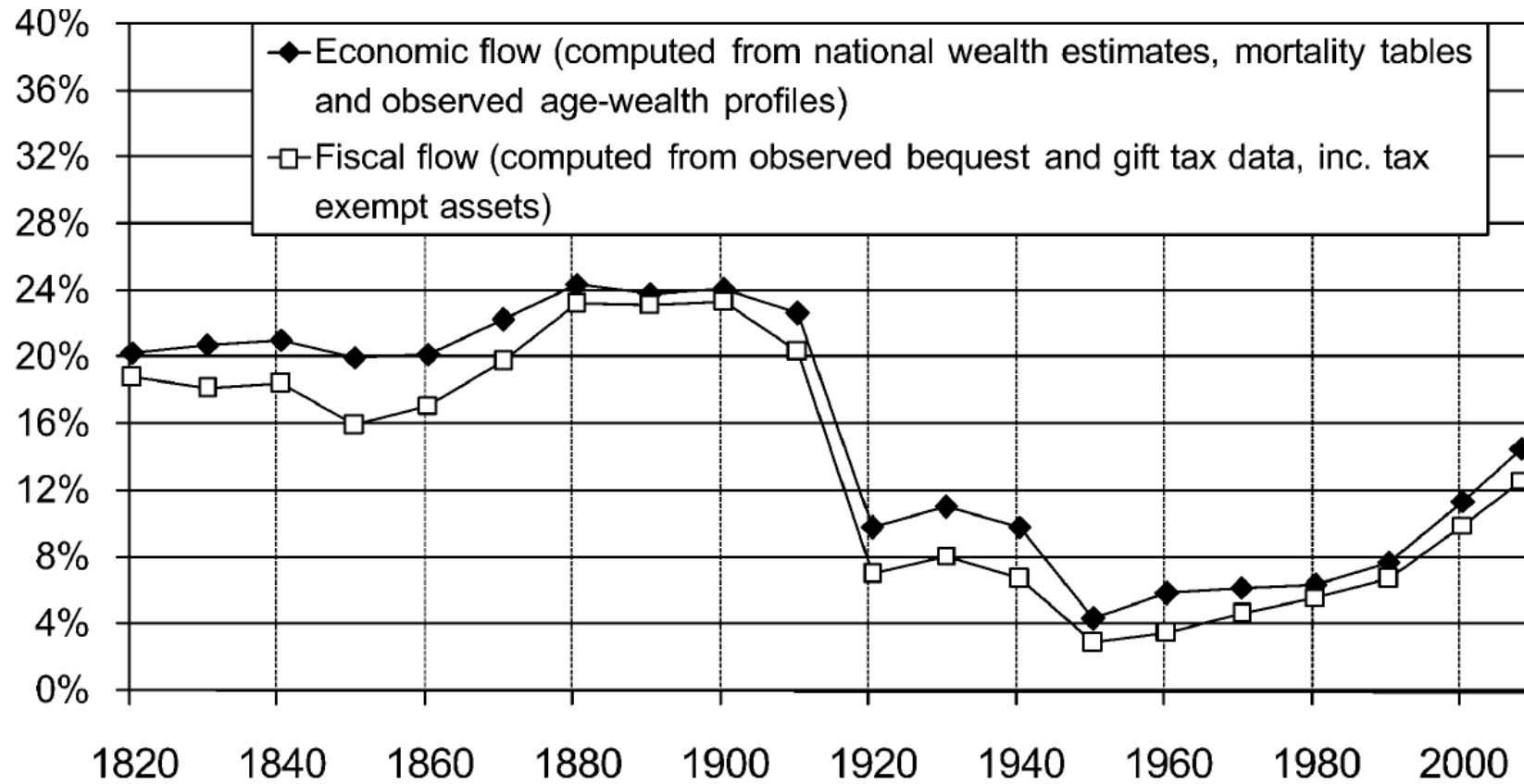
Source: Piketty, Thomas (2011), "On the Long-Run Evolution of Inheritance: France 1850–2050", *Quarterly Journal of Economics* 126(3), 1071–1131.

Annual inheritance flow as share of national income: Sweden, 1860-2010
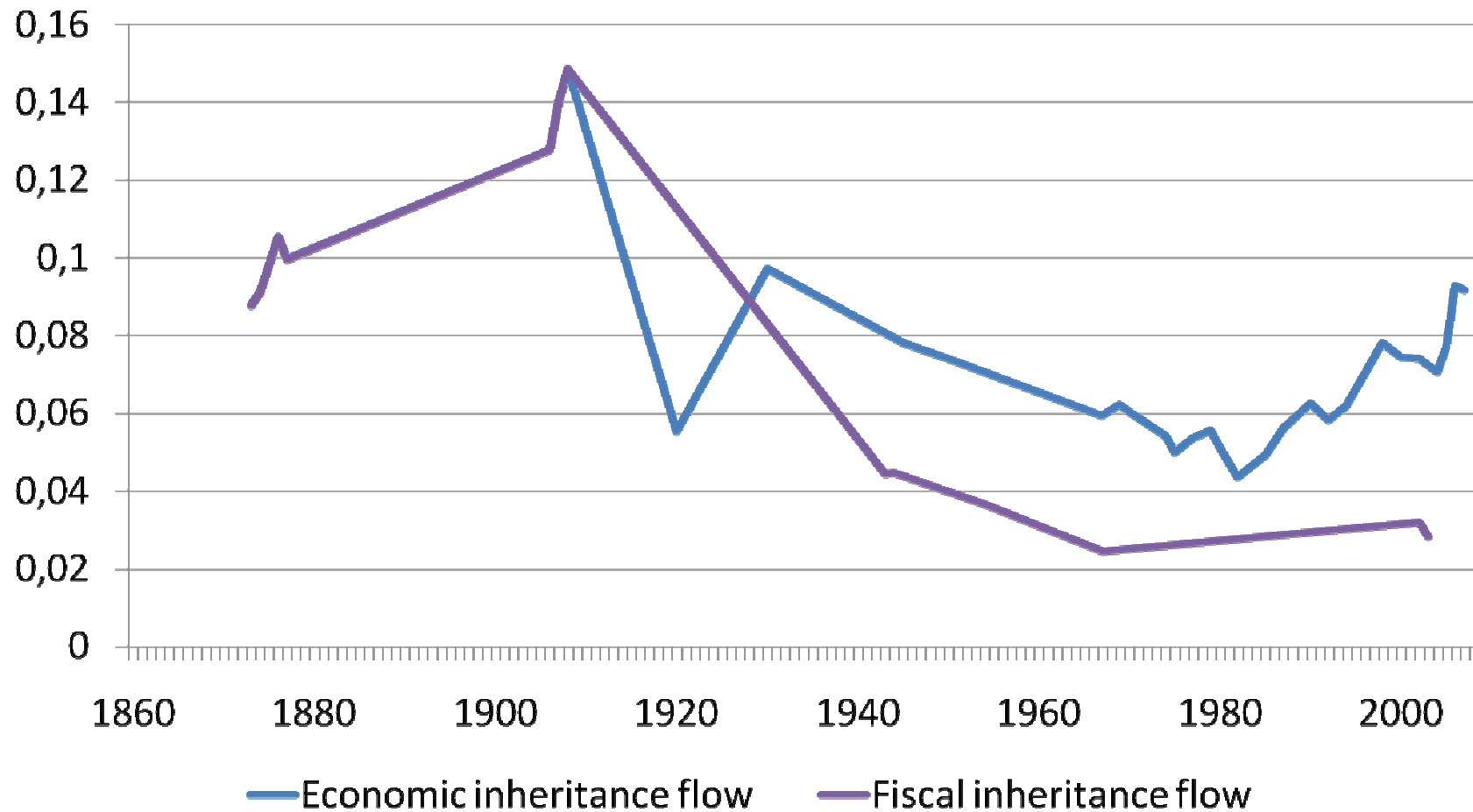
Basic approach

- Piketty (2011): the importance of inheritance depends on ratio between economic growth rate *g* and returns to capital *r*.
  - With *r* > *g*, old wealth accumulates faster than new wealth is created

- Let
  - B = Aggregate inheritance flow
  - Y = national income,
  - W = aggergate private wealth
  - m = mortality rate
 - μ = ratio aveW of deceased/aveW of the living.

Basic approach

- Then, compute the inheritance flow over income as:

$$B/Y = \mu \cdot m \cdot W/Y$$

- In a dynastic model, heirs save a fraction *g/r* of the return on their inerited wealth, making the wealth-income ratio W/Y stationary.

- Steady-state bequest flow B/Y = (W/Y)/H
  - H = generation length

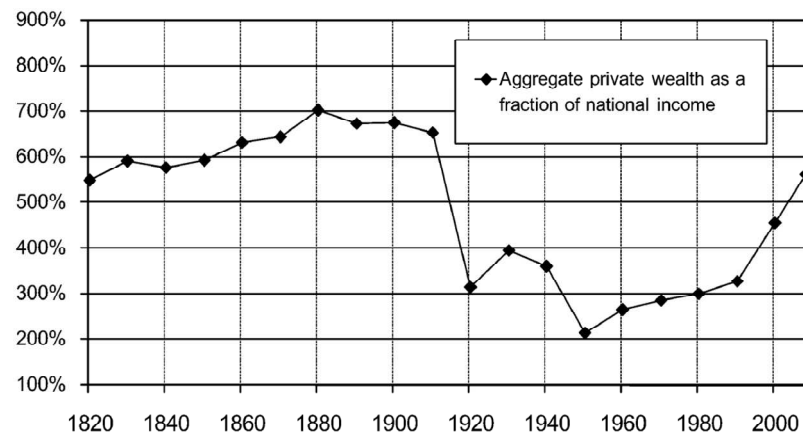- If W/Y = 400% and H = 30, then B/Y = 13%.

B/Y = μ · m · W/Y (France)

AveW of decendents/living (μ): France
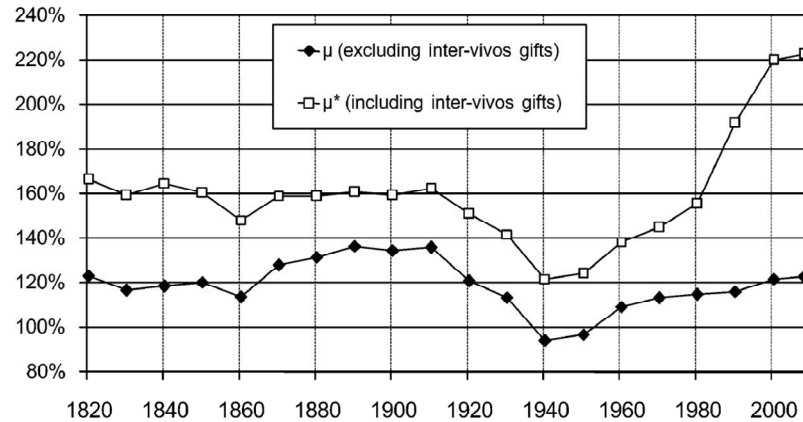
Mortality rate (m) in France
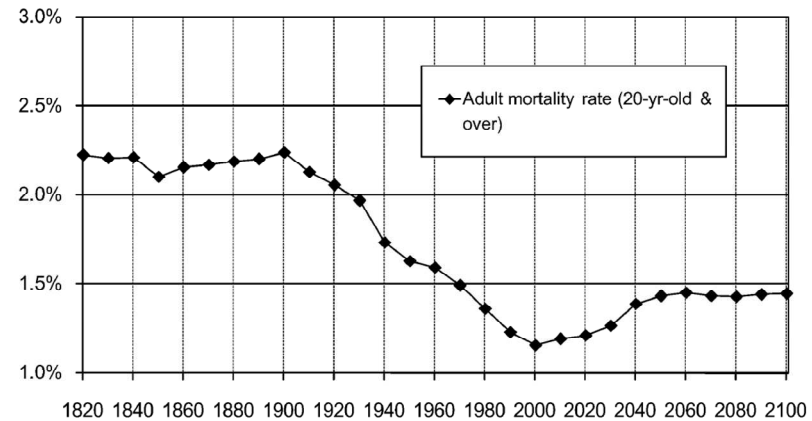
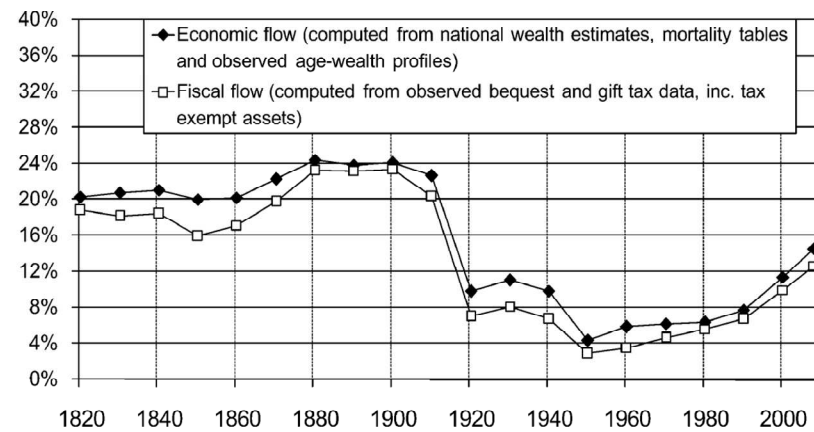
Wealth-Income ratio (W/Y): France

Inheritance flow/Income (B/Y): France

Source: Piketty (2011)

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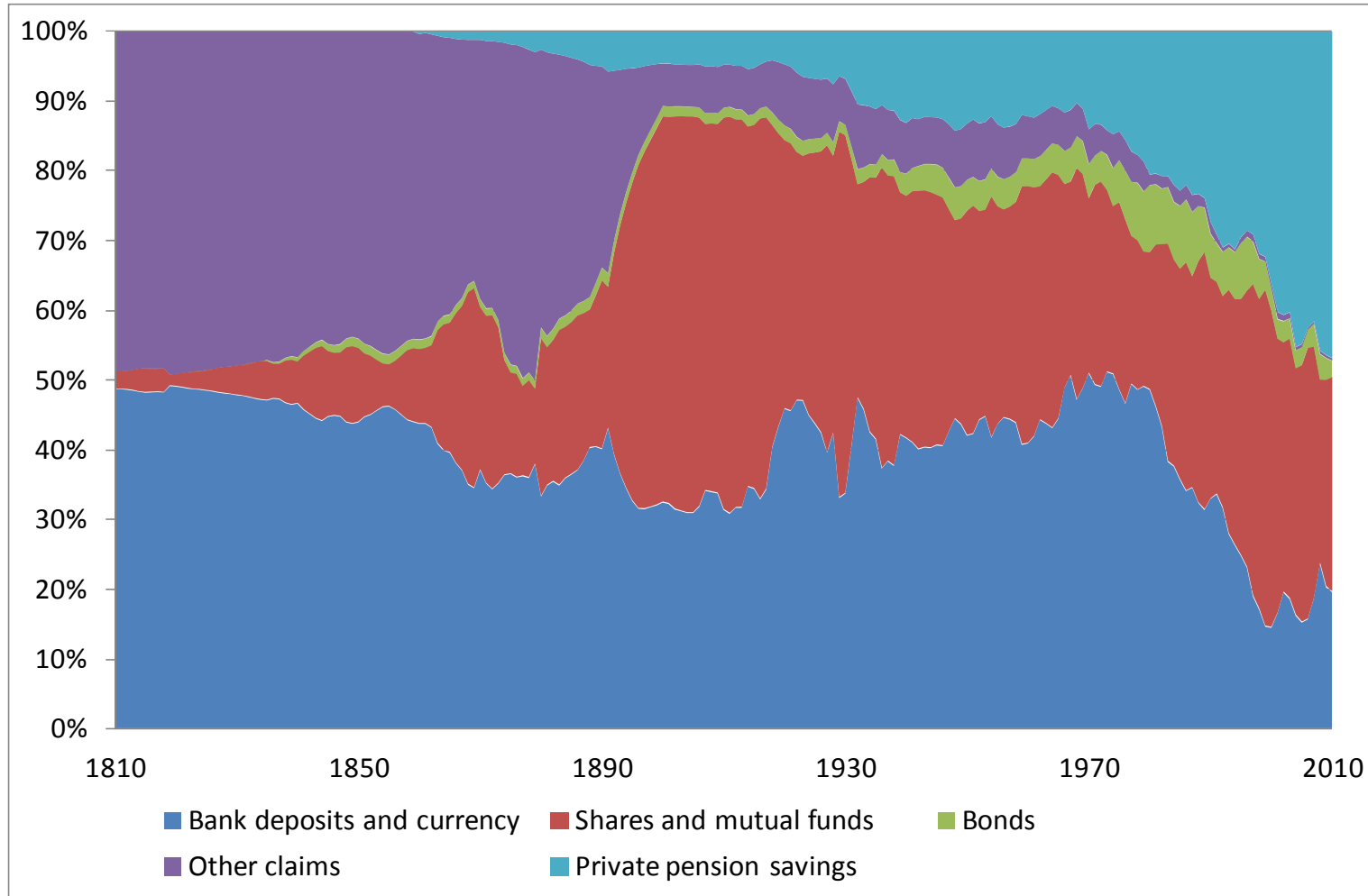# Constructing W, Y, m, μ for Sweden

- Y: National income data exist (disposable less so)

- m: Decendents over population. Data exist.

- μ: AveW of decendents/living. Difficult. Estimated from estate and wealth tax sources.

  – Gift-correction: +15%

- W: Real and financial assets less debts. No solid annual data prior to 1970 (1950). Construct new series back to early 19th century…
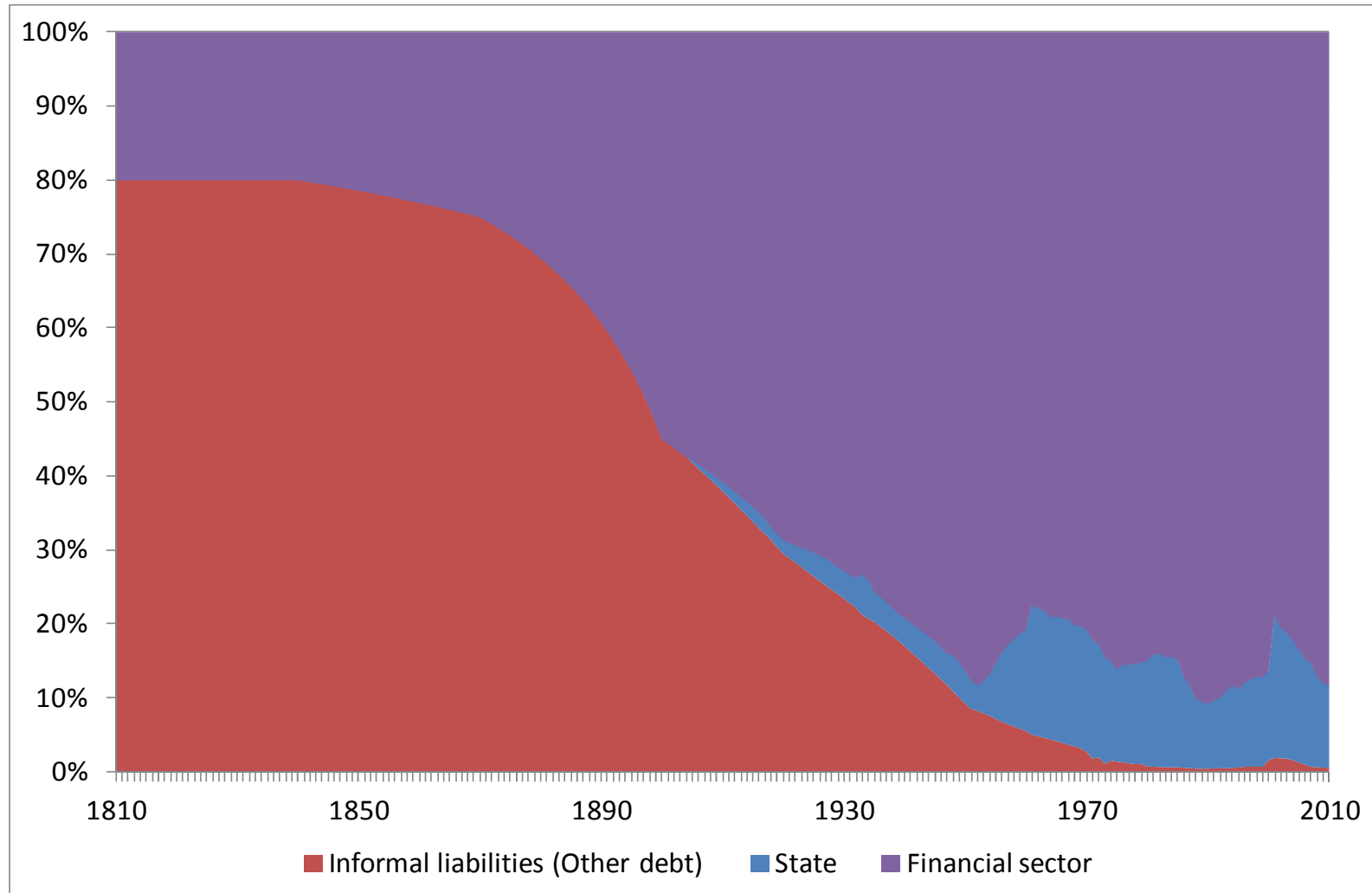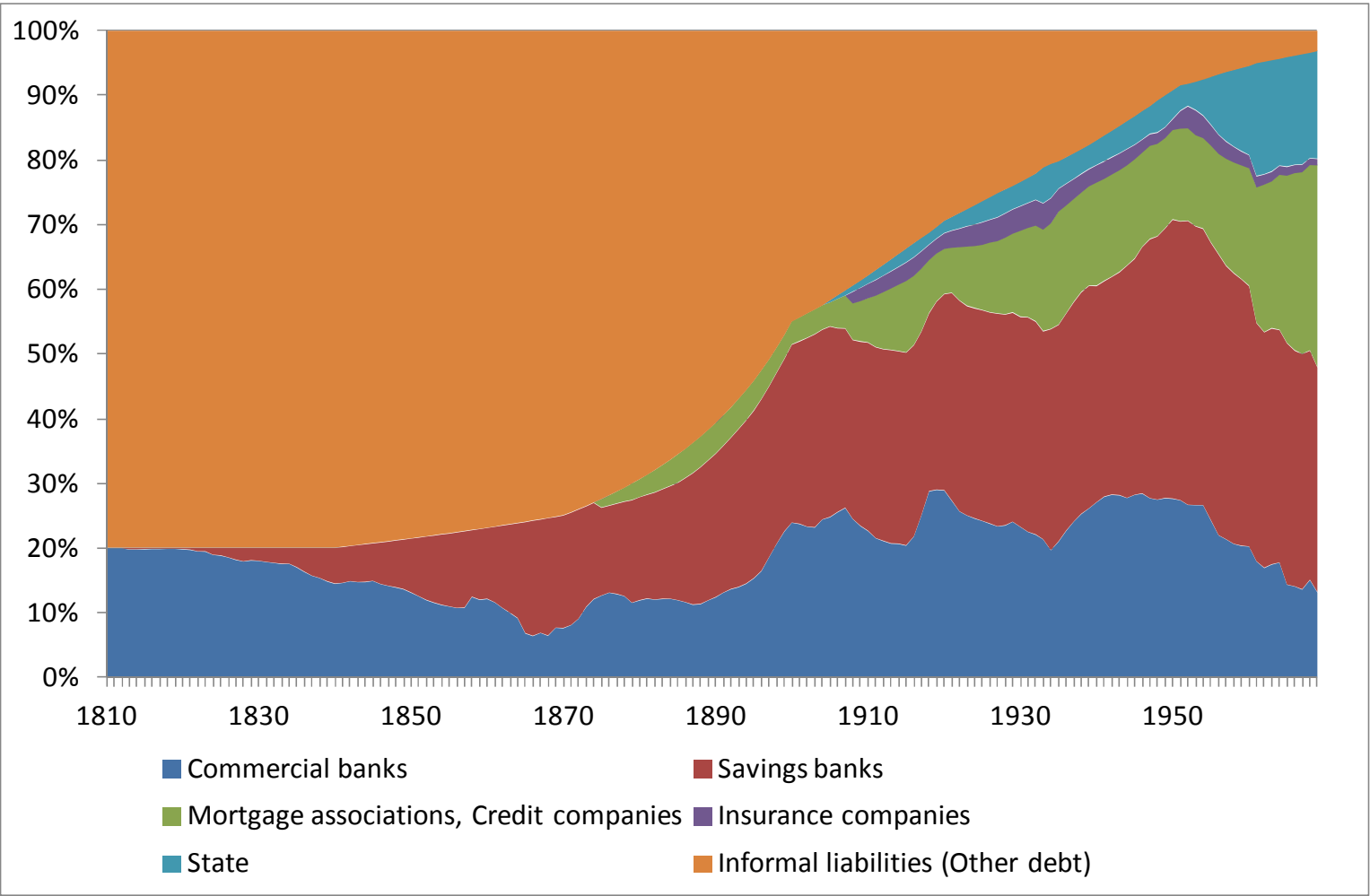
Constructing W: Real assets

Legend: Agricultural net assets (farmland, forestry, livestock) ■ Real estate (buildings, housing) ■ Consumer durables
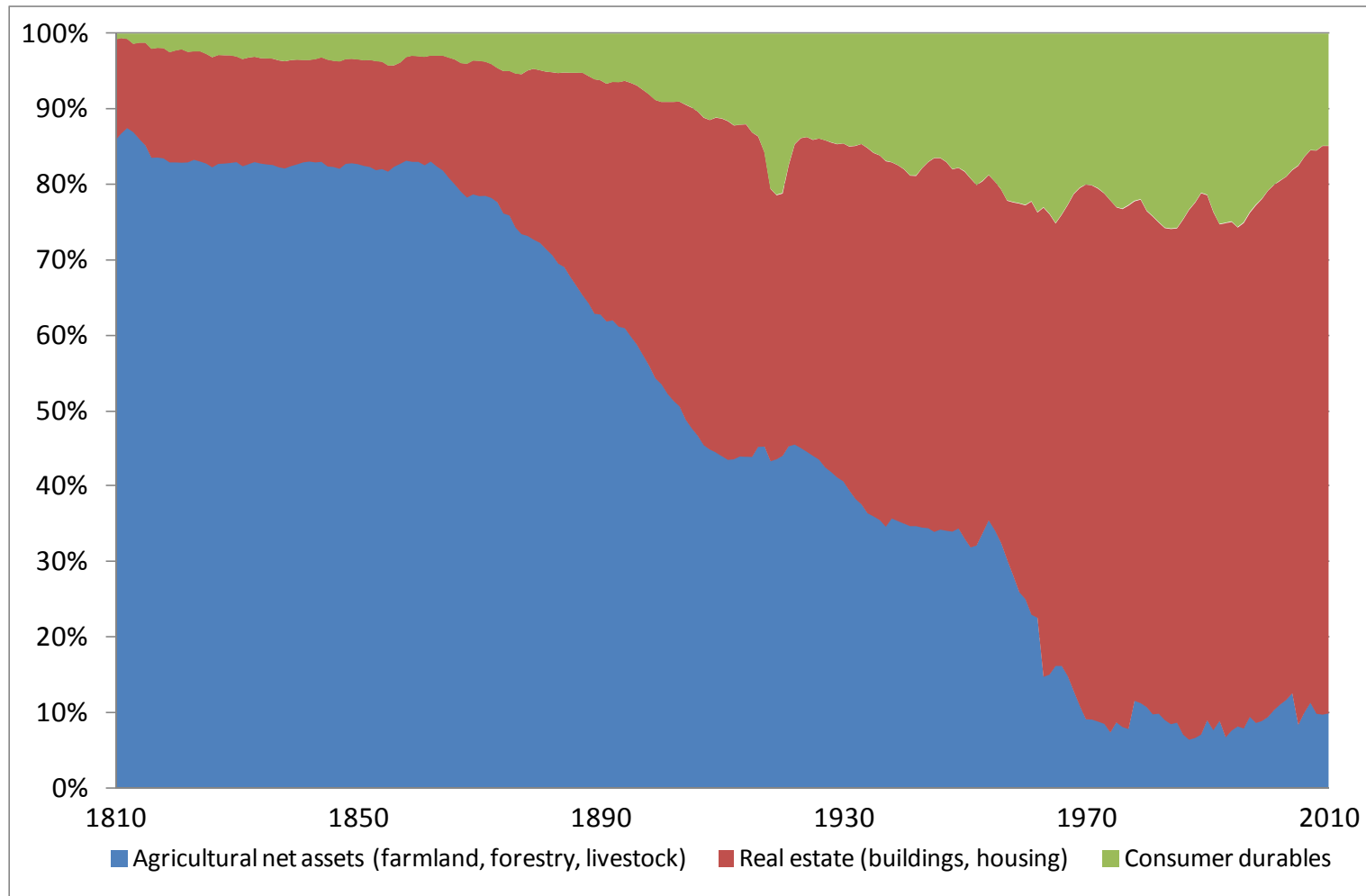
Constructing W: Financial assets

Constructing W: Debt
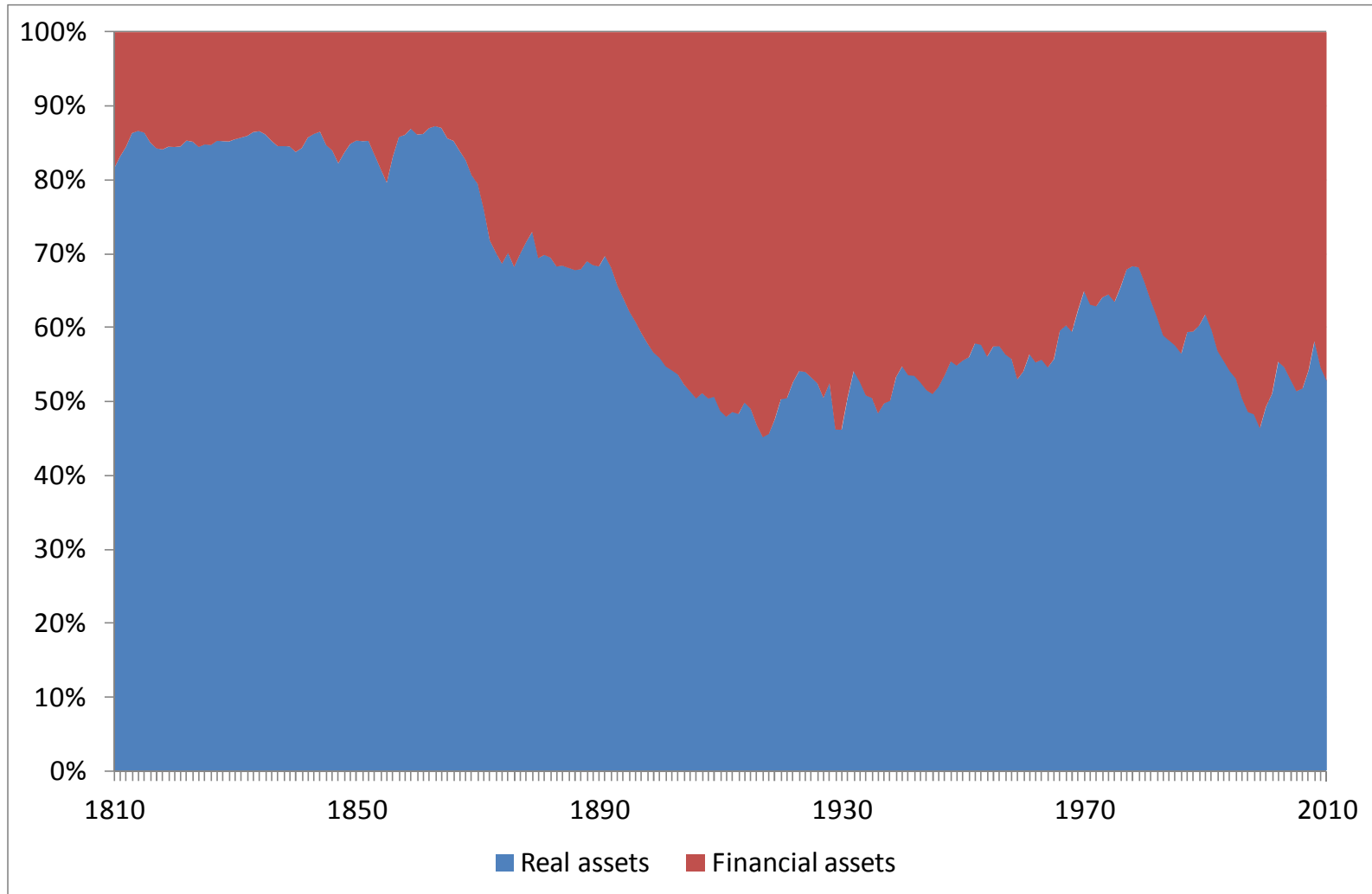

Informal liabilities (Other debt)   State   Financial sector

Debt components up to 1970.

Asset composition

Swedish household wealth over GDP, 1810-2010

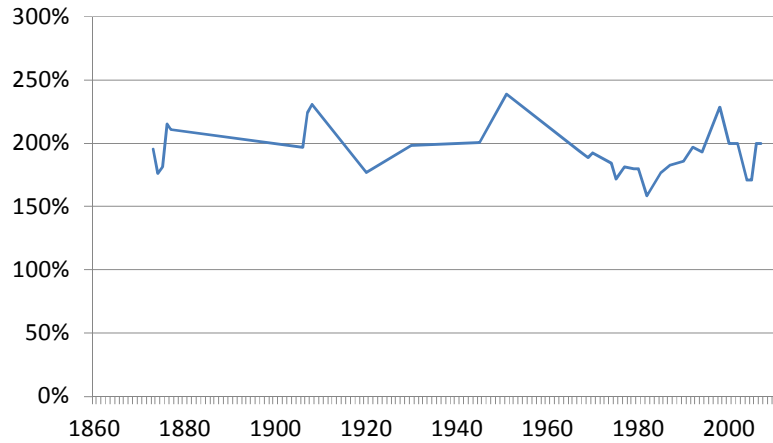Legend: Real assets / GDP — Financial assets / GDP — Debts / GDP
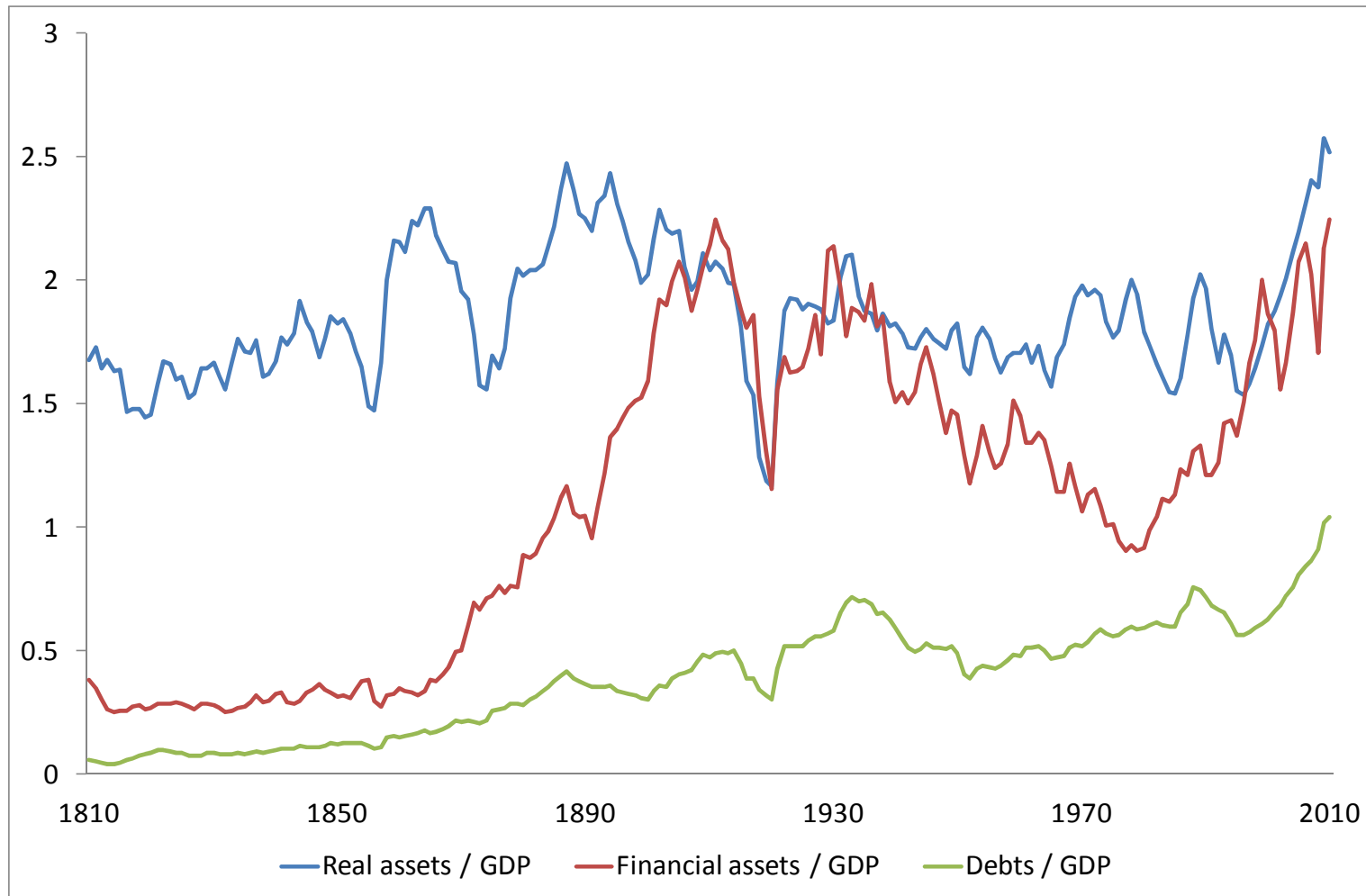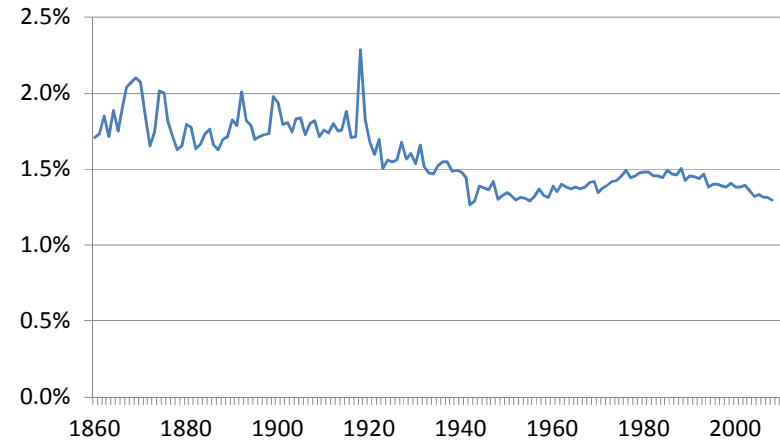
Wealth-Income ratio (W/Y): Sweden
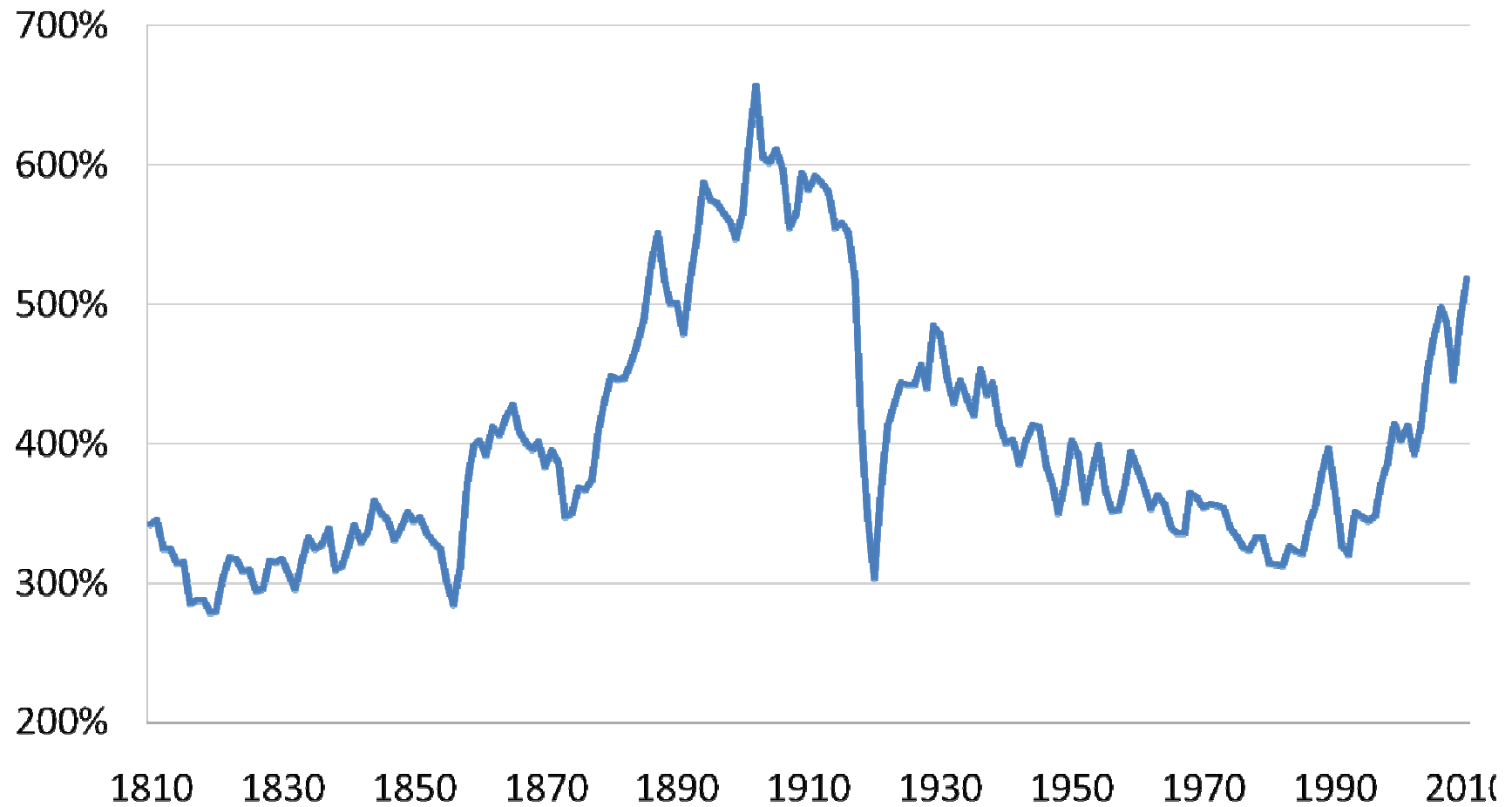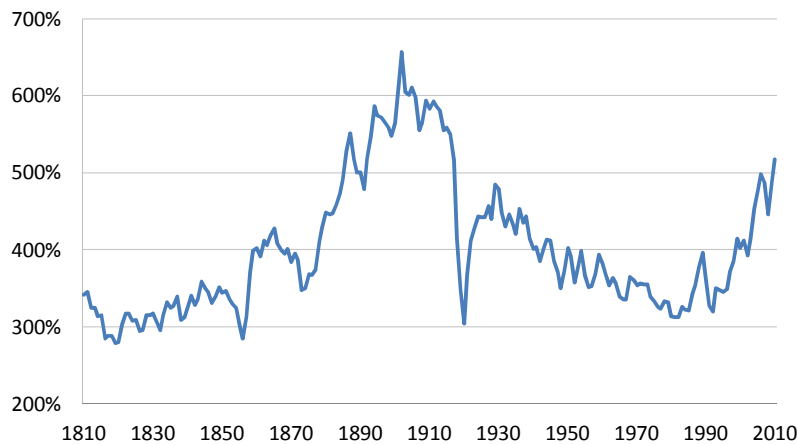
B/Y = μ · m · W/Y (Sweden)

AveW of decendents/living (µ): Sweden

Mortality rate (m) in Sweden

Wealth-Income ratio (W/Y): Sweden

Inheritance flow/Income (B/Y): Sweden

Economic inheritance flow — Fiscal inheritance flow
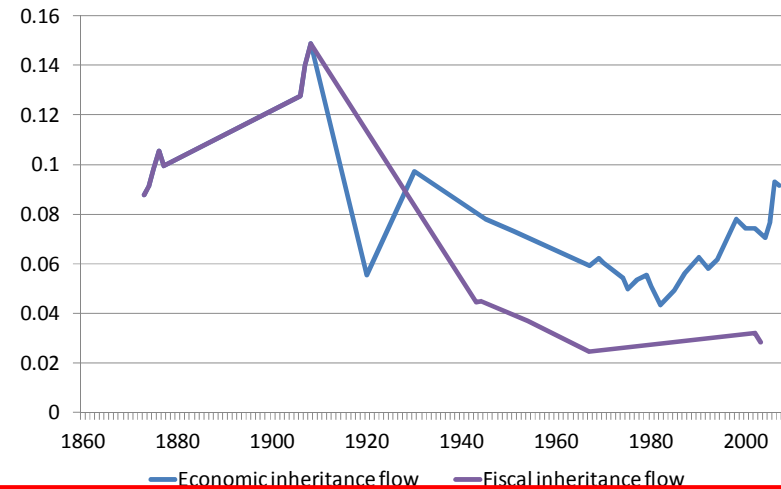
So, does inheritance have a role?

1. Evidence from France and Sweden suggests that:
   - Inheritance was important up to WWI
   - After 1950, inheritance did not matter (small W/Y)
   - Today, inheritance flows are again become more significant (W/Y is growing)

2. Piketty's main lesson:
   - "with $r > g$ (say, r=4-5% vs g=1-2%), then wealth coming from the past is being capitalized faster than growth, and inherited wealth dominates self-made wealth"

4. Concluding remarks

1. Before industrialization, wealth was highly unequal

2. Wealth equalized during 20th century

    – But *not* due to Kuznets-curve

    – Instead: Political shifts (education, redistribution) and Exogenous shocks (wars, crises)

3. Current globalization and modest growth rates in Western world suggest increased future role of wealth and inheritance