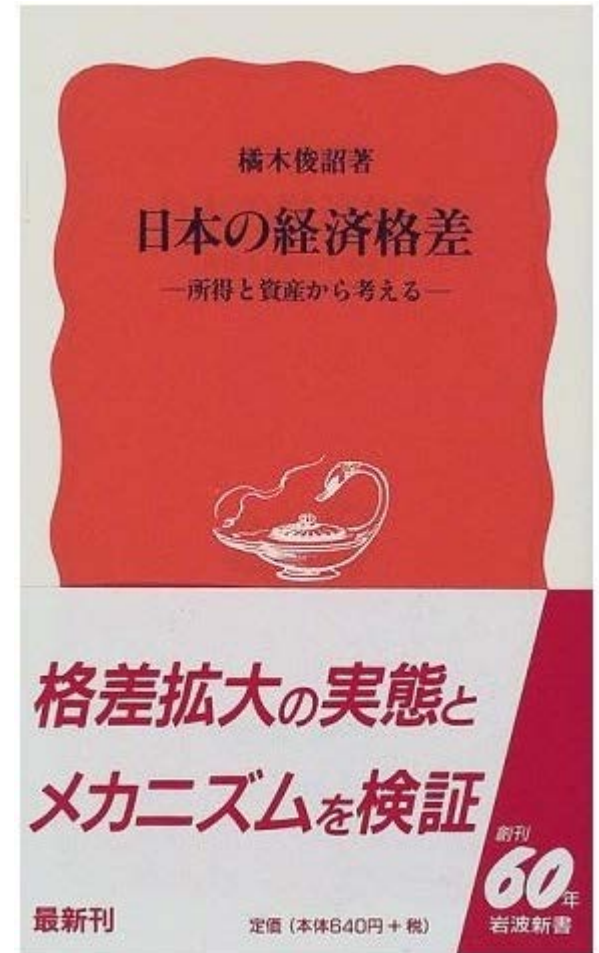


Reconsidering Inequality

Ryoichi Imai

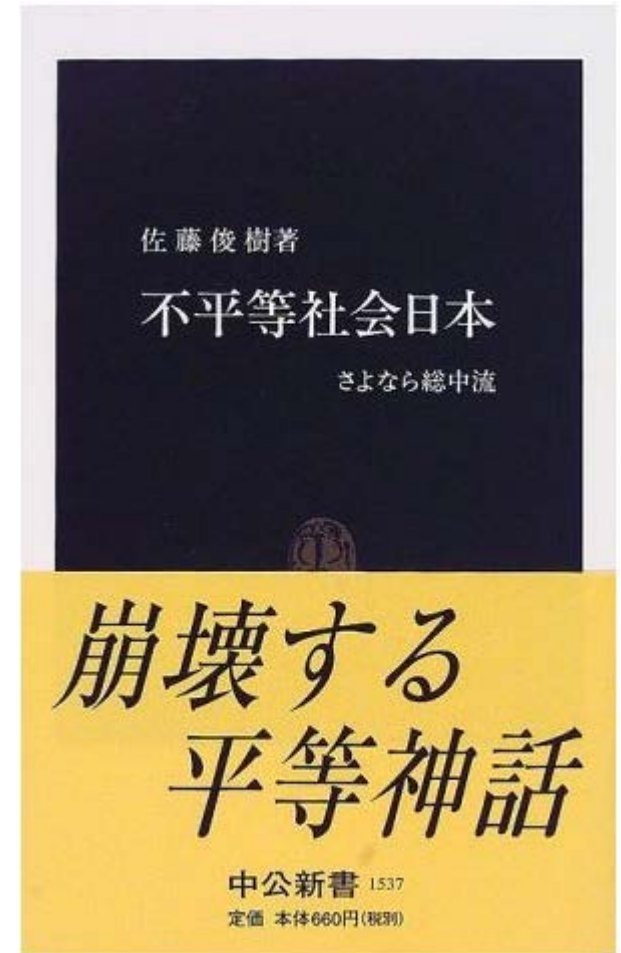
Increasing Inequality

- For long time, Japan has been considered to be an equal society.
- However, the long-run economic slump has raised the increasing inequality as a structural disease of Japan.
- The issue was originally addressed by Tachibanaki in 1998.



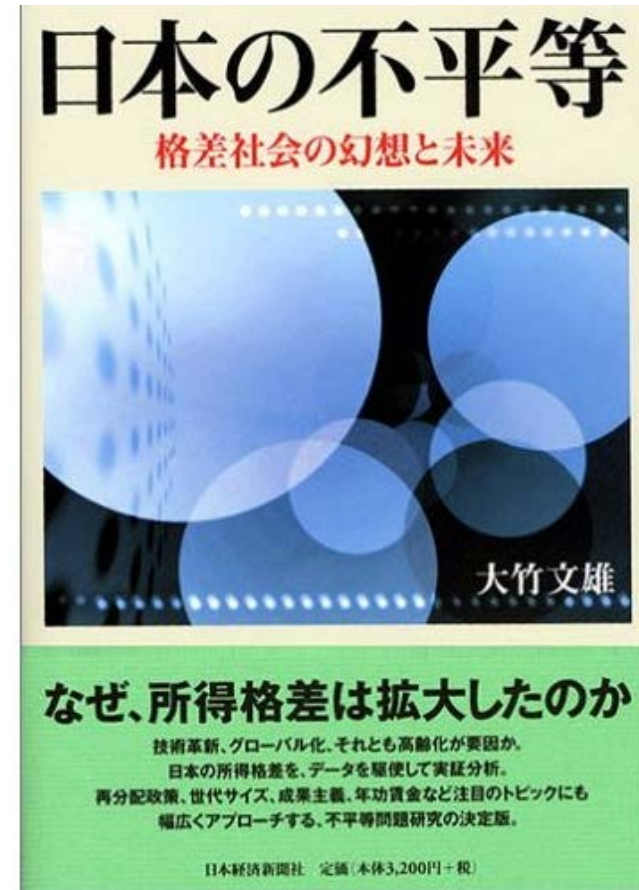
Occupations and Classes

- Sato (2000) focused on the occupation succession from fathers to sons.
- The author divides a variety of occupations into several social classes, and has found that:
- Sons are highly likely to remain in the same social class their fathers belong to.



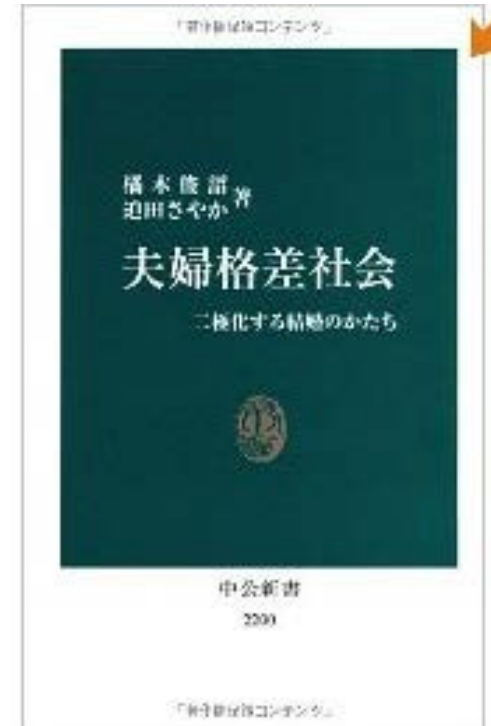
Aging and Inequality

- Ohtake (2005) argues that the increasing inequality in 1990s has been caused mainly by population aging.
- Inequality within a generation is small when the generation is young, while it is large as the generations gets old.
- Ohtake has concluded that
 1. Inequality in the same age group has not been increased in the last decade.
 2. The increasing inequality at aggregate level is caused by the increasing old population.



Inequality across households

- Tachibanaki and Sakoda (2013) point out that inequality across households is larger than individual inequality.
- Inequality in individual income is amplified by marriage, if high-income male is matched with high-income female.
- In the current trend, retired people live separately from their sons and daughters.
- Marriage rate has been declining.
- Single-member households are often very poor.



Polarization of Jobs

- Autor et al (2006) argue that technological progress replaces routine, manual workers with computers.
- Computers are compliments to abstract, non-routine, and non-manual works.
- The use of computers increases the productivity of the abstract , non-routine, and non-manual workers and raises their wages.

The trends in upper-half and lower-half inequality diverge after 1987

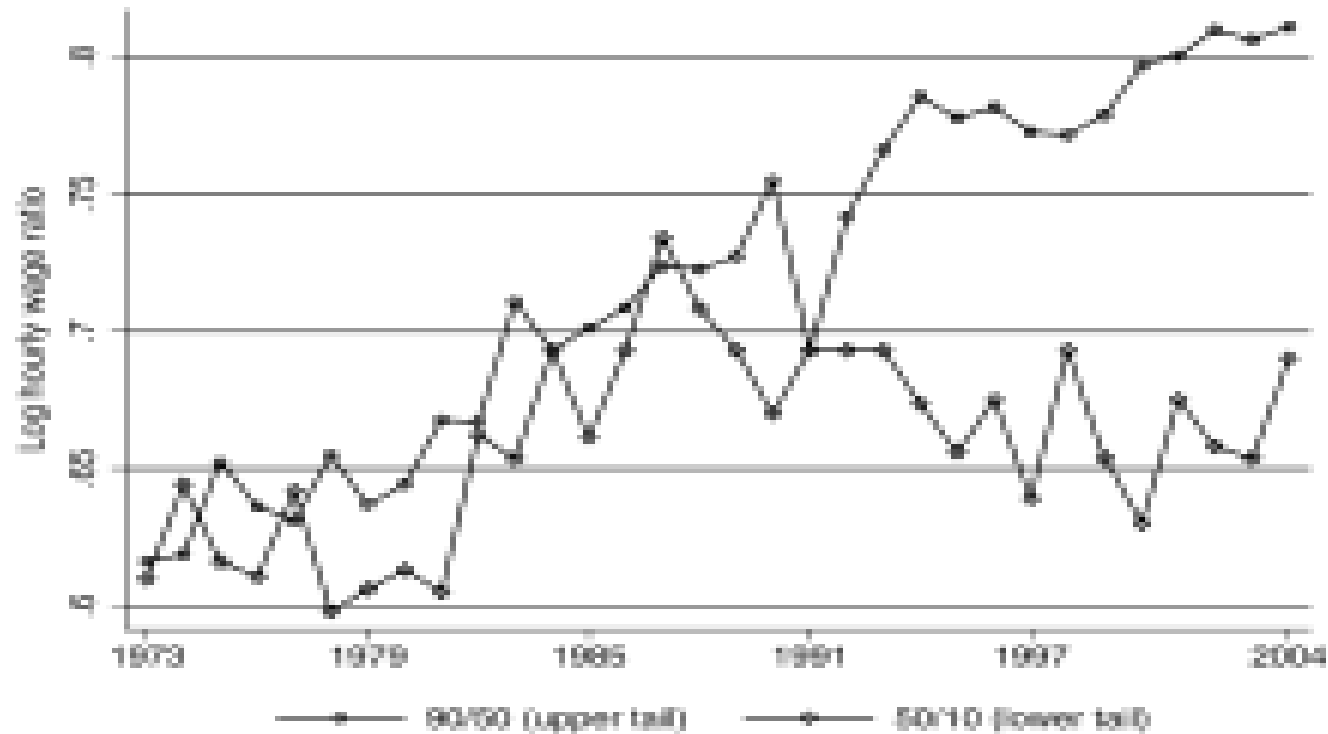


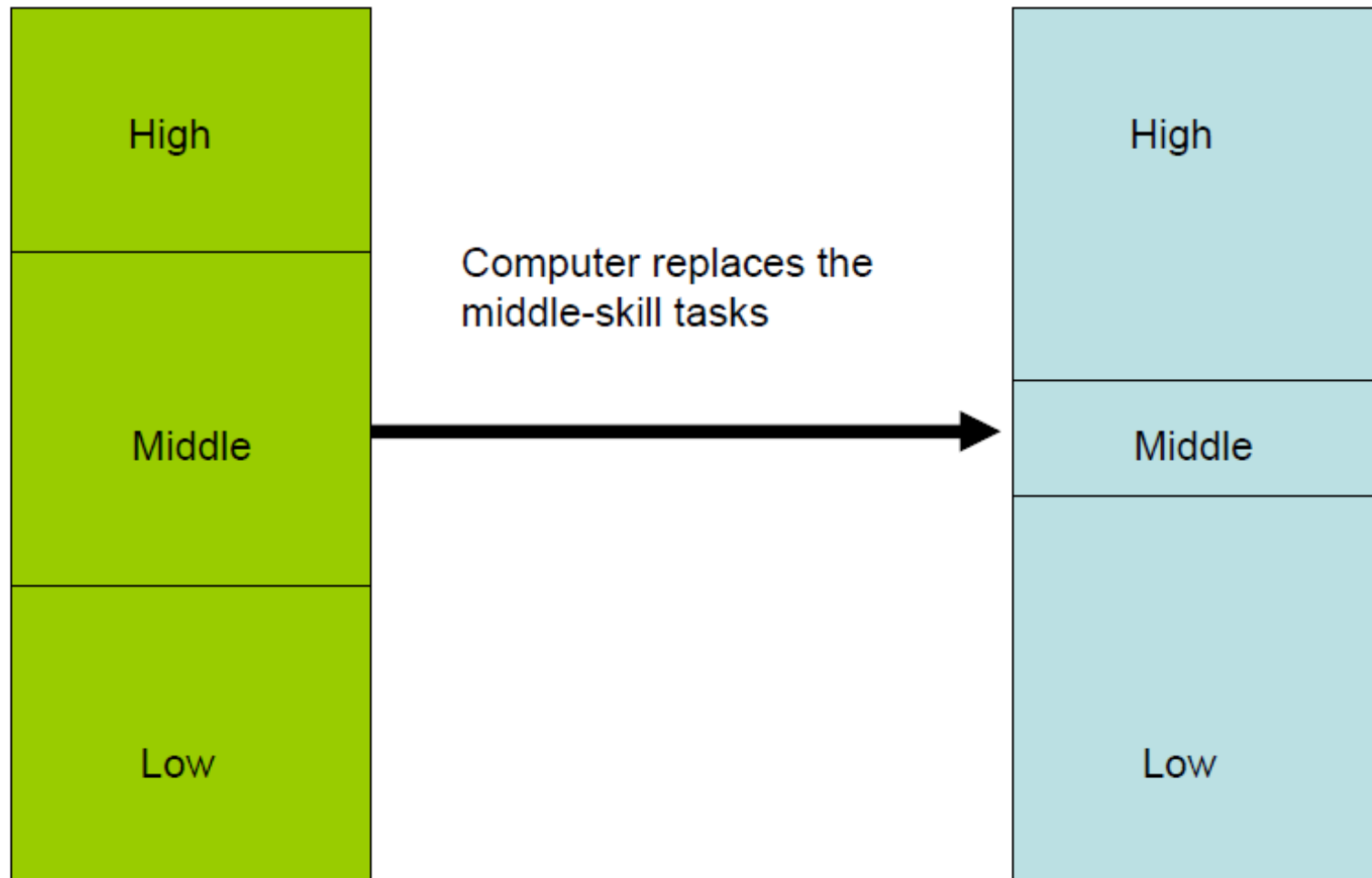
FIGURE 1. MALE AND FEMALE LOG HOURLY 90/50 AND 50/10 EARNINGS RATIOS

Source: Current Population Survey May and Monthly Files, 1973–2004.

Type of tasks

- (A) Abstract, non-routine, non-manual tasks such as problem solving and coordination.
- (R) Routine, non-manual tasks such as clerical work and repetitive production tasks.
- (M) Non-routine, manual tasks such as truck drivers, waiters, janitors.

Polarization of Jobs

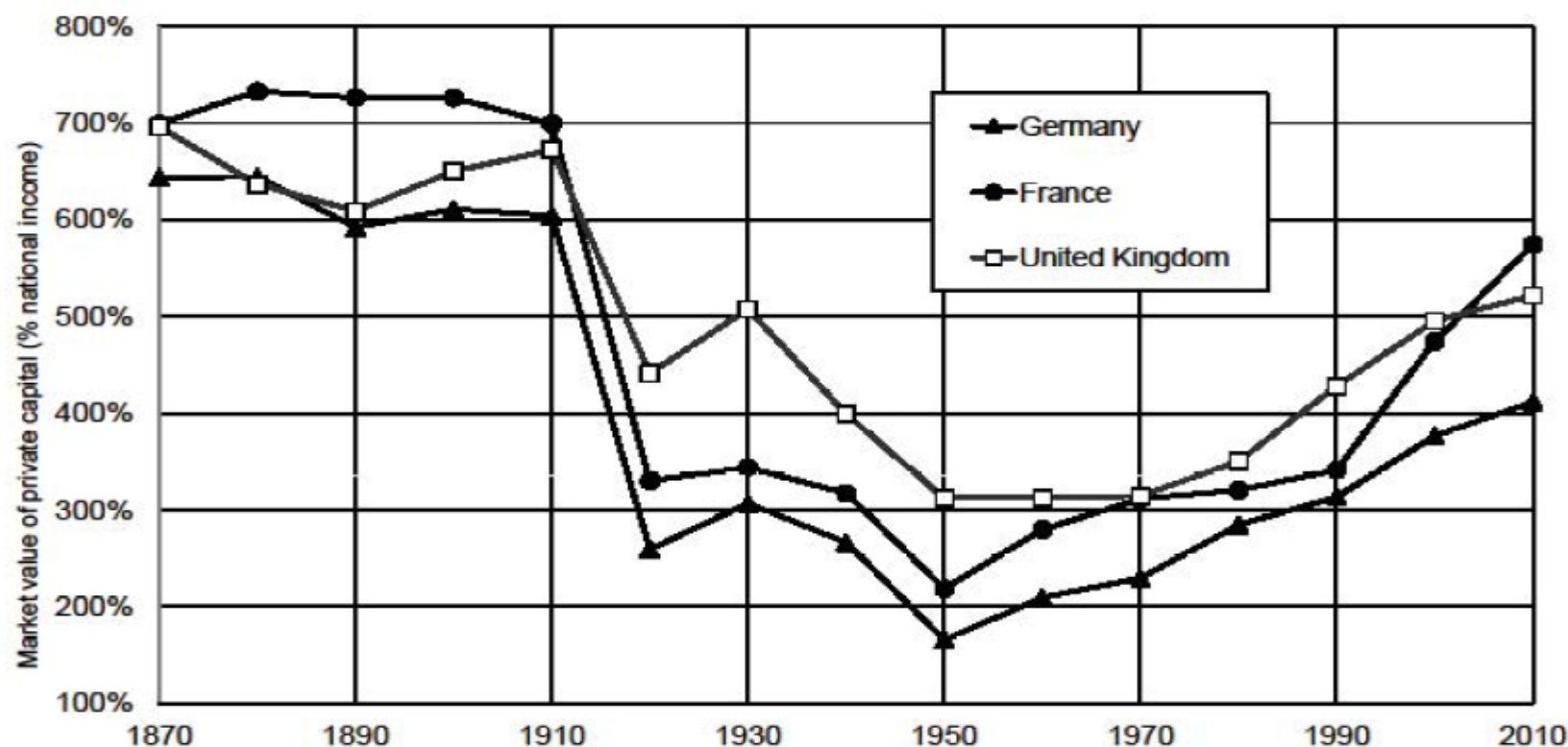


Capital in the 21st Century

- Thomas Piketty (University of Paris) has recently published a controversial book to warn us of the increasing wealth inequality and its apocalyptic consequences.
- The author concludes that the wealth concentration to the top population will eventual result in social instability and revolutions.

In Europe, capital/income ratio is growing and approaching its 19th century level

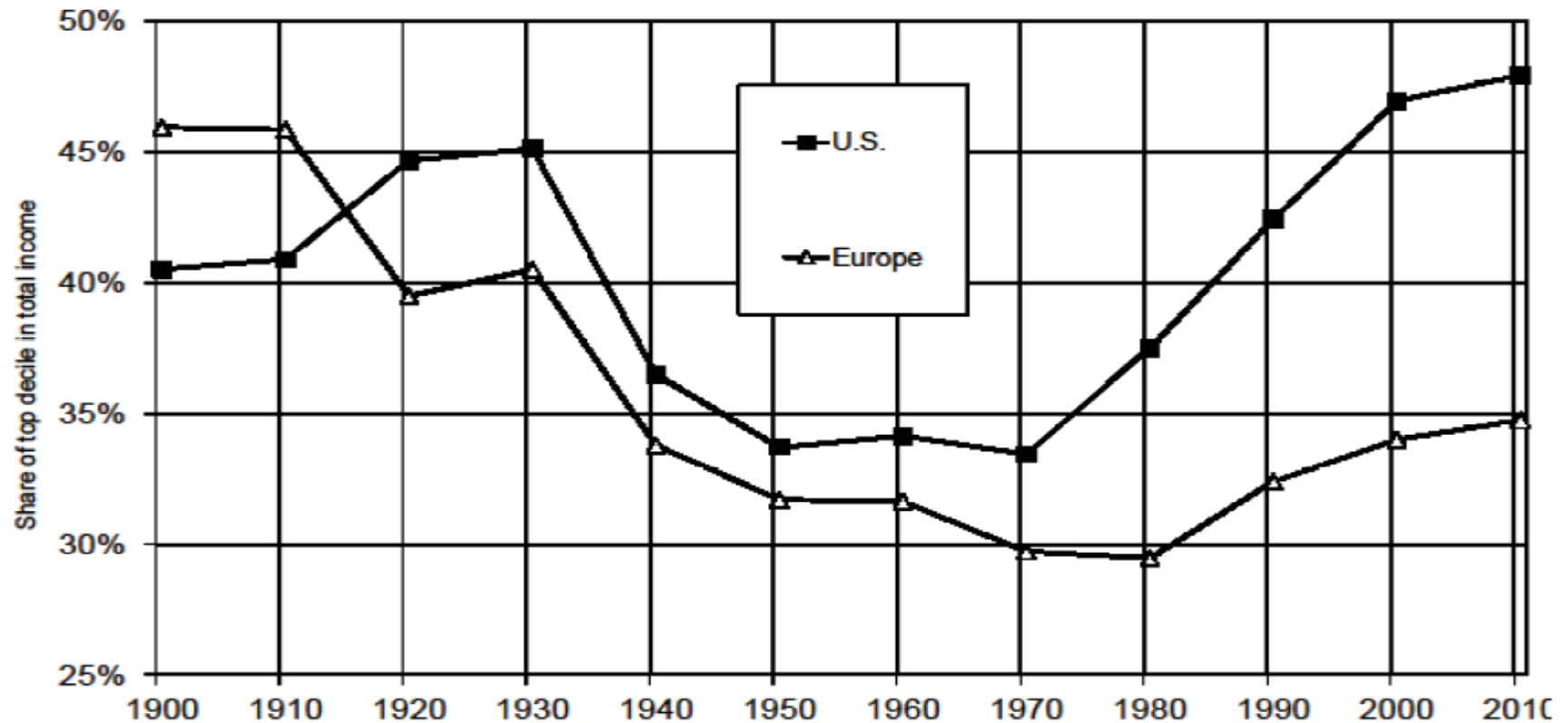
Figure I.2. The capital/income ratio in Europe, 1870-2010



Aggregate private wealth was worth about 6-7 years of national income in Europe in 1910, between 2 and 3 years in 1950, and between 4 and 6 years in 2010. Sources and series: see piketty.pse.cns.fr/capital21c.

Income inequality is growing, especially in America

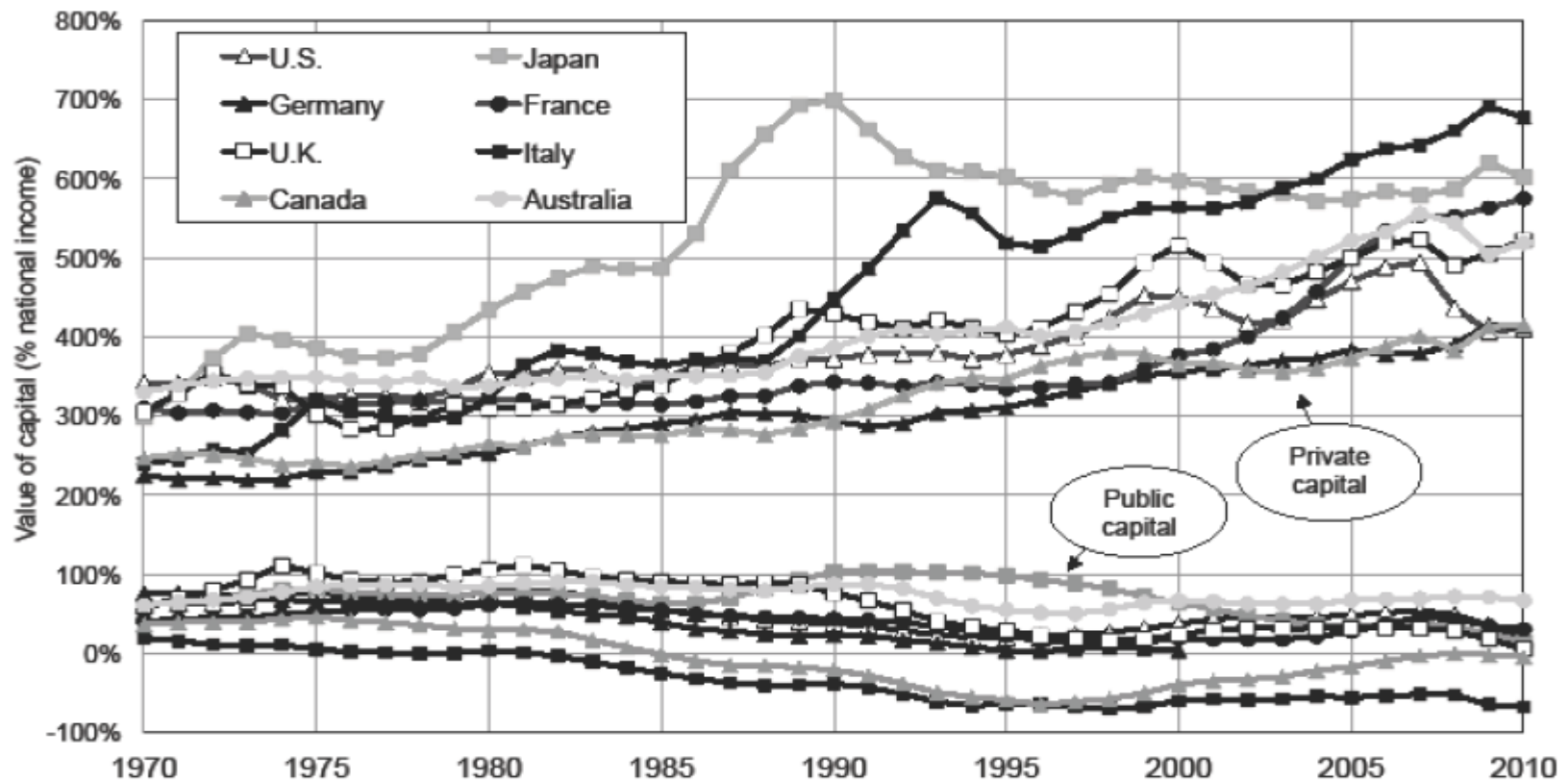
Figure 9.8. Income inequality: Europe vs. the United States, 1900-2010



The top decile income share was higher in Europe than in the U.S. in 1900-1910; it is a lot higher in the U.S. in 2000-2010. Sources and series: see piketty.pse.ens.fr/capital21c.

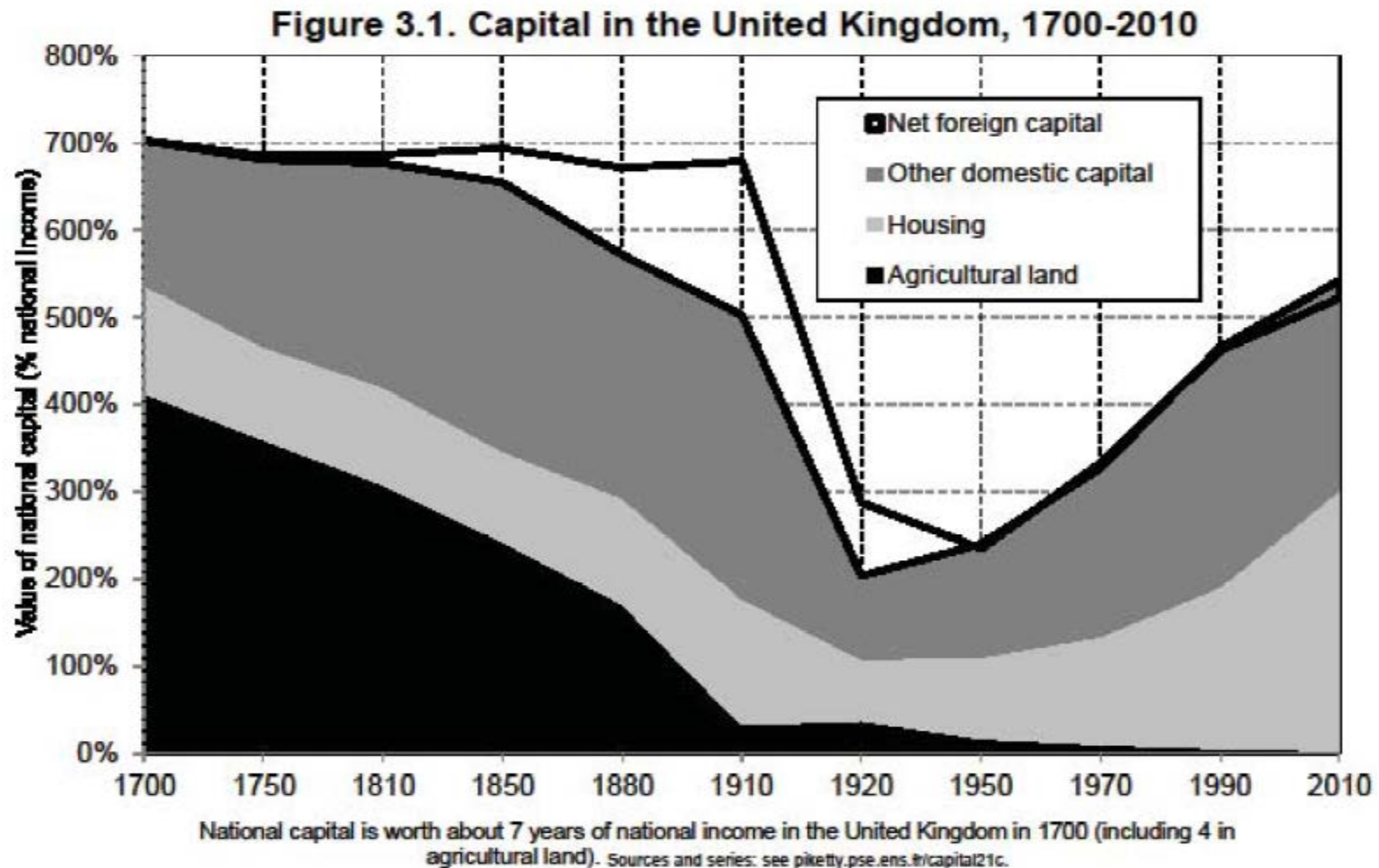
Private capital grows and public capital declines relative to GDP

Figure 5.5. Private and public capital in rich countries, 1970-2010



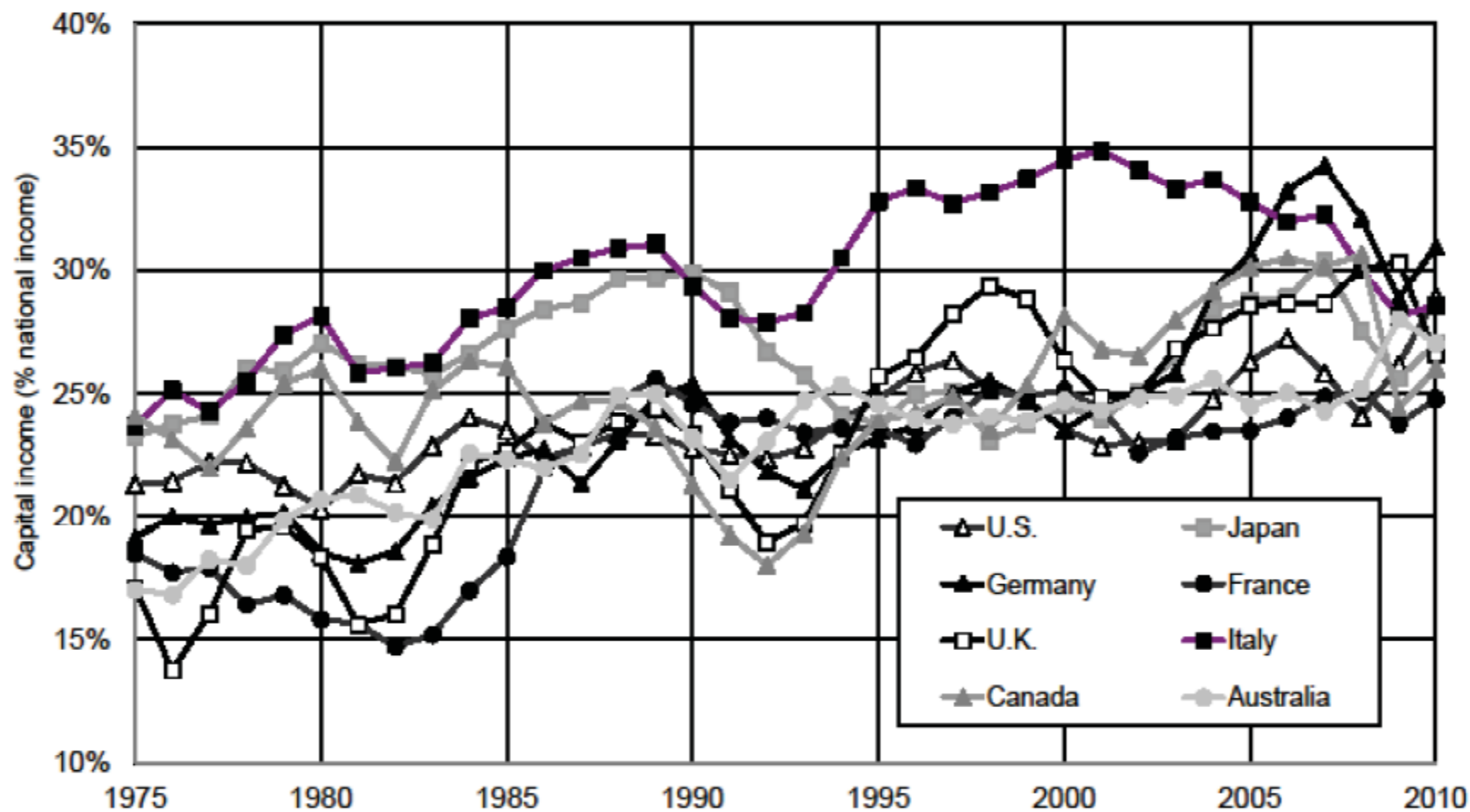
In Italy, private capital rose from 240% to 680% of national income between 1970 and 2010, while public capital dropped from 20% to -70%. Sources and series: see piketty.pse.ens.fr/capital21c.

Capital relative to GDP declines in wartime but increases today in UK



Capital share in income tends to increase recently

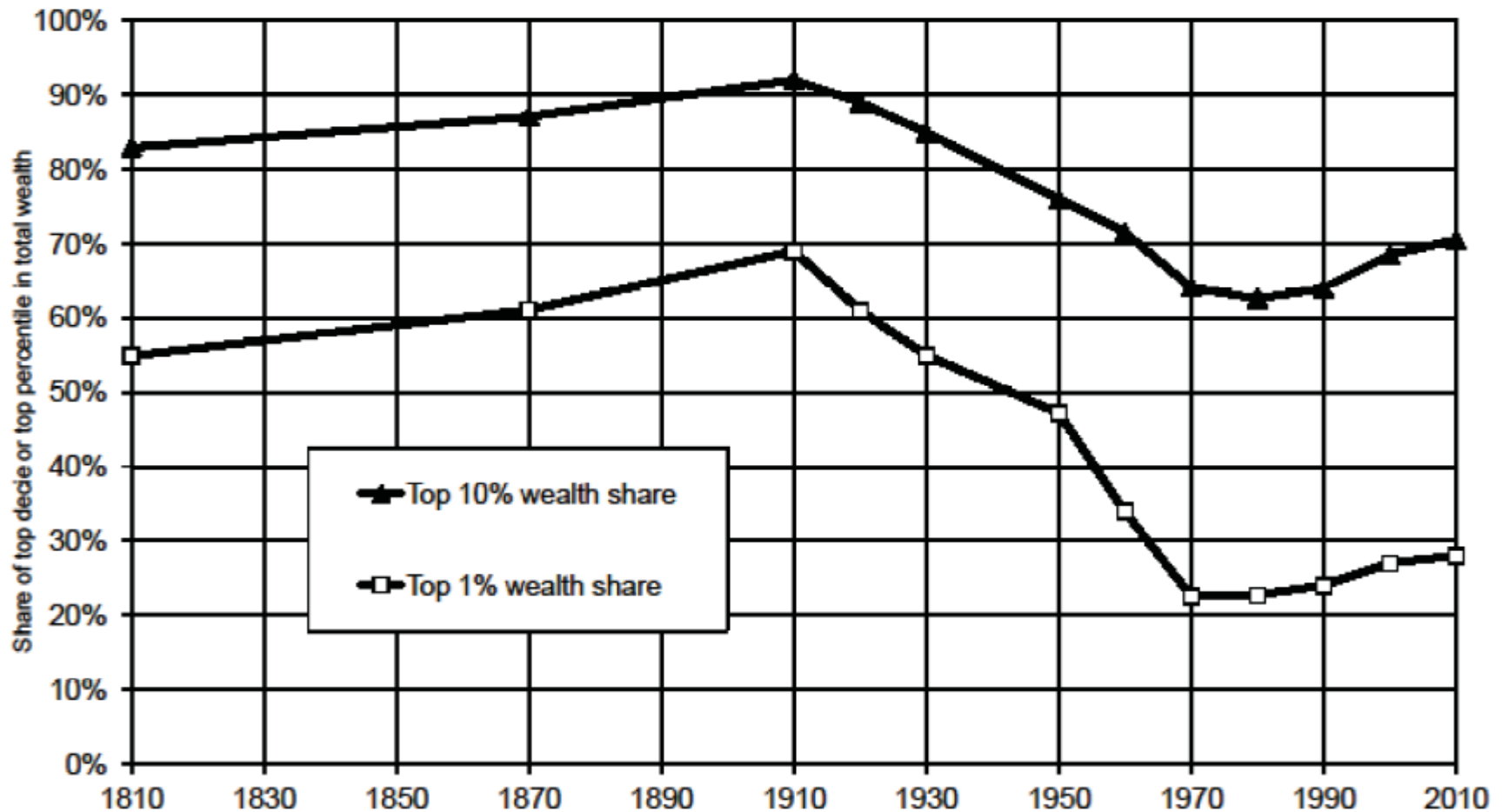
Figure 6.5. The capital share in rich countries, 1975-2010



Capital income absorbs between 15% and 25% of national income in rich countries in 1970, and between 25% and 30% in 2000-2010. Sources and series: see piketty.pse.ens.fr/capital21c

Wealth inequality declines during wartime and rises again recently

Figure 10.3. Wealth inequality in the United Kingdom, 1810-2010

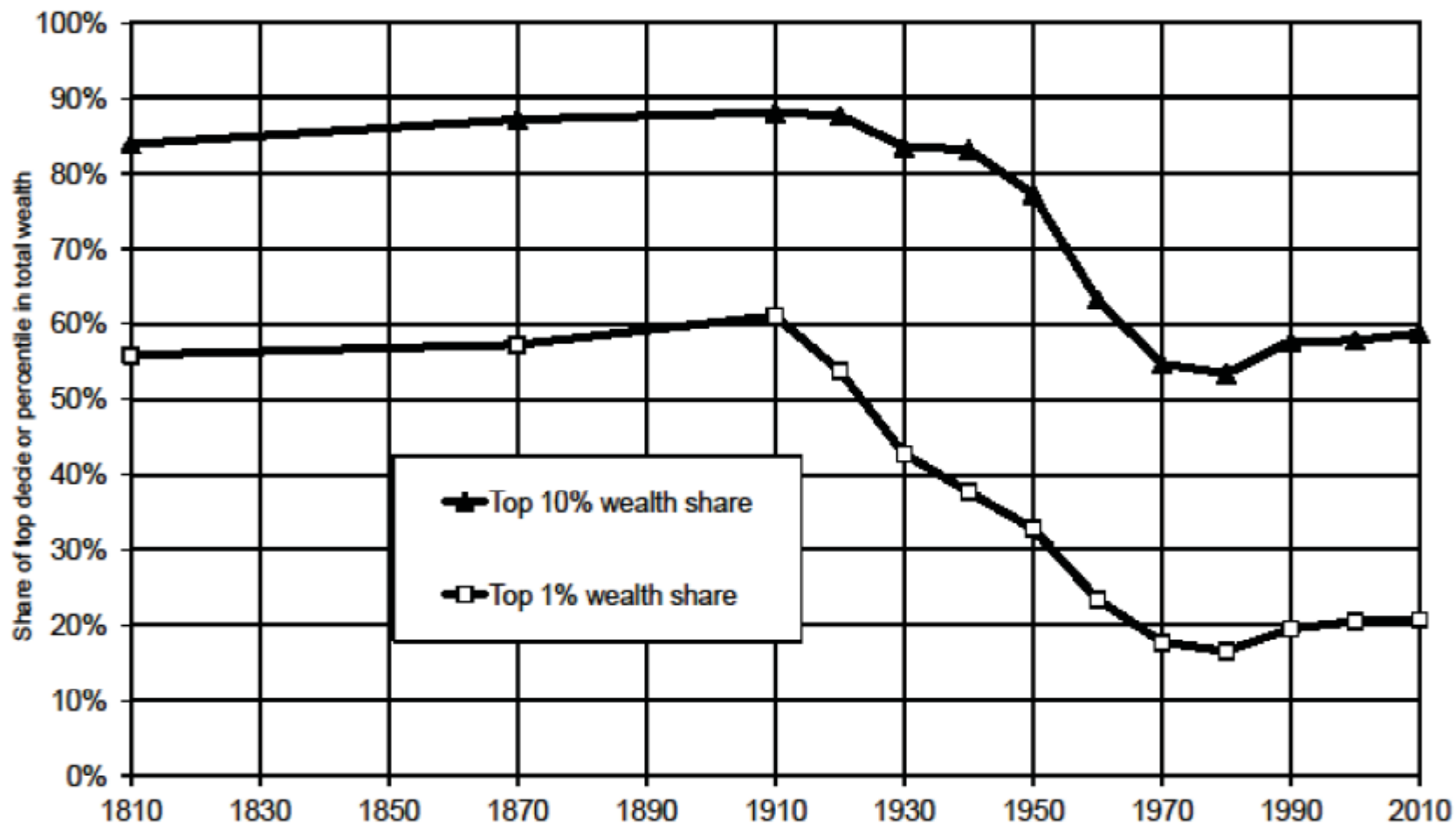


The top decile owns 80-90% of total wealth in 1810-1910, and 70% today.

Sources and series: see piketty.pse.ens.fr/capital21c.

Even in Sweden, wealth inequality shows the same pattern as in UK

Figure 10.4. Wealth inequality in Sweden, 1810-2010

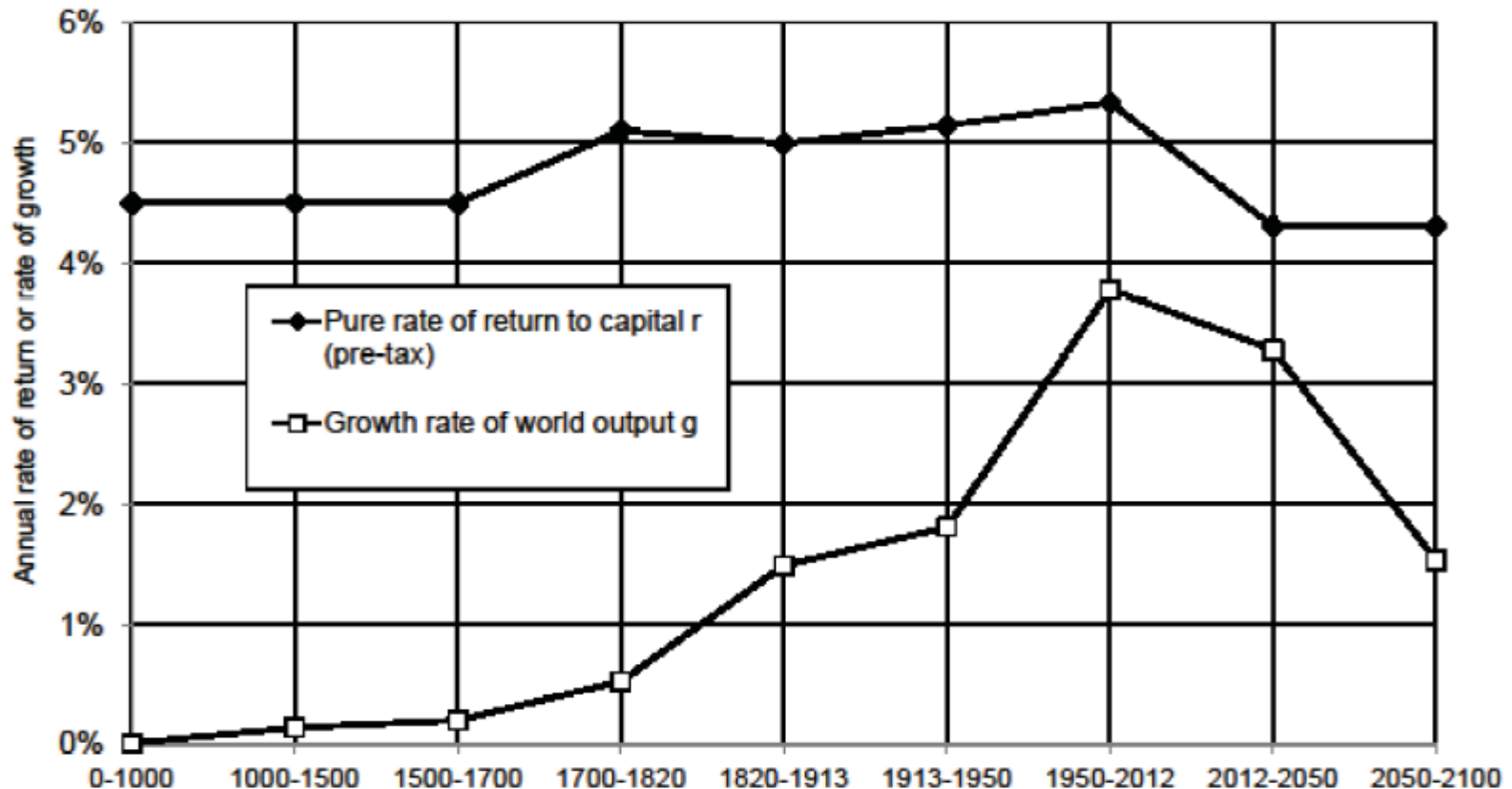


The top 10% holds 80-90% of total wealth in 1810-1910, and 55-60% today.

Sources and series: see piketty.pse.ens.fr/capital21c.

Rate of return to capital tends to be higher than growth rate

Figure 10.9. Rate of return vs. growth rate at the world level, from Antiquity until 2100

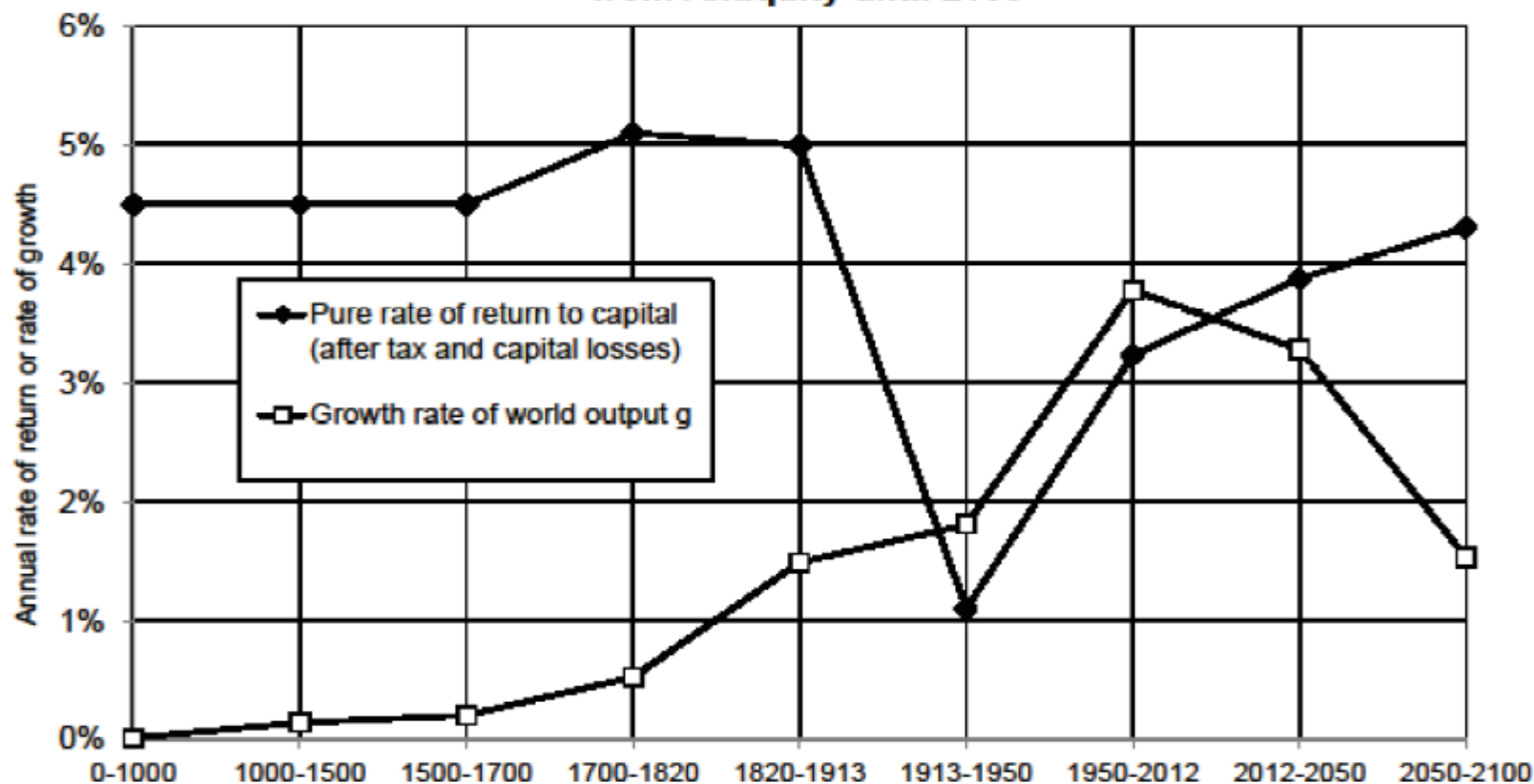


The rate of return to capital (pre-tax) has always been higher than the world growth rate, but the gap was reduced during the 20th century, and might widen again in the 21st century.

Sources and series: see piketty.pse.ens.fr/capital21c

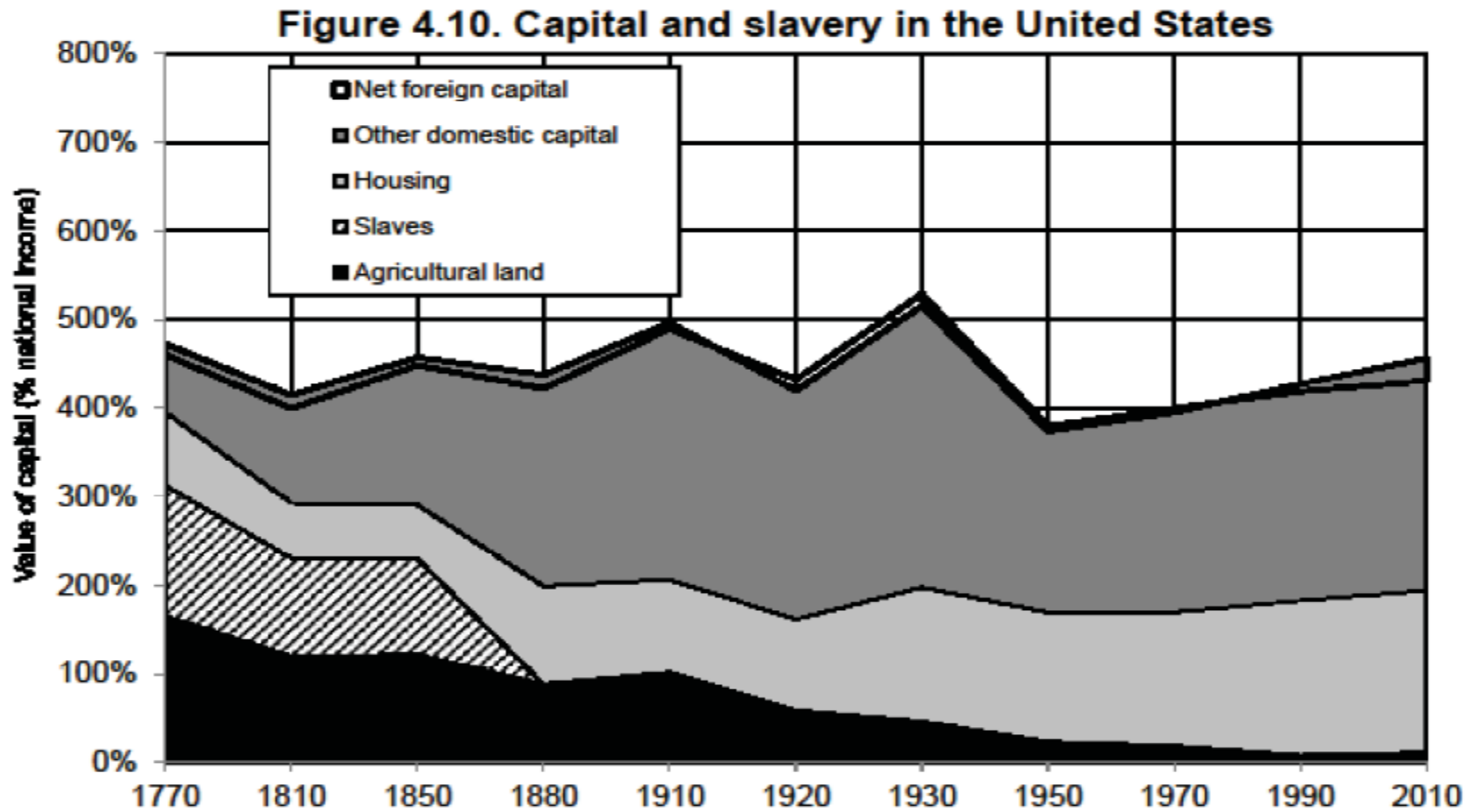
Rate of return to capital declines due to destruction caused by the WWs

Figure 10.10. After tax rate of return vs. growth rate at the world level, from Antiquity until 2100



The rate of return to capital (after tax and capital losses) fell below the growth rate during the 20th century, and may again surpass it in the 21st century. Sources and series : see piketty.pse.ens.fr/capital21c

Slaves were important as capital in America in 19th century

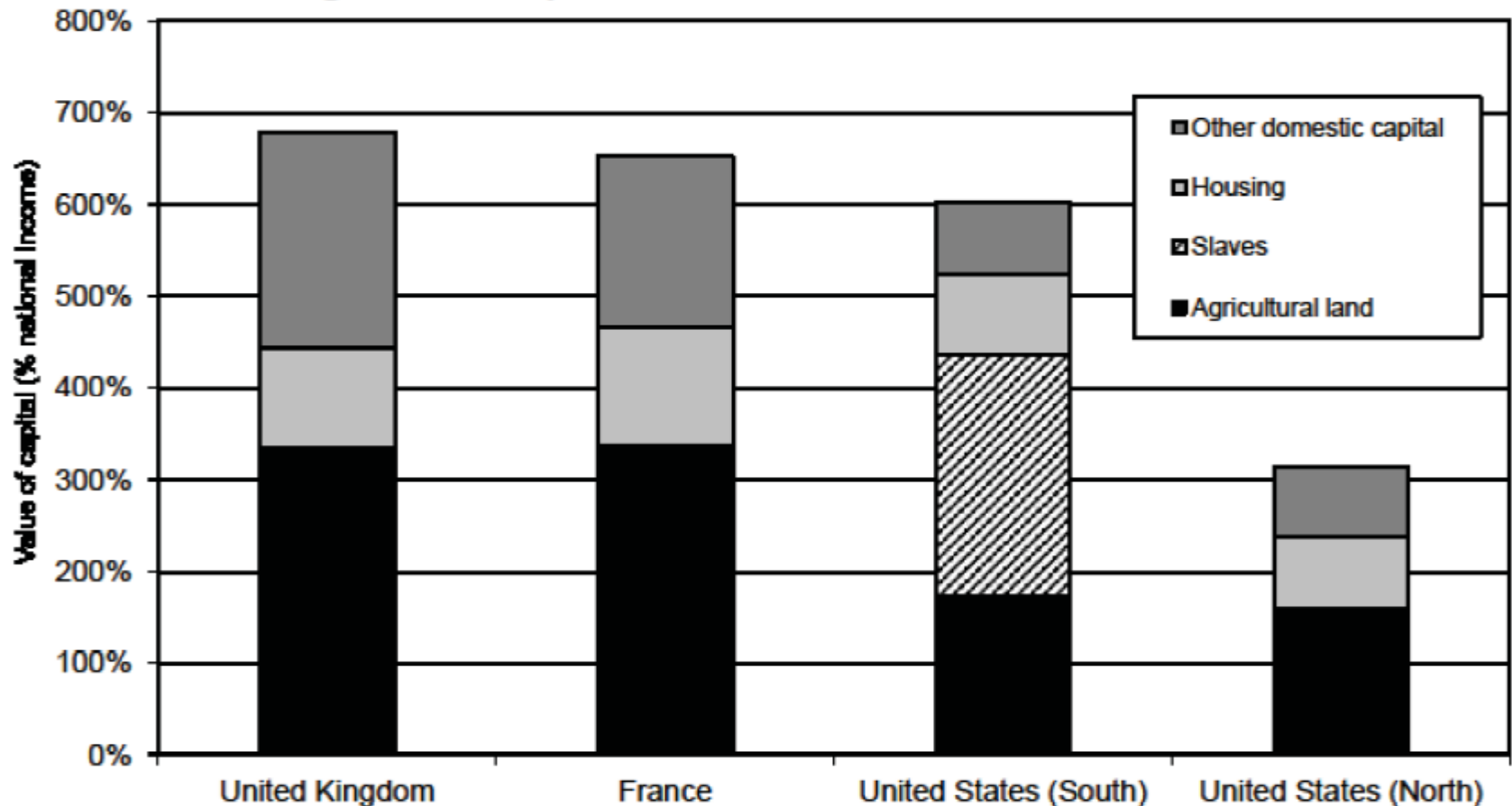


The market value of slaves was about 1,5 years of U.S. national income around 1770 (as much as land).

Sources and series: see piketty.pse.ens.fr/capital21c.

Capital is not so much accumulated in America as in Europe around 1800

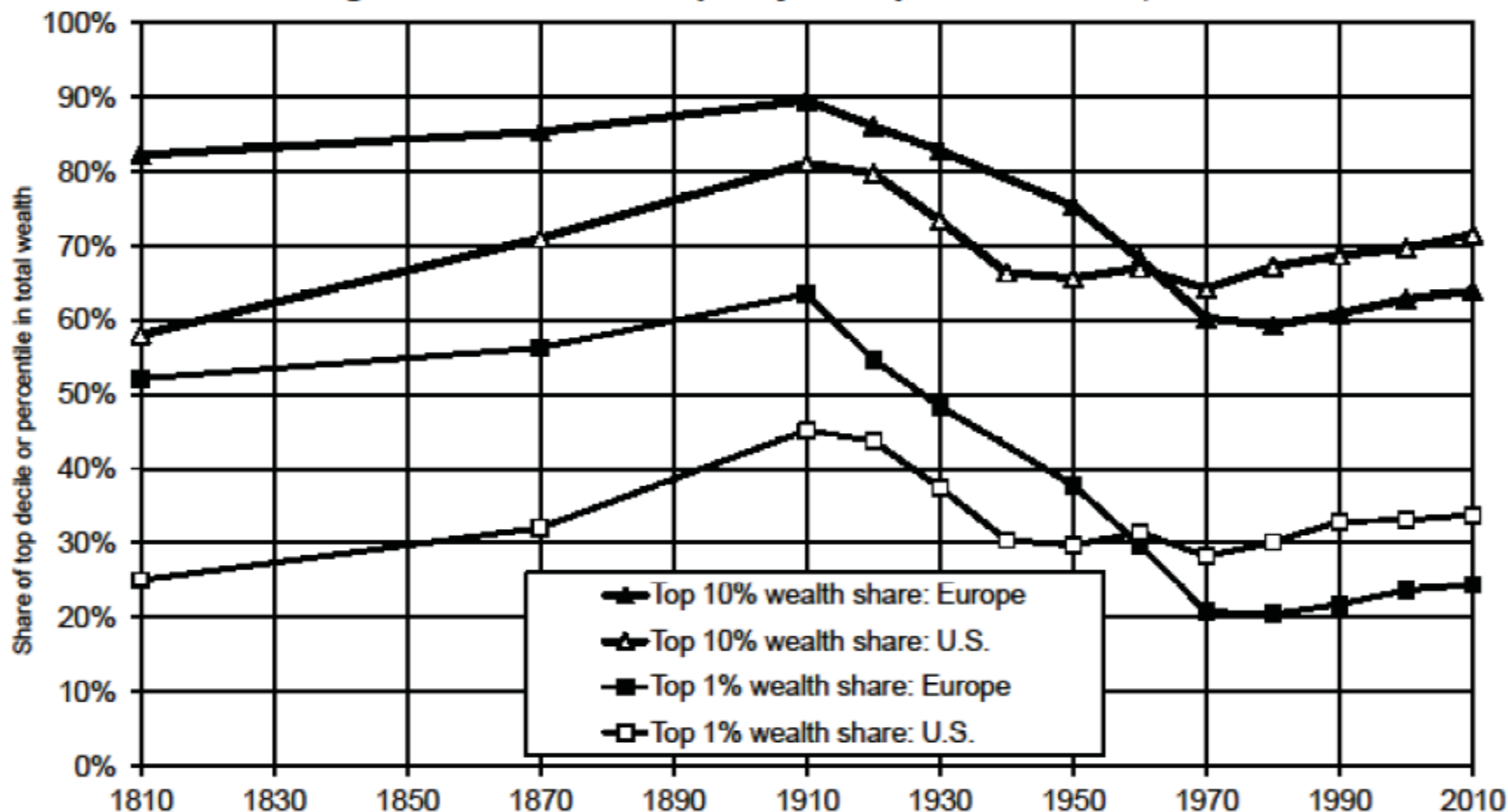
Figure 4.11. Capital around 1770-1810: Old an New World



The combined value of agricultural land and slaves in Southern United States surpassed 4 years of national income around 1770-1810. Sources and series: see piketty.pse.ens.fr/capital21c.

America is now more unequal than Europe

Figure 10.6. Wealth inequality: Europe and the U.S., 1810-2010



Sources and series: see piketty.pse.ens.fr/capital21c.

Conclusions

- **The history of income and wealth inequality is always political, chaotic and unpredictable; it involves national identities and sharp reversals; nobody can predict the reversals of the future**
- Marx: with $g=0$, $\beta \uparrow \infty$, $r \rightarrow 0$: revolution, war
- My conclusions are less apocalyptic: with $g>0$, at least we have a steady-state $\beta=s/g$
- But with $g>0$ & small, this steady-state can be rather gloomy: it can involve a very large capital-income ratio β and capital share α , as well as extreme wealth concentration due to high $r-g$
- This has nothing to do with a market imperfection: the more perfect the capital market, the higher $r-g$
- The ideal solution: progressive wealth tax at the global scale, based upon automatic exchange of bank information
- Other solutions involve authoritarian political & capital controls (China, Russia..), or perpetual population growth (US), or inflation, or some mixture of all