

# **Economics of Inequality**

*(Master PPD & APE, Paris School of Economics)*

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## **Lecture 7: The regulation of capital and inequality**

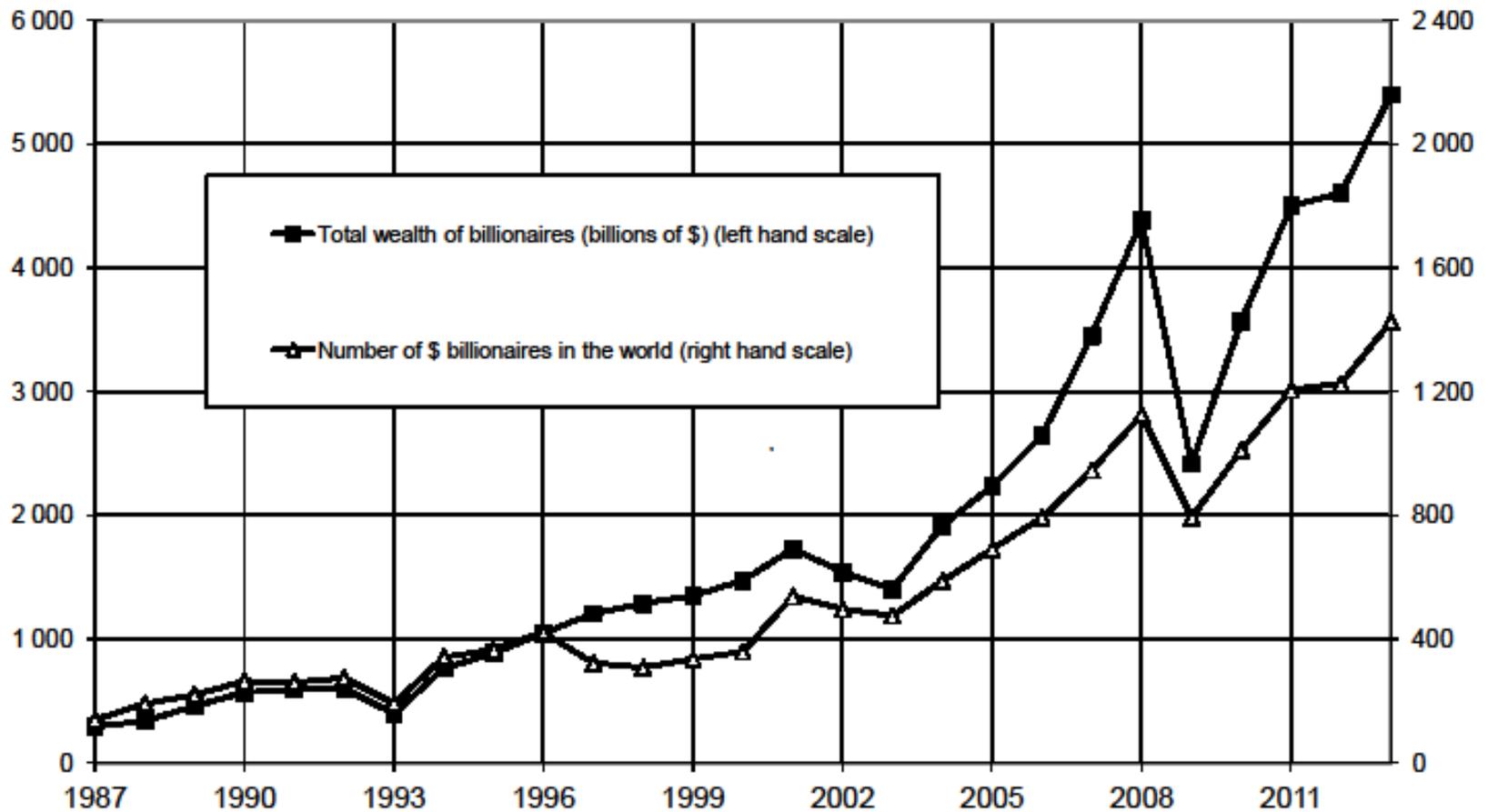
(Tuesday November 25<sup>th</sup> 2014)

*(check [on line](#) for updated versions)*

# The world dynamics of the wealth distribution

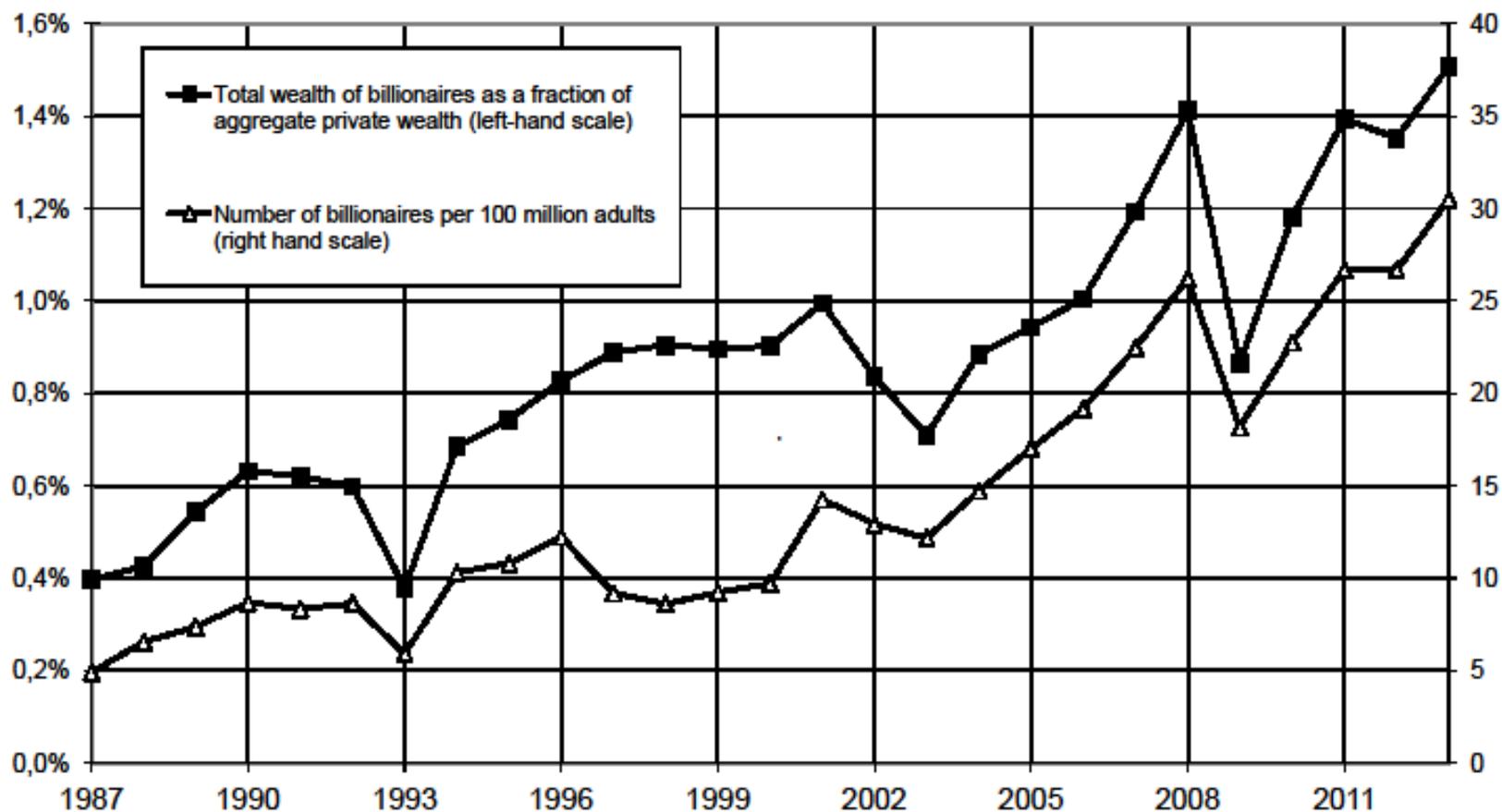
- It is more and more difficult to study wealth inequality at the national level: one needs to take a global perspective
- In the long run, in case  $r - g \uparrow$  at the global level, then world wealth inequality will  $\uparrow$
- **Other important force:** in today's global capital markets,  $r$  might well vary with wealth level  $w$ , i.e.  $r=r(w)$  (scale economies in portfolio management and/or risk taking)  
( $\neq$  perfect  $k$  market: everybody receives  $r = \text{world } F_K$ )
- See data from Forbes rankings and university endowments on varying  $r = r(w)$

**Figure 12.1. The world billionaires according to Forbes, 1987-2013**



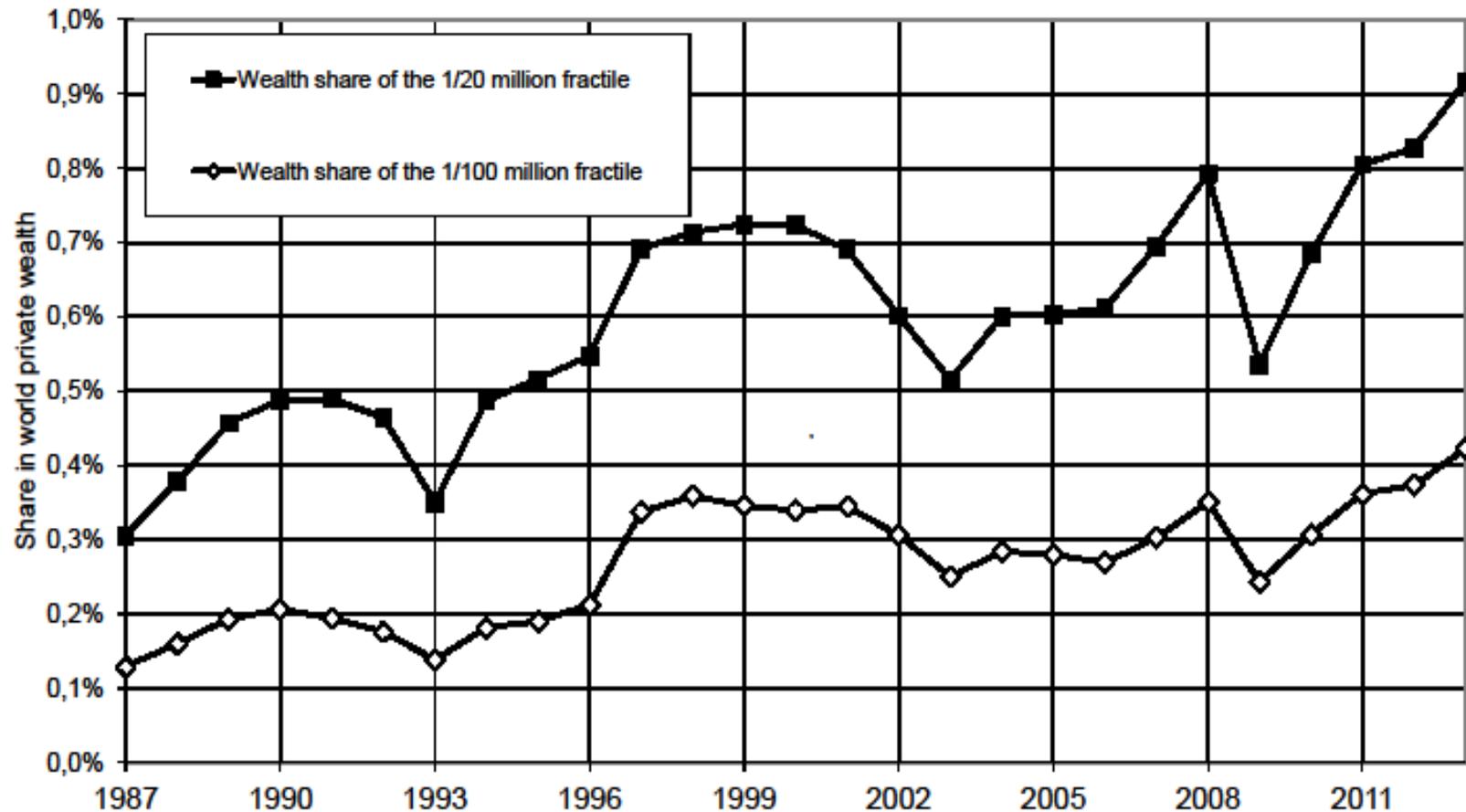
Between 1987 and 2013, the number of \$ billionaires rose according to Forbes from 140 to 1400, and their total wealth rose from 300 to 5 400 billions dollards. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

**Figure 12.2. Billionaires as a fraction of global population and wealth 1987-2013**



Between 1987 and 2013, the number of billionaires per 100 million adults rose from 5 to 30, and their share in aggregate private wealth rose from 0,4% to 1,5%. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

**Figure 12.3. The share of top wealth fractiles in world wealth, 1987-2013**



Between 1987 and 2013, the share of the top 1/20 million fractile rose from 0,3% to 0,9% of world wealth, and the share of the top 1/100 million fractile rose from 0,1% to 0,4%. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

**Table 12.1. The growth rate of top global wealth, 1987-2013**

<i>Average real growth rate per year (after deduction of inflation)</i>	1987-2013
The top 1/(100 million) highest wealth holders <small>(about 30 adults out of 3 billions in 1980s, and 45 adults out of 4,5 billions in 2010s)</small>	6,8%
The top 1/(20 million) highest wealth holders <small>(about 150 adults out of 3 billions in 1980s, and 225 adults out of 4,5 billions in 2010s)</small>	6,4%
Average world wealth per adult	2,1%
Average world income per adult	1,4%
World adult population	1,9%
World GDP	3,3%

Between 1987 and 2013, the highest global wealth fractiles have grown at 6%-7% per year, vs. 2,1% for average world wealth and 1,4% for average world income. All growth rates are net of inflation (2,3% per year between 1987 and 2013). Sources: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

**Table S12.1. The growth rate of top wealth portfolios in the world, 1987-2013**

<i>Average real growth rate per year (after deduction of inflation)</i>	1987-2013	1990-2010
The top 1/(100 million) highest wealth holders <small>(about 30 adults out of 3 billions in 1980s, and 45 adults out of 4,5 billions in 2010s)</small>	6,8%	4,1%
The top 1/(20 million) highest wealth holders <small>(about 150 adults out of 3 billions in 1980s, and 225 adults out of 4,5 billions in 2010s)</small>	6,4%	3,8%
Average world wealth per adult	2,1%	2,0%
Average world income per adult	1,4%	1,5%
World adult population	1,9%	1,9%
World GDP	3,3%	3,4%

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- Data on university endowments: much higher quality than Forbes data on individual wealth
- $\approx 800$  universities in the US, with average endowment  $\approx 500$  millions \$: aggregate endowment  $\approx 400$  billions \$ in 2013
- This is  $\ll$  than global wealth billionaires ( $\approx 5500$  billions \$, i.e. 5,5 trillions \$ = about 1,5% of world wealth  $\approx 350$ -400 trillions \$)
- But at least universities provide very detailed data on their portfolio strategy and observed rates of return

**Table 12.2. The return on the capital endowments of U.S. universities, 1980-2010**

<i>Average real annual rate of return (after deduction of inflation and all administrative costs and financial fees)</i>	Période 1980-2010
All universities (850)	8,2%
incl.: Harvard-Yale-Princeton	10,2%
incl.: Endowments higher than 1 billion \$ (60)	8,8%
incl. Endowments between 500 millions and 1 billion \$ (66)	7,8%
incl. Endowments between 100 and 500 millions \$ (226)	7,1%
dont: Endowments less than 100 millions \$ (498)	6,2%

Between 1980 and 2010, U.S. universities earned an average real return of 8,2% on their capital endowments, and all the more so for higher endowments. All returns reported here are net of inflation (2,4% per year between 1980 and 2010) and of all administrative costs and financial fees.

Sources: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

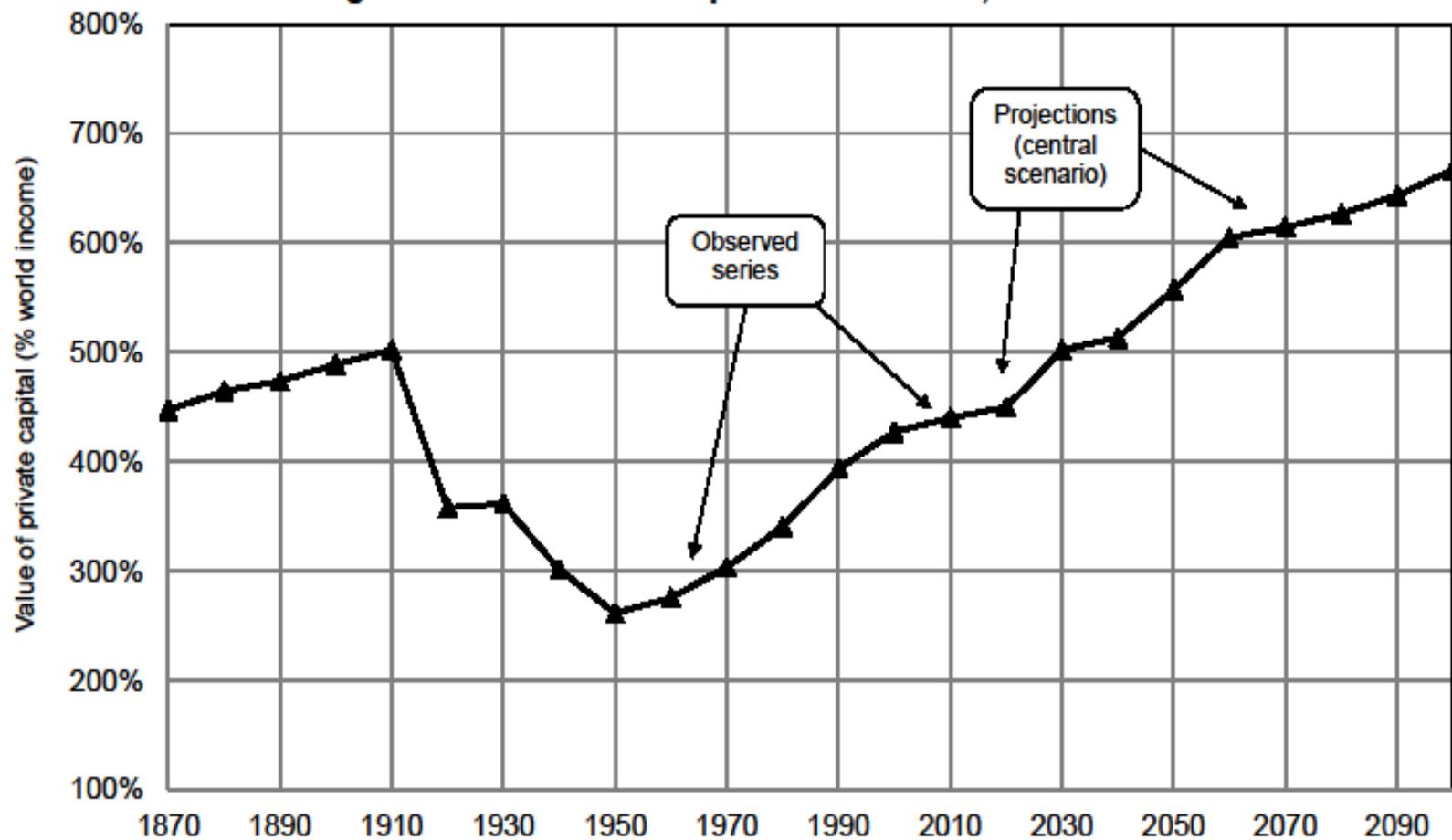
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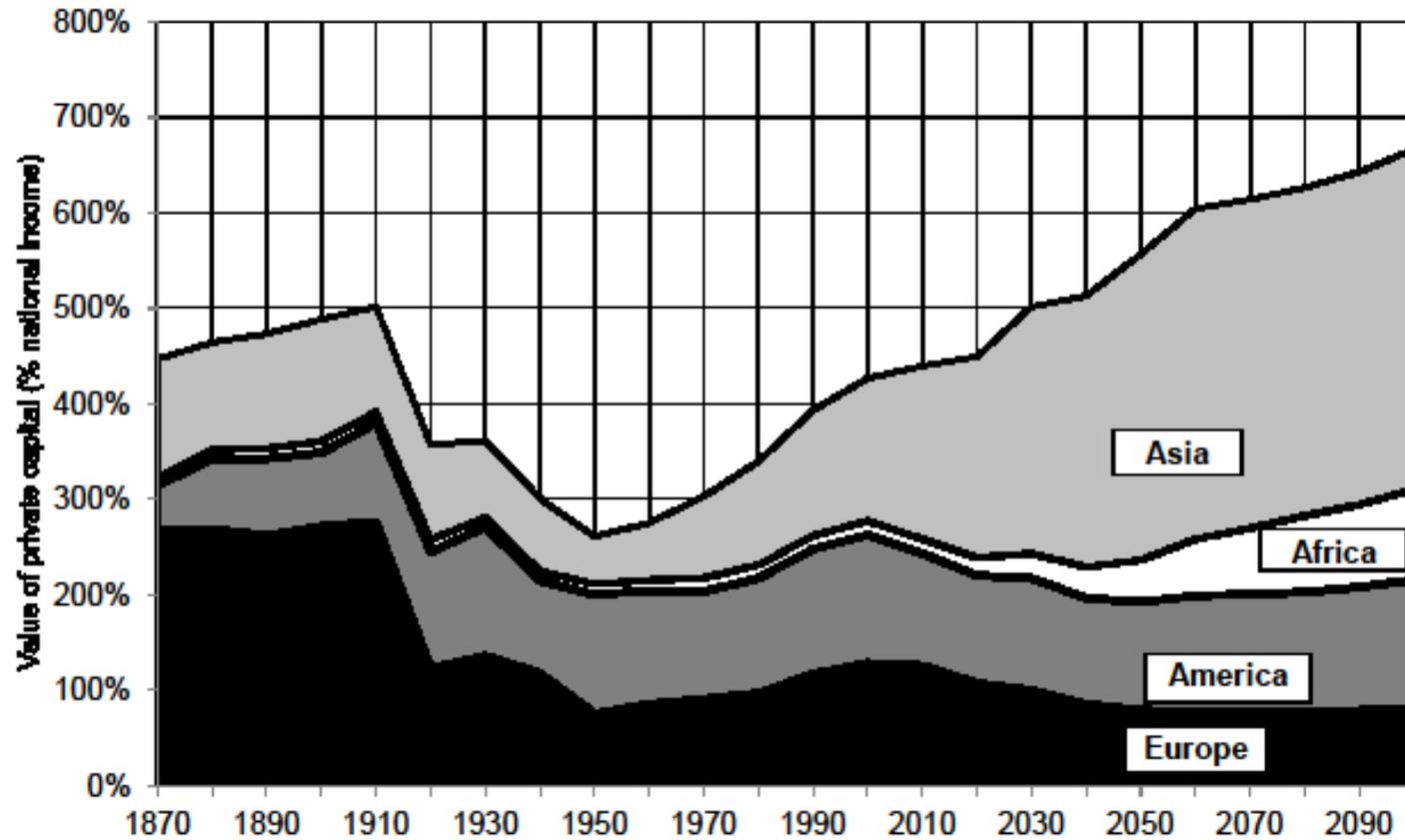
- Returns on sovereign wealth funds (SWF) seem to vary from very high (Abu Dhabi:  $\approx 700$  billions € = twice as large as all US universities endowments combined) to relatively low (Norway, Saudi Arabia: less risk, huge US public debt component: economics or politics?)
- But data is relatively low quality: very little transparency
- All SWFs: about 5,5 trillions ( $\approx$  global billionaires), including 3,5tr for oil countries and 2tr for non-oil countries (1tr for China)
- Other reason for divergence: different saving rates, e.g. because of different pension strategies, can lead to huge net foreign asset positions ( $\beta_1 = s_1/g > \beta_2 = s_2/g$ ), quite independantly from  $r > g$ ; but of course low  $g$  and  $r > g$  can amplify initial NFAs

Figure 12.4. The world capital/income ratio, 1870-2100



According to the simulations (central scenario), the world capital/income ratio might be near to 700% by the end of the 21st century. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

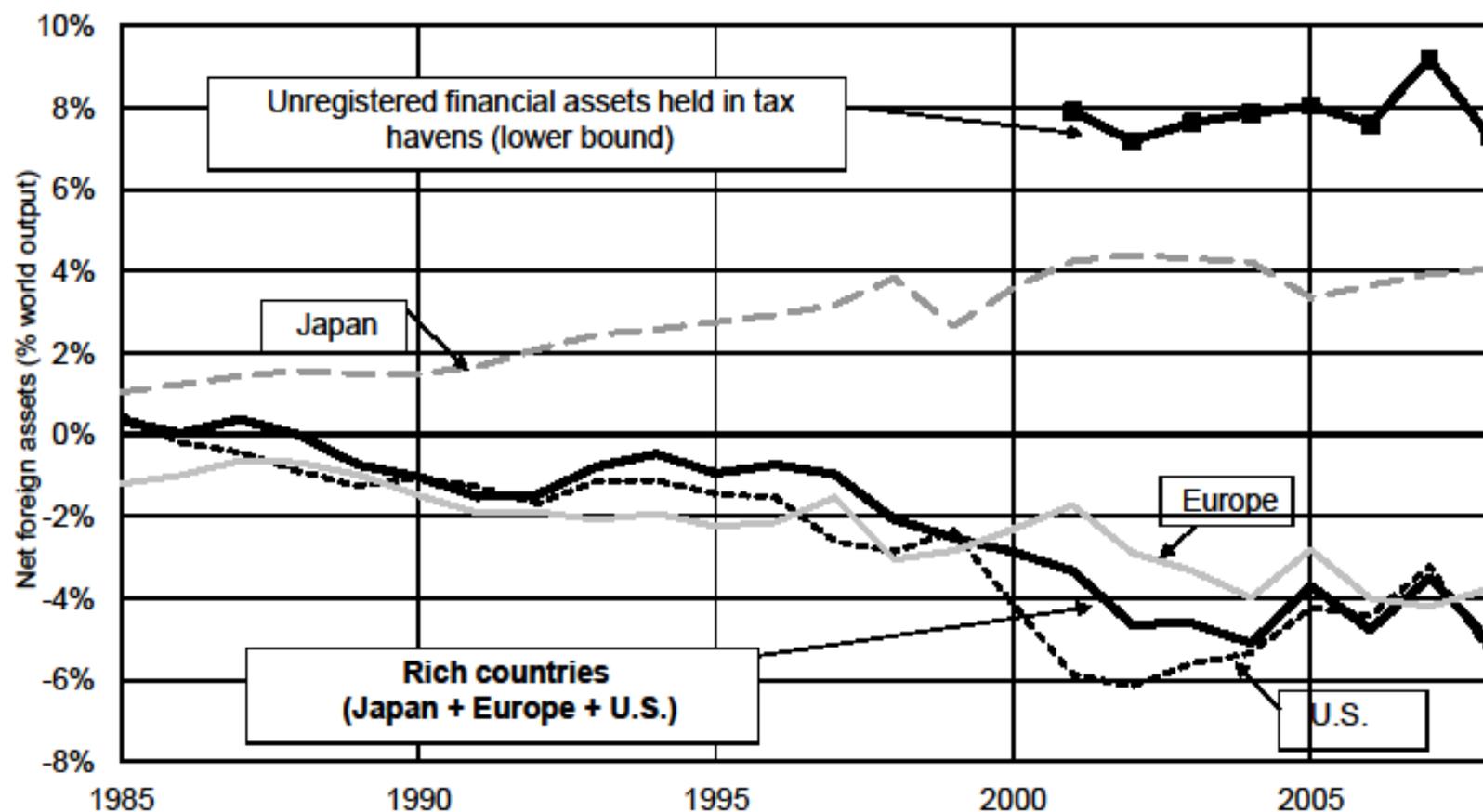
Figure 12.5. The distribution of world capital 1870-2100



According to the central scenario, Asian countries should own about half of world capital by the end of the 21st century. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

- Is « oligarchic divergence » (rise of global billionaire wealth: billionaires own a rising share of global wealth) or « international divergence » (rise of foreign wealth: countries own other countries) more likely?
- Both can happen. But international divergence is relatively easier to deal with (capital controls). Oligarchic divergence = harder to deal with, because it requires detailed information on individual wealth levels and strong international coordination.
- As of today, offshore wealth is enough to turn rich countries' NFA from  $<0$  into  $>0$ ; could rise in the future
- See [Zucman 2013](#), « The missing wealth of nations: are Europe and the US net debtors or net creditors? »

**Figure 12.6. The net foreign asset position of rich countries**



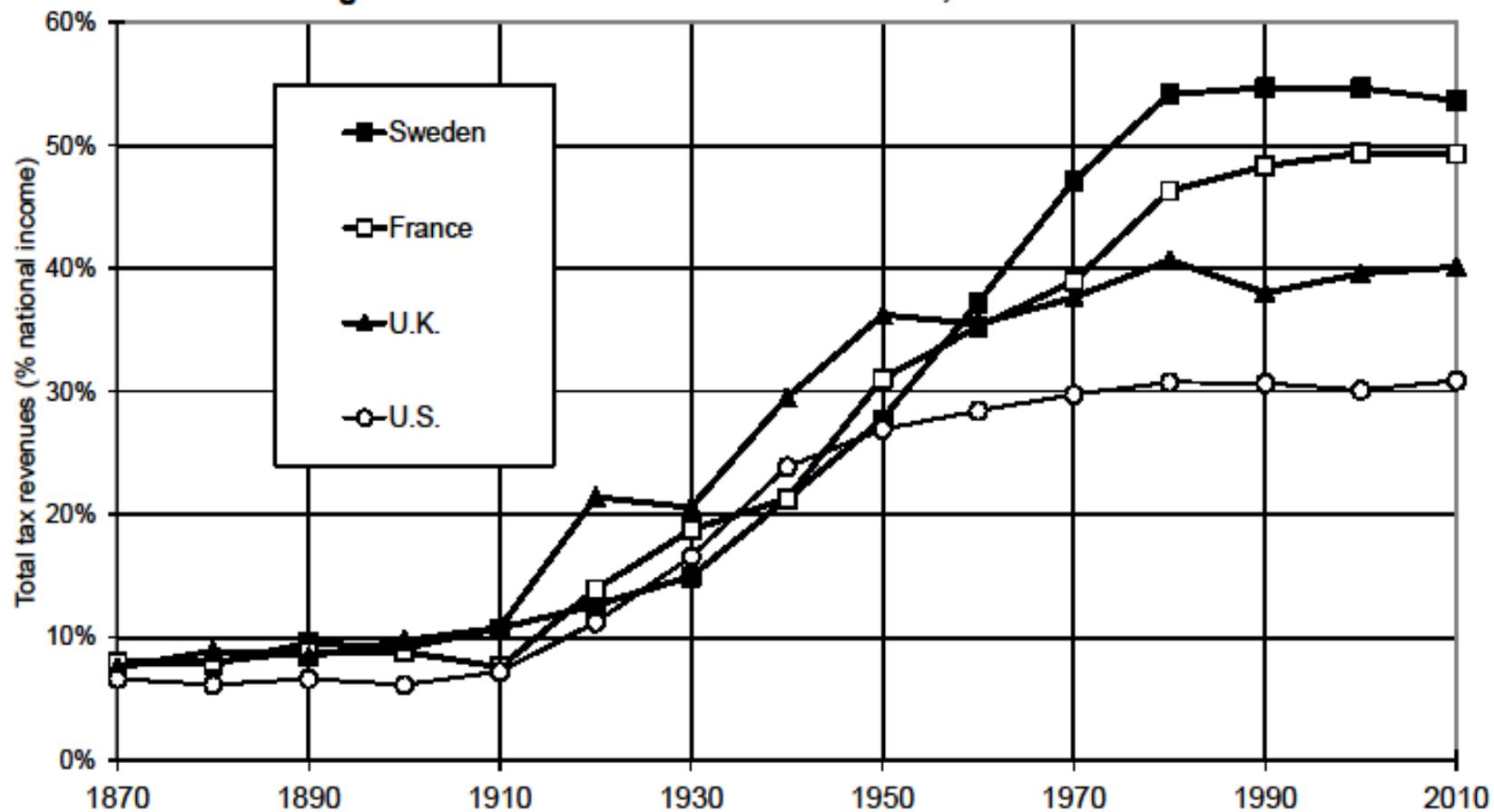
Unregistered financial assets held in tax havens are higher than the official net foreign debt of rich countries.

Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

# Regulating capital in the 21st century

- During 20c, huge rise of tax revenue (from 10% of 40-50% GDP) = rise of the modern fiscal and social state, partly as a response to high inequality generated by free market capitalism
- This « great leap forward » is not going to happen again: during 21c, tax revenue is likely to stabilize (or decline if rising tax competition), not to rise again to 70-80% GDP
- The 21c challenge is not to make govt bigger (at least in rich countries), but to make them more efficient, both in terms of public spendings and fiscal and regulatory system

**Figure 13.1. Tax revenues in rich countries, 1870-2010**

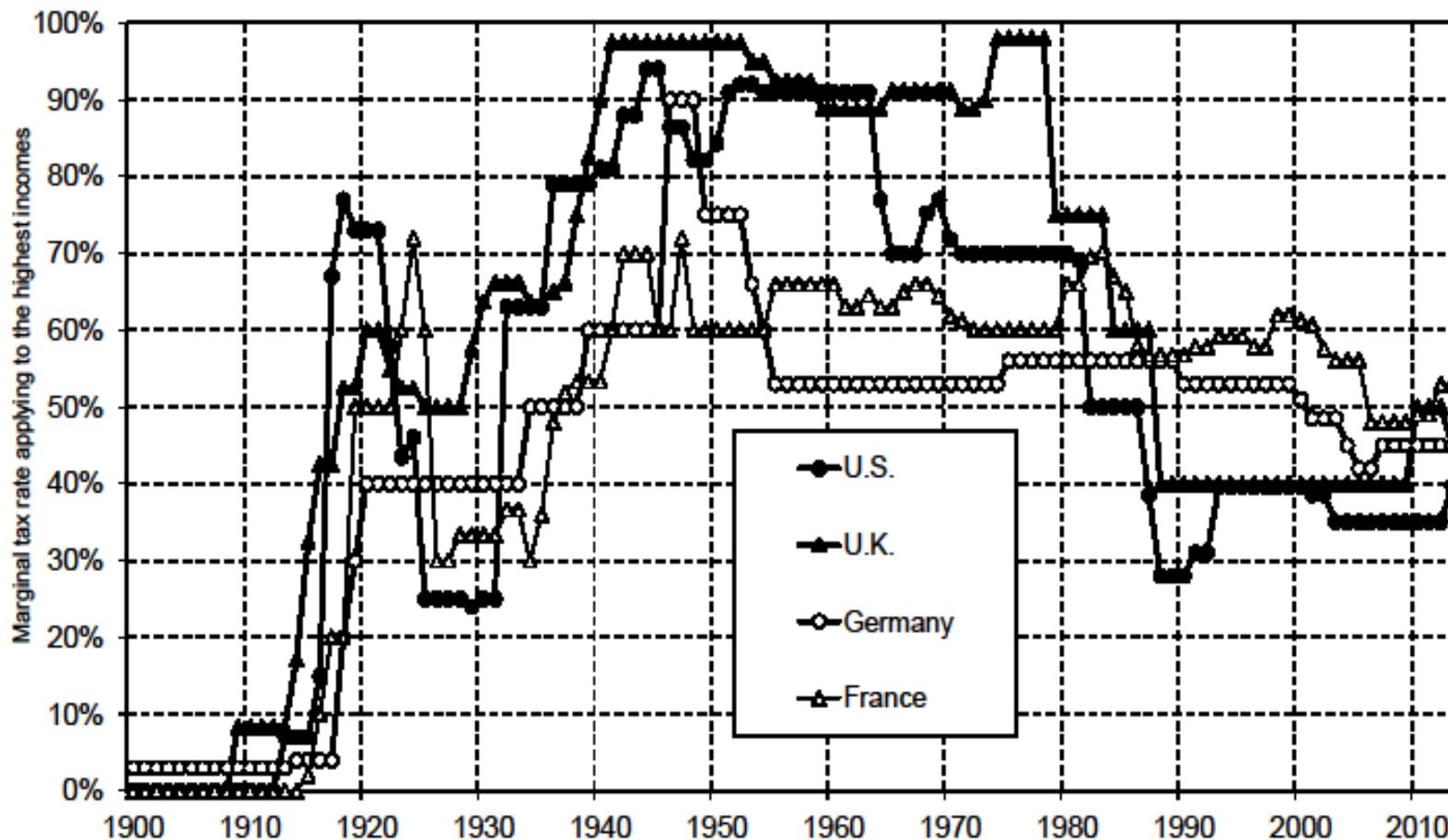


Total tax revenues were less than 10% of national income in rich countries until 1900-1910; they represent between 30% and 55% of national income in 2000-2010. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

# Challenges for 21c tax system

- The ideal fiscal trypyk: **income tax, inheritance tax, wealth tax**
- **Progressive income tax**: basic pillar for financing public goods and social spendings (together with social contributions); progressivity at the very top is critical not so much to raise revenue, but mostly to keep top labor incomes and rent extraction under control
- Theory: see « Optimal taxation of top labor incomes », [AEJ 2014](#) (see also [Slides](#))
- History: see graphs; very chaotic and unpredictable evolutions; depend upon perceptions of fairness, national identities; hard to predict future evolutions

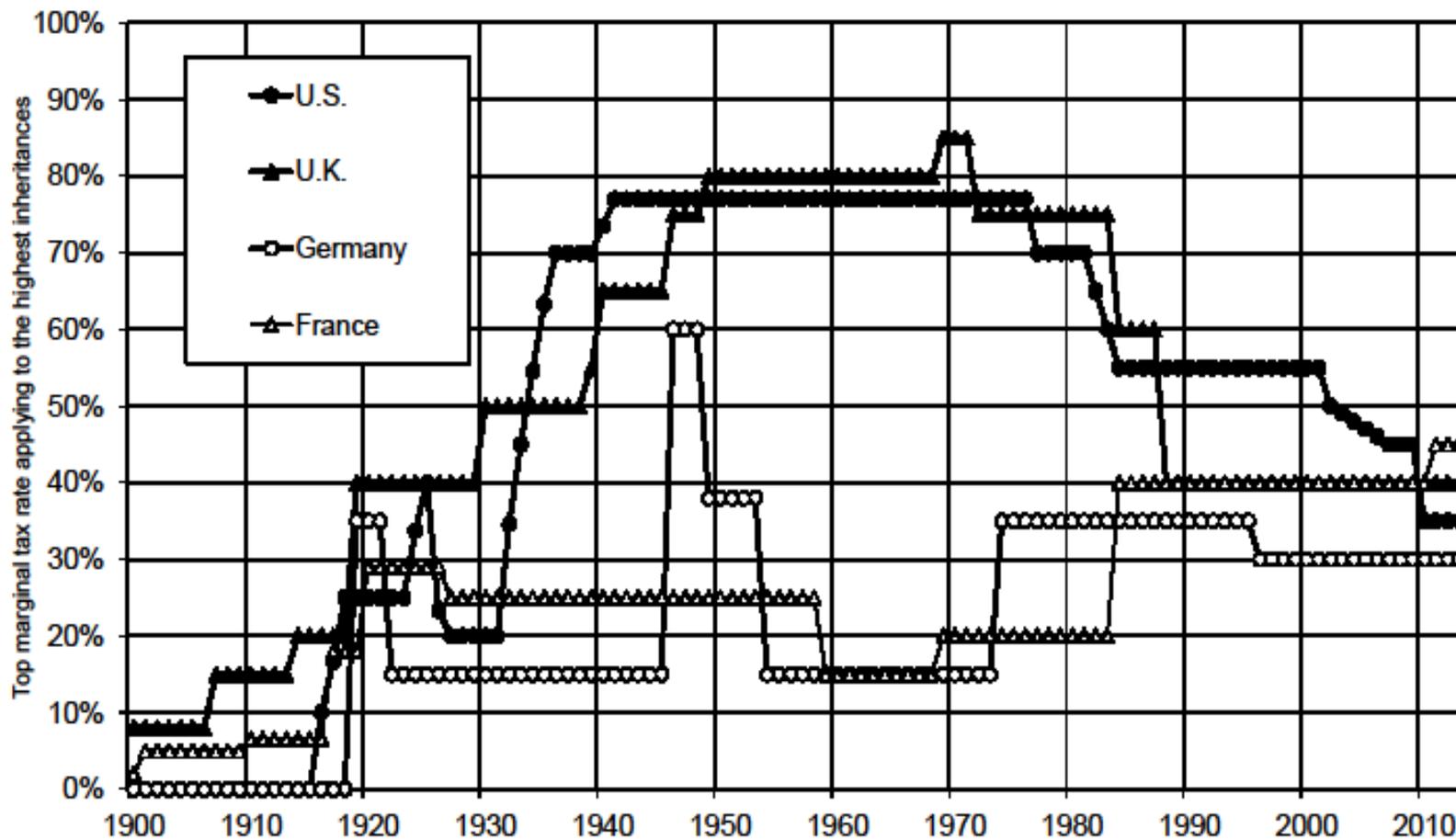
Figure 14.1. Top income tax rates, 1900-2013



The top marginal tax rate of the income tax (applying to the highest incomes) in the U.S. dropped from 70% in 1980 to 28% in 1988. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

- **Progressive inheritance tax:** in a context of rising importance of wealth and inheritance, this is an important policy tool to restore (or at least increase) equality of opportunity in a world with two-dimensional inequality (inherited wealth vs labor earnings)
- Theory: see « A Theory of Optimal Inheritance Taxation », [2013](#)
- History: see graphs; also chaotic and unpredictable; downward trend in top rates due to globalization (repeal of inheritance tax in small countries) or political capture?

Figure 14.2. Top inheritance tax rates, 1900-2013



The top marginal tax rate of the inheritance tax (applying to the highest inheritances) in the U.S. dropped from 70% in 1980 to 35% in 2013. Sources and series: see [piketty.pse.ens.fr/capital21c](http://piketty.pse.ens.fr/capital21c).

- **Progressive wealth tax:** with imperfect k markets, progressive inheritance tax is not enough; also, independantly of inheritance, wealth can be a better indicator of ability to pay than income
- Theory: see « Rethinking capital and wealth taxation », [2014](#)
- History and future: in order to counteract high r for top w, top rates would need quite large (5-10% rather than 2-3%? = a big difference with previous wealth taxes)
- But the main objective behind wealth tax is to deliver international financial transparency and global wealth registration: automatic exchange of information between countries, world registry of financial assets, public statistics on wealth, etc.; and then we'll see which tax rates are optimal

- More generally: **taxation is the most civilized form of regulation** (i.e. it allows for efficient and transparent redistribution and intervention, while preserving international economic openness and competitive forces)
- But **taxation is certainly not the only form of regulation**: various forms of capital controls or political controls or antiglobalization policies or antimigration policies or inflationary policies can also be used, and are used (China, Russia, Europe, US, ..); among these non-tax tools, inflation can be quite useful to reduce public debt; but it is like a tax on low wealth, so it is definitely not as good as a progressive wealth tax)
- Scholars and intellectuals do not have the power to make civilization happen; but it is their mission to say that civilization is possible, and in particular to demonstrate that global markets and global justice are compatible