

## **Technical appendix of the book « A Brief History of Equality »**

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<http://piketty.pse.ens.fr/equality>

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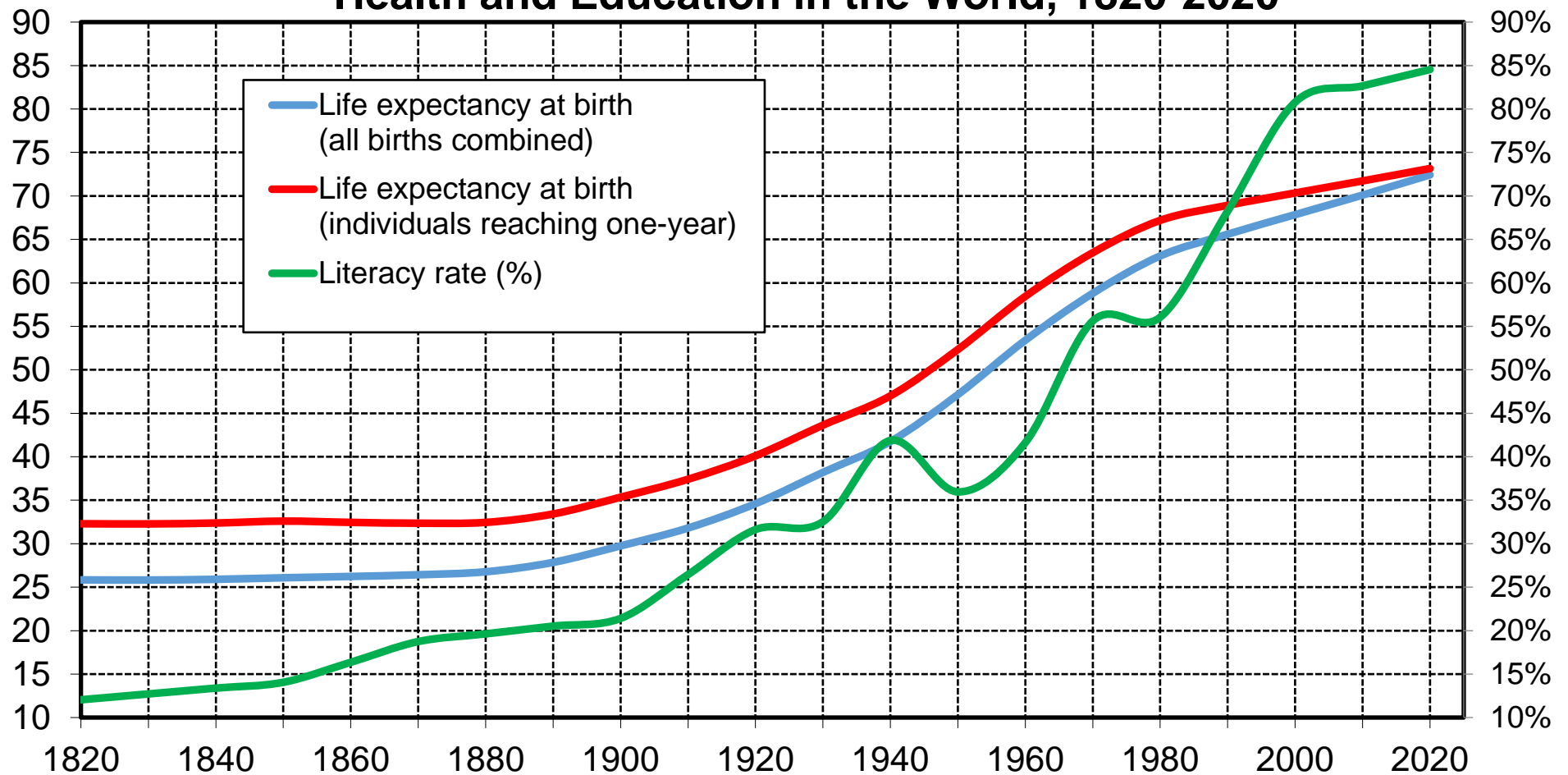
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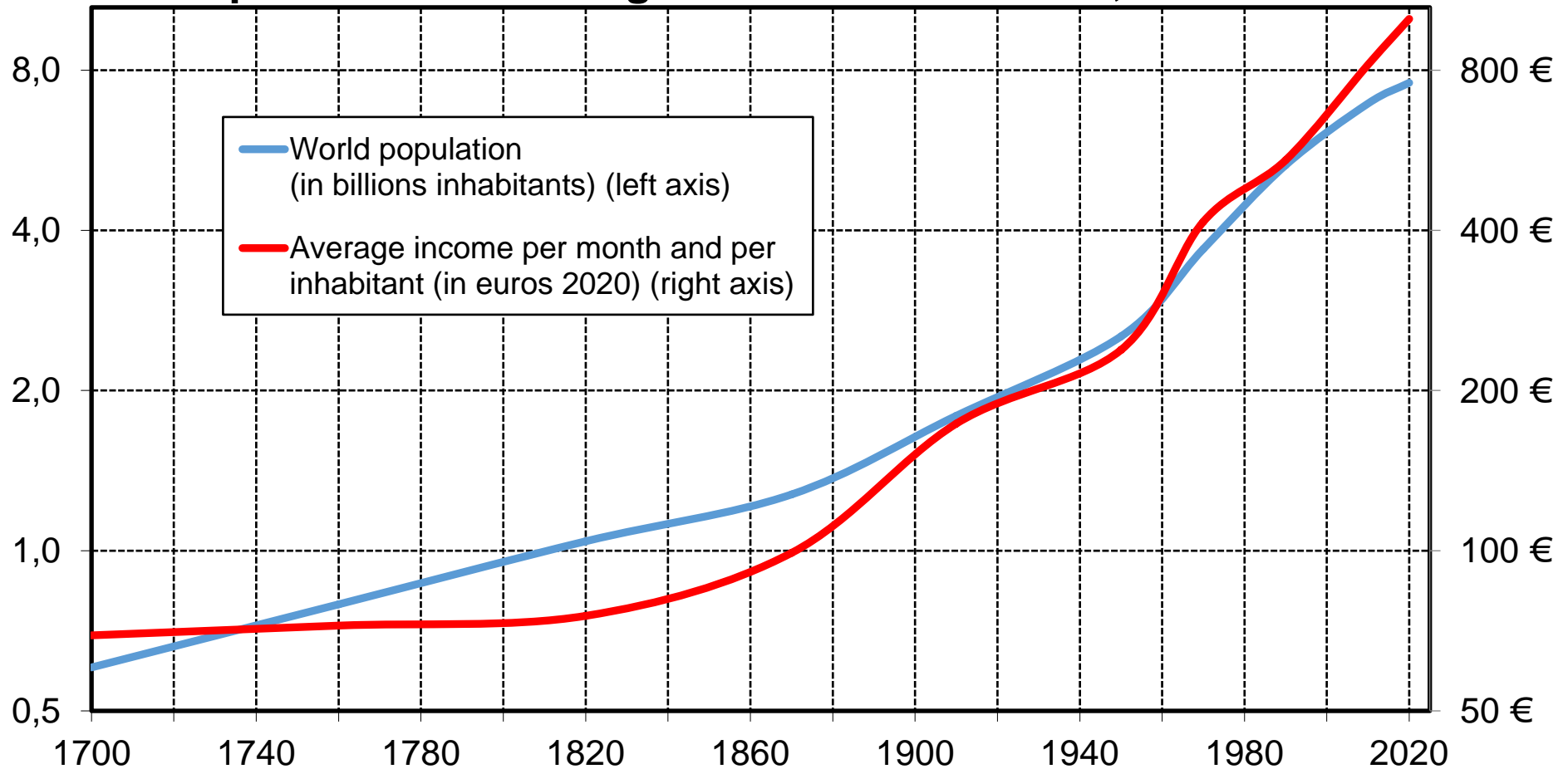
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## Health and Education in the World, 1820-2020



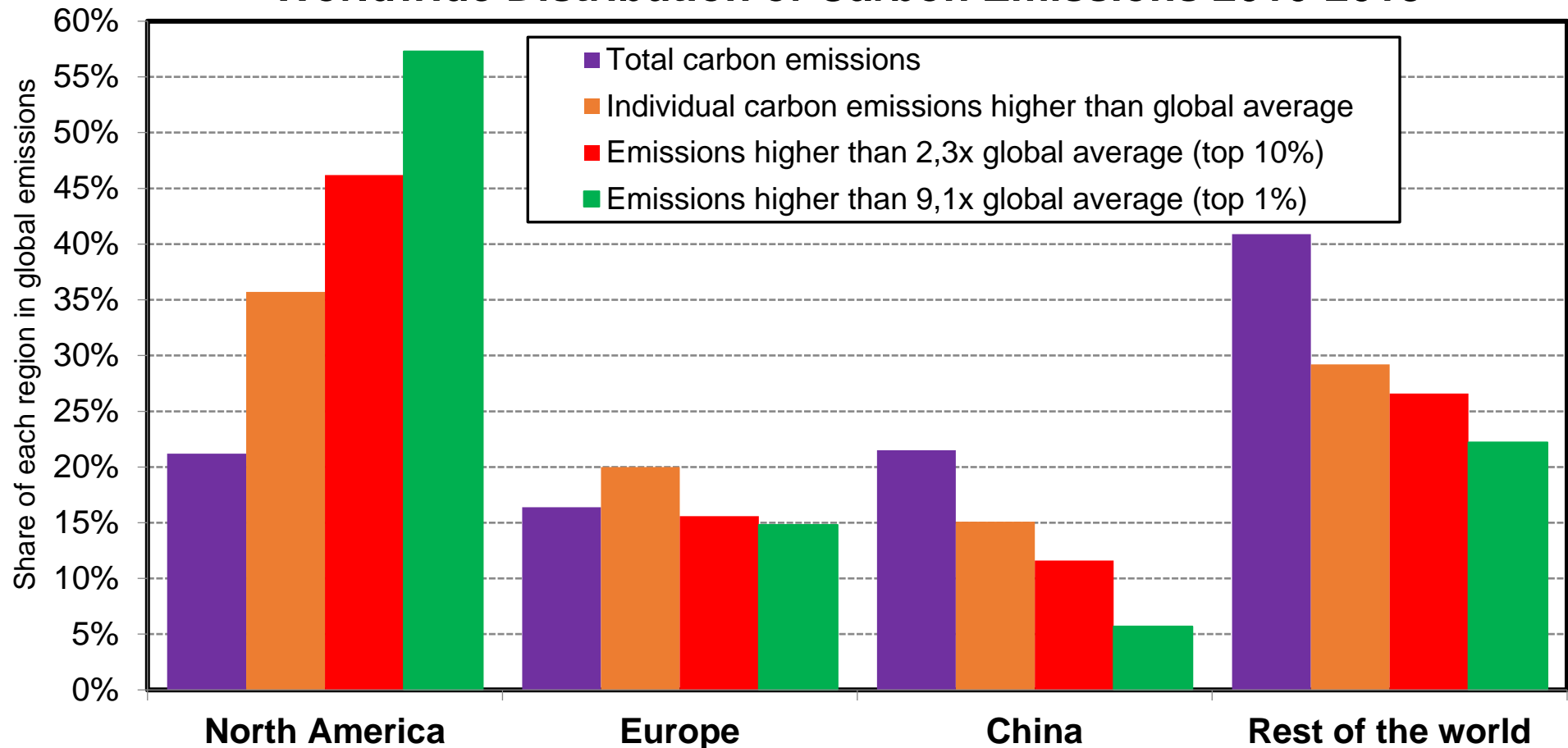
**Interpretation.** Life expectancy at birth worldwide increased from an average of 26 years in the world in 1820 to 72 years in 2020. Life expectancy for those living to age 1 rose from 32 years to 73 years (because infant mortality before age 1 decreased from 20% in 1820 to less than 1% in 2020). The literacy rate for 15-year-olds-and-over worldwide rose from 12% to 85%.  
Sources and series: see [piketty.pse.ens.fr/equality](https://piketty.pse.ens.fr/equality) (figure 1)

## Population and Average Income in the World, 1700-2020



**Interpretation.** World population and average national income increased more than tenfold between 1700 and 2020: population increased from about 600 million inhabitants in 1700 to over 7 billion in 2020; income, expressed in 2020 euros and in purchasing power parity, increased from barely 80€ per month per person in 1700 to 1000€ per month per person in 2020. This corresponds in both cases to an average annual growth rate of about 0.8%, cumulated over 320 years. Sources and series: voir [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 2)

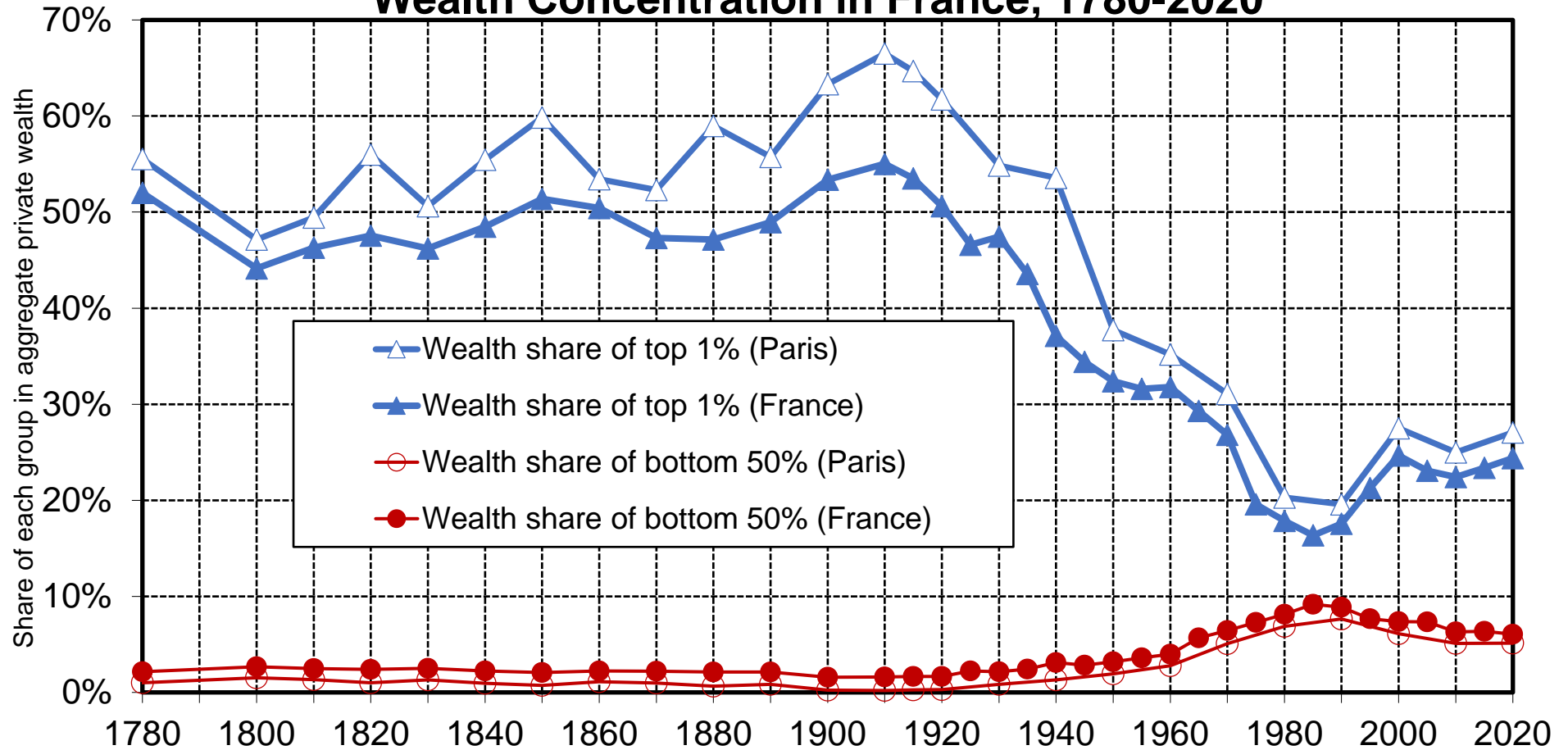
## Worldwide Distribution of Carbon Emissions 2010-2018



**Interpretation.** The share of North America (U.S.-Canada) in total global emissions (direct and indirect) was 21% on average in 2010-2018; this share rises to 36% if one looks at emissions greater than global average (6,2t CO<sub>2</sub>e per year), 46% for emissions above 2,3 times the global average (i.e. the top 10% of world emitters, accounting for 45% of total emissions, compared to 13% for the bottom 50% of world emitters), and 57% of those emitting over 9,1 times the global average (i.e. the top 1% of world emitters, accounting for 14% of total emissions).

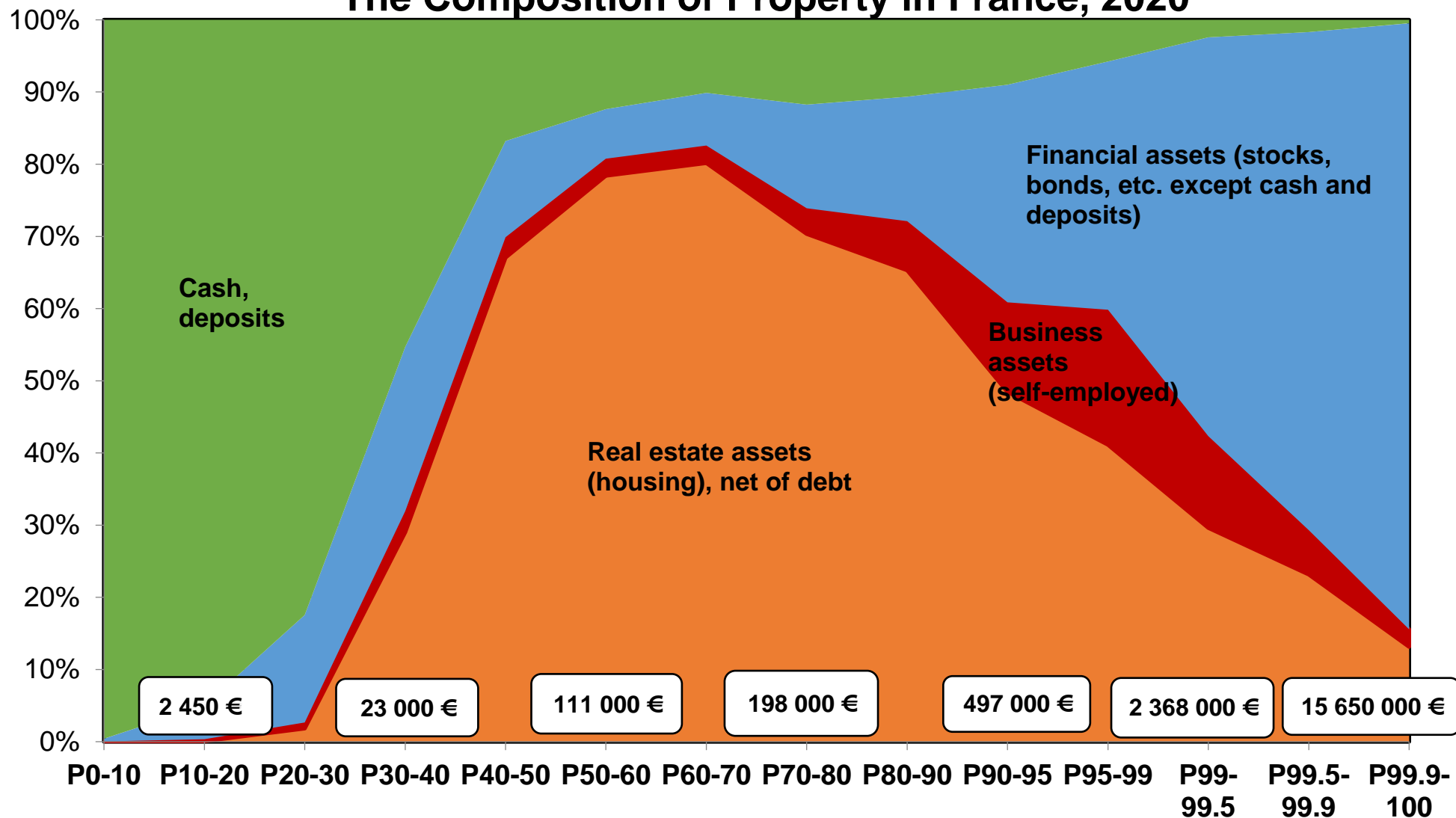
Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 3)

## The (Limited) Rise of Equality: Wealth Concentration in France, 1780-2020



**Interpretation.** After a small decline during the Revolution, the concentration of wealth (real estate, business and financial assets, net of debt) rose in France in the 19th century and until World War I, before steeply declining following the wars and until the 1980s. Overall, the share of total wealth held by top 1% wealth holders dropped from 55% in 1910 to 25% in 2020, but this had little impact on the bottom 50% wealth share, which rose from 2% in 1910 to 6% in 2020. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 4)

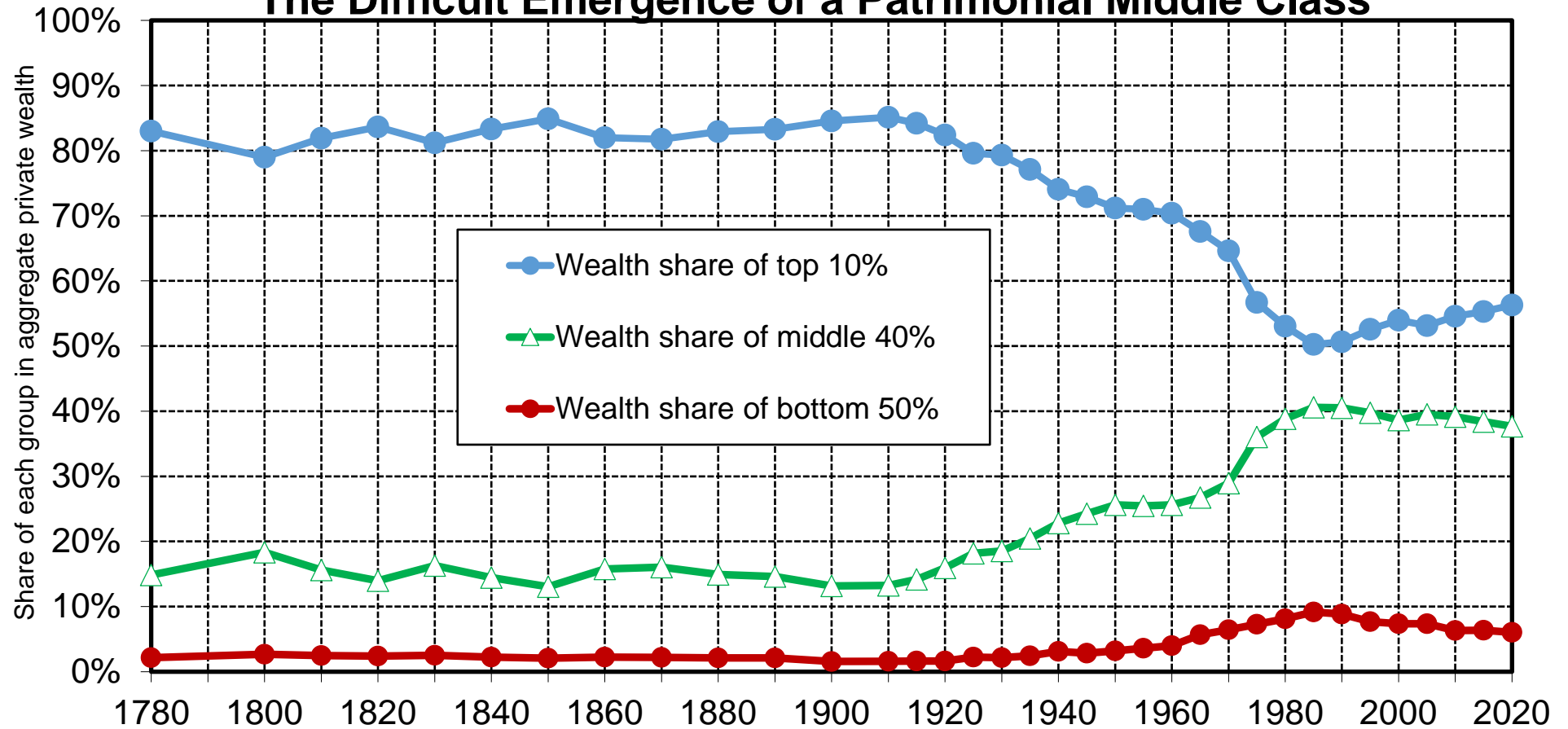
## The Composition of Property in France, 2020



**Interpretation.** In France in 2015 (as in most countries where data are available), small fortunes consist primarily cash and bank deposits, medium fortunes of real estate, and large fortunes of financial assets (mainly stocks). Note: the distribution shown here is per adult wealth (wealth of couples divided by two). Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 5)

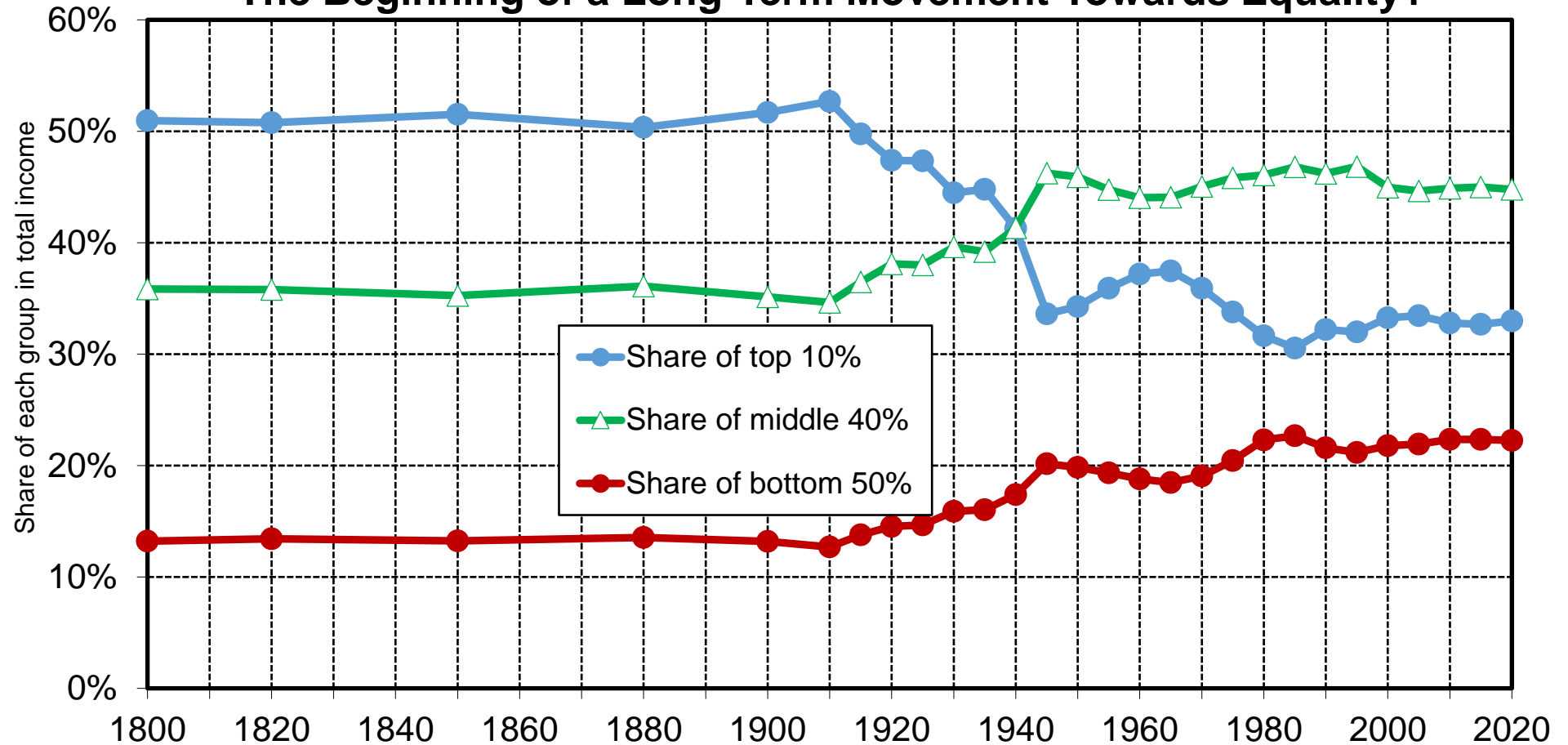


## Wealth Distribution in France, 1780-2020: The Difficult Emergence of a Patrimonial Middle Class



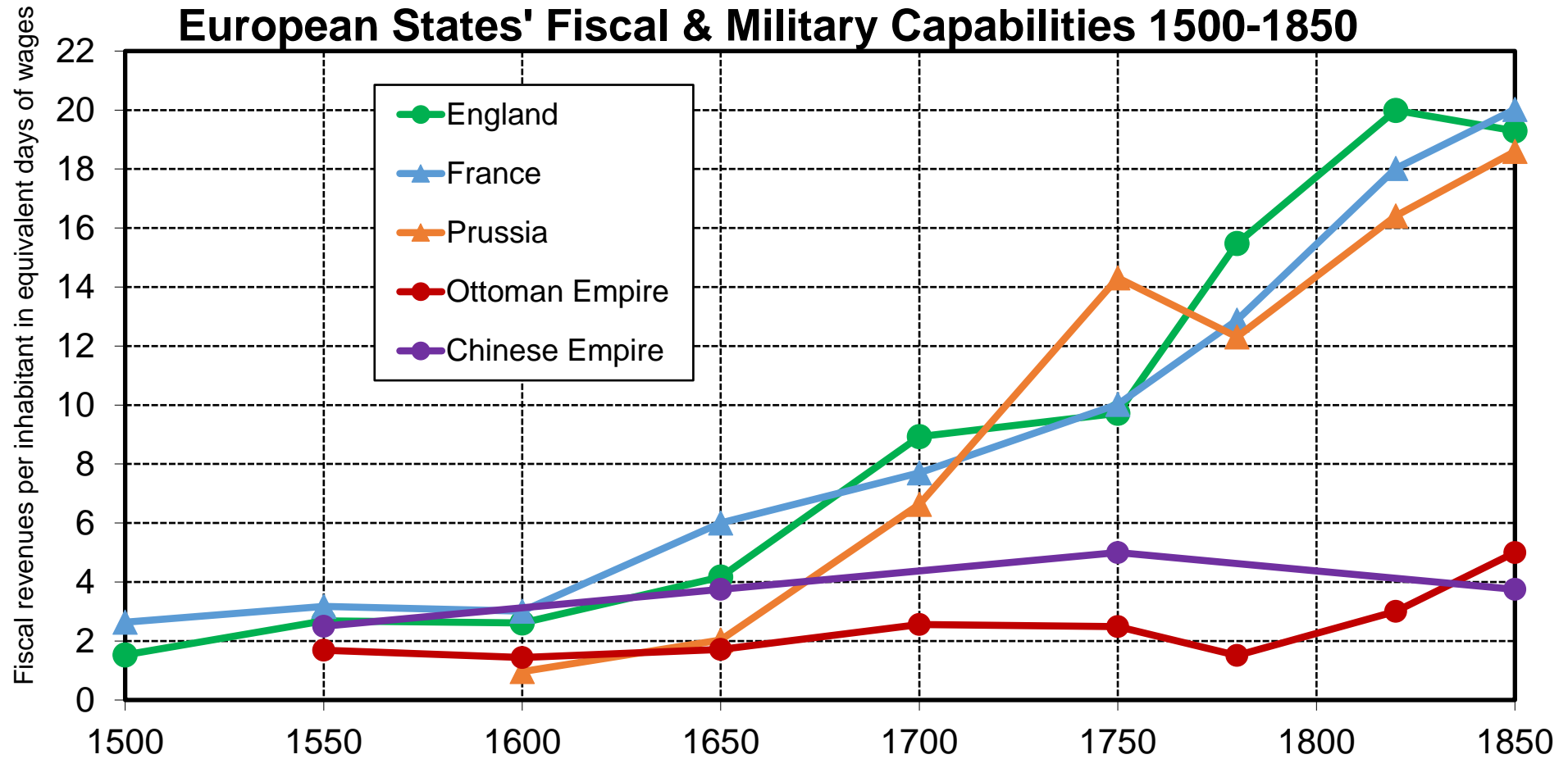
**Interpretation.** The share of top 10% wealth holders in aggregate private wealth (real estate, business and financial assets, net of debt) was around 80%-90% in France between 1780 and 1910. The decline in wealth concentration begins with World War I and stops in the 1980s. It benefited mostly to the "patrimonial middle class" (the middle 40%), which is defined here as the intermediate group between the top 10% and the bottom 50% of the wealth distribution. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 6)

## Income Distribution in France, 1800-2020: The Beginning of a Long-Term Movement Towards Equality?



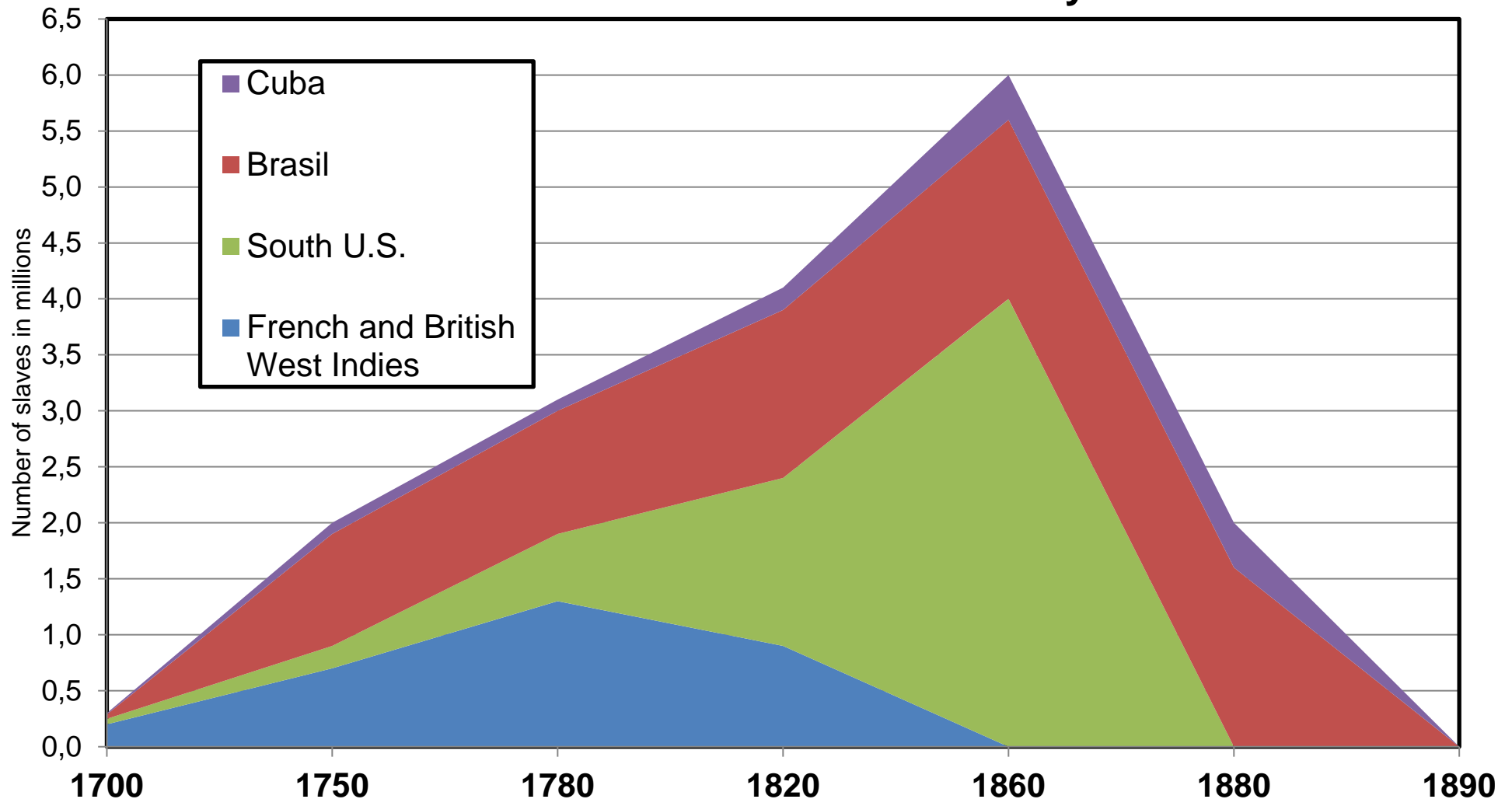
**Interpretation.** The share of the top 10% highest incomes in total income (including capital income - rent, dividends, interest, profits - & labour income - wages, self-employment income, pensions, unemployment benefits) was about 50% in France from the 1780s to the 1910s. The fall in the concentration of income started after World War 1 and occurred to the benefit of the "lower classes" (the bottom 50% lowest incomes) and the "middle classes" (the next 40%), at the expense of the "upper classes" (the top 10%). Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 7)

## At the Origins of the Great Divergence: The Rise of European States' Fiscal & Military Capabilities 1500-1850



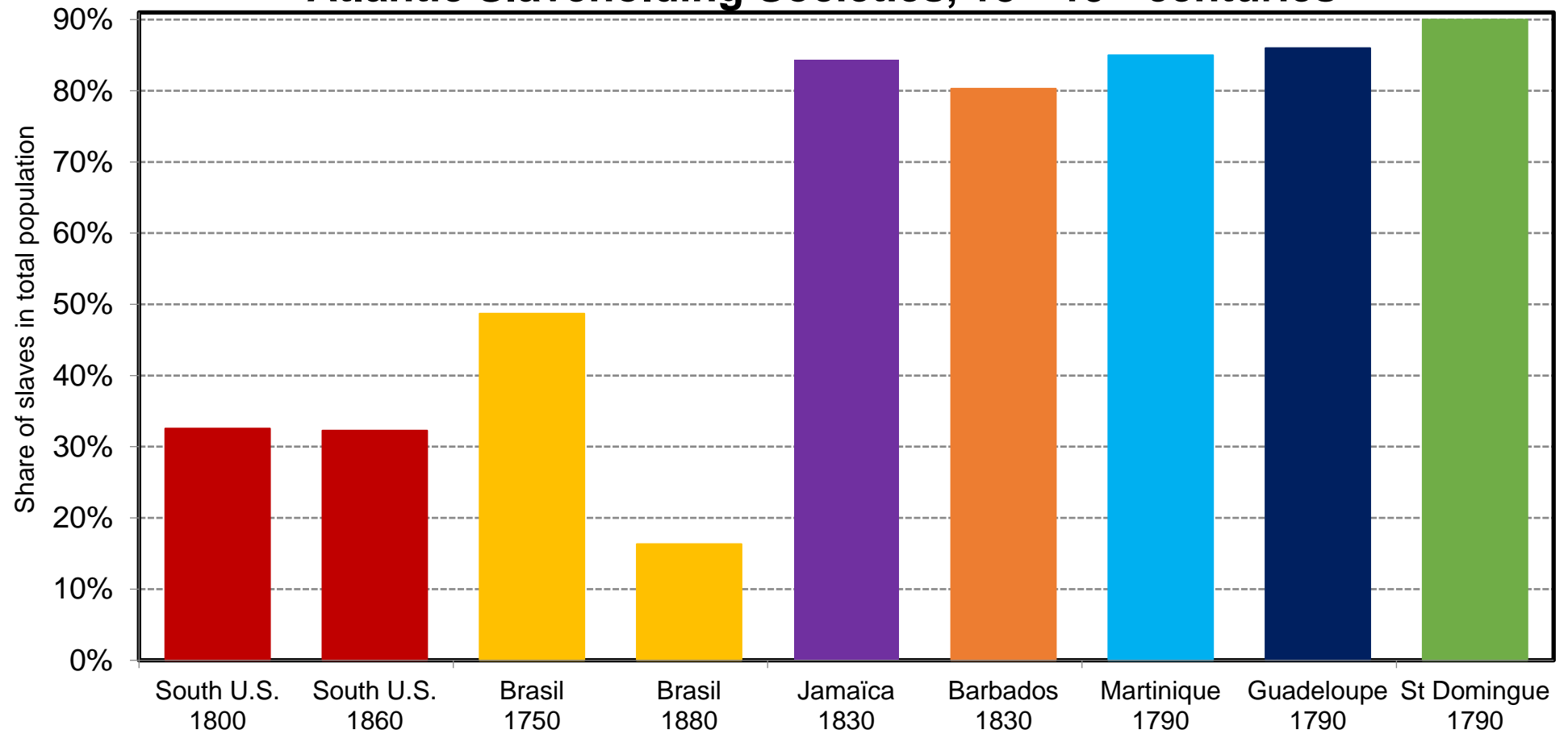
**Interpretation.** Around 1500-1600, the fiscal revenues per inhabitants of the main European States were between 2 and 4 days of urban unskilled maneuver wages; in 1750-1780, they were between 10 and 20 days of unskilled wages. Per inhabitant fiscal revenues remained around 2-5 days of wages in the Ottoman Empire as well as in the Chinese Empire. With a per inhabitant national income estimated to be around 250 days of unskilled urban wage, this implies that tax revenues have stagnated around 1%-2% of national income in Chinese and Ottoman Empires, while they rose from 1%-2% to 6%-8% of national income in Europe. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 8)

## The Rise and Fall of Euro-American Slavery 1700-1890



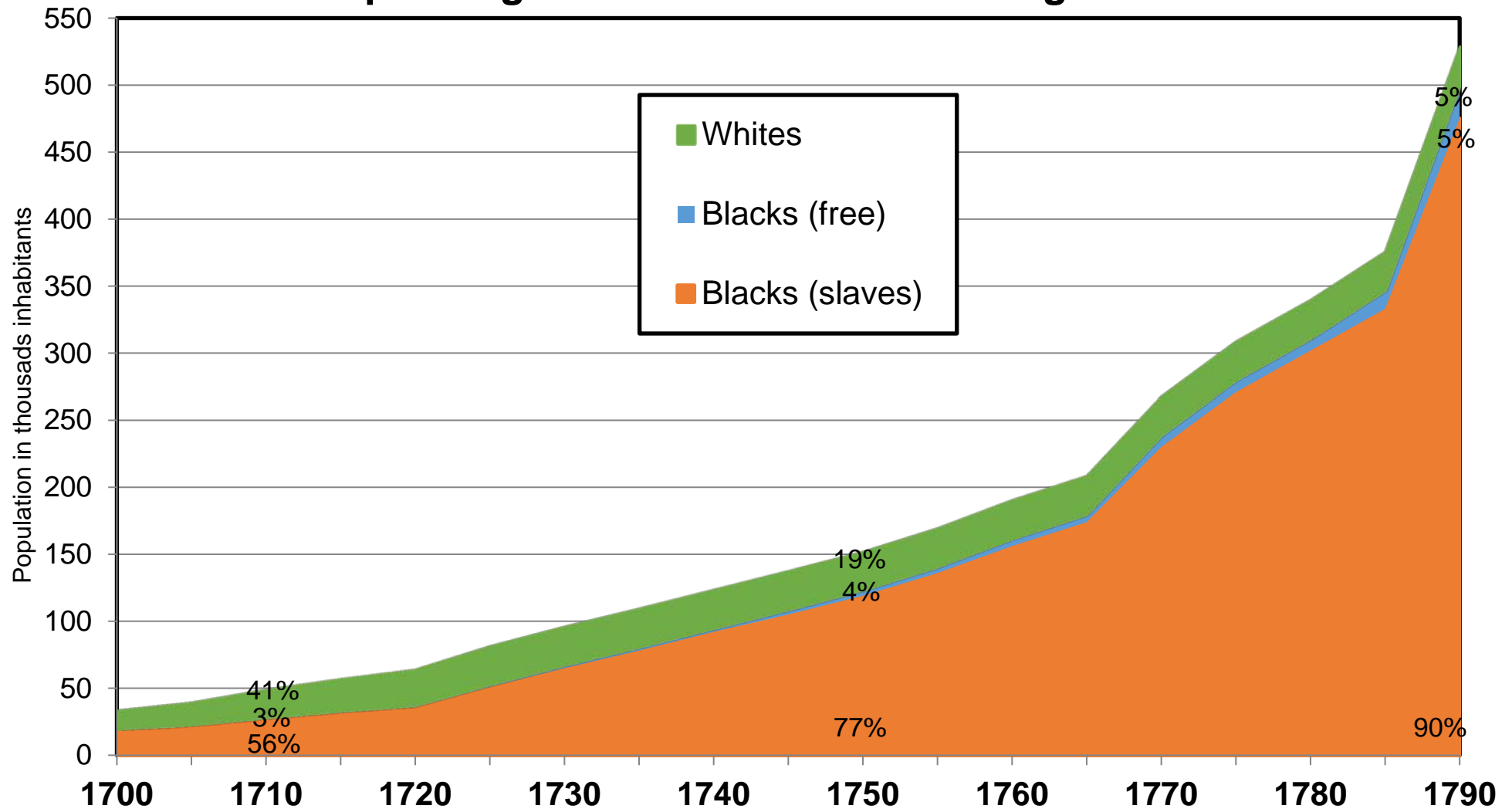
**Interpretation.** The total number of slaves in Euro-American Atlantic plantations reached 6 millions in 1860 (including 4 millions in south U.S., 1,6 millions in Brasil and 0,4 million in Cuba). Slavery in French and British West Indies (to which we added Mauritius, Reunion and Cape colony) reached its apex around 1780-1790 (1,3 millions) and then declined following the slave revolt in Saint-Domingue (Haïti) and the abolitions of 1833 and 1848. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 9)

## Atlantic Slaveholding Societies, 18<sup>th</sup>-19<sup>th</sup> centuries



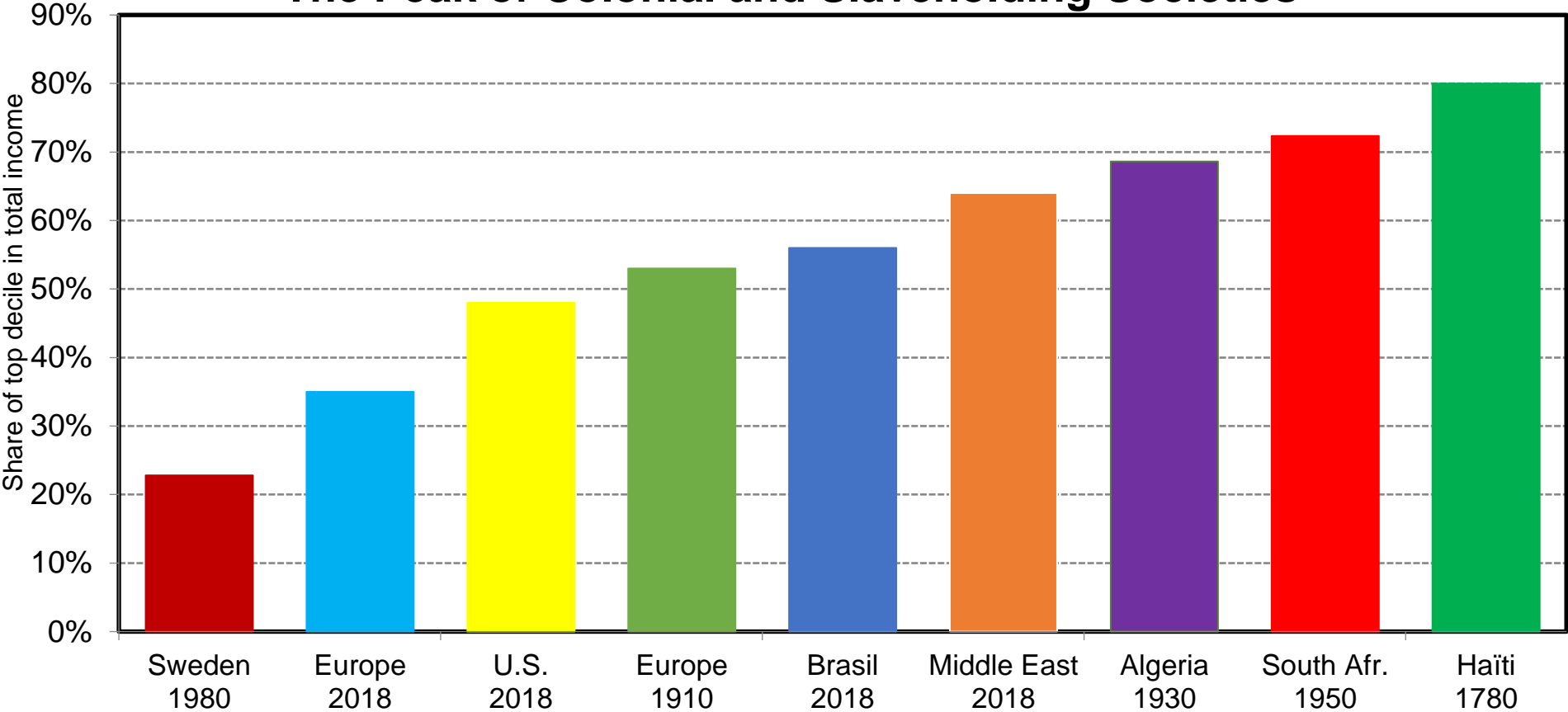
**Interpretation.** Slaves made about one third of the population in south U.S. between 1800 and 1860. This proportion dropped from about 50% to less than 20% in Brasil from 1750 to 1850. It was higher than 80% in the slave islands of the British and French West Indies in 1780-1830, and exceeded 90% in Saint-Domingue (Haïti) in 1790. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 10)

## An Expanding Slave Island: Saint-Domingue 1700-1790



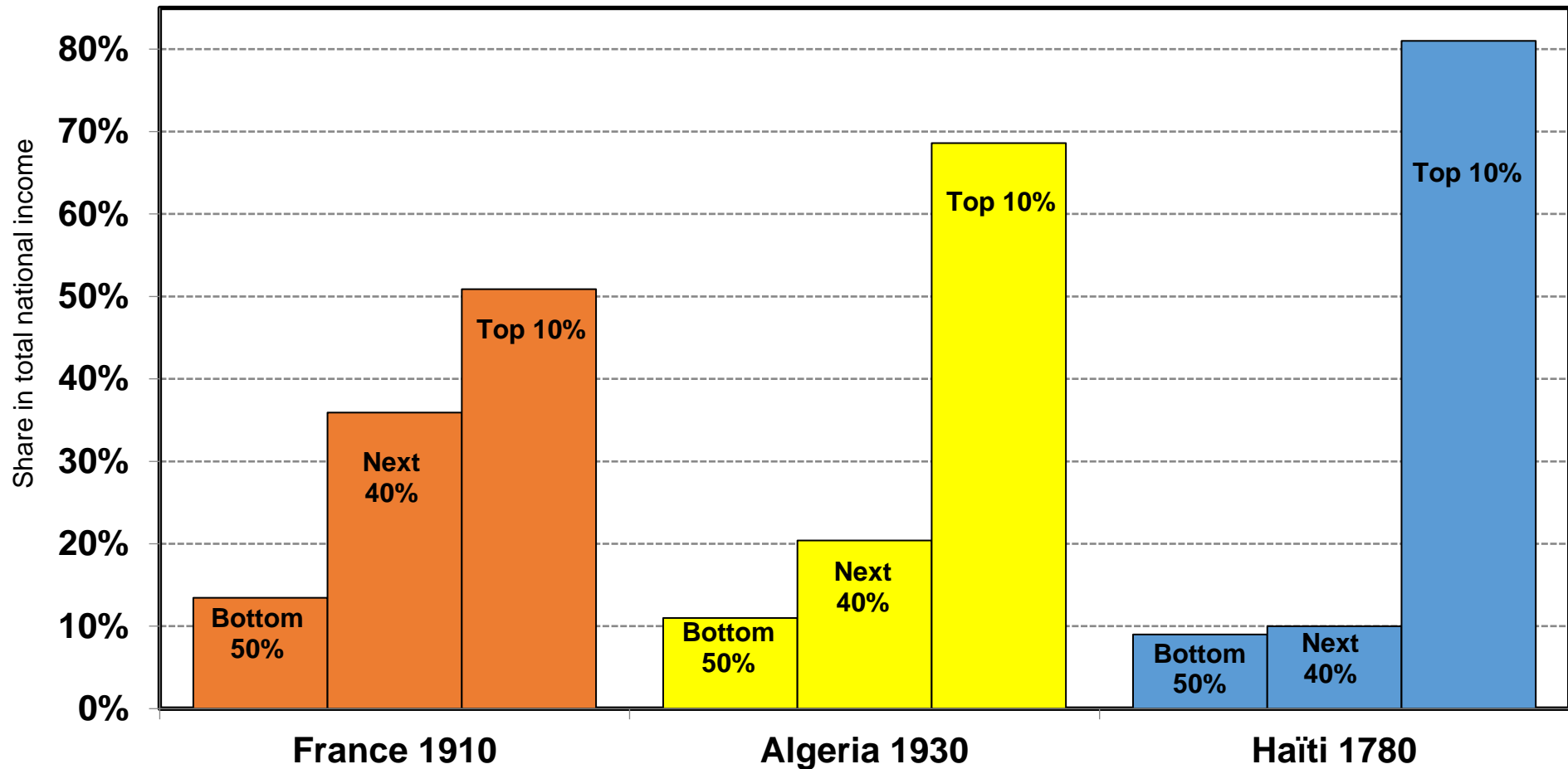
**Interpretation.** The total population of Saint-Domingue (Haïti) rose from less than 50 000 individuals in 1700-1710 (including 56% of slaves, 3% of coloured and mulatto free individuals and 41% of whites) to over 500 000 individuals in 1790 (including 90% of slaves, 5% of coloured and mulatto free individuals and 5% of whites). Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 11)

# Extreme Income Inequality in Historical Perspective: The Peak of Colonial and Slaveholding Societies



**Interpretation.** Over all observed societies, the share of total income received by the top 10% highest incomes varied from 23% in Sweden in 1980 to 81% in Saint-Domingue (Haïti) in 1780 (which included 90% of slaves). Colonial societies such as Algeria and South Africa have in 1930-1950 among the highest inequality levels ever observed in history, with about 70% of total income received by the top decile, which includes approximately the European population. Sources and series: voir [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 12)

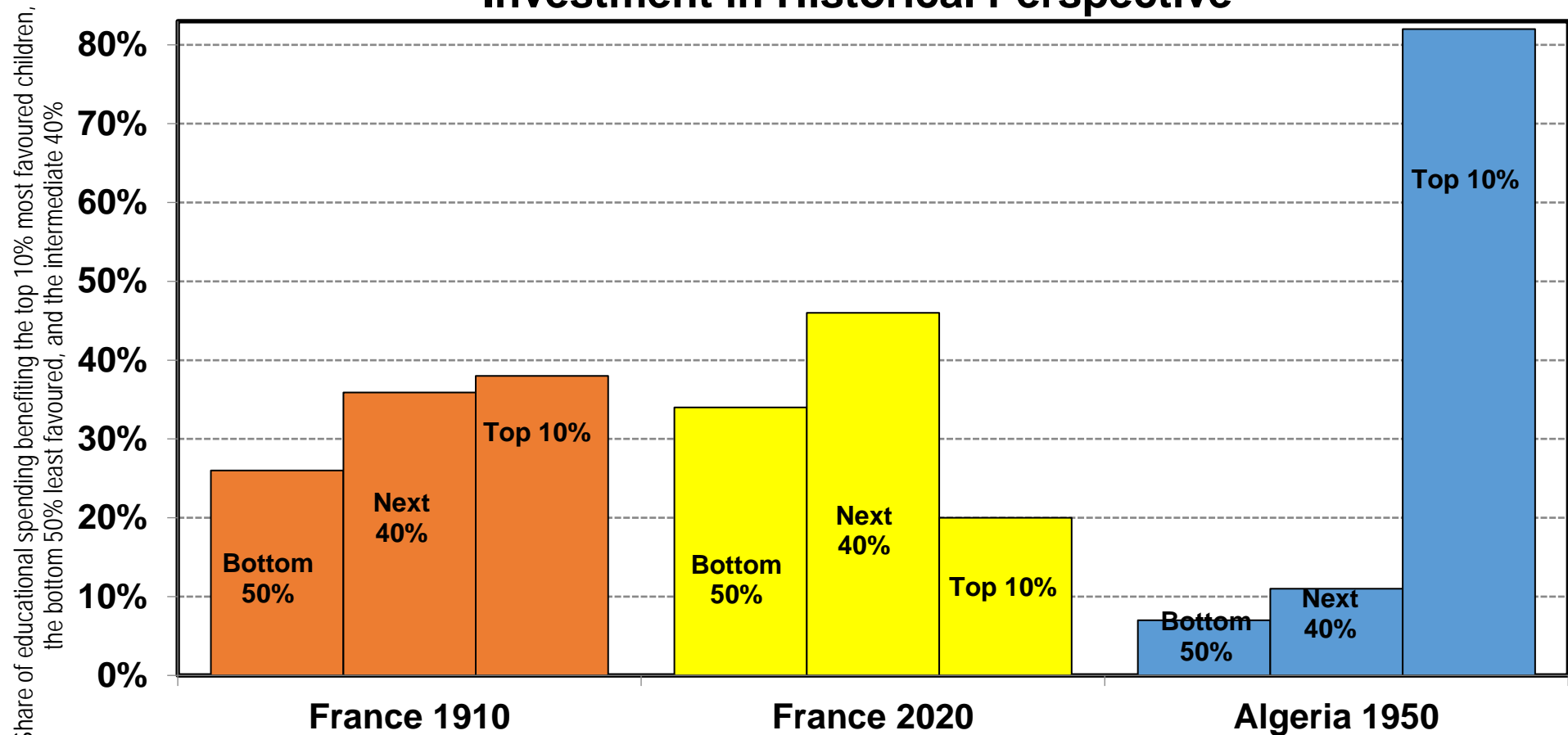
## The Distribution of Income in Metropolitan France and Its Colonies



**Interpretation.** The share of the top 10% highest incomes in total income exceeded 80% in Saint-Domingue (Haïti) in 1780 (then made of about 90% slaves and less than 10% European settlers), vs close to 70% in colonial Algeria in 1930 (then made of about 90% local population and 10% European settlers), and about 50% in metropolitan France in 1910. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 13)

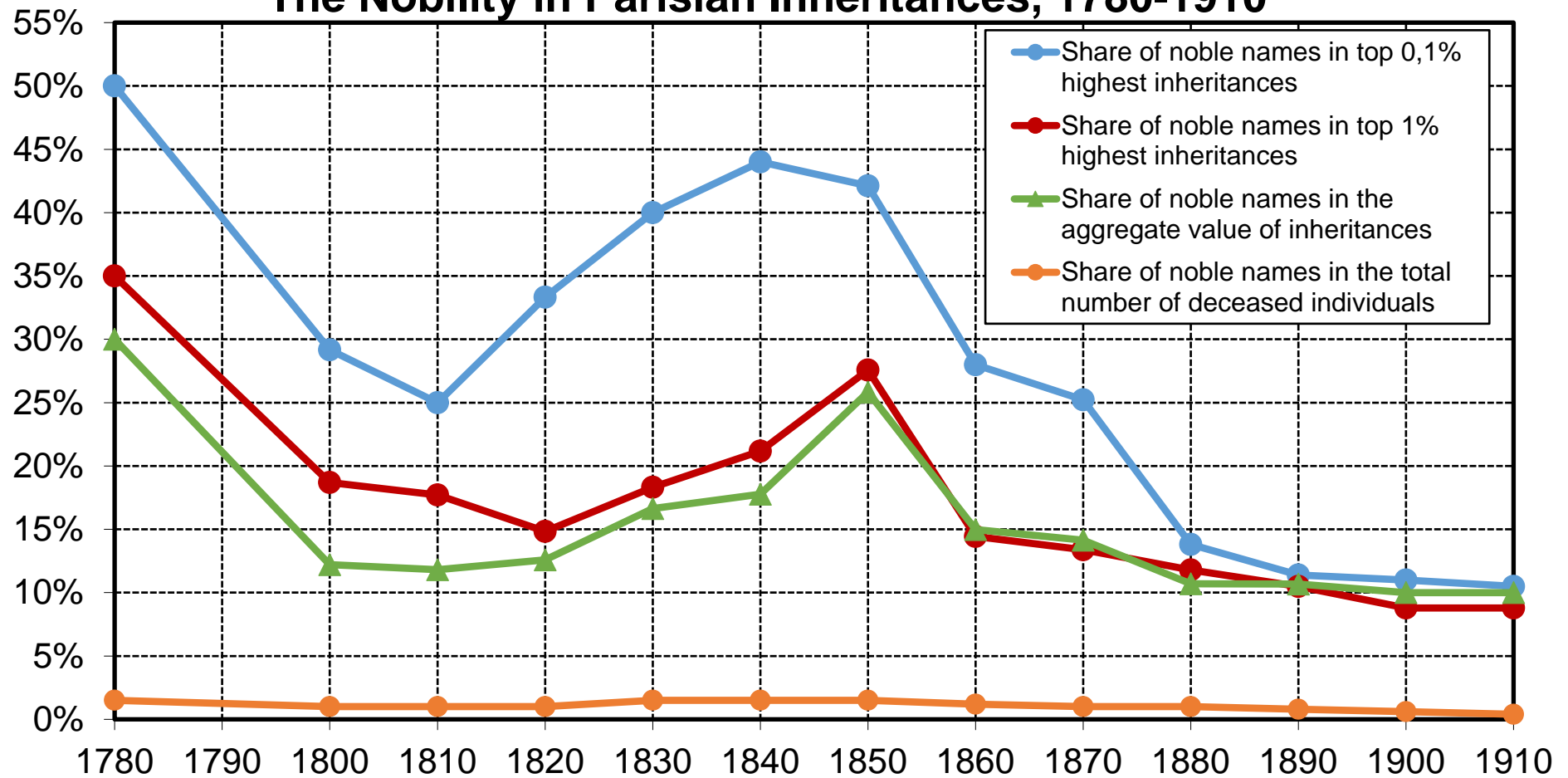


## Colonies for the Colonizers: The Inequality of Educational Investment in Historical Perspective



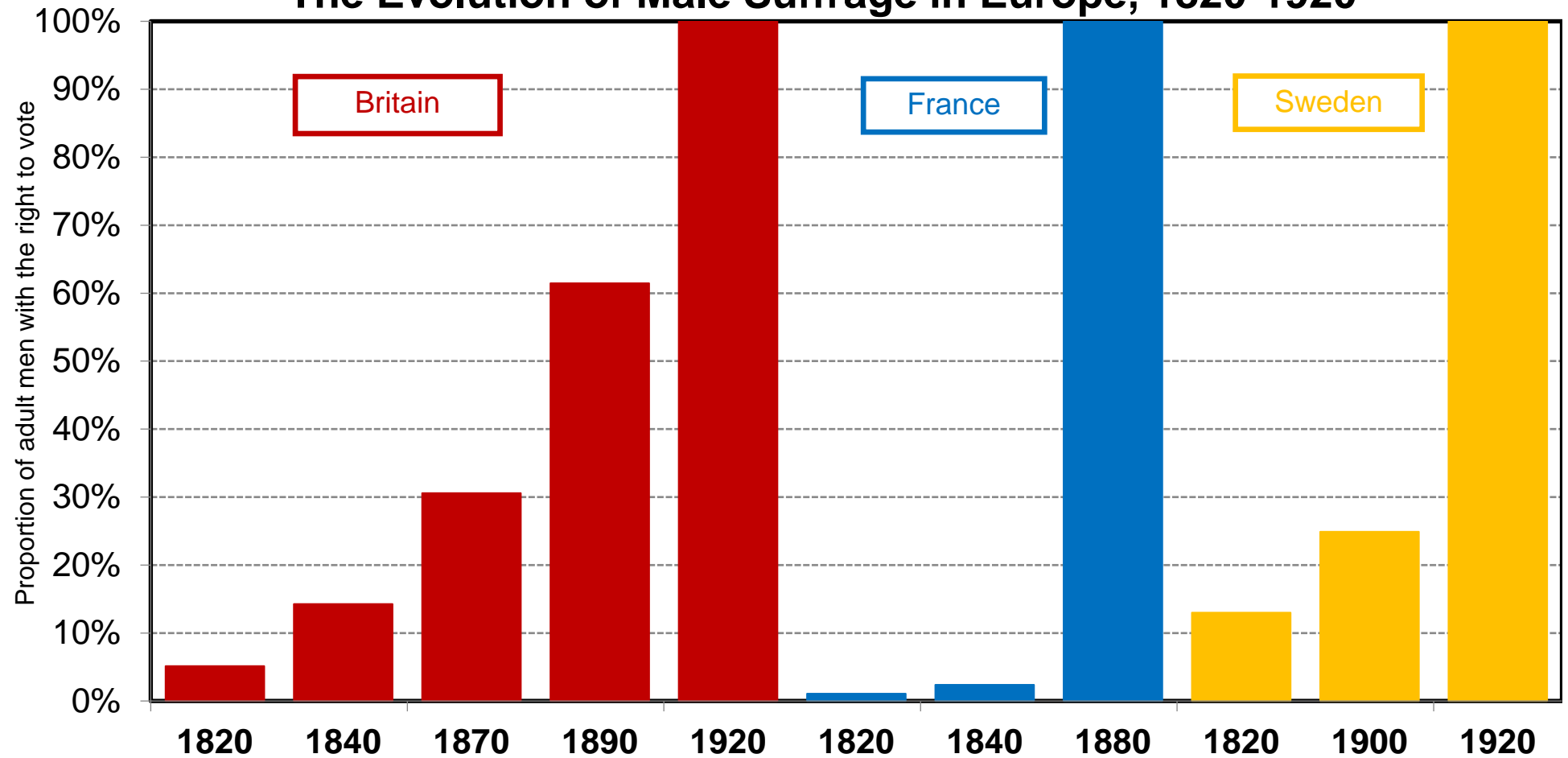
**Interpretation.** In Algeria in 1950, the 10% the most favoured (the settlers) benefited from 82% of total educational spending. By comparison, the share of total educational spending benefiting the top 10% of the population which benefited from the highest educational investment (i.e. those children which did the longest and most expensive studies) was 38% in France in 1930 and 20% in 2020 (which is still twice as much as their population share). Sources and series: voir piketty.pse.ens.fr/equality (figure 14).

## The Nobility in Parisian Inheritances, 1780-1910



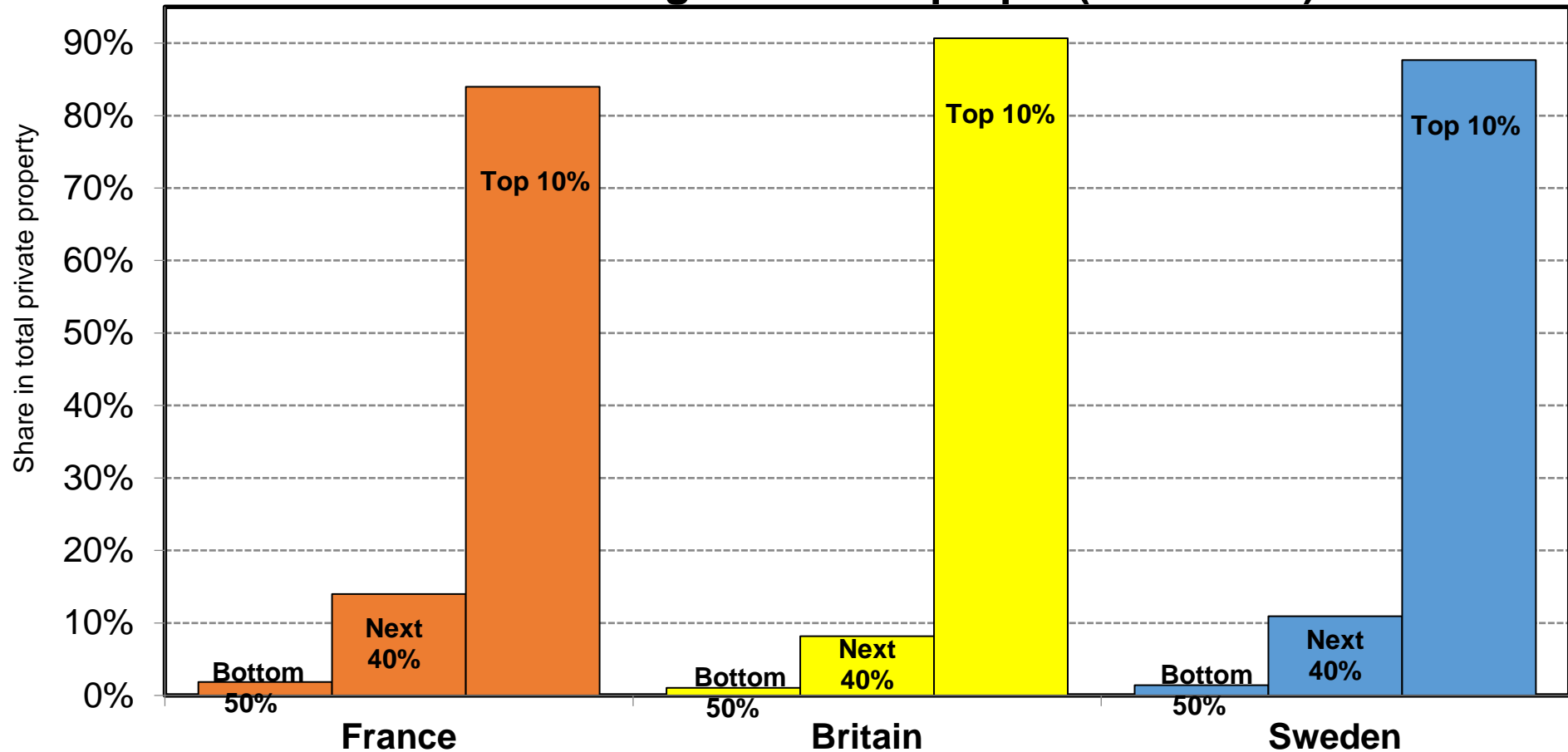
**Interpretation.** The share of noble names among the top 0,1% highest inheritances in Paris dropped from 50% to 25% between 1780 and 1810, before rising to about 40%-45% during the period of censitary monarchies (1815-1848), and finally declining to about 10% in the late 19th century and early 20th century. By comparison, noble names have always represented less than 2% of the total number of deceased individuals between 1780 and 1910. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 15)

## The Evolution of Male Suffrage in Europe, 1820-1920



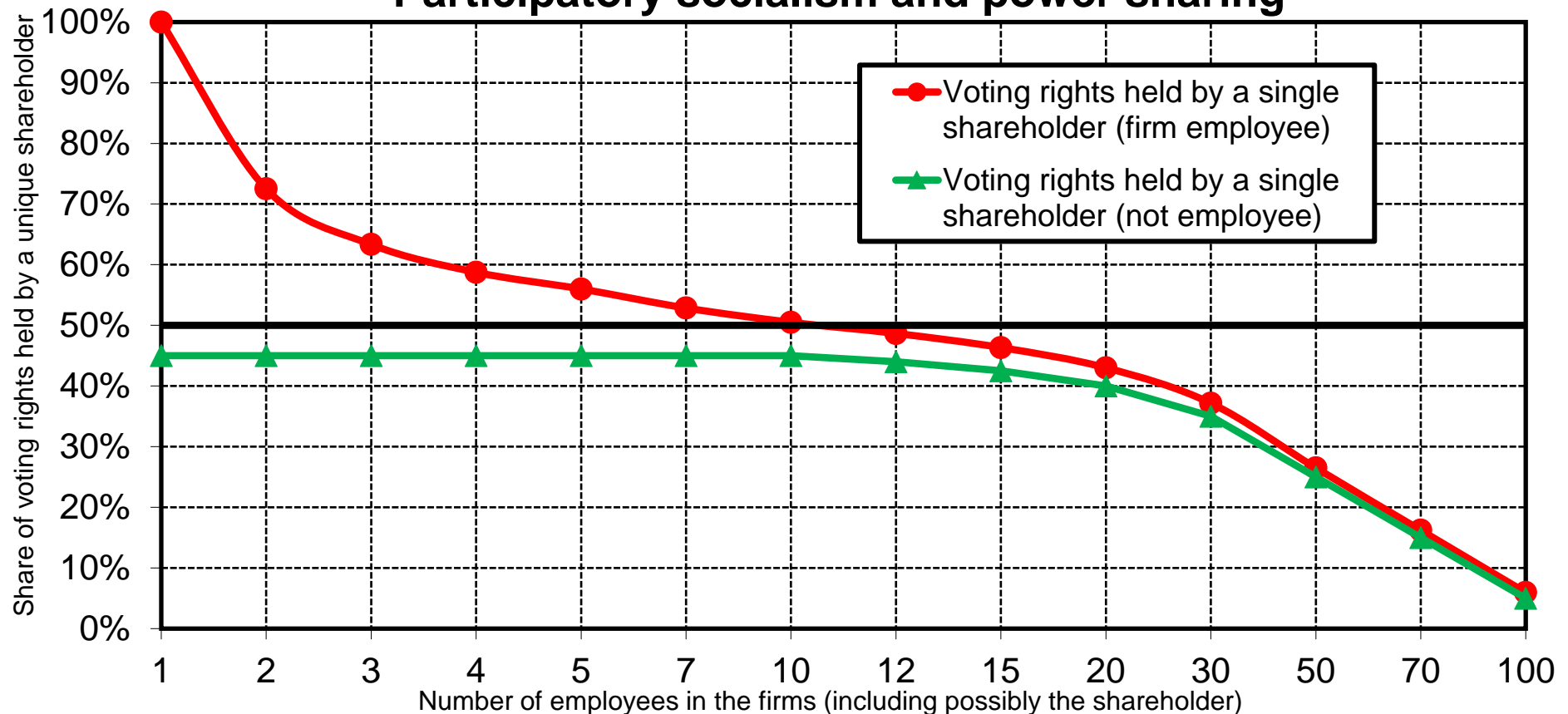
**Interpretation.** The proportion of adult men with the right to vote (taking into account the electoral franchise, i.e. the level of taxes to pay and/or of property to own in order to be granted this right) rose in Britain from 5% in 1820 to 30% in 1870 and 100% in 1920, and in France from 1% in 1820 to 100% in 1880. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 16)

## Extreme Patrimonial Inequality: Europe's Proprietarian Societies during the Belle Epoque (1880-1914)



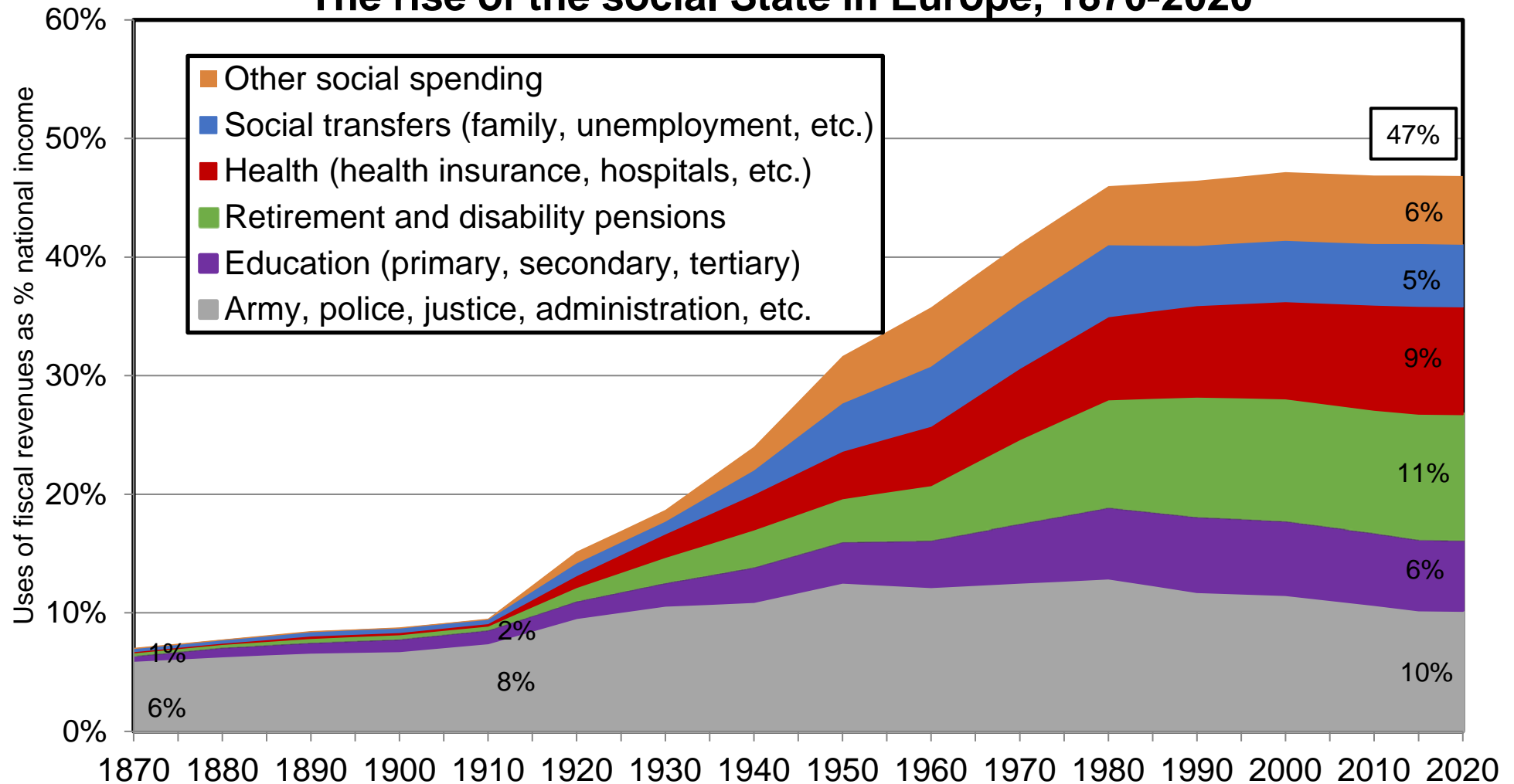
**Interpretation.** The share the richest 10% in total private property (all assets combined: real estate, business and financial assets, net of debt) was on average 84% in France between 1880 and 1914 (vs. 14% for the next 40% and 2% for the bottom 50%), 91% in Britain (vs 8% and 1%) and 88% in Sweden (vs 11% and 1%). Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 17)

## Participatory socialism and power sharing



**Reading.** In the system of participatory socialism, a single shareholder holding 100% of the firm's capital stock holds 73% of voting rights if the firm has 2 employees (including himself), 51% if the firm has 10 employees (including himself), and loses the majority beyond 10 employees (including himself). A single shareholder who is not a firm employee holds 45% of the voting rights if the firm has less than 10 employees; this share then declines linearly and reaches 5% with 100 employees. **Note:** The parameters used here are the following: (i) employees (whether or not they are also shareholders) hold 50% of voting rights; (ii) within the 50% of voting rights going to shareholders, no single shareholder can hold more than 90% of them (i.e. 45% of voting rights) in a firm with less than 10 employees; this fraction declines linearly to 10% (i.e. 5% of voting rights) in firms with more than 90 employees (shareholder voting rights that are not allocated are reallocated to employees). **Sources and series:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 18)

## The rise of the social State in Europe, 1870-2020



**Interpretation.** In 2020, fiscal revenues represented 47% of national income on average in Western Europe et were used as follows: 10% of national income for regalian expenditure (army, police, justice, general administration, basic infrastructure: roads, etc.); 6% for education; 11% for pensions; 9% for health; 5% for social transfers (other than pensions); 6% for other social spending (housing, etc.). Before 1914, regalian expenditure absorbed almost all fiscal revenues.

**Note.** The evolution depicted here is the average of Germany, France, Britain and Sweden. **Sources and séries:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 19)

## Progressive Tax Proposals in 18th century France

### Graslin : progressive tax on income

(*Essai analytique sur la richesse et l'impôt*, 1767)

Multiple of average income	Effective tax rate
0,5	5%
20	15%
200	50%
1300	75%

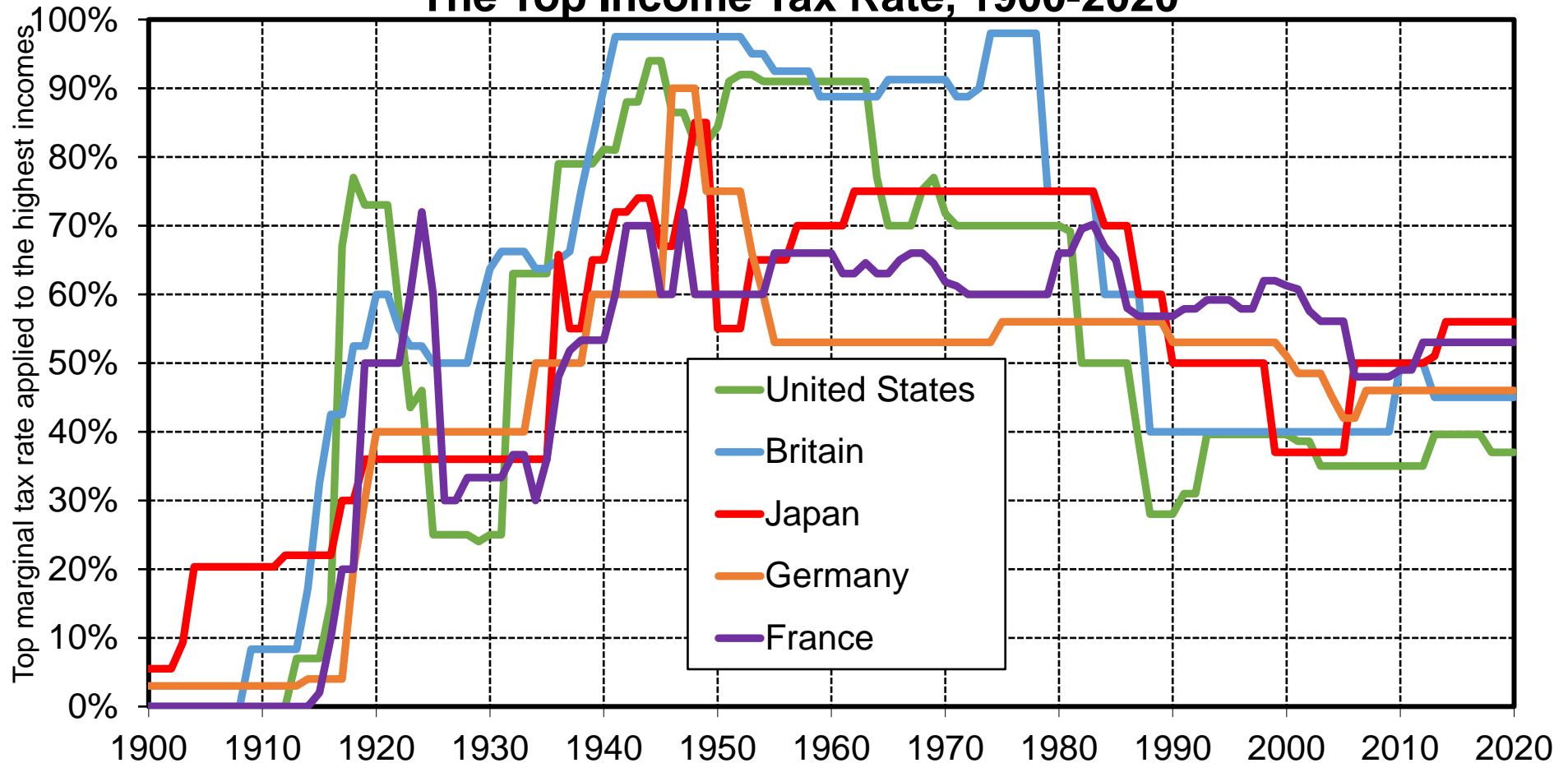
### Lacoste : progressive tax on inheritance

(*Du droit national d'hérédité*, 1792)

Multiple of average wealth	Effective tax rate
0,3	6%
8	14%
500	40%
1500	67%

**Interpretation.** In the progressive income tax project presented by Graslin in 1767, the effective tax rate rose gradually from 5% for an annual income of 150 livres tournois (about half of average per adult income at the time) to 75% for an annual income of 400000 livres (about 1300 times average income). One observes a comparable progressivity with the progressive inheritance tax project presented by Lacoste in 1792. **Sources:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (table 1)

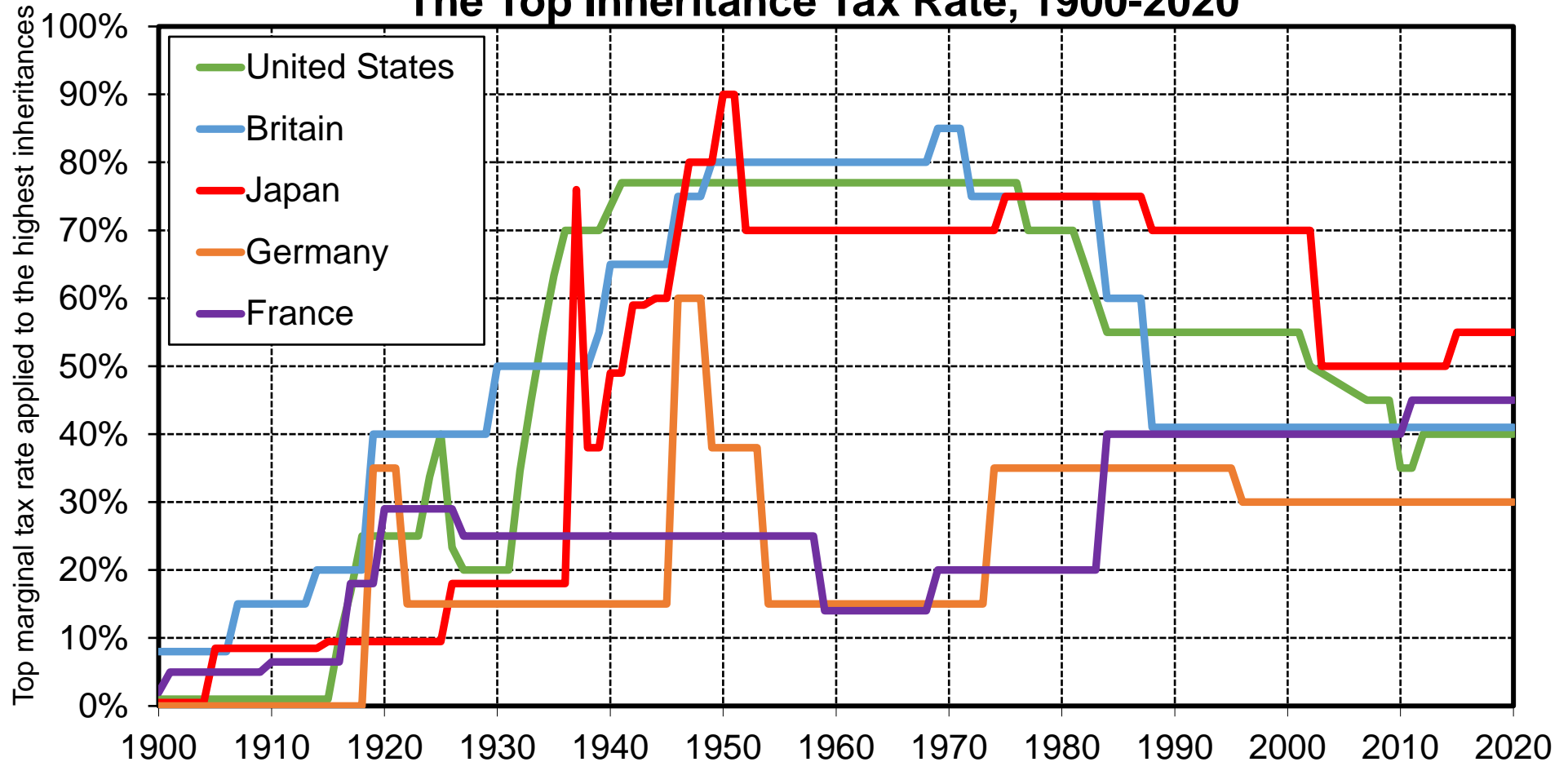
## The Invention of Progressive Taxation: The Top Income Tax Rate, 1900-2020



**Interpretation.** The marginal income tax rate applied to the highest incomes was on average 23% in the U.S. from 1900 to 1932, 81% from 1932 to 1980 and 39% from 1980 to 2018. Over these same periods, the top rate was equal to 30%, 89% and 46% in Britain, 26%, 68% and 53% in Japan, 18%, 58% and 50% in Germany, and 23%, 60% and 57% in France. Progressive taxation peaked in mid-century, especially in the U.S. and in Britain. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 20)

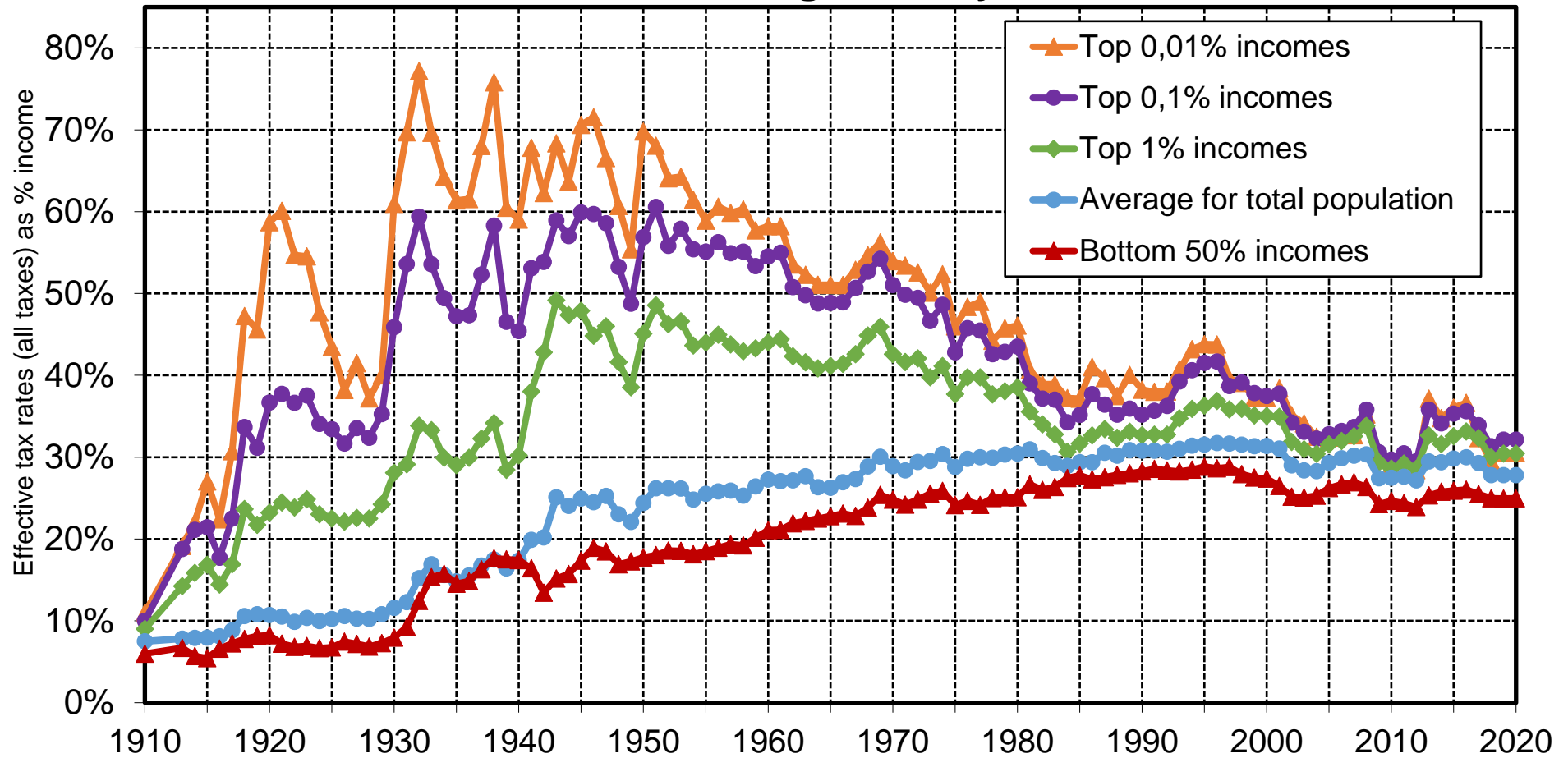


## The Invention of Progressive Taxation: The Top Inheritance Tax Rate, 1900-2020



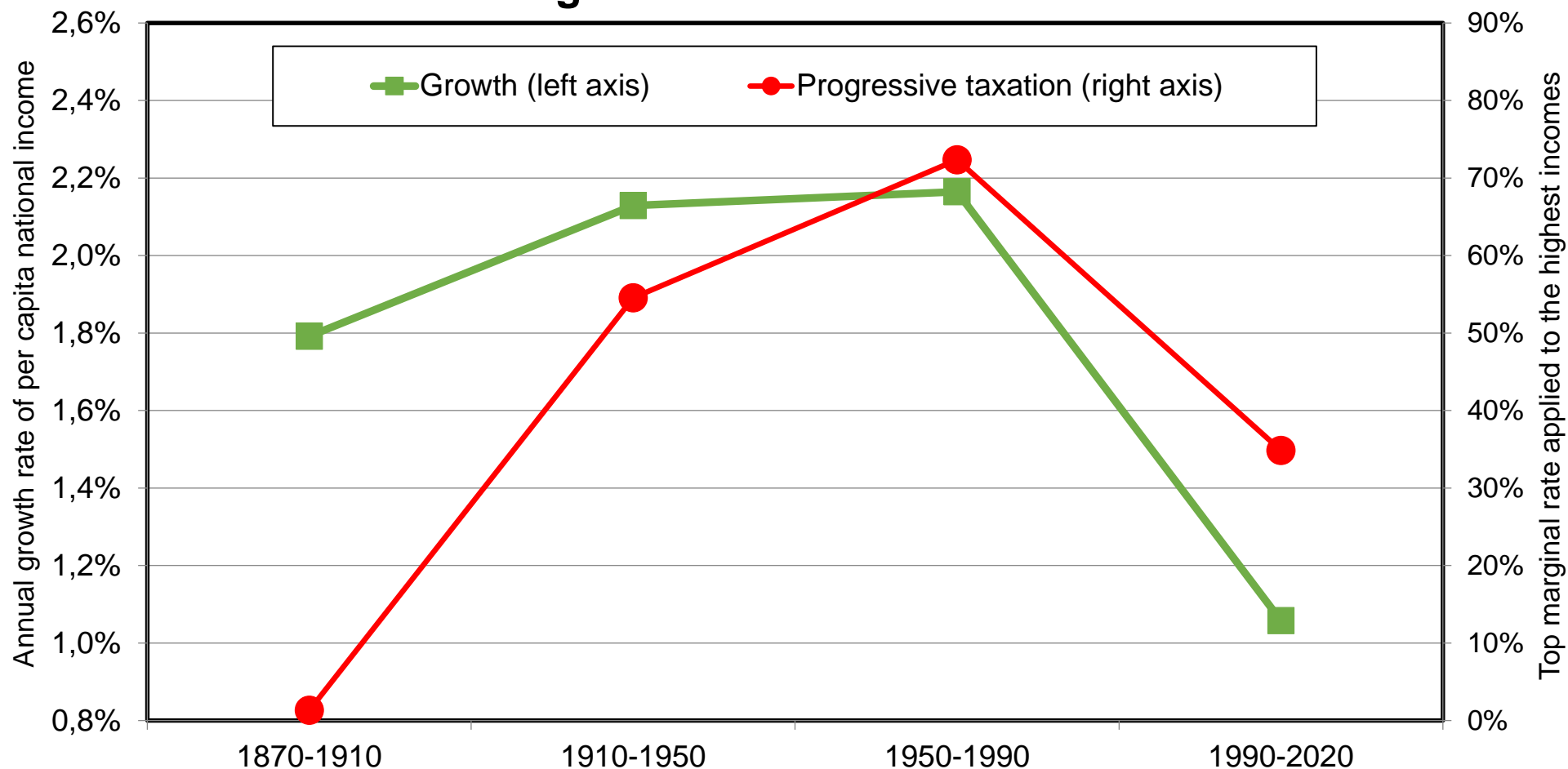
**Interpretation.** The marginal inheritance tax rate applied to the highest inheritances was on average 12% in the U.S. from 1900 to 1932, 75% from 1932 to 1980 and 50% from 1980 to 2018. Over these same periods, the top rate was equal to 25%, 72% and 46% in Britain, 9%, 64% and 63% in Japan, 8%, 23% and 32% in Germany, and 15%, 22% and 39% in France. Progressivity was maximal in mid-century, especially in the U.S. and in Britain. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 21)

## Effective Tax Rates and Progressivity in the U.S. 1910-2020



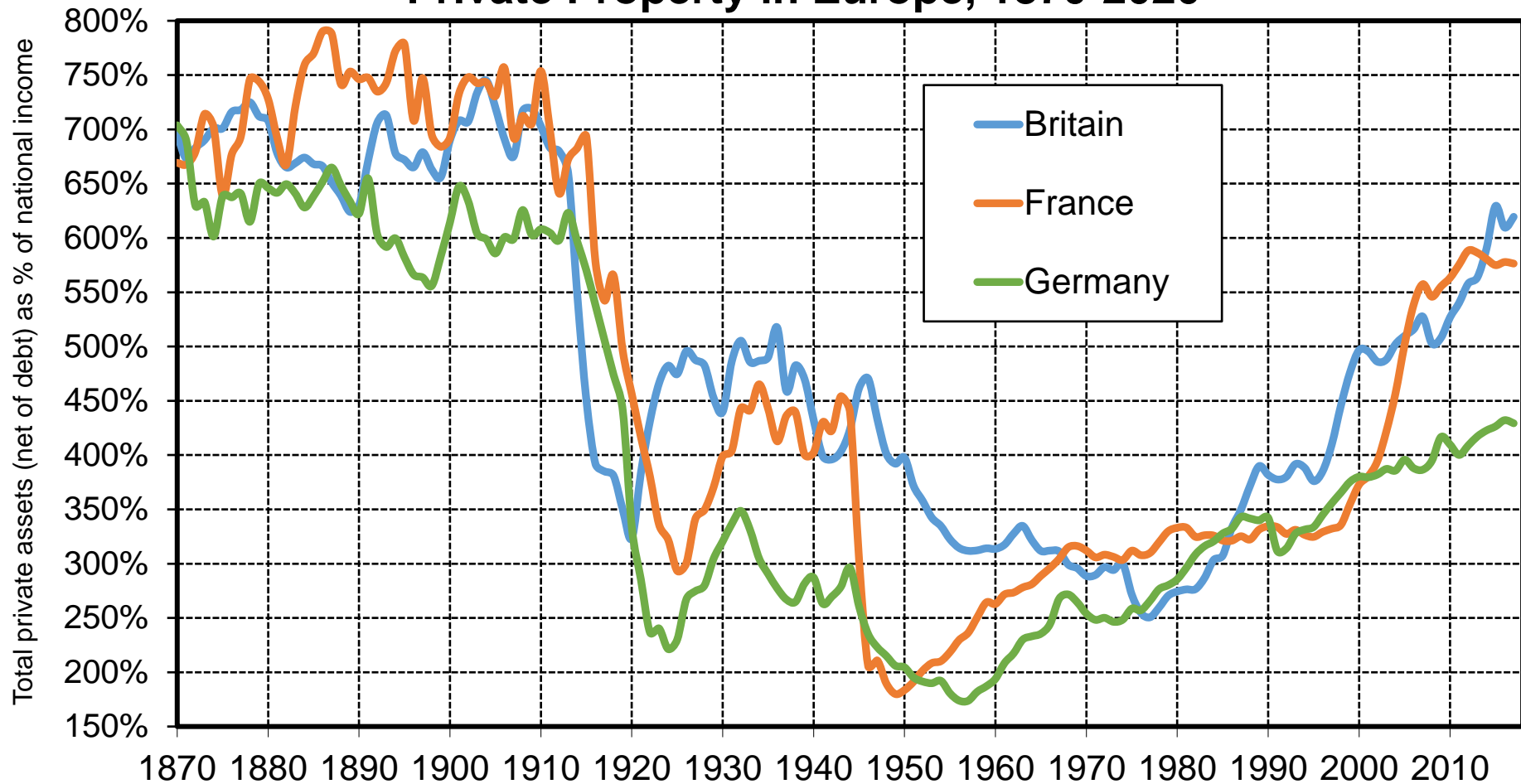
**Interpretation.** From 1915 to 1980, the tax system was highly progressive in the U.S., in the sense that effective tax rates paid by the highest income groups (all taxes included, and as % of pretax income) was significantly larger than the average effective tax rate paid by the the total population (and particularly by the bottom 50% incomes). Since 1980, the tax system has not been very progressive, with little differences in effective tax rates across groups. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 22)

## Growth and Progressive Taxation in the U.S. 1870-2020



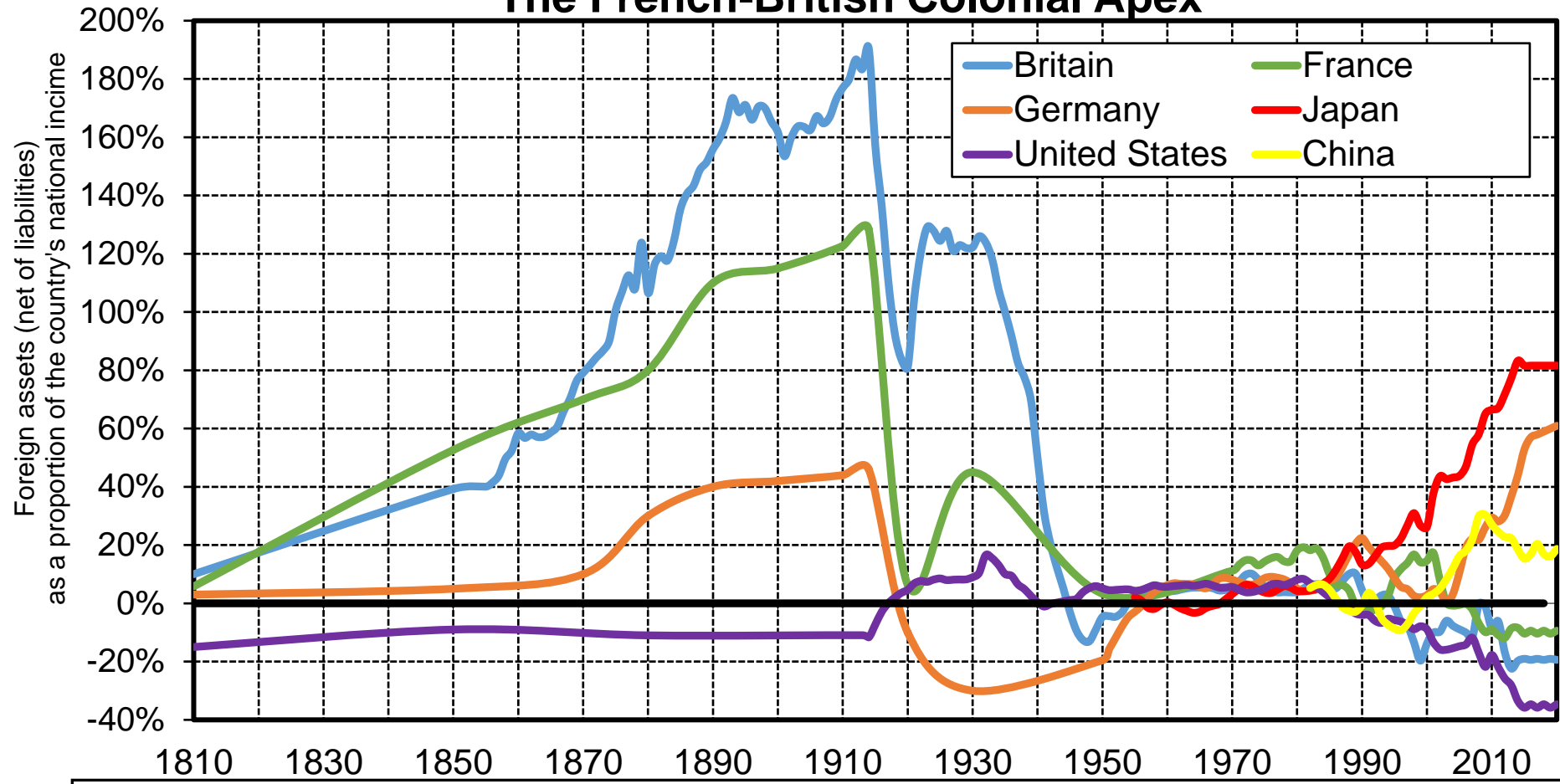
**Interpretation.** in the U.S., the growth rate of per capita national income dropped from 2,2% per year between 1950 and 1990 to 1,1% between 1990 and 2020, while the top marginal tax rate applied to the highest incomes dropped from 72% to 35% over the same period. The promised resurgence of growth following the cut in top tax rates did not occur. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 23)

## Private Property in Europe, 1870-2020



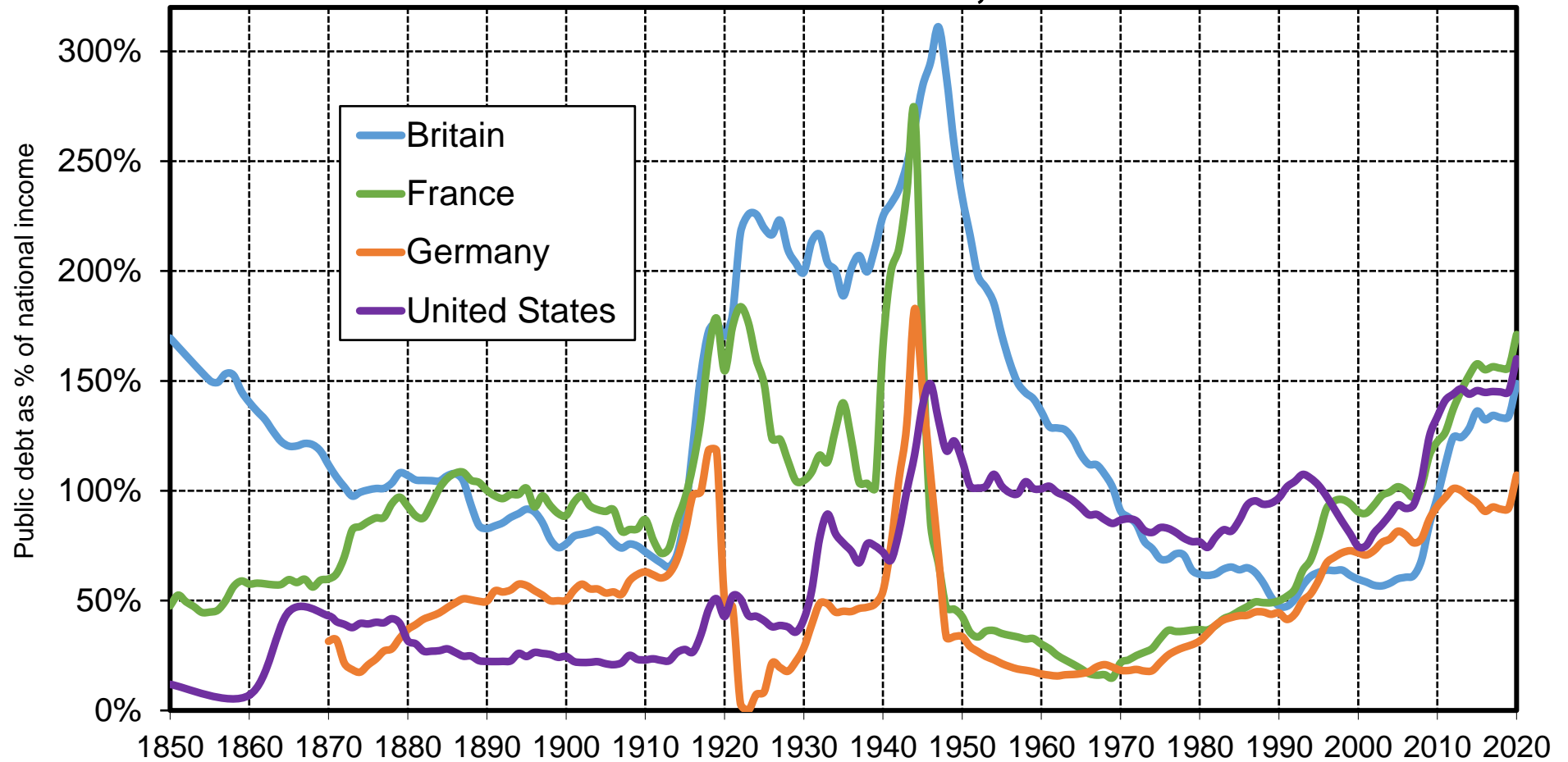
**Interpretation.** The market value of private property (all assets combined: real estate, business and financial assets, net of debt) was about 6-8 years of national income in Western Europe in 1870-1914, before falling from 1914 to 1950 and reaching about 2-3 years of national income in 1950-1970, and then rising again around 5-6 years in 2000-2020. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 24)

## Foreign Assets in Historical Perspective: The French-British Colonial Apex



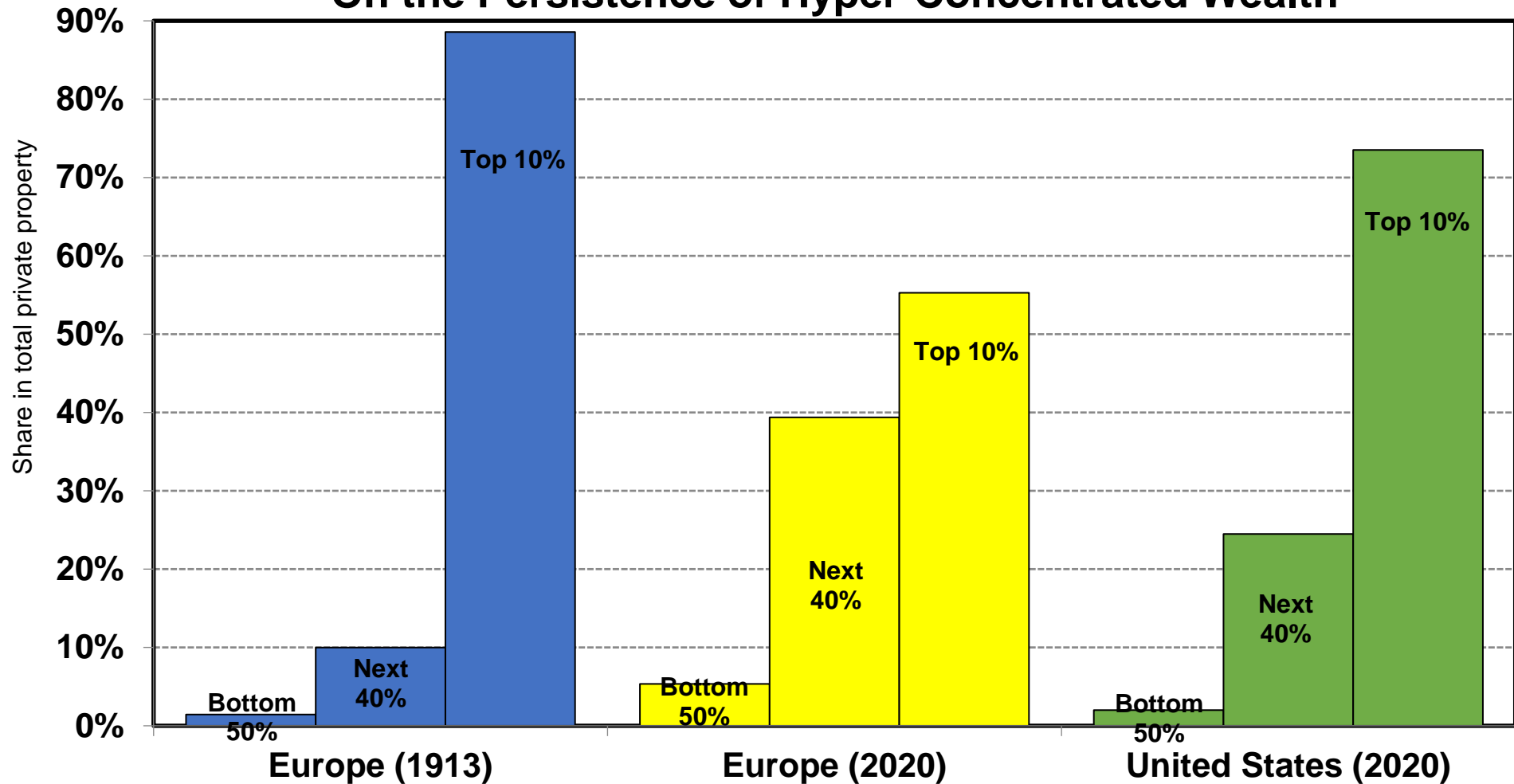
**Interpretation.** Net foreign assets, i.e. the difference between assets owned abroad by resident owners (including in some cases the government) and liabilities (i.e. assets owned in the country by foreign owners), amounted in 1914 to 191% of national income in Britain and 125% in France. In 2020, net foreign assets reach 82% of national income in Japan, 61% in Germany and 19% in China. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 25)

## Fluctuations in Public Debt, 1850-2020



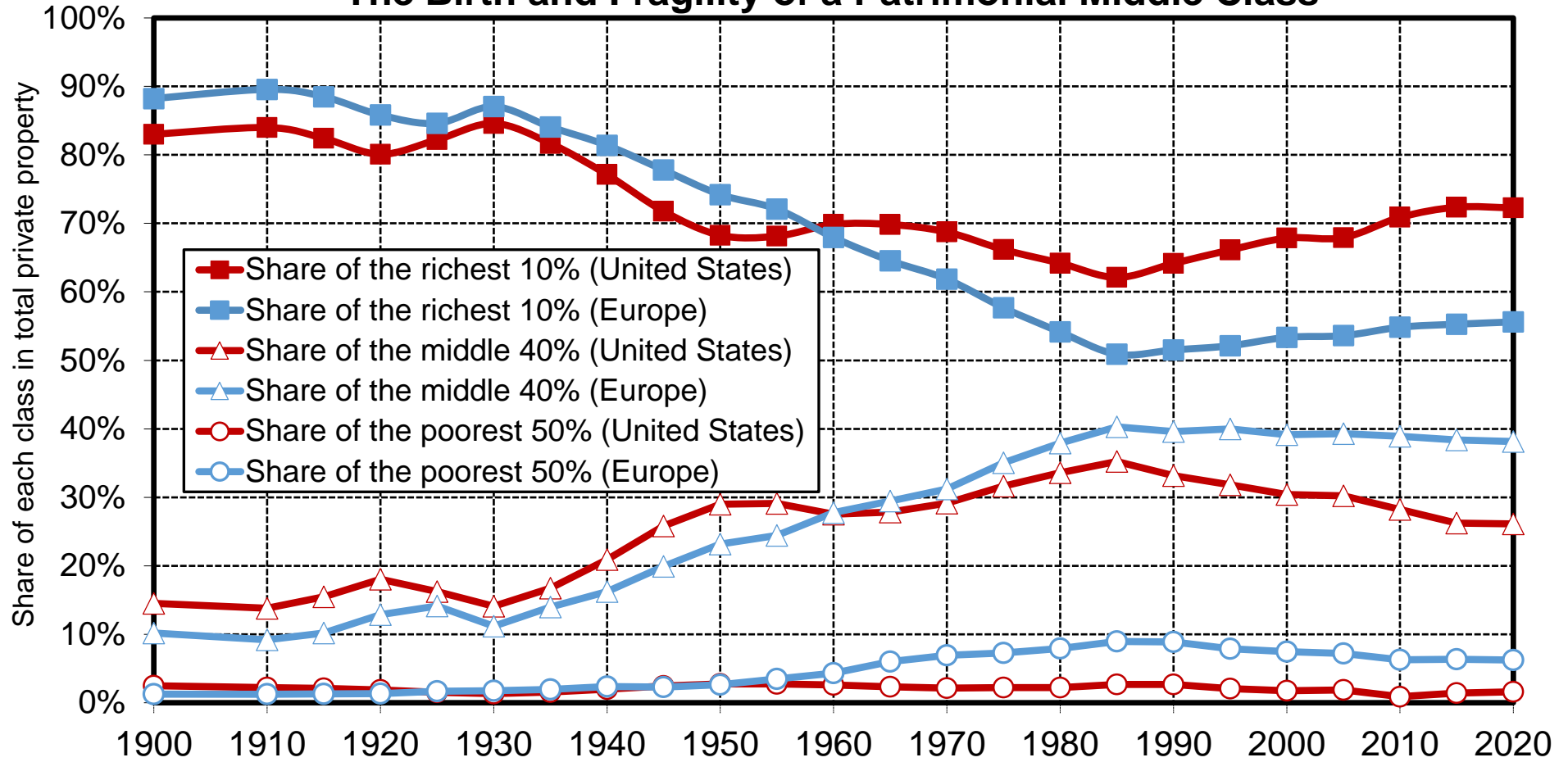
**Interpretation.** Public debt rose strongly after each world war and reached between 1500% and 300% of national income in 1945-1950, before falling sharply in Germany and France (debt cancellations, high inflation) and more gradually in Britain and the U.S. (moderate inflation, growth). Public debt rose again very sharply following the financial crisis and pandemic of 2008 and 2020. Note: we did not include the German debt set by the Versailles treaty (1919), over 300% of national income, the reimbursement of which never really started. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 26)

## On the Persistence of Hyper-Concentrated Wealth



**Reading.** The share of the richest 10% in total private property was 89% in Europe (average of Britain, France and Sweden) in 1913 (compared with 1% for the bottom 50%), 55% in Europe in 2020 (compared to 5% for the bottom 50%) and 74% in the United States in 2020 (compared to 2% for the bottom 50%). Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 27)

## Property in Europe and the United States, 1900-2020: The Birth and Fragility of a Patrimonial Middle Class

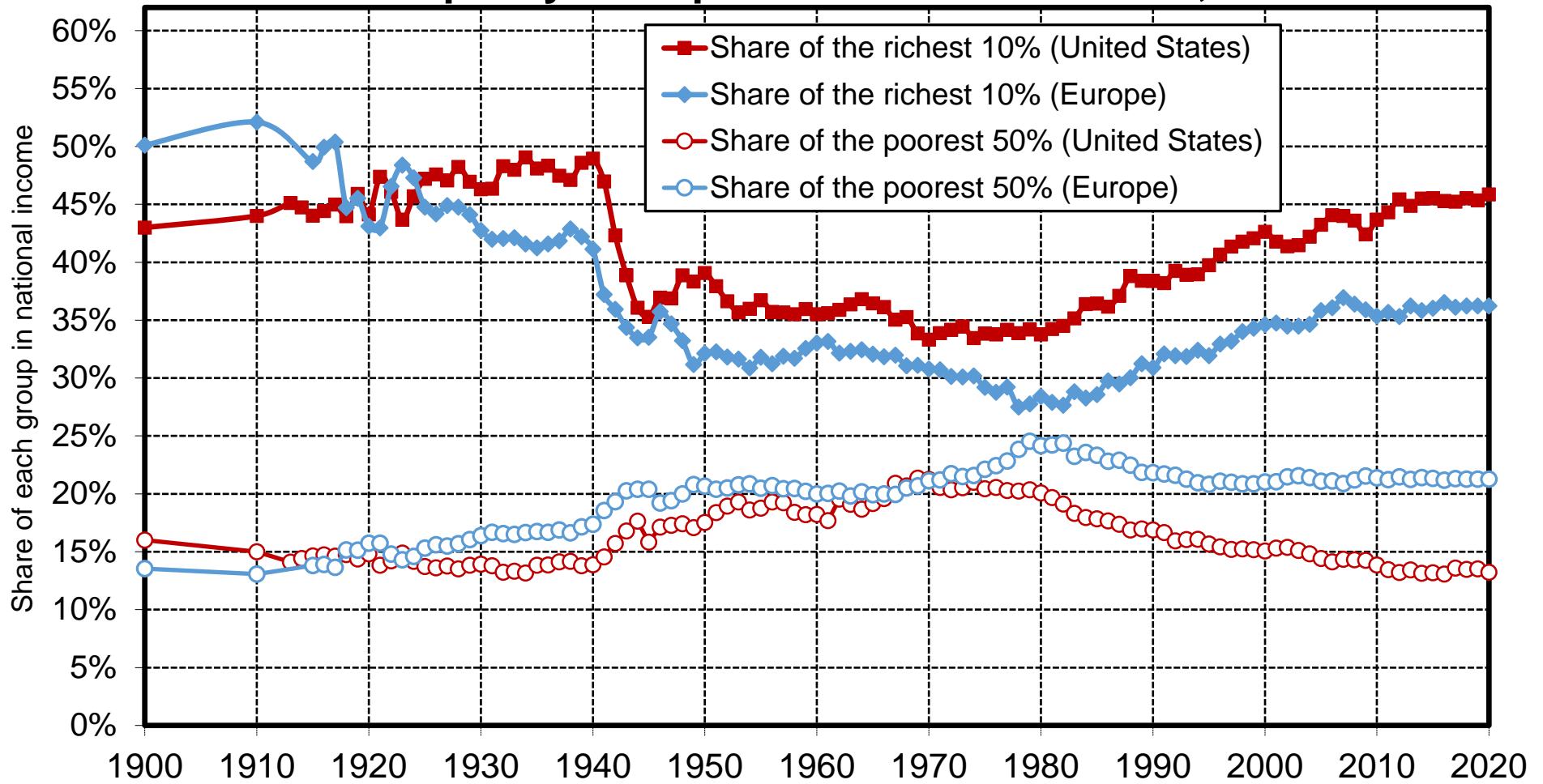


**Interpretation.** In Europe as in the United States, we see between 1914 and 1980 a steep decline in the share of the richest 10% in total private property (real estate, business and financial assets, net of debt), to the benefit principally of the middle 40%. This movement is partially reversed between 1980 and 2020, notably in the United States.

**Note.** "Europe" is an average of France, Germany, Sweden and Britain. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 28)



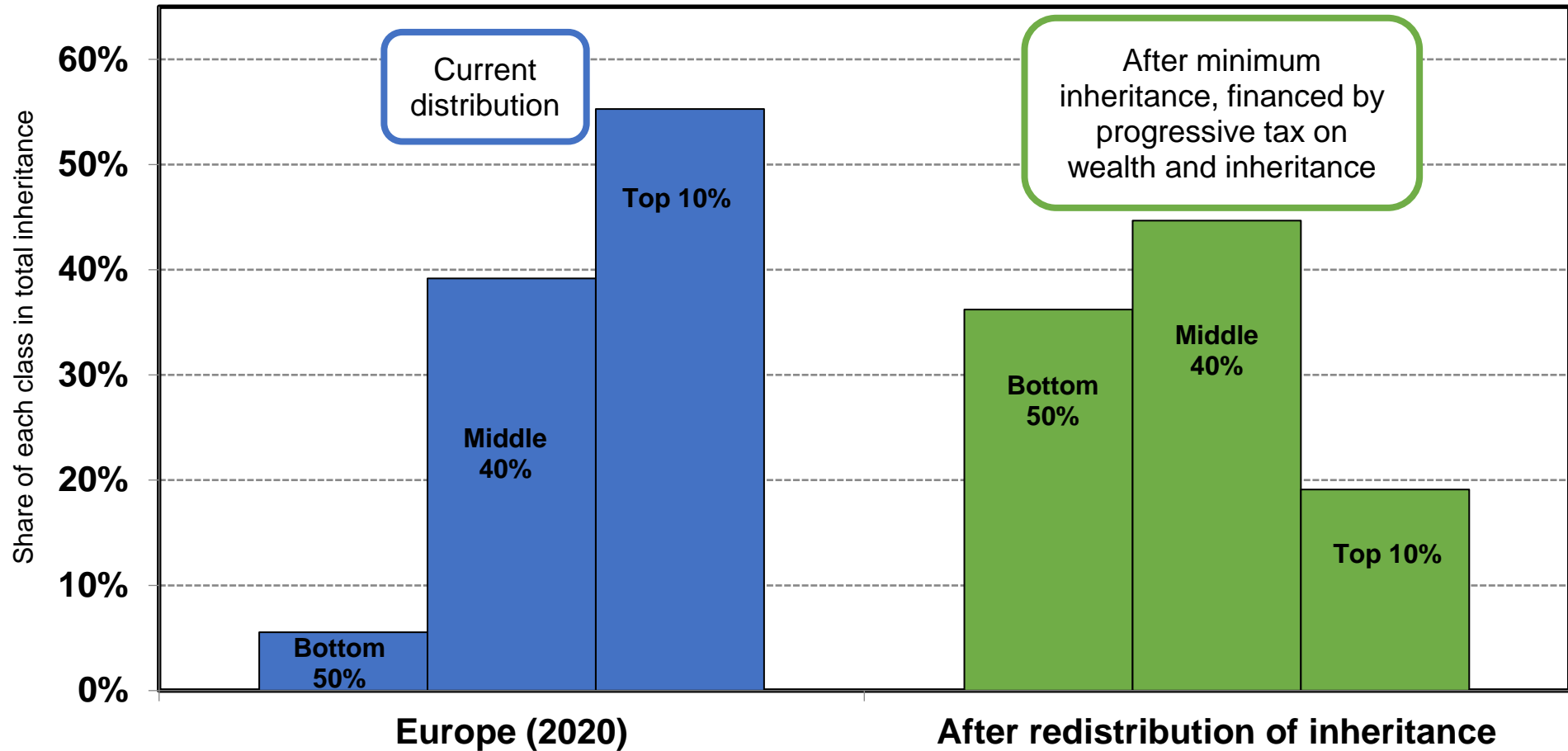
## Income Inequality: Europe and the United States, 1900-2020



**Interpretation.** In Europe, income inequality has started to rise again since 1980, although remaining at levels clearly lower than those of 19001-1910. The increase in inequality has been much greater in the United States. In both cases, inequality has remained high: the richest 10%, though five times fewer, still receive a share of total income much larger than the poorest 50% receive.

**Note:** "Europe" is an average of France, Germany, Sweden and the United Kingdom. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 29)

# The Redistribution of Inheritance



**Interpretation.** The share of the poorest 50% in total inheritance is 6% in Europe in 2020, vs 39% for the next 40% and 55% for the richest 10%. After implementation of inheritance for all (minimum inheritance equal to 60% of average wealth, allocated at 25-year-old), financed by a progressive tax on wealth and inheritance, this share would be equal to 36% (vs 45% and 19%).

**Note:** Europe: average Britain-France-Sweden. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 30)

## The Circulation of Property and Progressive Taxation

### Progressive tax on property (funding of the capital endowment allocated to each young adult)

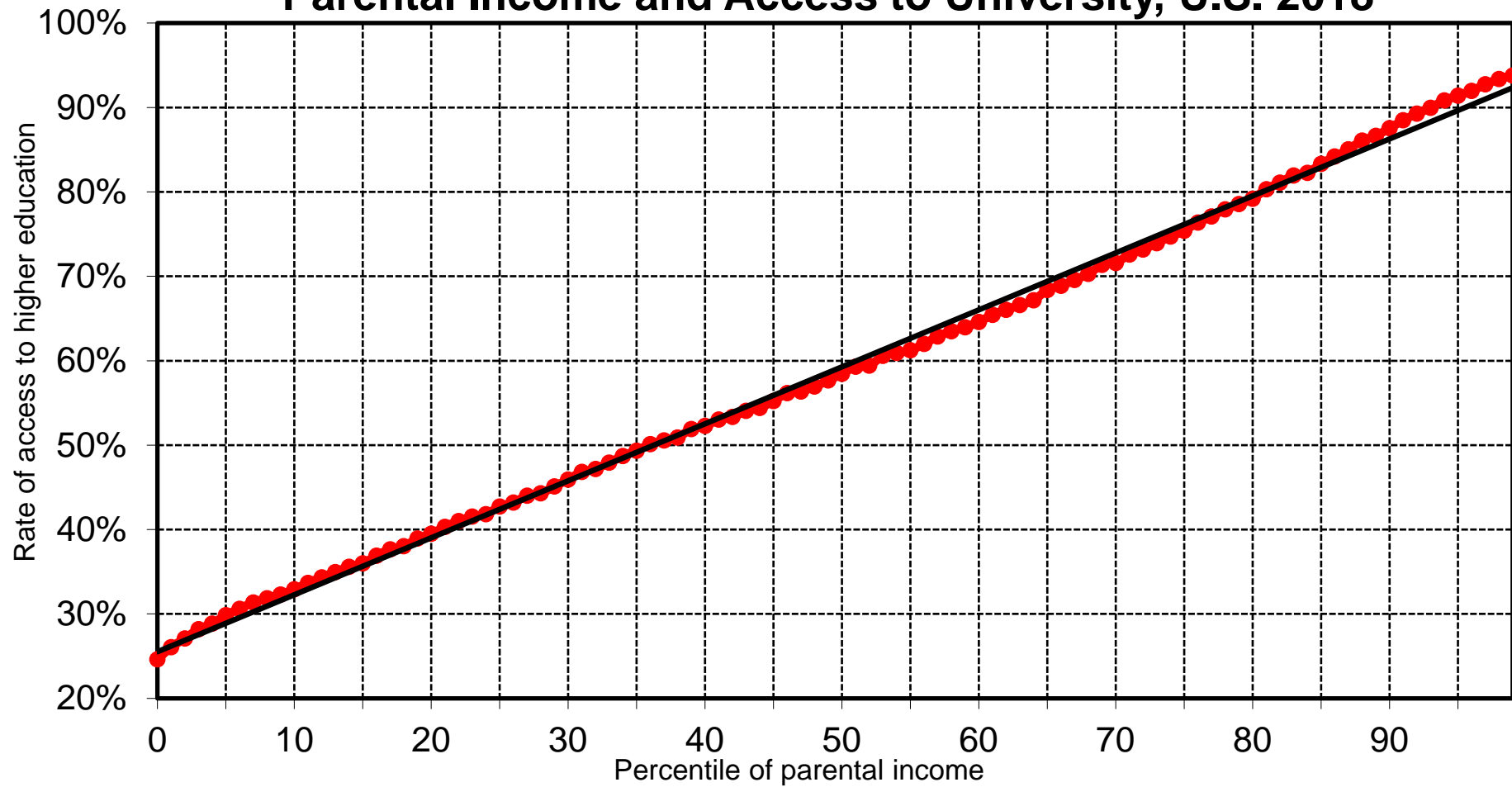
Multiple of average wealth	Annual tax on property (effective tax rate)	Tax on inheritances (effective tax rate)
0,5	0,1%	5%
2	1%	20%
5	2%	50%
10	5%	60%
100	10%	70%
1000	60%	80%
10000	90%	90%

### Progressive tax on income (funding of basic income and social and ecological State)

Multiple of average income	Effective tax rate (including social contributions and carbon tax)
0,5	10%
2	40%
5	50%
10	60%
100	70%
1000	80%
10000	90%

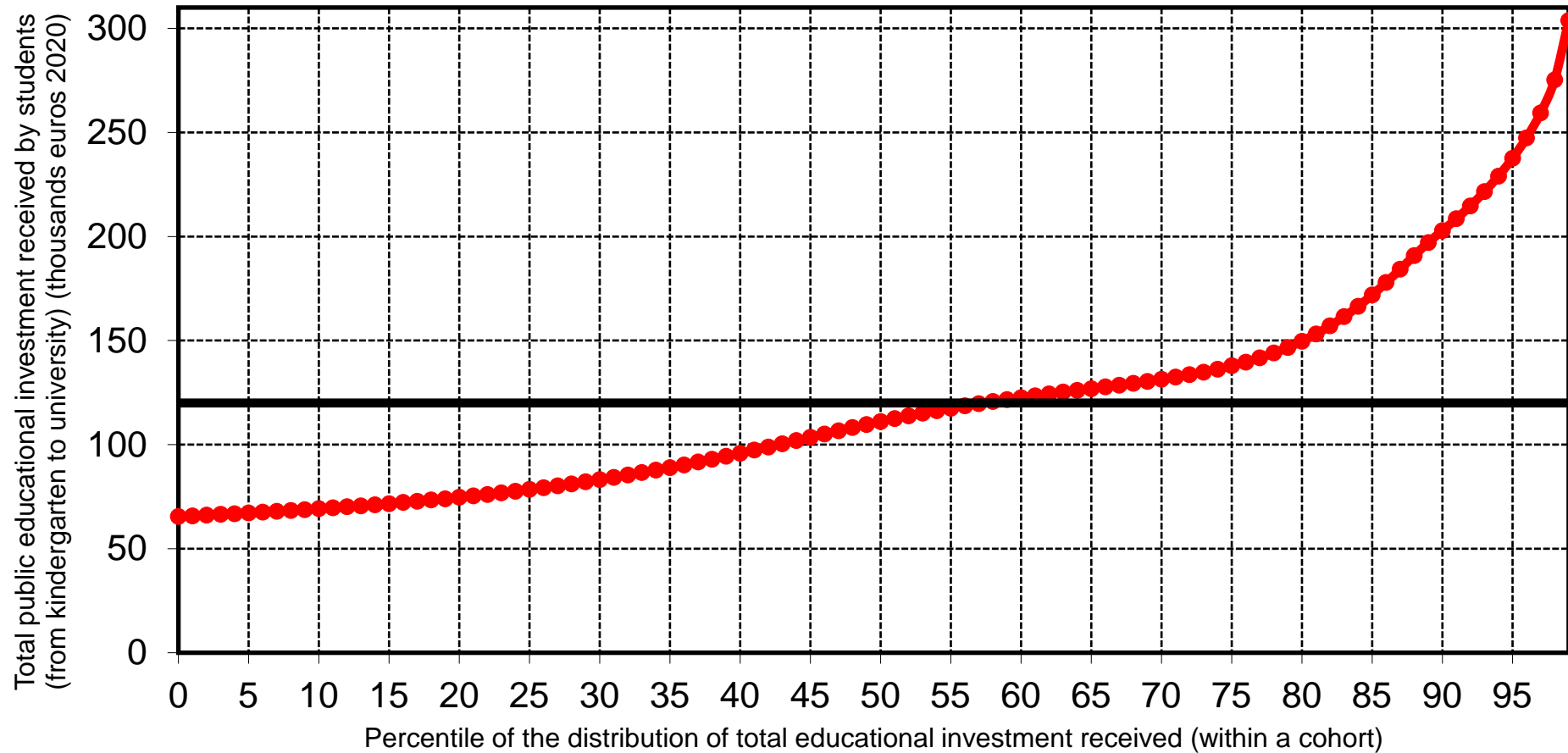
**Interpretation.** The proposed tax system includes a progressive tax on property (annual tax and inheritance tax) funding a capital endowment for all young adults and a progressive tax on income (including social contributions and progressive tax on carbon emissions) funding the basic income and the social and ecological State (health, education, pensions, unemployment, energy, etc.). This system favouring the circulation of property is one of the constituting elements of participatory socialism, together with a 50-50 split of voting rights among workers representatives and shareholders in corporations. Note: in the exemple given here, the progressive property tax raises about 5% of national income (allowing to fund a capital endowment of about 60% of average net wealth, to be allocated to each young adult at 25-year of age) and the progressive income tax about 45% of national income (allowing to fund an annual basic income of about 60% of after-tax income, costing about 5% of national income, and the social and ecological State for about 40% of national income). **Sources:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (table 2)

## Parental Income and Access to University, U.S. 2018



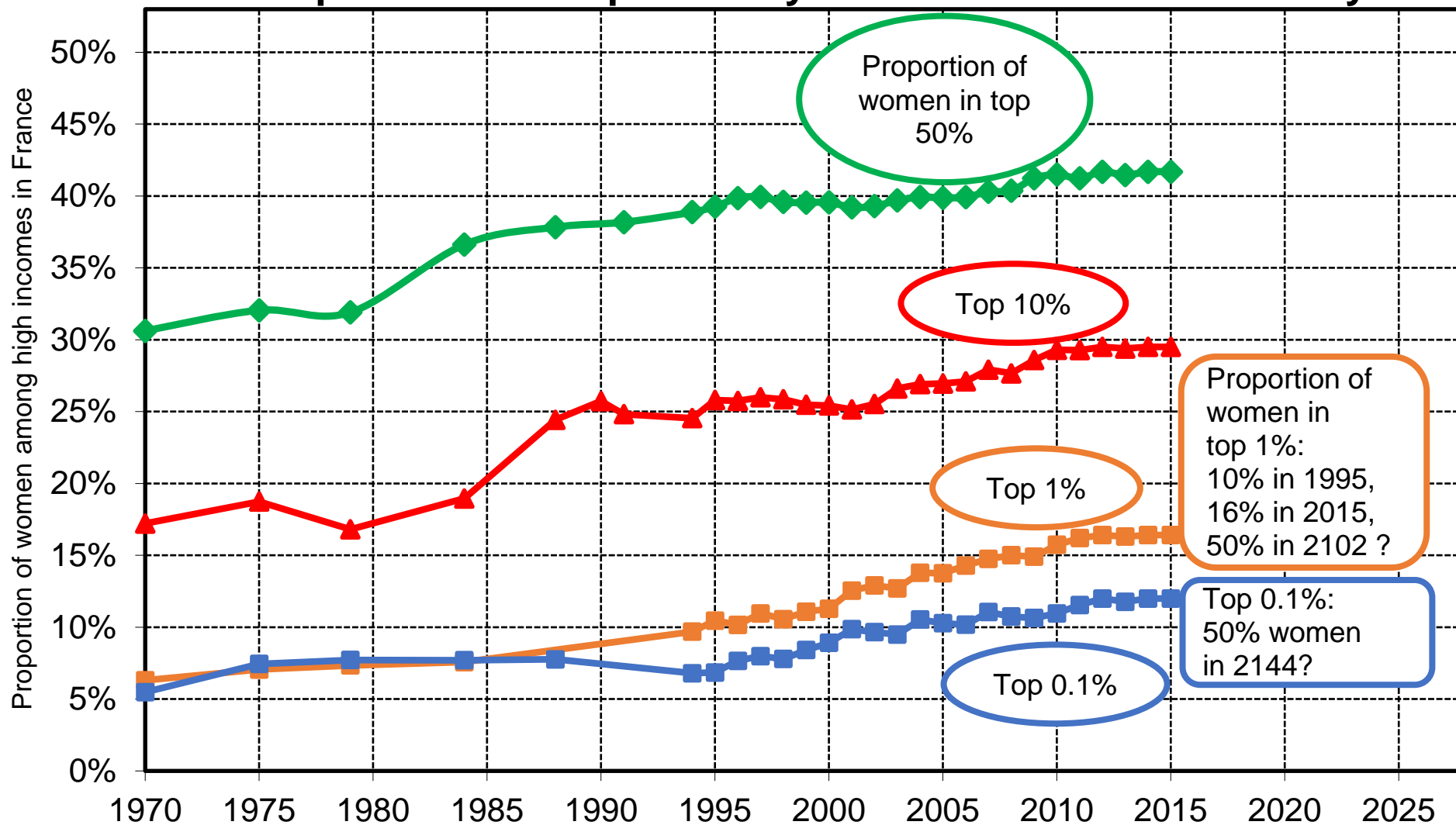
**Interpretation.** In 2018, the rate of access to higher education (percentage of individuals aged 19-21 enrolled in a university, college or any other institution of higher education) was barely 30% among the bottom 10% poorest children in the United States, and over 90% among the top 10% richest children. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 31).

## The Inequality of Educational Investment: France 2020



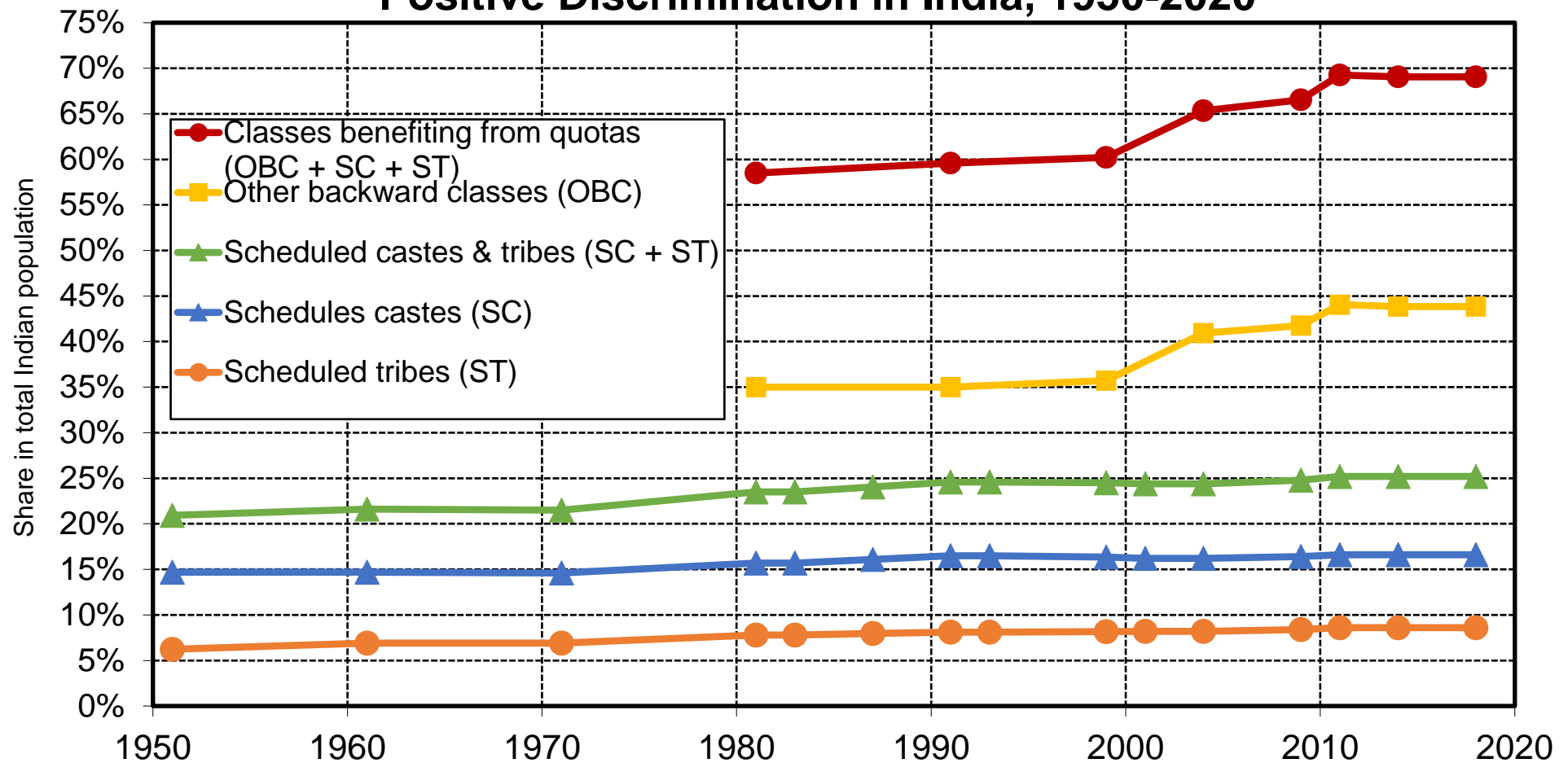
**Interpretation.** Total public educational investment received during their studies (from kindergarten to university) by the students of the cohort reaching 20-year-old in 2020 will be about 120 k€ (i.e. approximately 15 years of studies for an average cost of 8000€ per year). Within this generation, the 10% of students receiving the smallest educational investment receive about 65-70 k€, while the 10% receiving the most receive between 200 k€ and 300 k€. Note: average costs per year of study in the French educational system in 2015-2020 rank from 5-6 k€ in kindergarten-primary to 8-10 k€ in secondary, 9-10 k€ in universities and 15-16 k€ in preparatory classes to *grandes écoles* (elite tracks). **Sources and series:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 32)

## The persistence of patriarchy in France in the 21<sup>st</sup> century



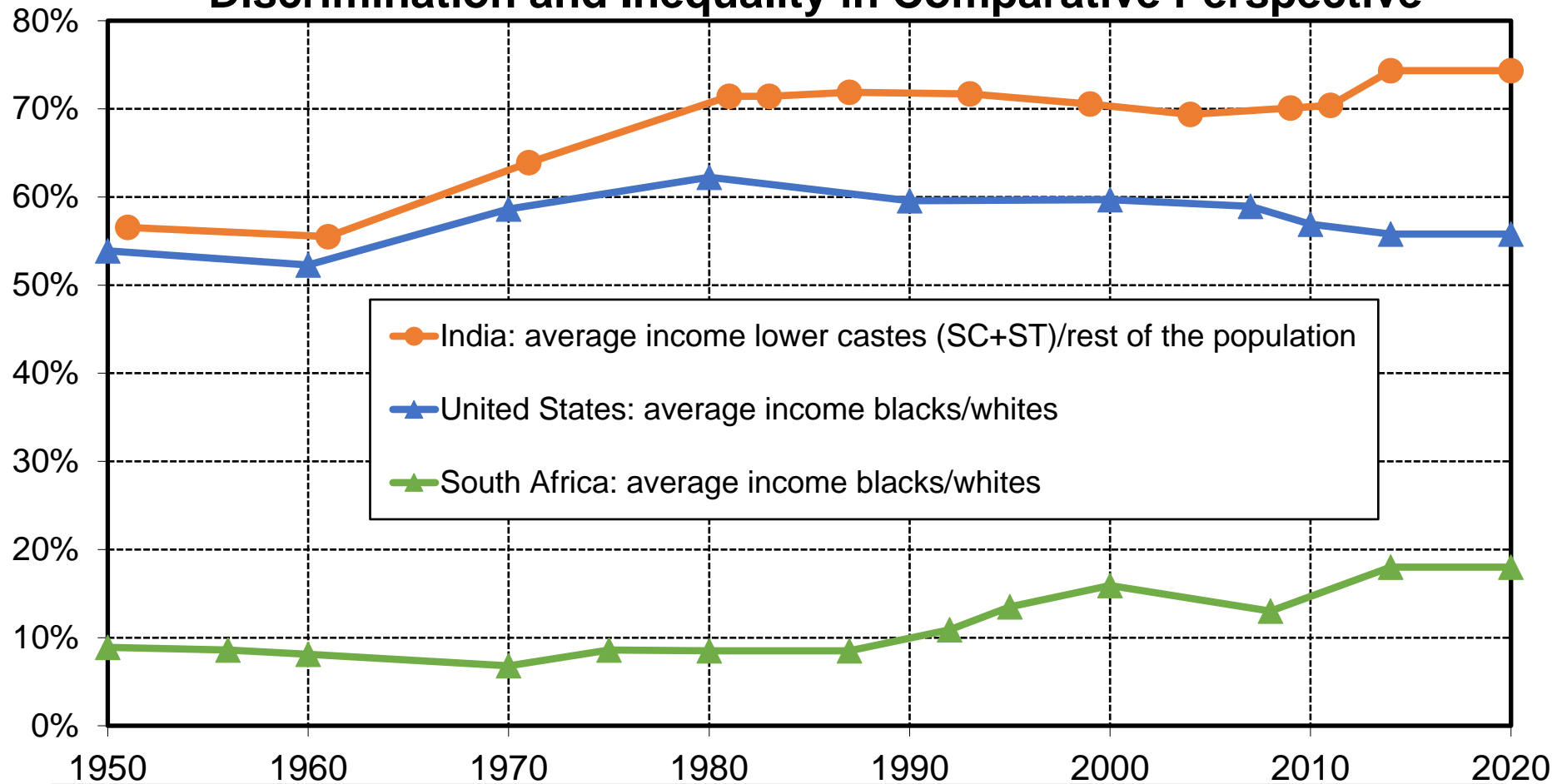
**Interpretation.** The proportion of women in the top percentile (top 1%) of the distribution of labour income (wages and self-employment income) increased from 10% in 1995 to 16% in 2015, and should reach 50% by 2102 if the trend continues at the same speed as during the 1995-2015 period. For the top 0,1%, parity could wait until 2144. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 33)

## Positive Discrimination in India, 1950-2020



**Interpretation.** The results reported here were obtained from the decennial censuses 1951-2011 and NSS surveys 1983-2018. Quotas for accessing universities and public sector jobs were enacted for "scheduled castes" (SC) and "scheduled tribes" (ST) (ancient discriminated groups of untouchables and aboriginal tribes) in 1950, before being gradually extended beginning in 1980-1990 to "other backward classes" (OBC) (ancient shudras), following the Mandal commission in 1979-1980. OBCs are registered in NSS surveys since 1999 only, so the estimates reported here for 1981 and 1991 (35% of population) are approximate. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 34)

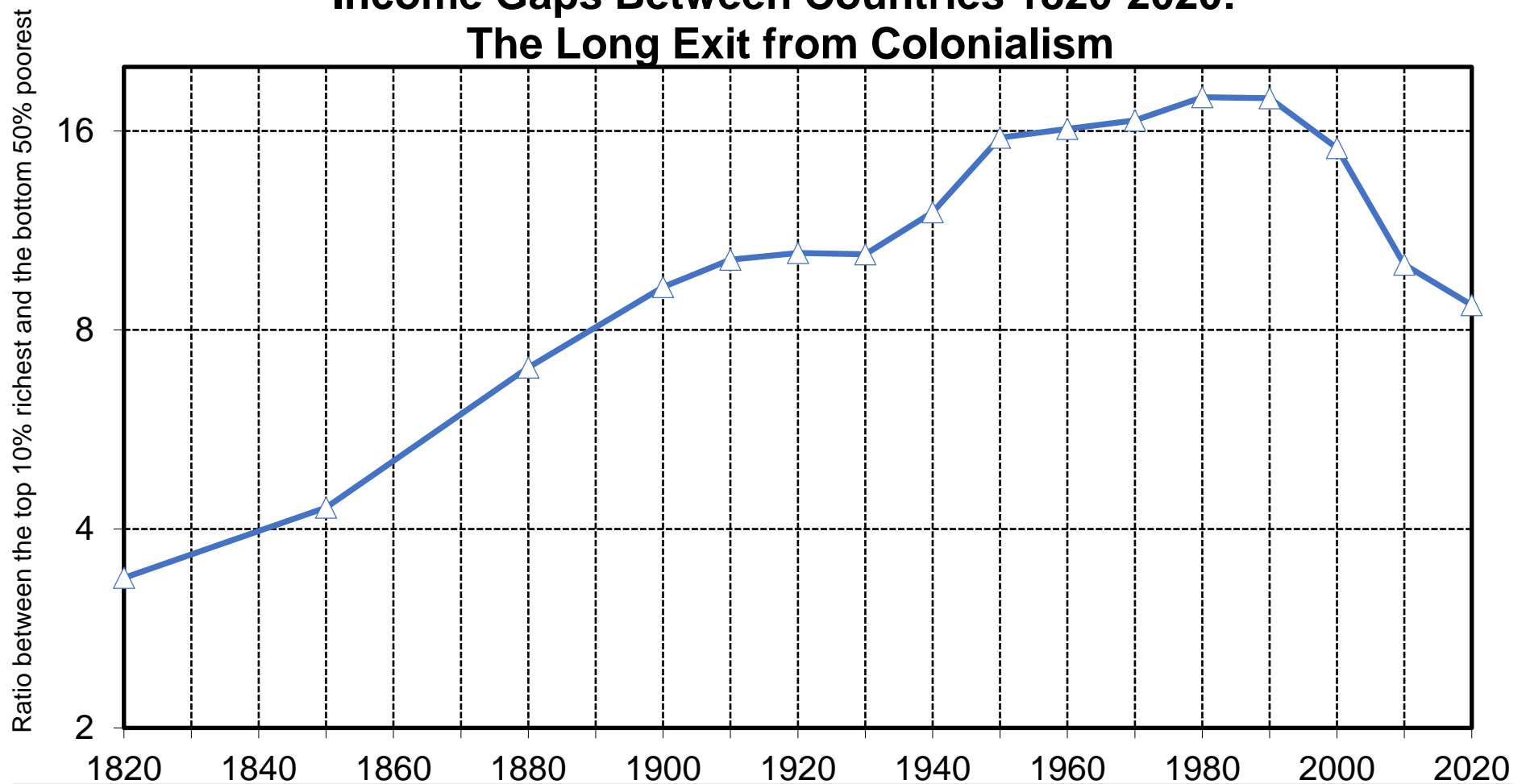
## Discrimination and Inequality in Comparative Perspective



**Interpretation.** The ratio between the average income of lower castes in India (scheduled castes and tribes, SC+ST, ancient discriminated groups of untouchables and aboriginal tribes) and that of the rest of the population rise from 57% in 1950 to 74% in 2020. The ratio between the average income of Blacks and Whites rose over the same period from 54% to 56% in the United States, and from 9% to 18% in South Africa. Sources et séries: see piketty.pse.ens.fr/equality (figure 35)

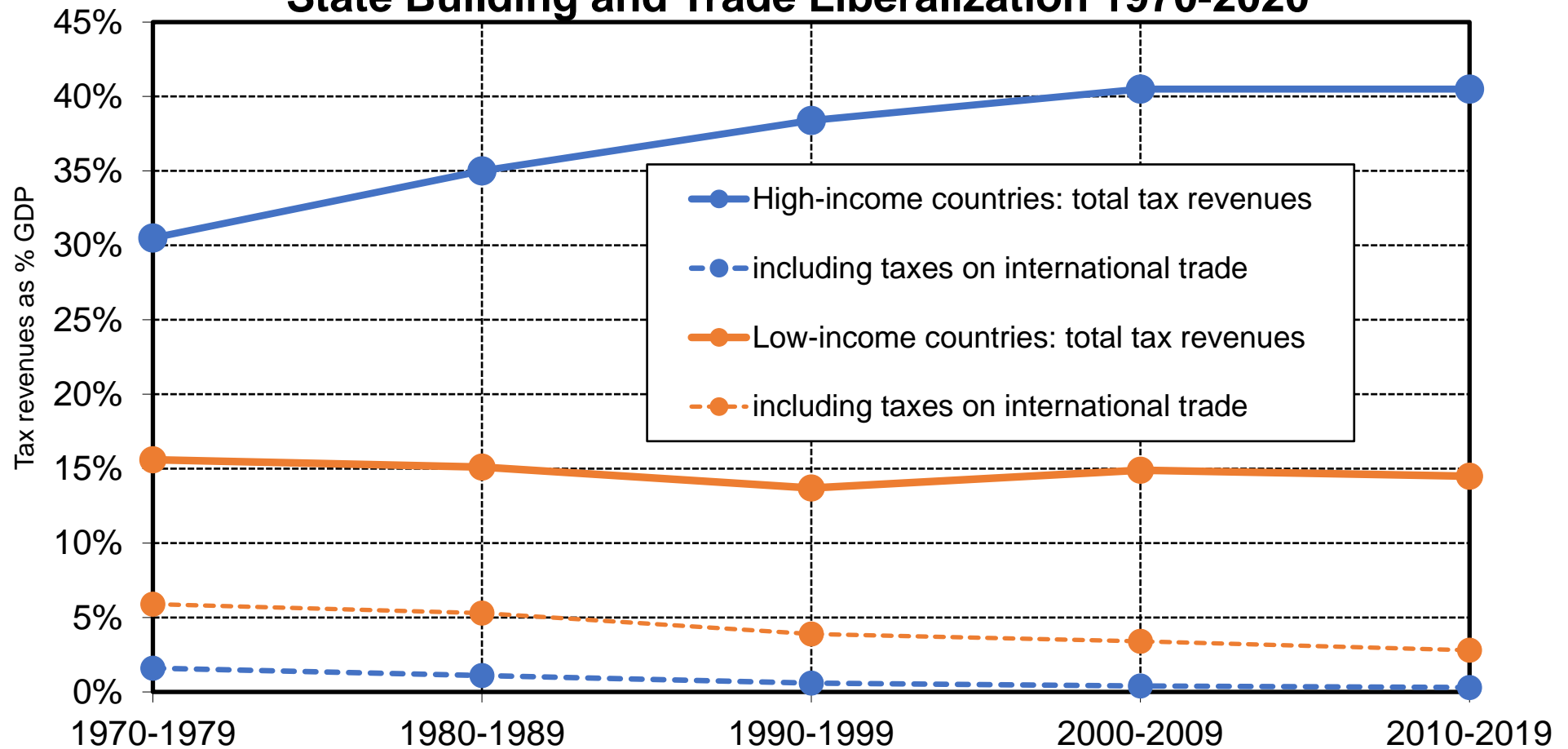


## Income Gaps Between Countries 1820-2020: The Long Exit from Colonialism



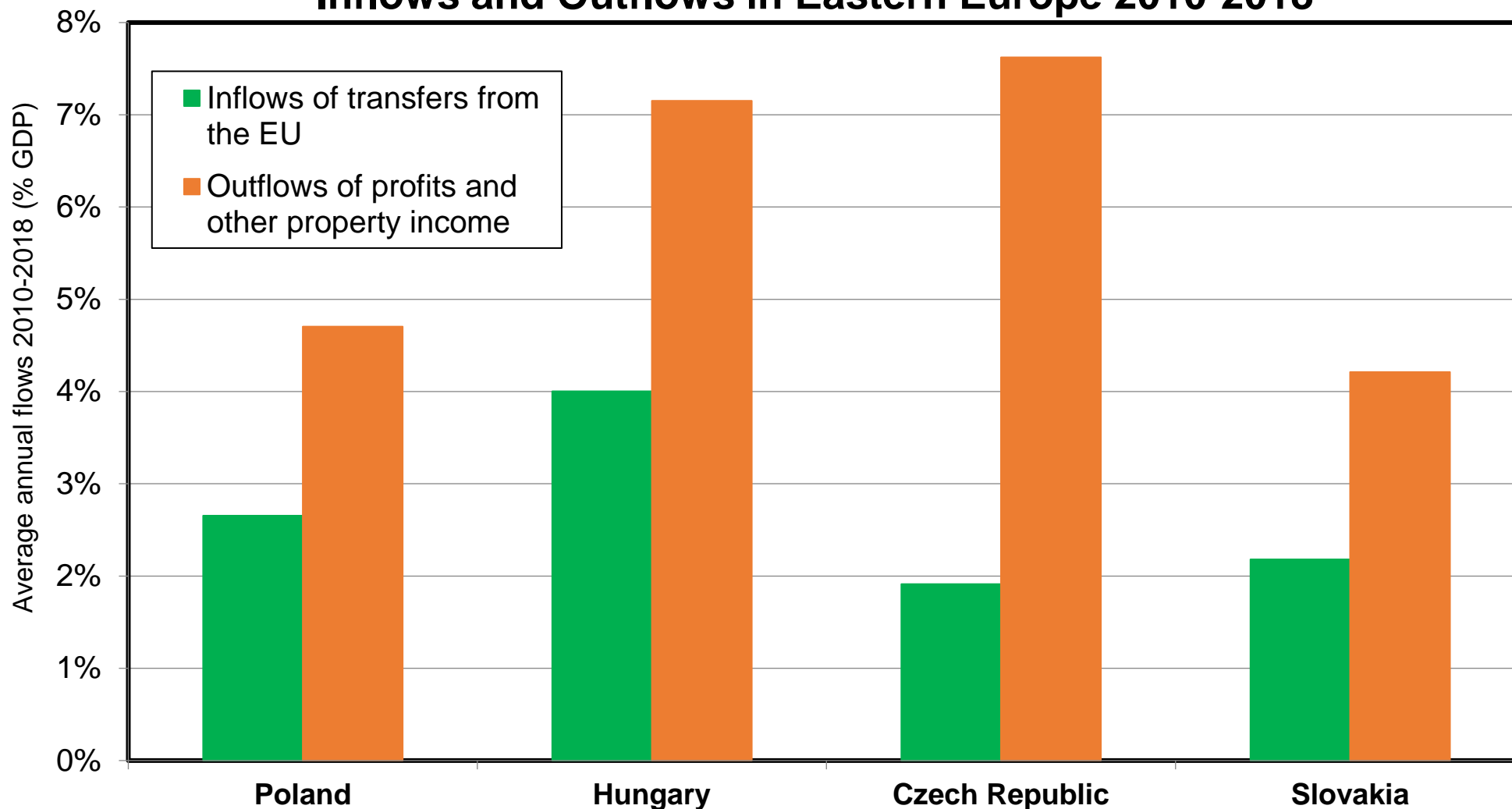
**Lecture.** Income gaps between countries, as measured by the ration between the average income of the top 10% of the world population living in the richest countries and the bottom 50% of the population living in the poorest countries, have increased significantly between 1820 and 1960-1980, before beginning a period of reduction. **Note.** For the computation of this ration, the population of overlapping countries has been divided between deciles as if they were multiple countries. **Sources and series:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 36)

## State Building and Trade Liberalization 1970-2020



**Interpretation.** In low-income countries (bottom third: Sub-Saharan Africa, South Asia, etc.), tax revenues dropped from 15,6% of GDP in 1970-1979 to 13,7% in 1990-1999 and 14,5% in 2010-2018, partly due to the uncompensated fall in customs duties and other taxes on international trade (which raised 5,9% of GDP in 1970-1979, 3,9% in 1990-1999 and 2,8% in 2010-2018). In high-income countries (top third: Europe, North America, etc.), customs duties were already very small at the beginning of the period and tax revenues kept rising before stabilizing. Sources and series: see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 37)

## Inflows and Outflows in Eastern Europe 2010-2018



**Interpretation.** Between 2010 and 2018, the annual flow of net transfers from the EU (difference between total spending received and total contributions paid to EU budget) was equal to 2,7% of GDP per year on average in Poland. Over the same period, the outflow of profits and other property income (net of the corresponding inflow) was 4,7% of GDP. For Hungary, the same figures were 4,0% and 7,2%.  
**Sources and series:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 38)

# A Novel Organisation of Globalisation: Transnational Democracy

## Transnational Assembly

In charge of **global public goods** (climate, research, etc.) and of **global fiscal justice** (common taxes on high wealth and income holders and large corporations, carbon taxes)

National Assembly  
Country A

National Assembly  
Country B

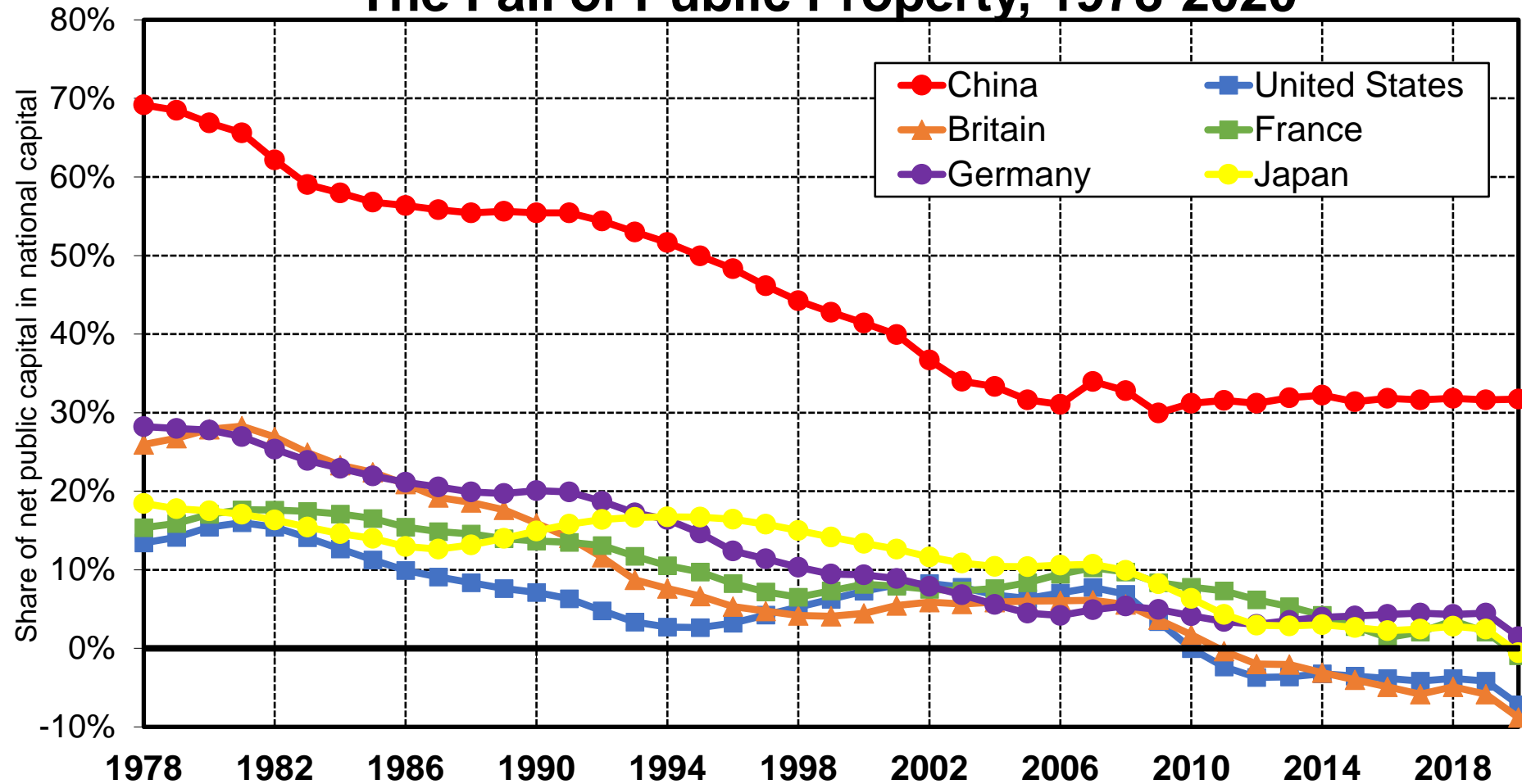
National Assembly  
Country C

National Assembly  
Country D

...

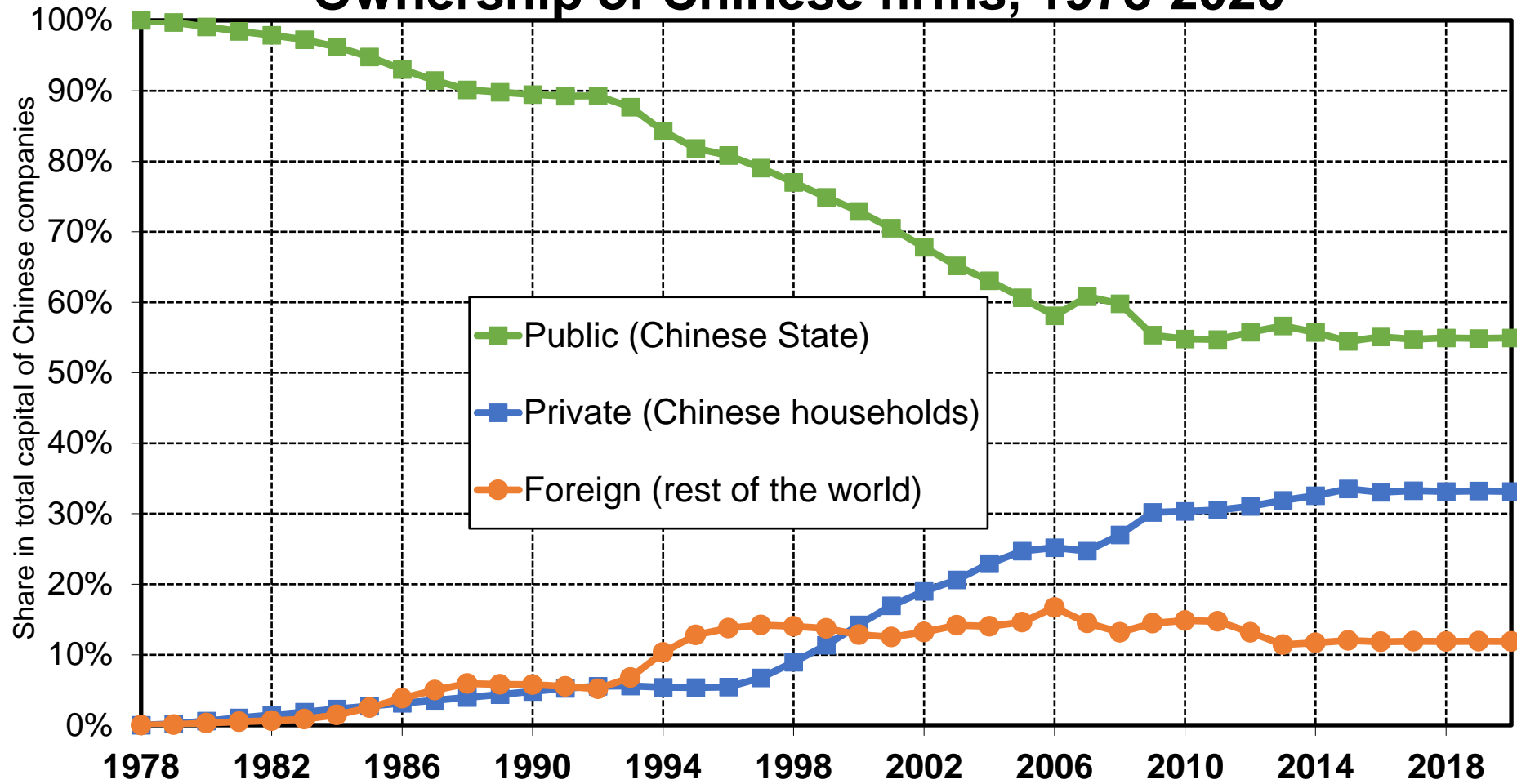
**Interpretation.** According to the proposed organisation, the treaties regulating globalisation (flows of goods, capital and individuals) will henceforth include the creation between the signatories States and Regional Unions of a Transnational Assembly in charge of global public goods (climate, research, etc.) and global fiscal justice (common taxes on high wealth and income holders and large corporations, carbon taxes). **Note.** Countries A, B, C, D can be States like France, Germany, Italy, Spain, etc., in which case the Transnational Assembly will be the European Assembly; or countries A, B, etc. could be Regional Unions like the European Union, the African Union, etc., in which case the Transnational Assembly would be that of the Euro-African Union. The Transnational Assembly could be formed of deputies from the National Assemblies and/or of transnational deputies especially elected for this purpose, depending on the situation. **Sources:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (table 3)

# The Fall of Public Property, 1978-2020



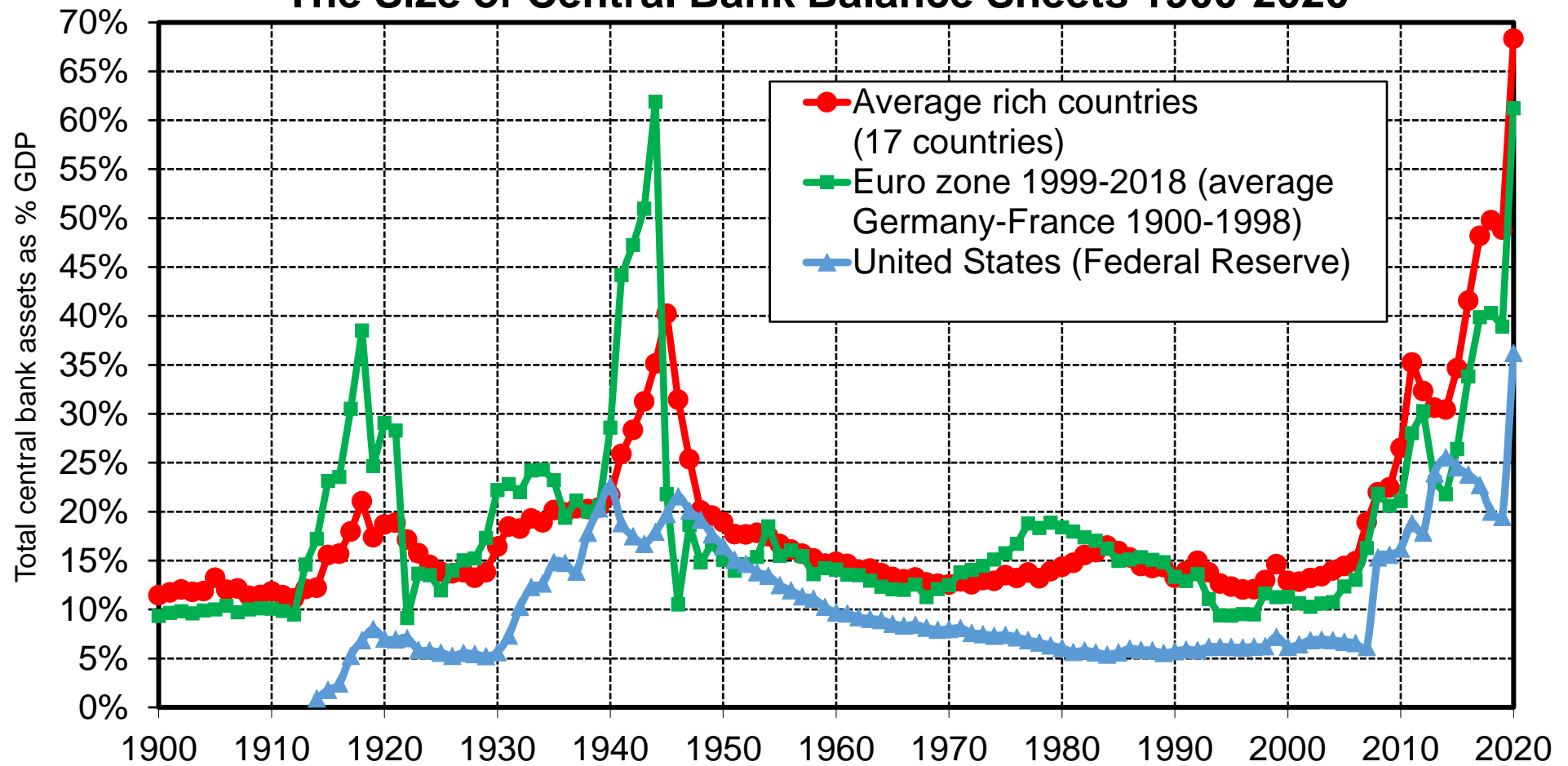
**Interpretation.** The share of public capital (public assets net of debt, all government levels and asset categories combined: companies, buildings, land, financial assets, etc.) in national capital (i.e. the sum of public and private capital) was about 70% in China in 1978, and it has stabilized around 30% since the mid-2000s. This share was around 15%-30% in capitalist countries in the 1970s and is near zero or negative in 2020. Sources and series: see [piketty.pse.ens.fr/equality](https://piketty.pse.ens.fr/equality) (figure 39)

# Ownership of Chinese firms, 1978-2020



**Interpretation.** The Chinese State (all government levels combined) owned in 2017 about 55% of total capital of Chinese firms (both listed and unlisted, of all sizes and all sectors), vs 33% for Chinese households and 12% for foreign investors. The foreign share has diminished since 2003, and that of Chinese households increased, while that of the Chinese State stabilized around 55%.  
Sources and series: see [piketty.pse.ens.fr/equality](https://piketty.pse.ens.fr/equality) (figure 40)

## The Size of Central Bank Balance Sheets 1900-2020



**Interpretation.** Total assets of the European Central Bank (ECB) rose from 11% of euro zone GDP on 31/12/2004 to 61% on 31/12/2020. The evolution 1900-1998 indicates the average obtained for the balance sheets of the German and French central banks (with peaks equal to 39% in 1918 and 62% in 1944). Total assets of the Federal Reserve (created in 1913) rose from 6% of GDP in 2007 to 36% at the end of 2020. **Note.** The average of rich countries is the arithmetic average of the 17 following countries: Australia, Belgium, Britain, Canada, Denmark, France, Finland, Germany, Holland, Italy, Japan, Norway, Portugal, Spain, Sweden, Switzerland, U.S.). **Sources and series:** see [piketty.pse.ens.fr/equality](http://piketty.pse.ens.fr/equality) (figure 41)