



History of Economic Thought 2019-2020

Seminar 2.5

The new economics of Inequality: The Piketty and Kalecki models

An old story

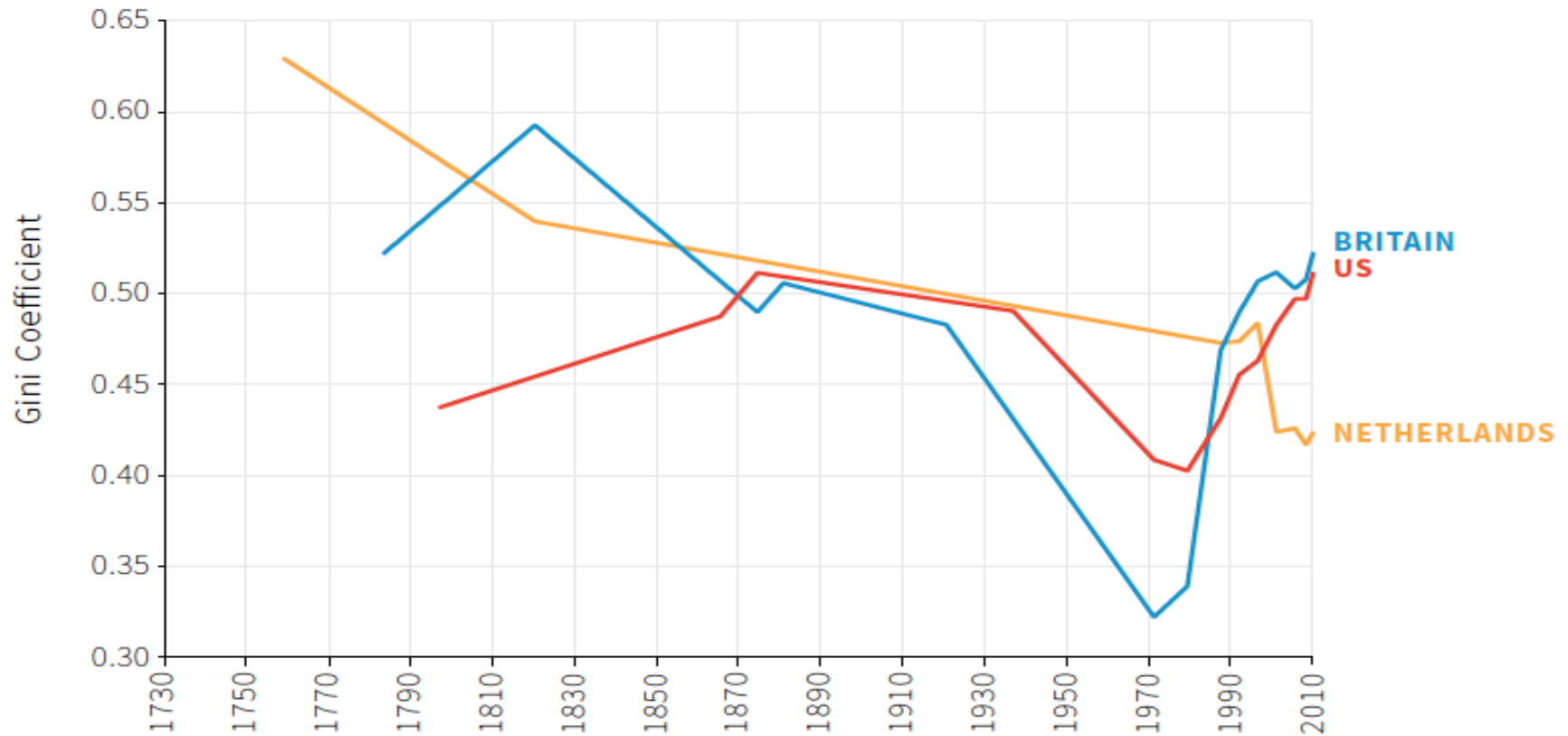
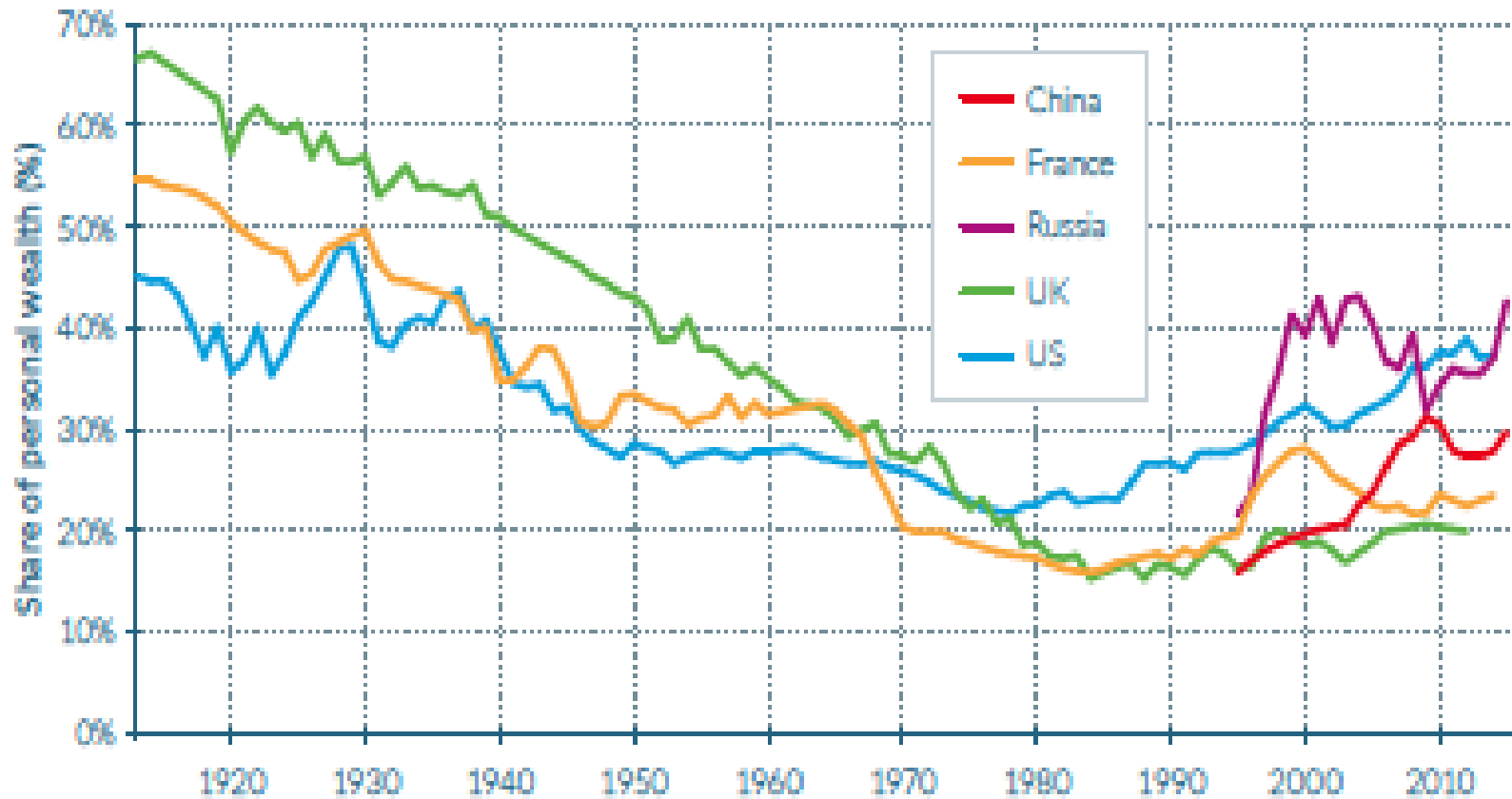


Figure 1.15 *Income Inequality in the US, Britain and the Netherlands (1730-2010).*

Source: Lindert, Peter, and Jeffrey Williamson. 2103. 'Two Centuries of American Growth and Inequality, 1650-1860.' Stanford Economic History Seminar, October. The figure measures inequality of market, not disposable income for which data are not available before recent years, so the effects of taxes and transfers are not included. But prior to 1950 these were of limited importance.

Figure E8

Top 1% wealth shares across the world, 1913-2015: the fall and rise of personal wealth inequality



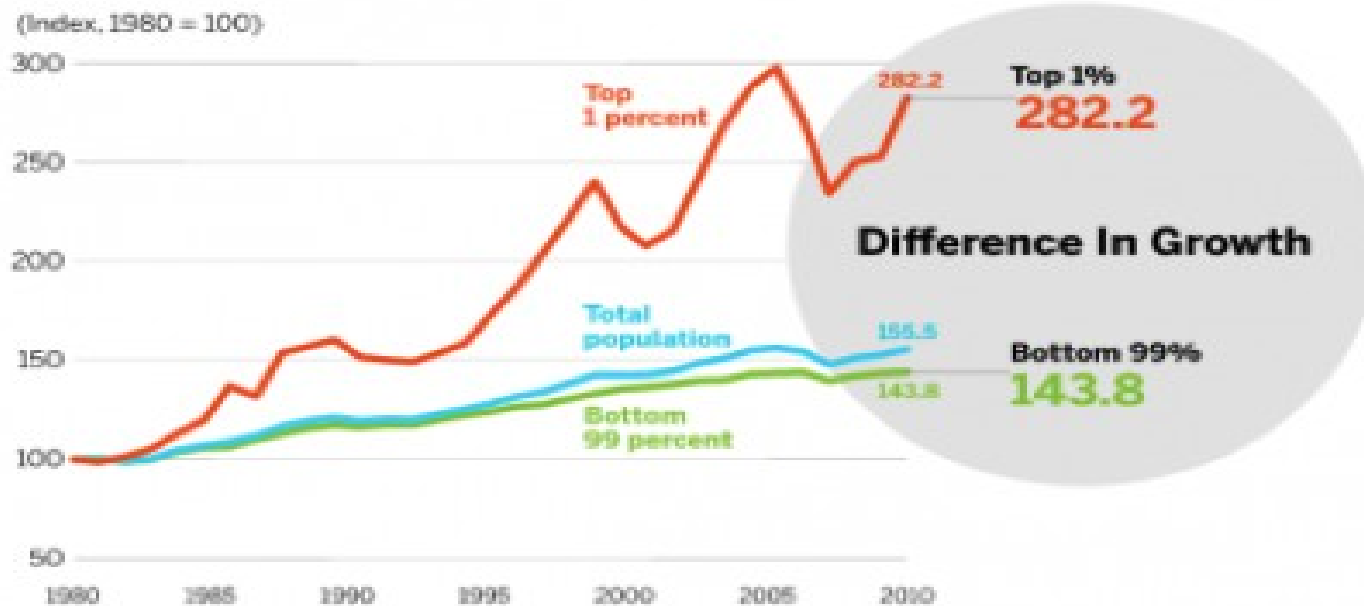
Source: WID.world (2017). See wlr2018.wid.world for data series and notes.

In 2015, the Top 1% wealth share was 43% in Russia against 22% in 1995.

40 years of inequality

Figure 1.3 – Advanced economies, per capita real market income, 1980–2012

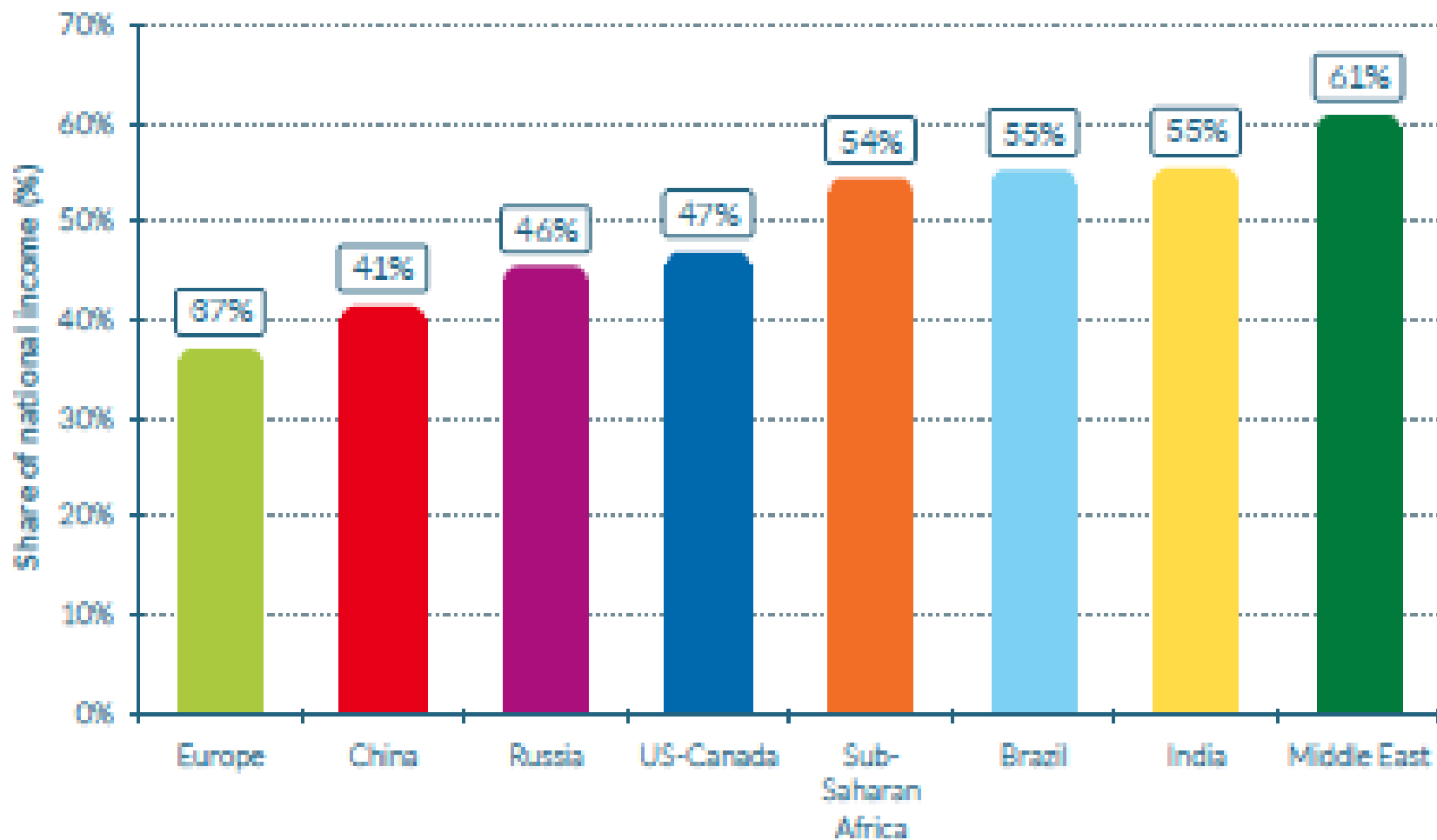
In advanced economies, the incomes of the top 1 percent have grown three times faster than those of the rest of the population over the last three decades.



Source: World Wealth & Income Database; IMF, World Economic Outlook; and IMF staff calculations.

Figure E1

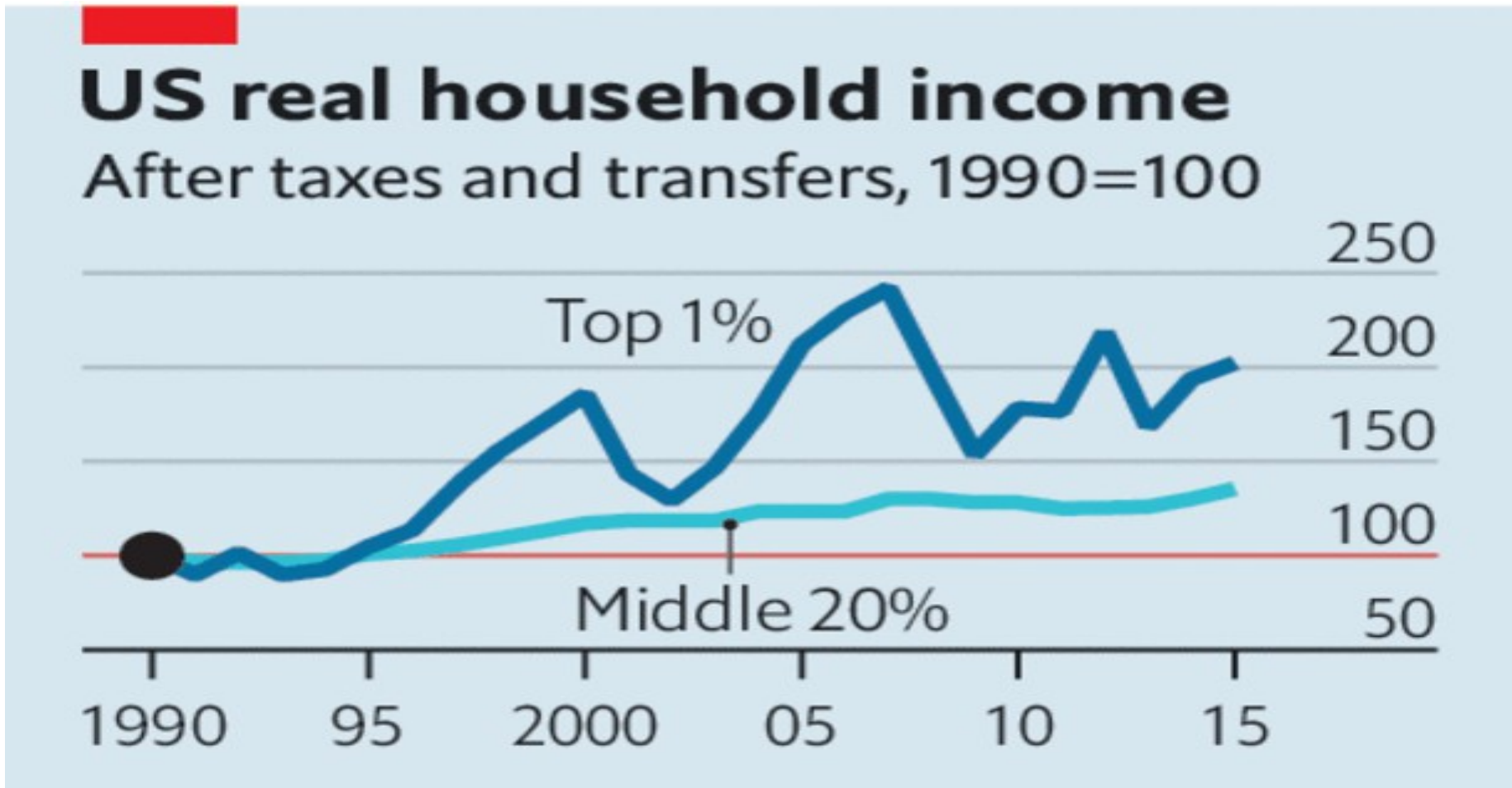
Top 10% national income share across the world, 2016



Source: WID.world (2017). See [wlr2018](#) & [wideworld](#) for data series and notes.

In 2016, 37% of national income was received by the Top 10% in Europe against 61% in the Middle-East.

Current inequality



RELATIVE CHANGES IN INCOME FROM 1980 TO 2016

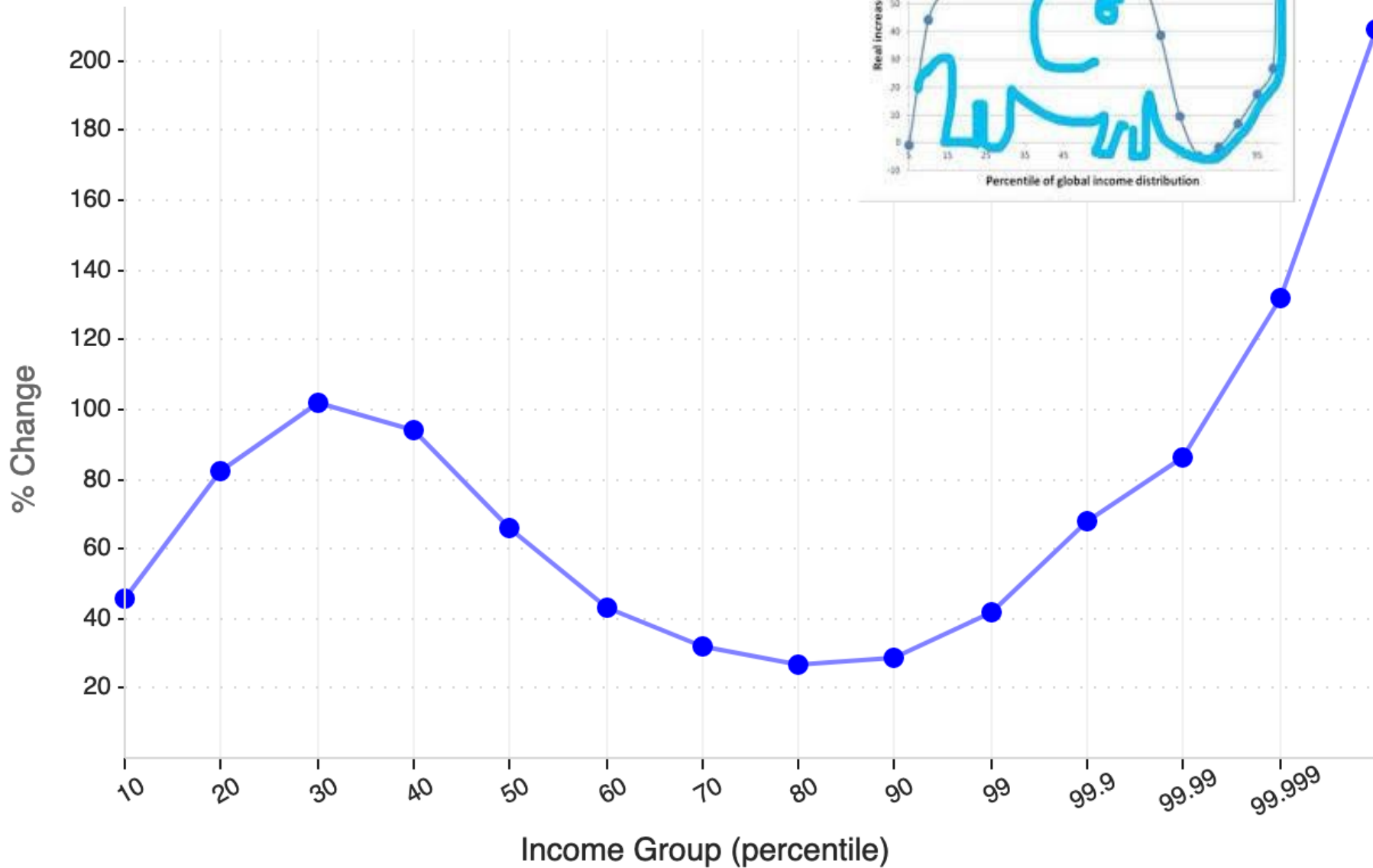
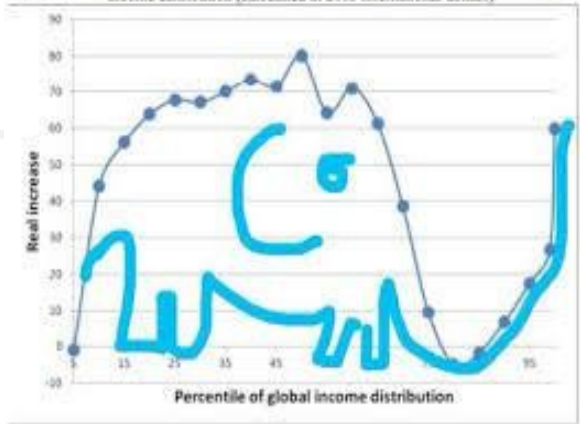


Figure 4. Change in real income between 1988 and 2008 at various percentiles of global income distribution (calculated in 2005 international dollars)



ABSOLUTE CHANGES IN INCOME FROM 1980 TO 2016

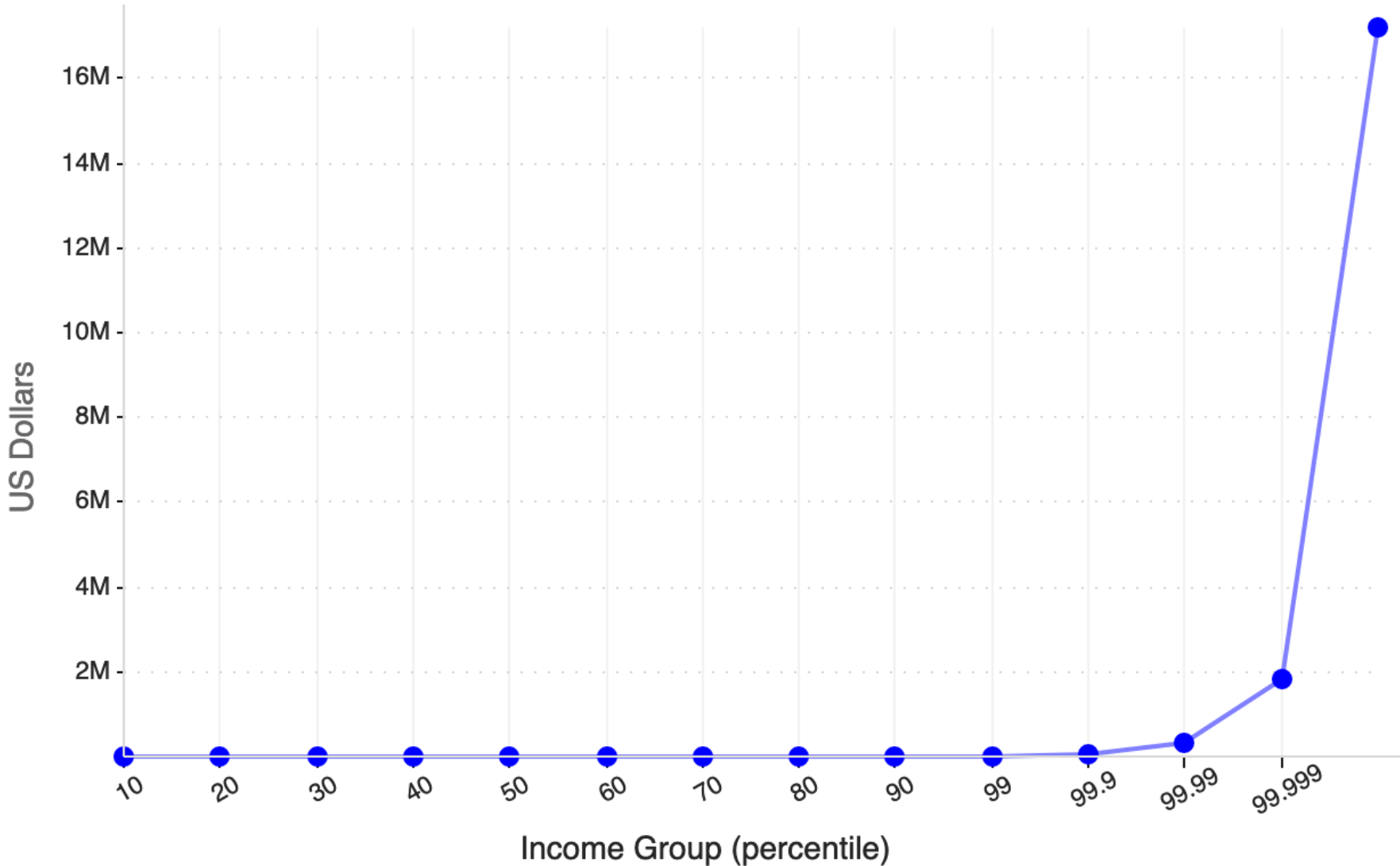
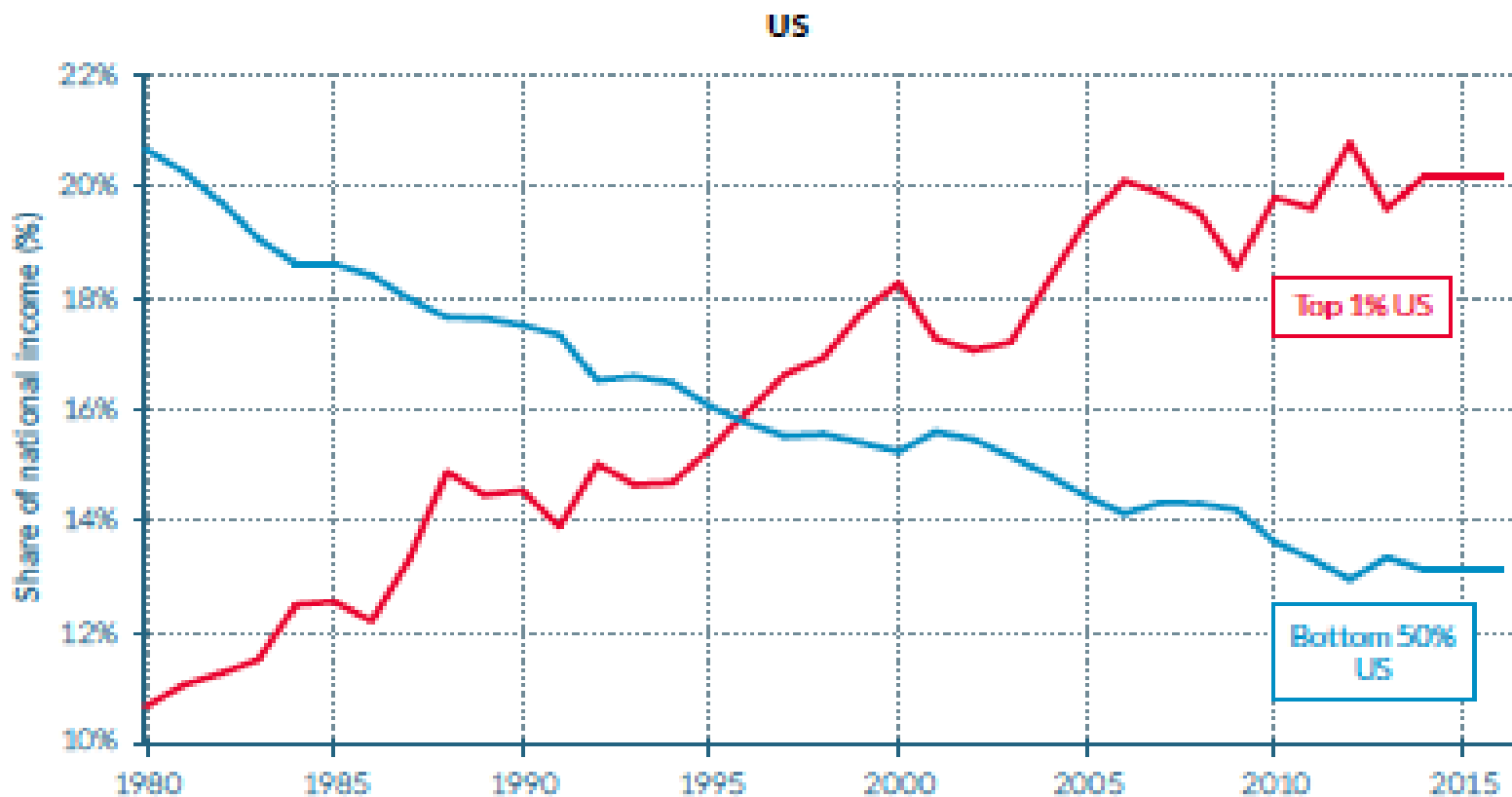


Figure E3

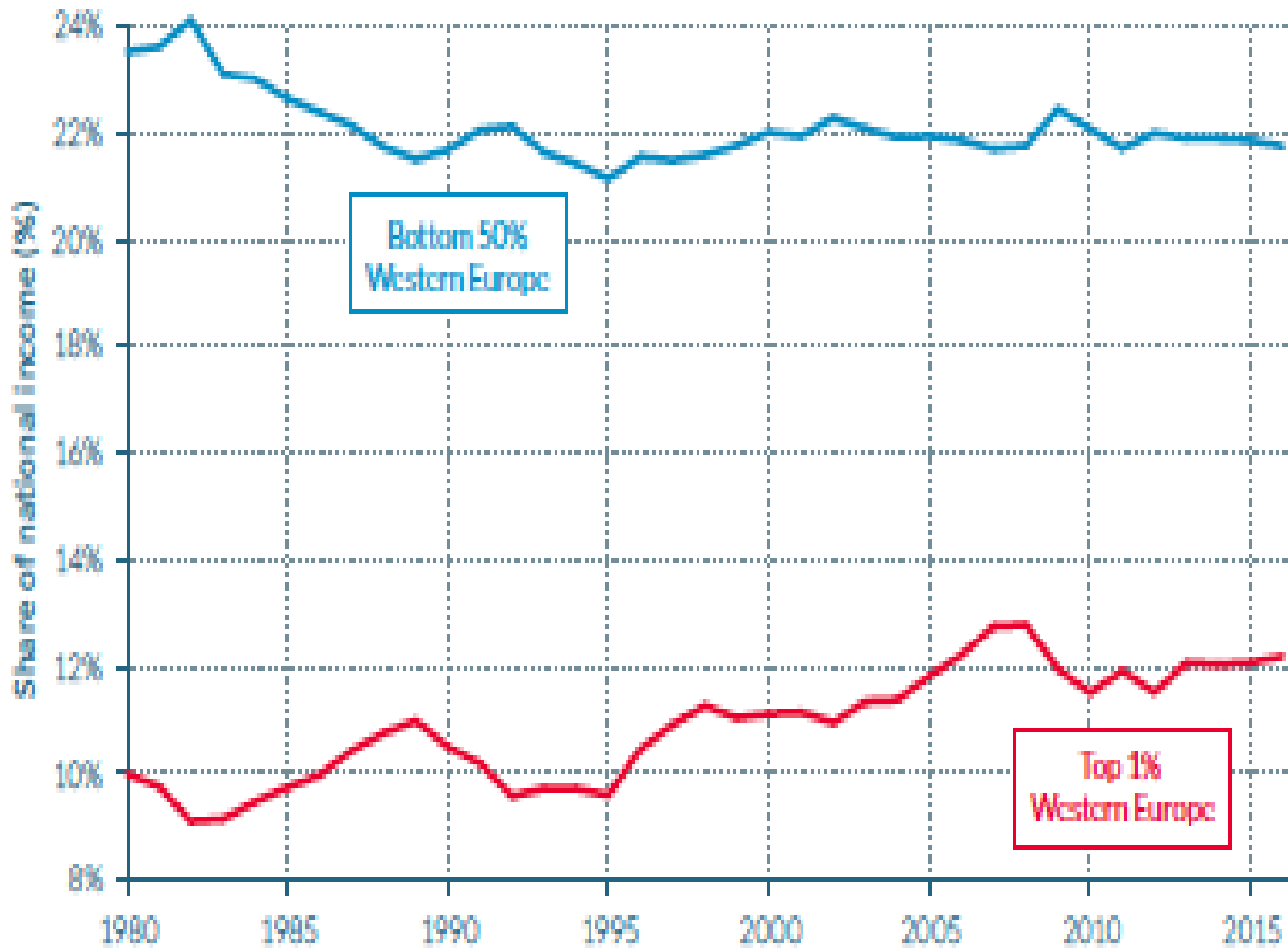
Top 1% vs. Bottom 50% national income shares in the US and Western Europe, 1980-2016:
Diverging income inequality trajectories



Source: WID.world (2017). See [wii2018](#) and [wid.world](#) for data series and notes.

In 2016, 12% of national income was received by the top 1% in Western Europe, compared to 20% in the United States. In 1980, 10% of national income was received by the top 1% in Western Europe, compared to 11% in the United States.

Western Europe

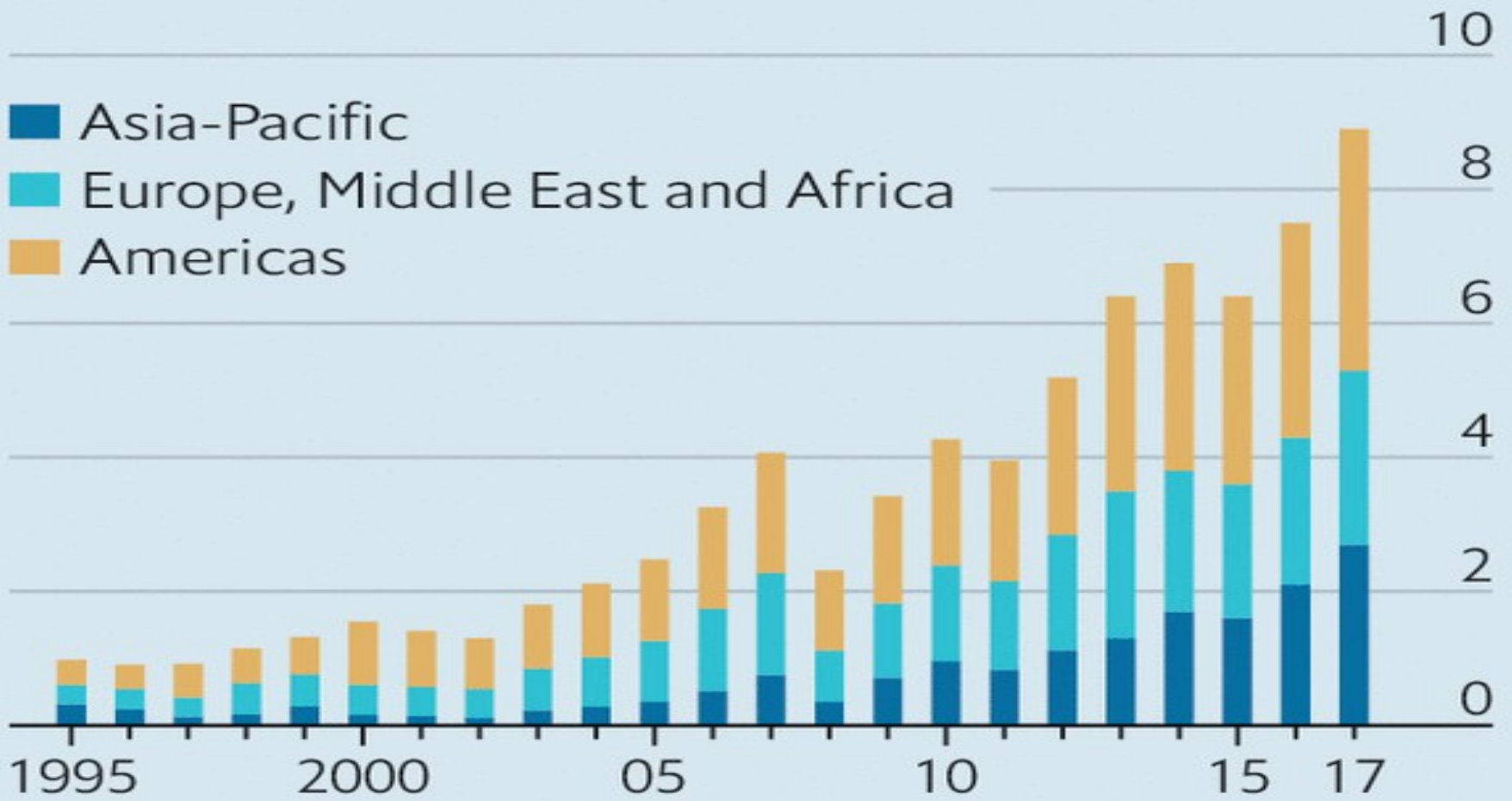


Source: WID.world (2017). See [wlr2018/wid.world](#) for data series and notes.

In 2016, 22% of national income was received by the Bottom 50% in Western Europe.

The wealthy of nations

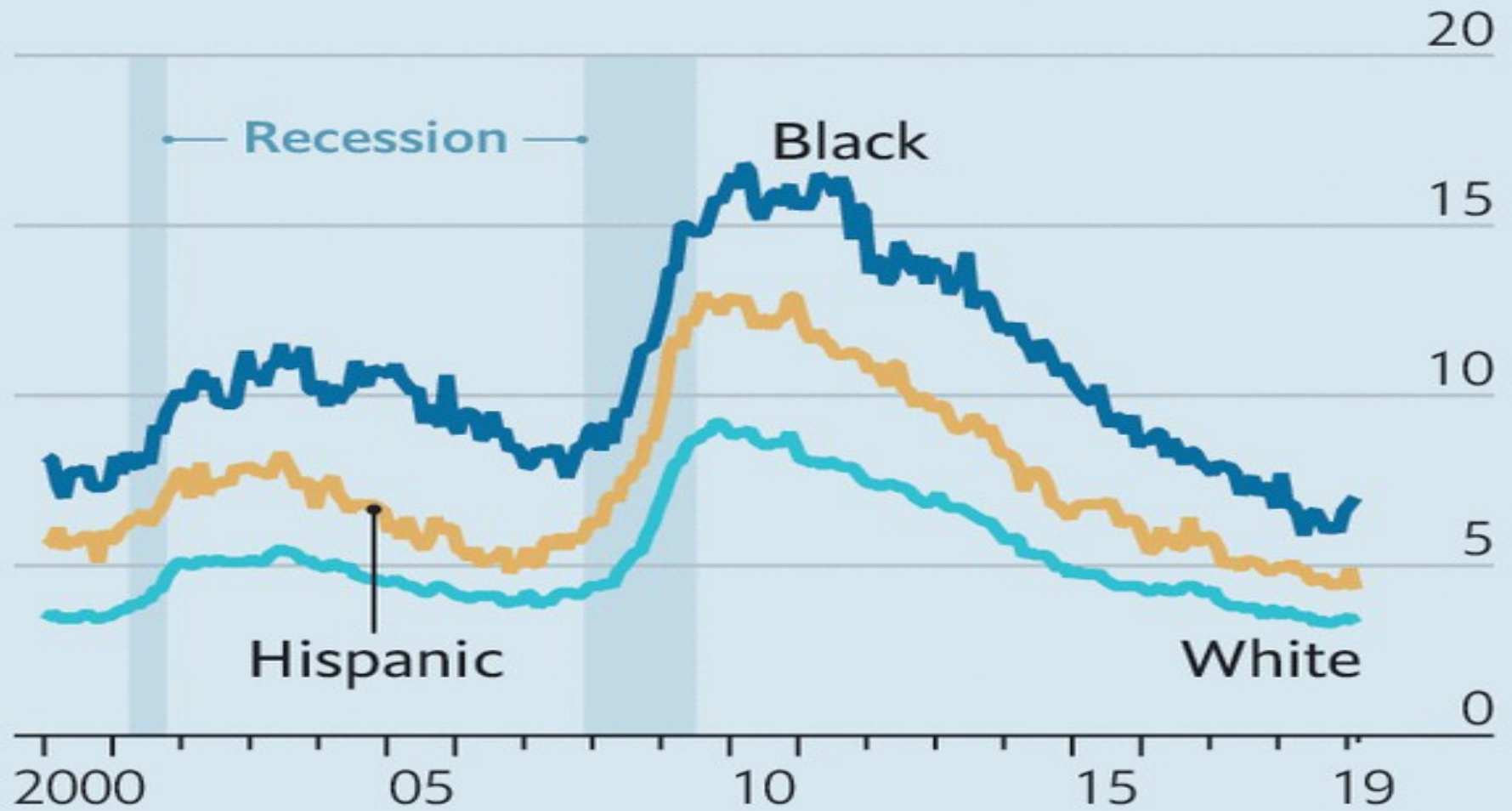
Total wealth of billionaires, by region, \$trn



Source: UBS/PwC

Back to the dotcom boom

United States, unemployment rate, by race, %

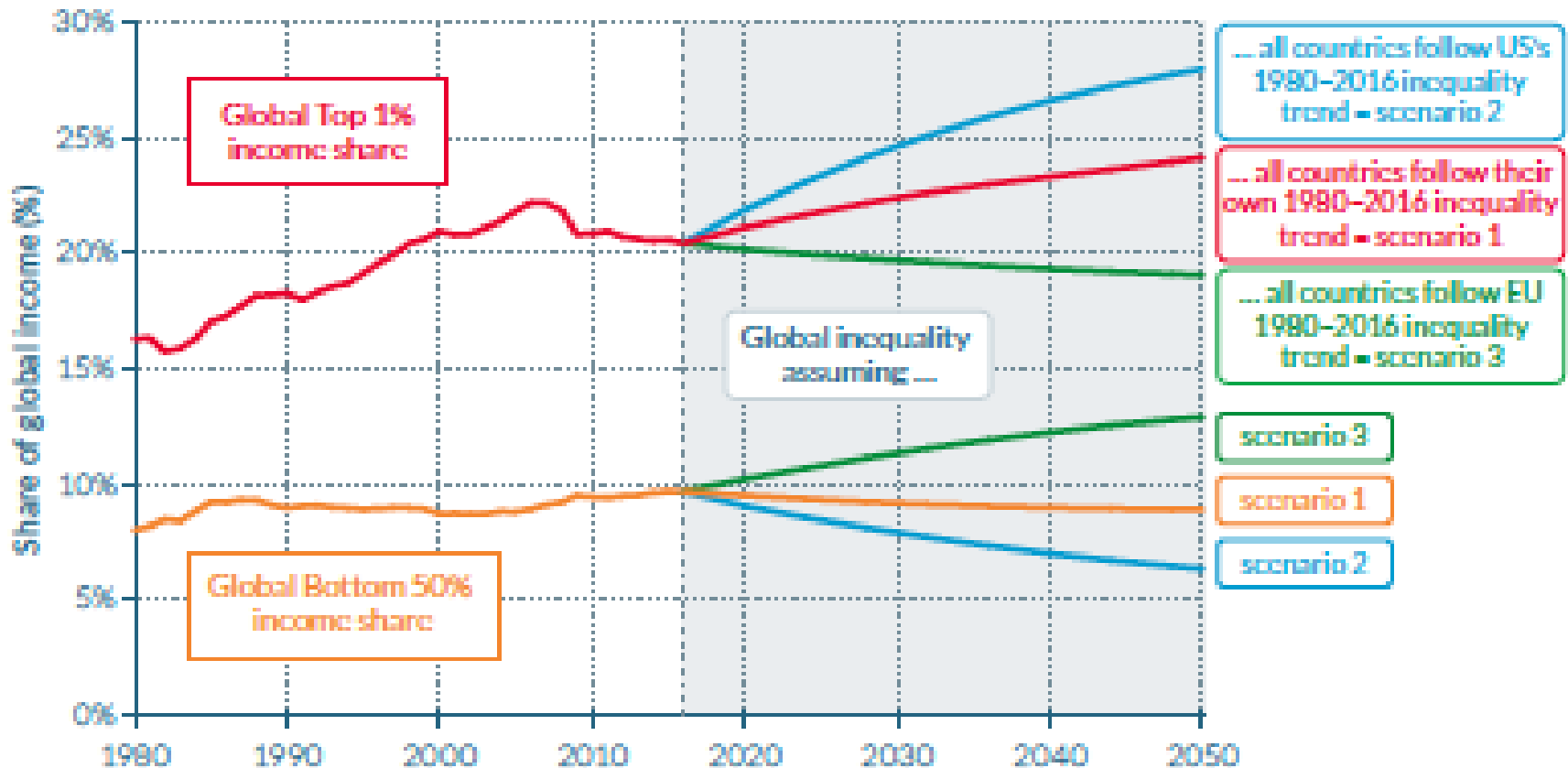


Source: Bureau of Labour Statistics

A future of inequality?

Figure E10

Rising global income inequality is not inevitable in the future



Source: WID.world (2017). See [wlr2018.wid.world](#) for data series and notes.

If all countries follow the inequality trajectory of the US between 1980 and 2016 from 2017 to 2050, the income share of the global Top 1% will reach 28% by 2050. Income share estimates are calculated using Purchasing Power Parity (PPP) euros. PPP accounts for differences in the cost of living between countries. Values are net of inflation.

personal income distribution: forms of representation

for a given year, how total disposable income in a country is distributed among all the members of the population (individuals, or households) of that country?

two different ways:

method 1: to divide the population into several equal-sized groups (equal population shares) and to measure how much each income group earns/share of total household income; ex: quintiles, deciles, etc (relevant to compare population shares and income shares: a step towards the “evaluation” of inequality);

method 2: to divide income into equal-sized intervals and to ask how much of the population falls into each interval/share of total population (relevant to fit a distribution function: typically a lognormal, and to estimate mean and standard deviation, the parameters of this distribution function);

method 1:

to divide the population into several equal-sized groups and to measure how much each income group earns/share of total household income; ex: quintiles, deciles, etc

Household Income in the United States by Quintiles, 2009

Quintile	Average Household Income	Share of Total Household Income (%)
1st (Lowest)	\$11,552	3.4
2nd	\$29,257	8.6
3rd	\$49,534	14.6
4th	\$78,694	23.2
5th (Highest)	\$170,844	50.3

Source: DeNavas-Walt, Proctor, and Smith (2010).

from income distribution to the inequality of income distribution

from a descriptive (what it is) to a normative approach (what it should be) to income distribution

only makes sense to assess inequality of personal income distribution;

an income distribution is unequal if the differences of income among the individuals/households are greater than what is desirable according to the set of values of that person who evaluates the inequality;

different forms of introducing normative principles into the assessment of income inequality; one of them consists of comparing population shares and income shares (from method 1):

- Lorenz/Gini method;
- S80/S20 or S90/S10 methods;

The Lorenz curve

Variable X (income) observed on a population of size n
let x_i be the income of person i of that population

$(x_1, \dots, x_i, \dots, x_n)$

and $x_1 \leq \dots \leq x_i \leq \dots \leq x_n$; and let x_{tot} total income of that population
we create two variables: Y and Z

for the person i :

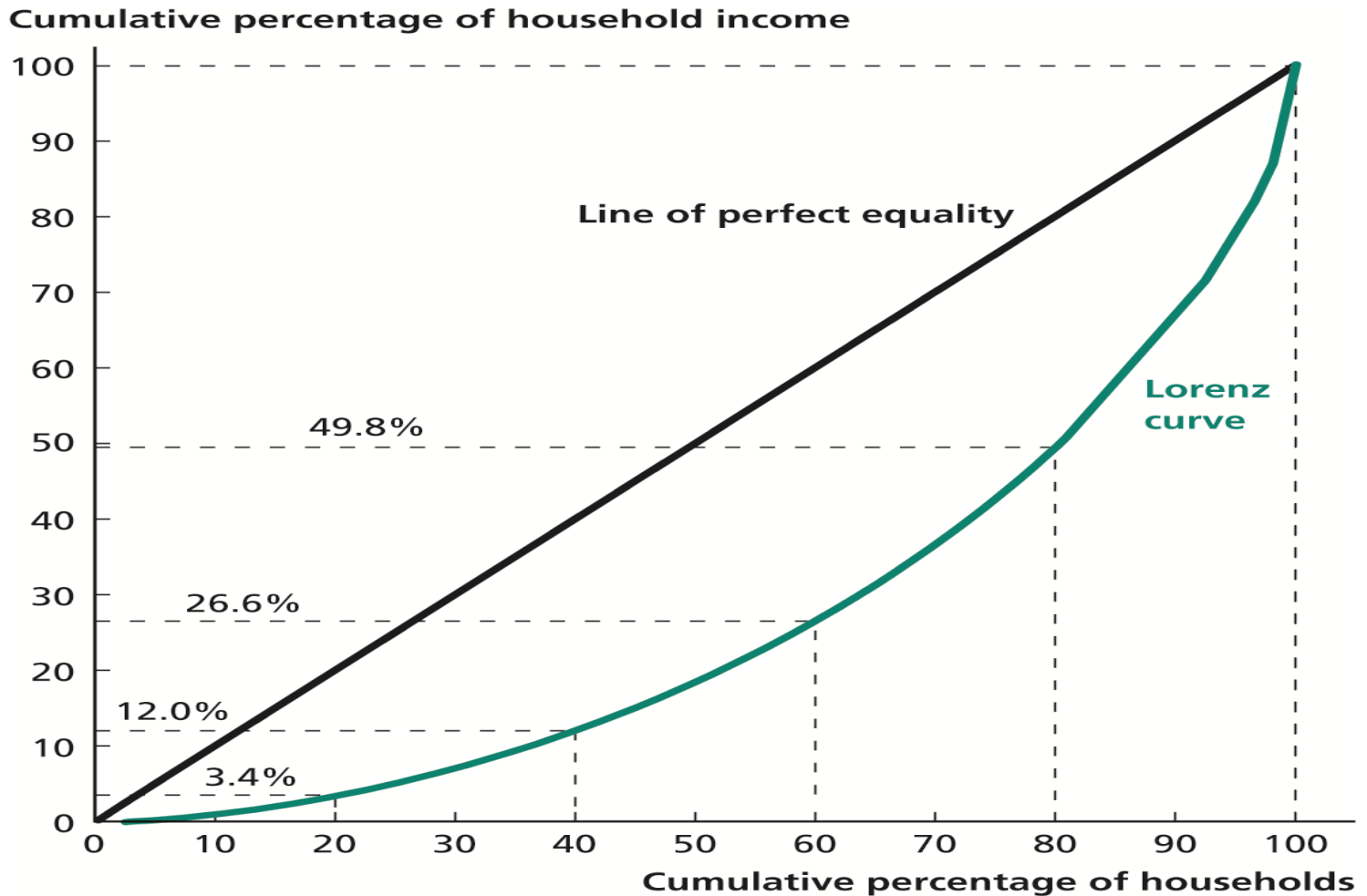
x_i income of person i

y_i proportion of persons with income $\leq x_i$

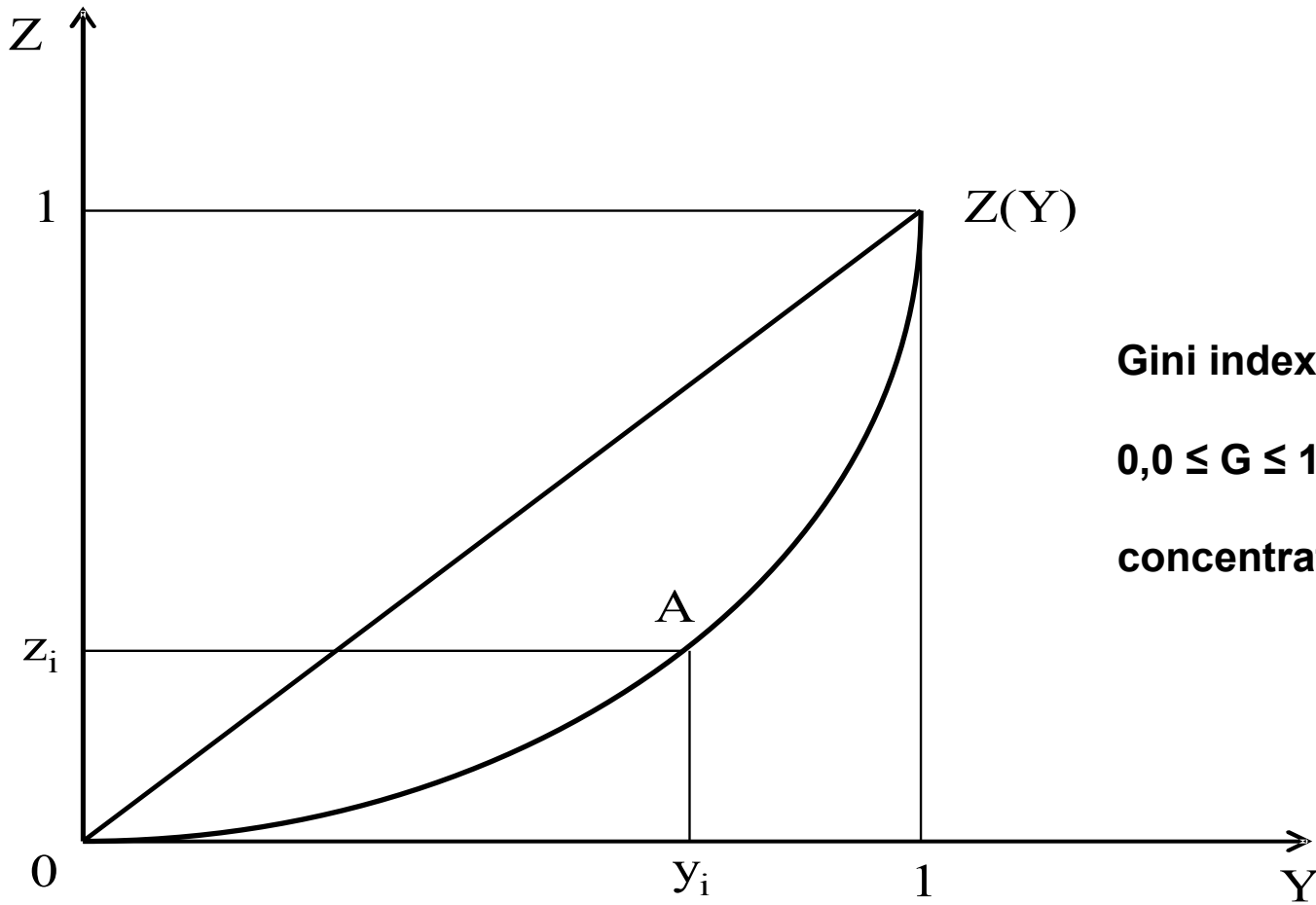
z_i proportion of total income, **x_{tot}** of the persons with income $\leq x_i$

let $Z = z(Y) \rightarrow$ **Lorenz curve** of the concentration of variable X

The Lorenz Curve for the United States, 2009



Source: De Navas-Walt, Proctor, and Smith (2010).



Gini index $G = (0AZ)/(01Z)$

$0,0 \leq G \leq 1,0$

concentration = inequality?

Figura 7.1

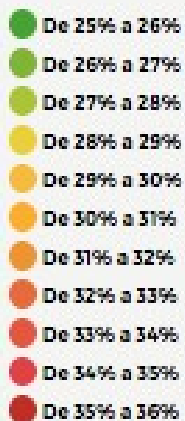
Gini index (concentration of income; inequality?) and S80/S20 or S90/S10, Portugal

	2009	2010	2011	2012	2014	2016
Gini	0,337	0,342	0,345	0,342	0,339	0,335
S80/S20	5,6	5,7	5,8	6,0	5,9	5,7
S90/S10	9,2	9,4	10,0	10,7	10,1	10

Source: EU-SILC

DESIGUALDADE NA UNIÃO EUROPEIA

Coeficiente de Gini (2015)



UE 28

30,8%

Zona Euro

30,7%

Portugal

33,9%

Em 2015, Portugal era o sétimo país mais desigual da União Europeia com um coeficiente de Gini de 33,9%, 31 pontos percentuais acima da média da UE (30,8%) e 32 pontos percentuais acima da média dos países da zona euro (30,7%).

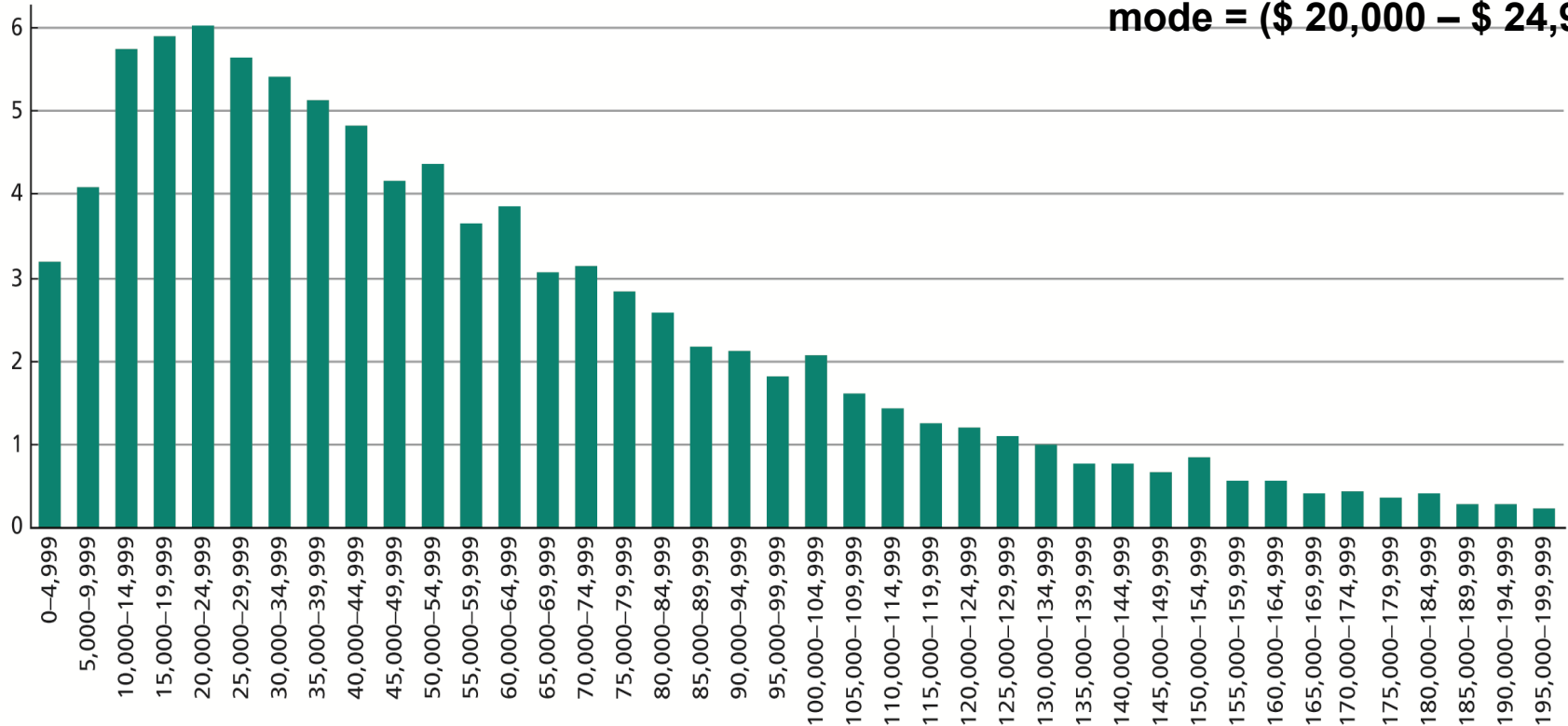
method 2:

to divide income into equal-sized intervals
and to ask how much of the population
falls into each interval/share of total
population

Income Distribution in the United States, 2009

mean = \$ 67,976
median = \$ 49,777
mode = (\$ 20,000 – \$ 24,999)

Percentage of households



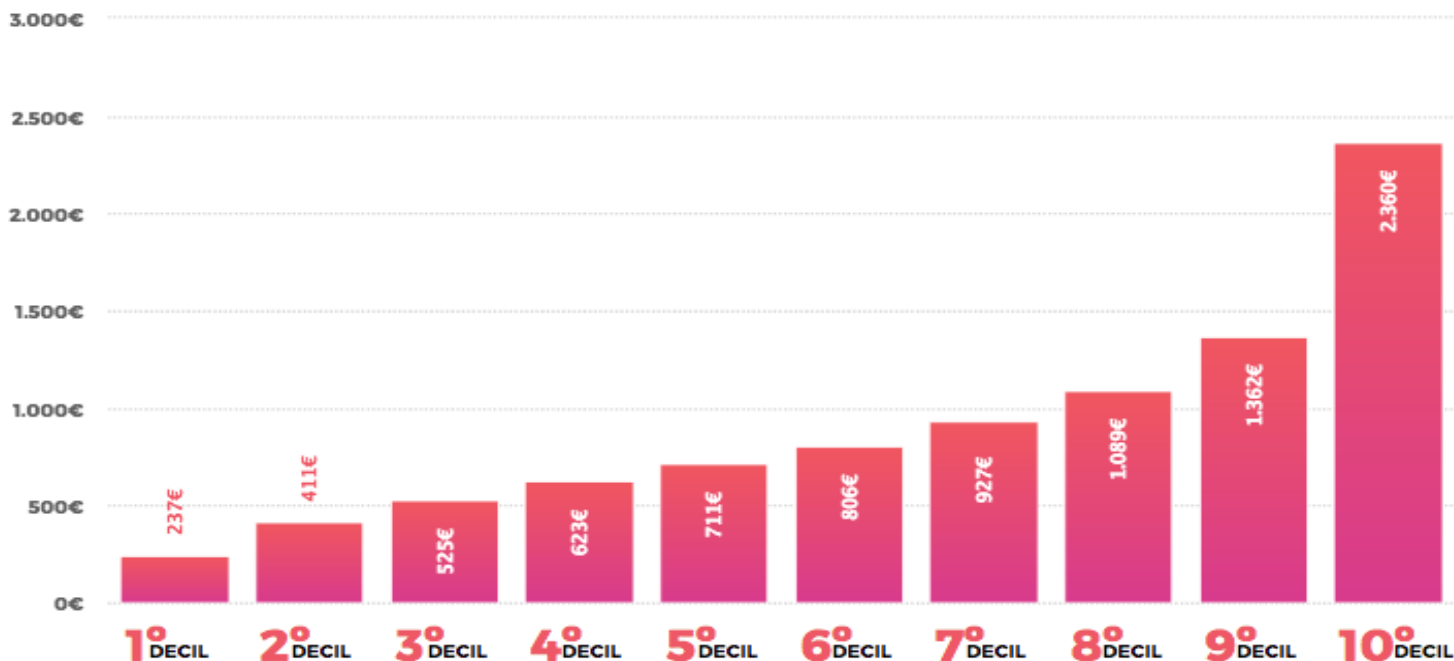
Source: DeNavas-Walt, Proctor, and Smith (2010).

Household income (dollars)

RENDIMENTO EQUIVALENTE MÉDIO MENSAL por decis (2016)

Em 2016, o rendimento equivalente dos 10% da população com maiores níveis de rendimento era de 2 360 euros/mês, um valor cerca de 10 vezes superior ao rendimento médio auferido pelos 10% da população com menores níveis de rendimento, 237 euros/mês. A proporção do rendimento total recebida pelo primeiro decil da população (os 10% mais pobres) era de 2,6%. No outro extremo da escala dos rendimentos, os 10% mais ricos detinham 26,1% do rendimento total por adulto equivalente.

TRIBUIÇÃO DO RENDIMENTO DISPONÍVEL	EVOLUÇÃO DA DESIGUALDADE DO RENDIMENTO EQUIVALENTE	EVOLUÇÃO DA POBREZA MONETÁRIA	PRIVAÇÃO MATERIAL	POBREZA E EXCLUSÃO SOCIAL	QUEM SÃO OS POBRES EM PORTUGAL	IMPACTO DAS TRANSFERÊNCIAS SOCIAIS NA POBREZA
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Oxfam 2019 World Report

THE WEALTH OF THE WORLD'S BILLIONAIRES INCREASED \$900 BILLION IN THE LAST YEAR, WHICH IS:

**\$2.5 BILLION
A DAY**¹



EXTREME POVERTY IS INCREASING IN SUB-SAHARAN AFRICA.

This new evidence also shows that **3.4 billion people** (almost half of humanity) have barely escaped extreme poverty and are living on less than

**\$5.50
A DAY**²



MEN OWN 50% MORE OF THE TOTAL WEALTH THAN WOMEN.³



A recent study of 13 developing countries found that:

SPENDING ON EDUCATION AND HEALTH ACCOUNTED FOR 69% OF THE TOTAL REDUCTION OF INEQUALITY.⁴



GETTING THE RICHEST 1% TO PAY JUST 0.5% EXTRA TAX ON THEIR WEALTH COULD RAISE MORE MONEY THAN IT WOULD COST TO:



Educate all the

**262
MILLION**

children out of school...



...and provide healthcare that would save the lives of

**3.3
MILLION**

people.⁵



**Estes 26
milionários têm
tanto dinheiro
como 50%
da população
mundial**

// PÁGS. 16-21



The Kalecki model



1) $C_p = \beta + q P$, C_p , consumption of bourgeoisie, β autonomous consumption, part of profit P that is consumed (and the workers consume all their wages)

2) $P = C_p + I$, profits are either consumed or invested, and $S = I$; **Consumption** = $W + C_p$

3) therefore, $P = (\beta + I) / (1 - q)$

4) also $P = k (W + M)$, where k is the markup in prices, W the total wages and M other spending in inputs

The Kalecki model (2)

5) as $P+W = Y = k (W+M) + W$, we have:

6) the wage share $\alpha = W/Y = 1/((k+1)+(kM/W))$, or the wage share decreases with the markup (if there is no change in M and W)

7) also as $W = \alpha Y$, then $Y(1-\alpha)=P$
or $Y=(I+\beta)/((1-q)(1-\alpha))$

8) assuming β to be constant, then

$$\Delta Y = \Delta I / (1-q)(1-\alpha)$$

or, growth **increases** with investment and the part of profits used as consumption by the capitalists and **decreases** with the profit's share of output

Market power: yes, there is a mark up by the 10% top firms



Thomas Piketty (Paris School of economics)



THOMAS
PIKETTY

O CAPITAL

no século XXI

THOMAS & SEUIL
Grande Letra

THOMAS
PIKETTY

CAPITAL
ET
IDÉOLOGIE

SEUIL

The Piketty model (1/2)

- The case of inequality: the notion of a “human capital” convergence is an illusion, there is a divergence
- Explanation for the divergence:

$$r > g$$

or the **profitability of capital** (profits, dividends, rents, interest etc) **is larger than the rate of growth**



The Piketty model (2/2)

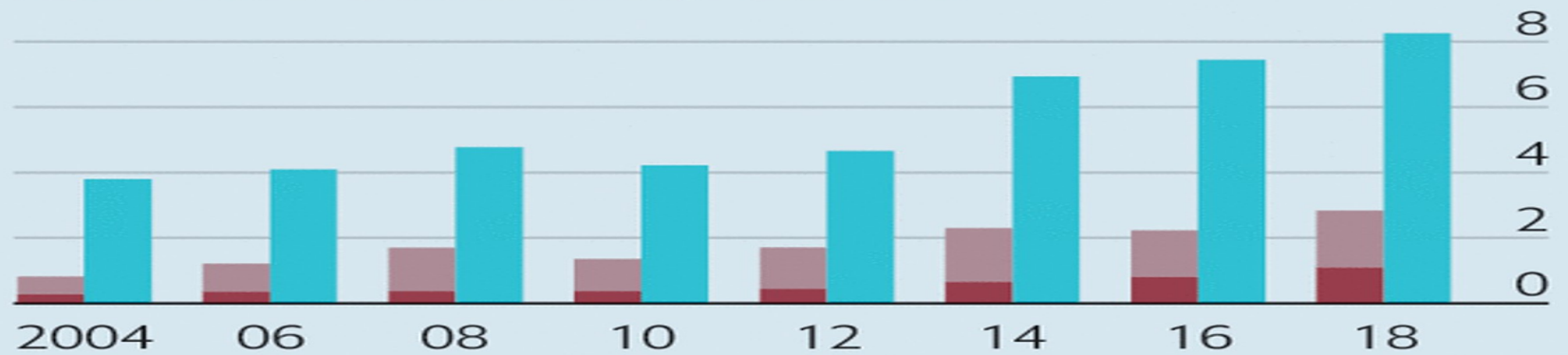
- **Consequences:**
 1. The **entrepreneur** is replaced by the **rentier**
 2. Cumulated wealth and inheritance establishes the continuity of inequality
- **Solutions:**
 - Taxing the fortunes (wealth)?

On the cover of *Forbes* magazine

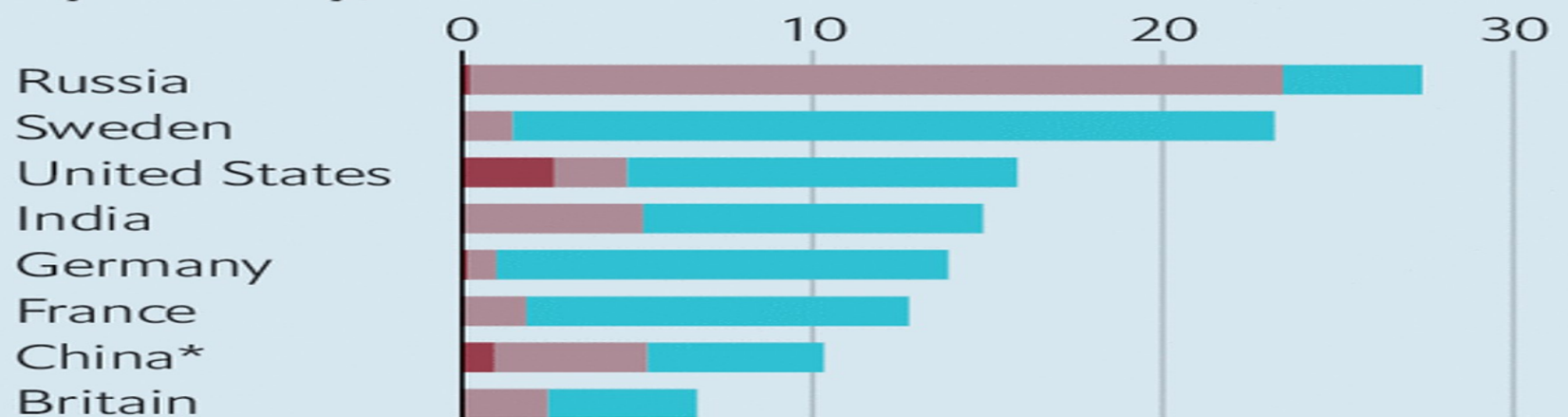
Billionaire wealth

Rent-seeking ■ Tech ■ Non-rent-seeking
■ Non-tech

Advanced economies, % of GDP



By country, 2018, % of GDP



Sources: World Bank; *Forbes*; *The Economist*

*Incl. Hong Kong and Macau