

Inequality and Poverty: Analysis and Policy

Sixth lecture: Poverty in data and charts: global, regional, national and local

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Course web page: <http://rszarf.ips.uw.edu.pl/inequality/>

Lecture topics

1. Data and visualisation tools: Luxembourg Income Study (LIS), Our World in Data, World Bank Poverty and Inequality Platform
2. Measuring how people understand poverty and perceive its change
3. Extreme poverty in global perspective with COVID-19 impact
4. Poverty disaggregation: in-work poverty, child and elderly poverty
5. Poverty and social exclusion: three indicators in one with disaggregation by age, sex, education and economic activity
6. Poverty and inequality correlation
7. Summary

Inequality and Poverty Key Figures

DATASETS	PROPOSED KEY FIGURES
Australia LIS - Australia 2018 (AU18) LIS - Australia 2016 (AU16) LIS - Australia 2014 (AU14) LIS - Australia 2010 (AU10) LIS - Australia 2008 (AU08) LIS - Australia 2004 (AU04) LIS - Australia 2003 (AU03) LIS - Australia 2001 (AU01) LIS - Australia 1995 (AU95) LIS - Australia 1989 (AU89) LIS - Australia 1985 (AU85) LIS - Australia 1981 (AU81)	Income Inequality Measures Gini Coefficient Atkinson Coefficient (epsilon=0.5) Atkinson Coefficient (epsilon=1) Percentile Ratio (90/10) Percentile Ratio (90/50) Percentile Ratio (80/20)
Austria LIS - Austria 2019 (AT19) LIS - Austria 2018 (AT18) LIS - Austria 2017 (AT17) LIS - Austria 2016 (AT16) LIS - Austria 2015 (AT15) LIS - Austria 2014 (AT14) LIS - Austria 2013 (AT13) LIS - Austria 2012 (AT12) LIS - Austria 2011 (AT11) LIS - Austria 2010 (AT10) LIS - Austria 2009 (AT09) LIS - Austria 2008 (AT08) LIS - Austria 2007 (AT07) LIS - Austria 2006 (AT06)	Relative Poverty Rates Relative Poverty Rates - Total Population (40%) Relative Poverty Rates - Total Population (50%) Relative Poverty Rates - Total Population (60%) Relative Poverty Rates - Children (40%) Relative Poverty Rates - Children (50%) Relative Poverty Rates - Children (60%) Relative Poverty Rates - Elderly (40%) Relative Poverty Rates - Elderly (50%) Relative Poverty Rates - Elderly (60%)
	Distribution of Children by Income Group Distribution of Children by Income Group (50-75%) Distribution of Children by Income Group (75-150%) Distribution of Children by Income Group (above 150%)
	Poverty Rates for Children Children Poverty Rates - Two-Parent Families (50%) Children Poverty Rates - Single-Mother Families (50%) % Children Living in Single-Mother Families
	Income Distribution Measures Median Equivalized Income Mean Equivalized Income

How would you like to visualize the income/wealth data ?

DART
 Data Access Research Tool
 Explore income and wealth inequality around the world

What type of data are you looking for ?

Income

Wealth

Our World in Data
tool to explore
data on poverty

Explore data on Poverty

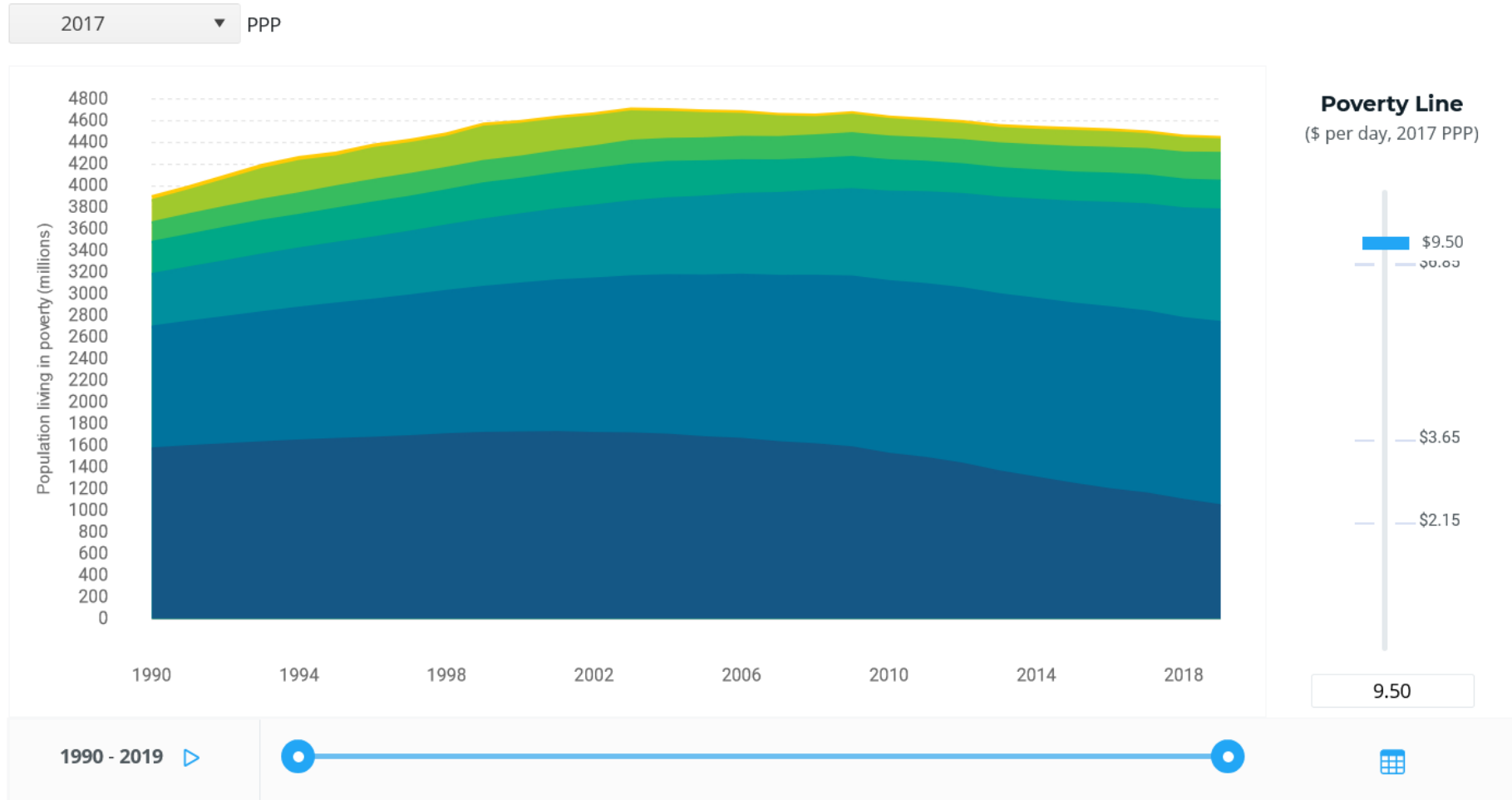


World Bank Poverty and Inequality Platform

4.45 billion

[Take a Tour](#)

people lived below the **\$9.50** per day poverty line in 2019

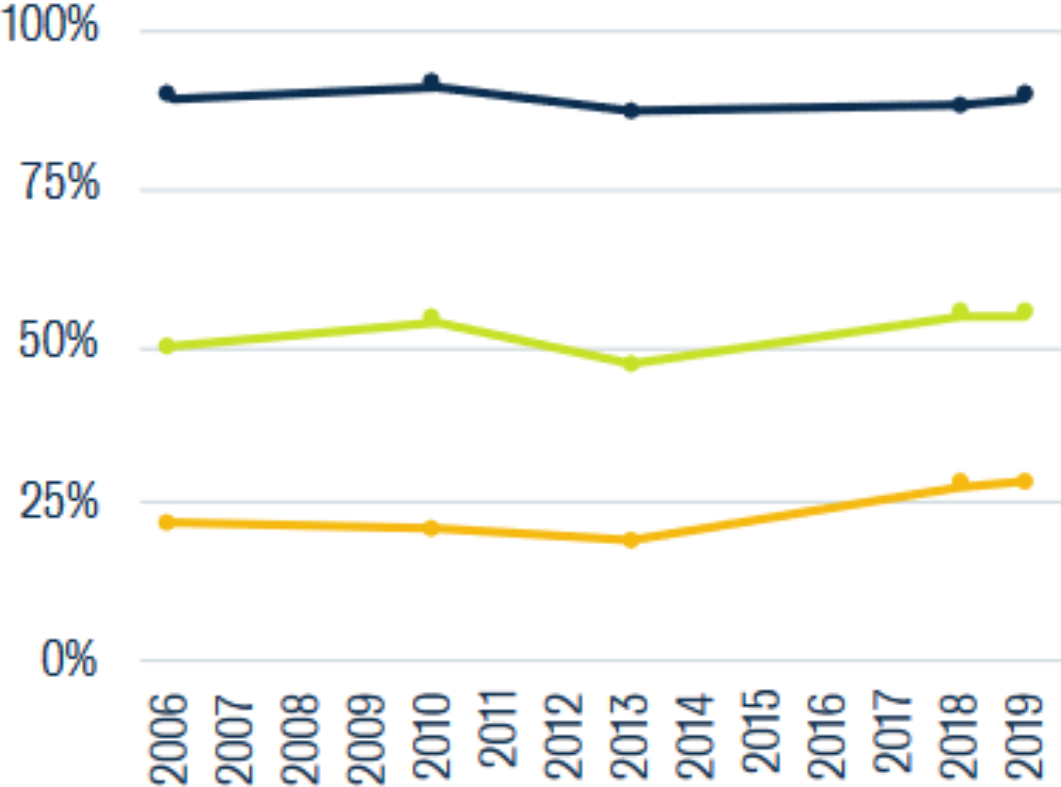


Measuring perceptions of poverty

Who is in poverty in public view: the case of UK

FIGURE 1: PUBLIC VIEWS OF WHAT POVERTY MEANS (BRITISH SOCIAL ATTITUDES)

Would you say someone was or was not in poverty if they had...
% define as being "in poverty"



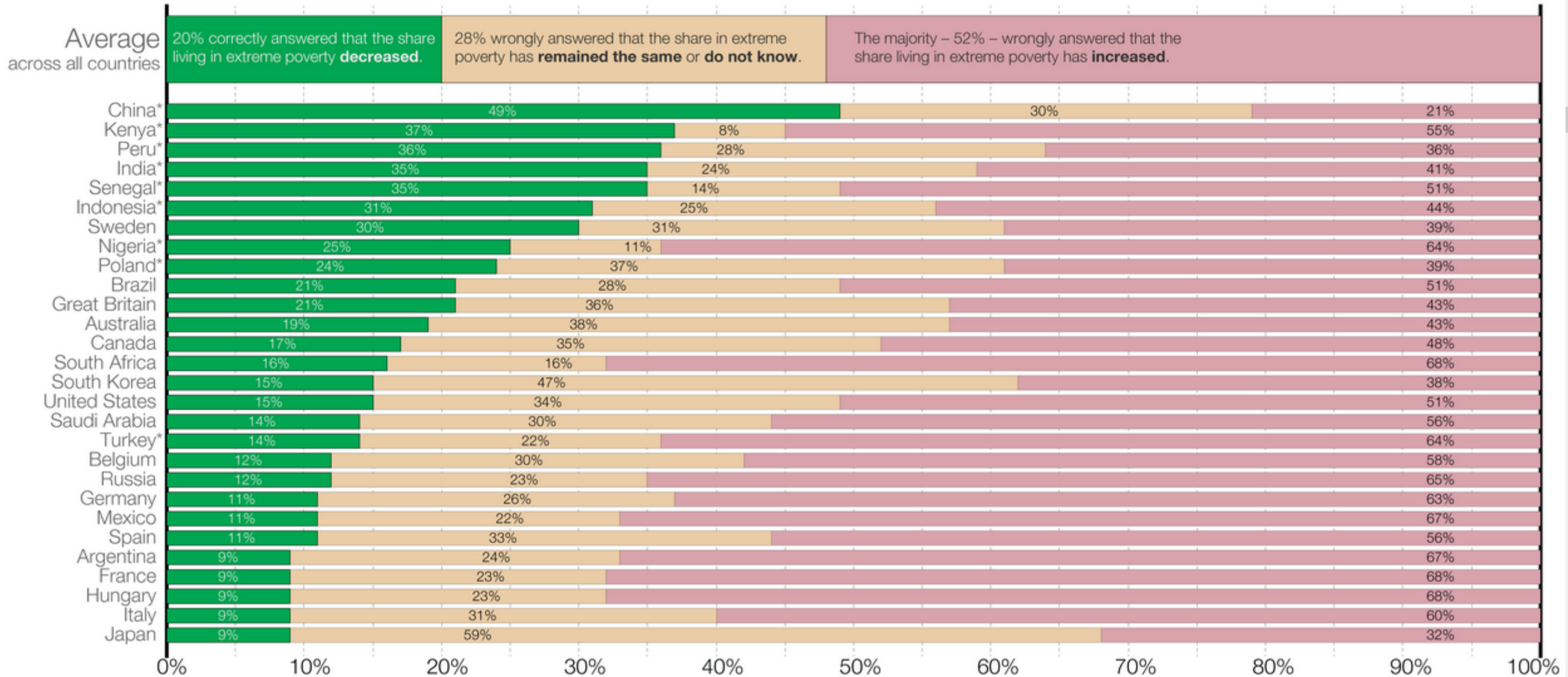
Not got enough to eat and live without getting into debt

Enough to eat and live, but not enough to buy other things they need

Enough to buy the things they really need, but not enough to buy the things most people take for granted

Public perception of the change in global extreme poverty

Survey question: "In the last 20 years, the proportion of the world population living in extreme poverty has decreased, increased, or remained the same?"



Data source: Ipsos – Perils of Perception. September 2017. All countries marked with a * were low-income or lower-middle income countries one generation ago (in 1990).

The data visualization is available at OurWorldinData.org. There you find research and more visualizations on this topic.

Licensed under [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) by the author Max Roser.

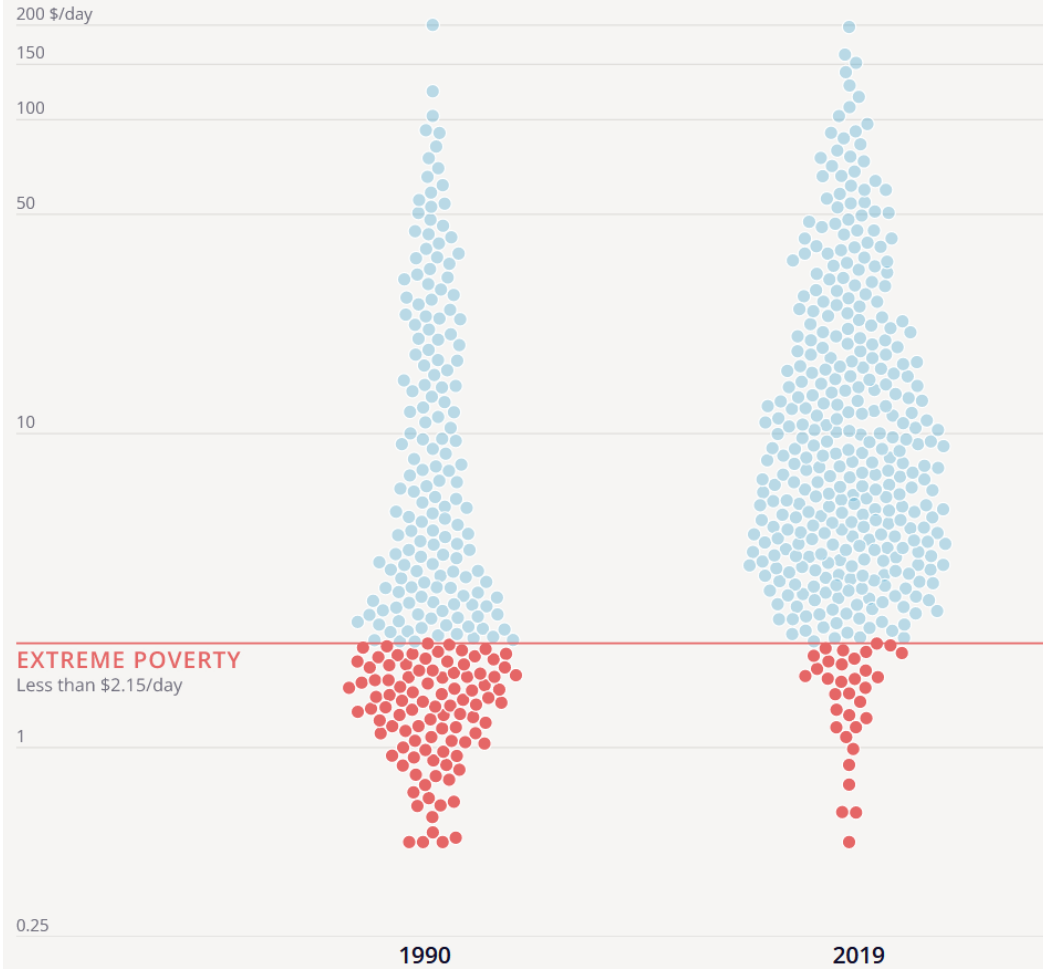
Extreme poverty: global trends

Progress in ending extreme poverty

Distribution of income (\$/day). Each dot represents 20 million people

● Above international poverty line ● Below international poverty line

WORLDWIDE



Progress in ending extreme poverty

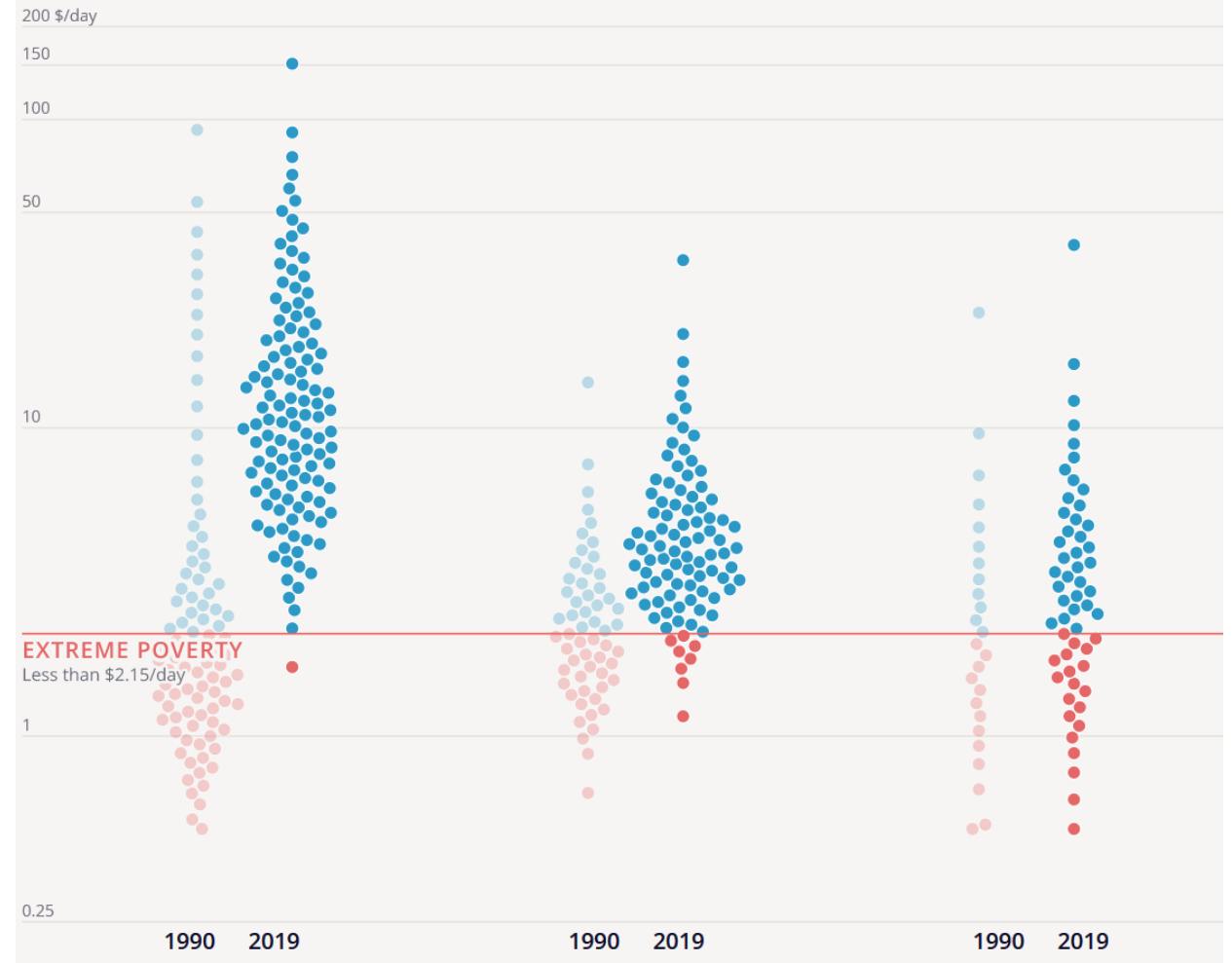
Distribution of income (\$/day). Each dot represents 20 million people

● Above international poverty line ● Below international poverty line

EAST ASIA & PACIFIC

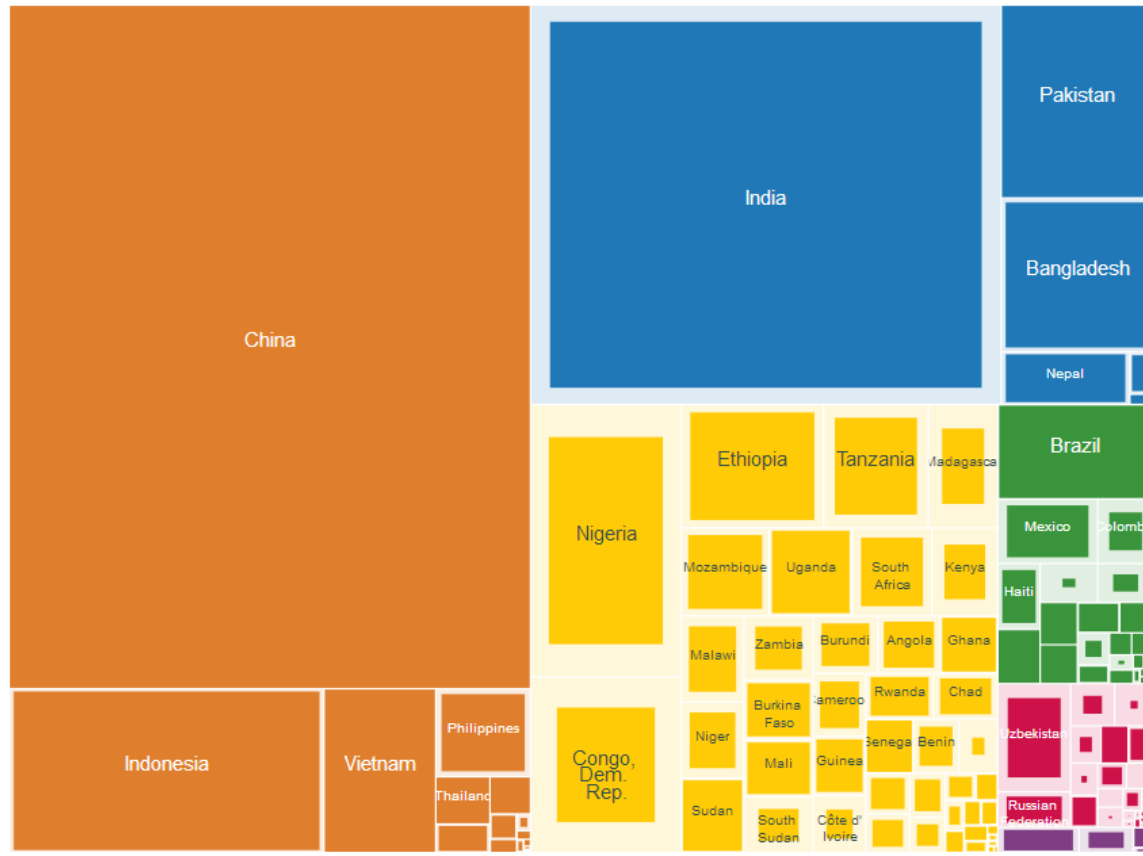
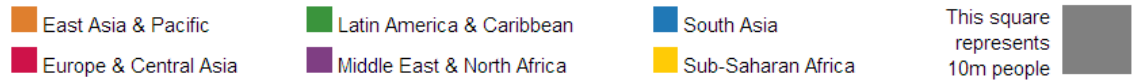
SOUTH ASIA

SUB-SAHARAN AFRICA

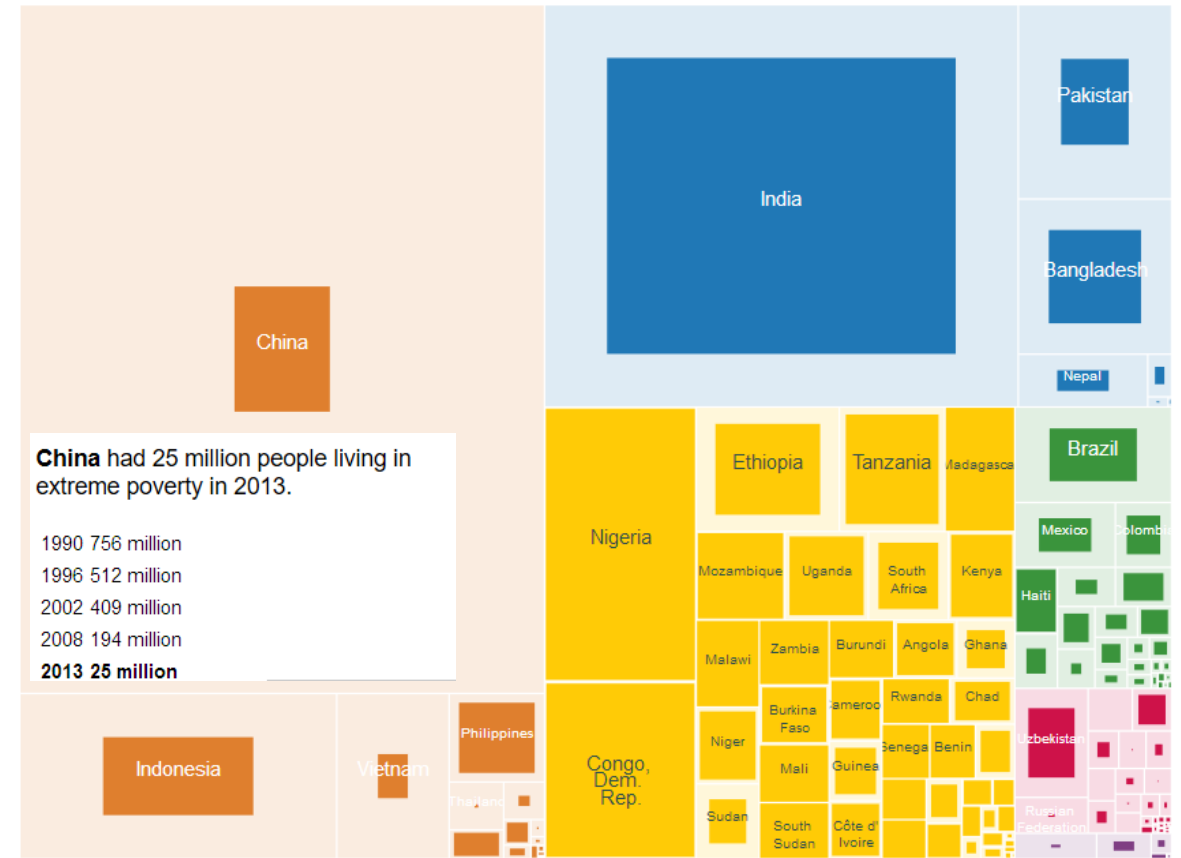
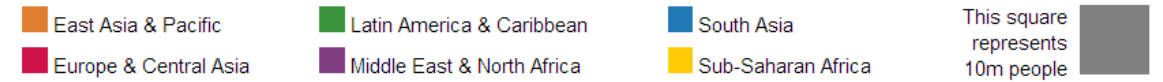


Number of people living in extreme poverty and China case (1990-2013)

People living in extreme poverty, 1990

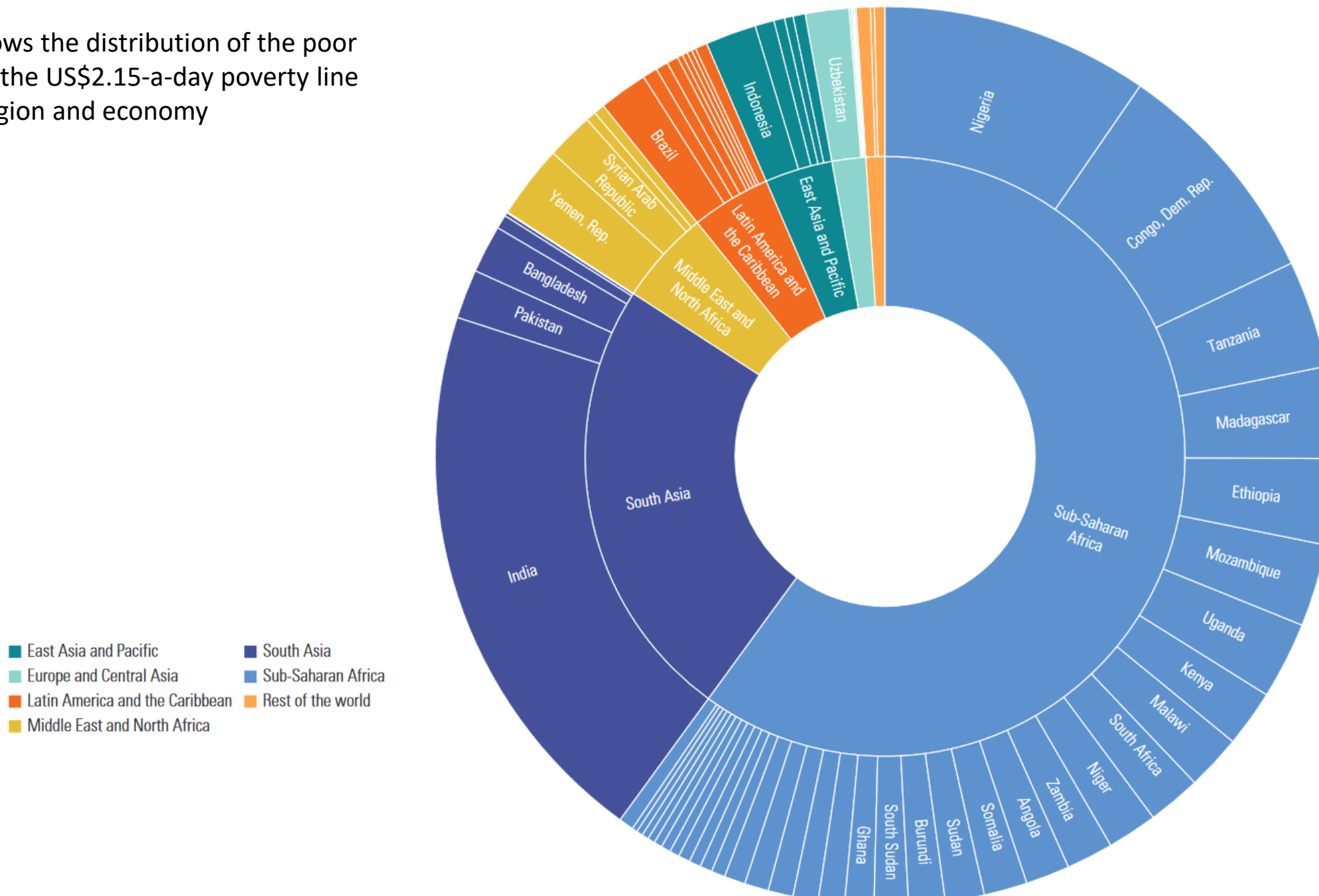


People living in extreme poverty, 2013



The global extreme poor are concentrated in Sub-Saharan Africa

The figure shows the distribution of the poor population at the US\$2.15-a-day poverty line in 2019, by region and economy

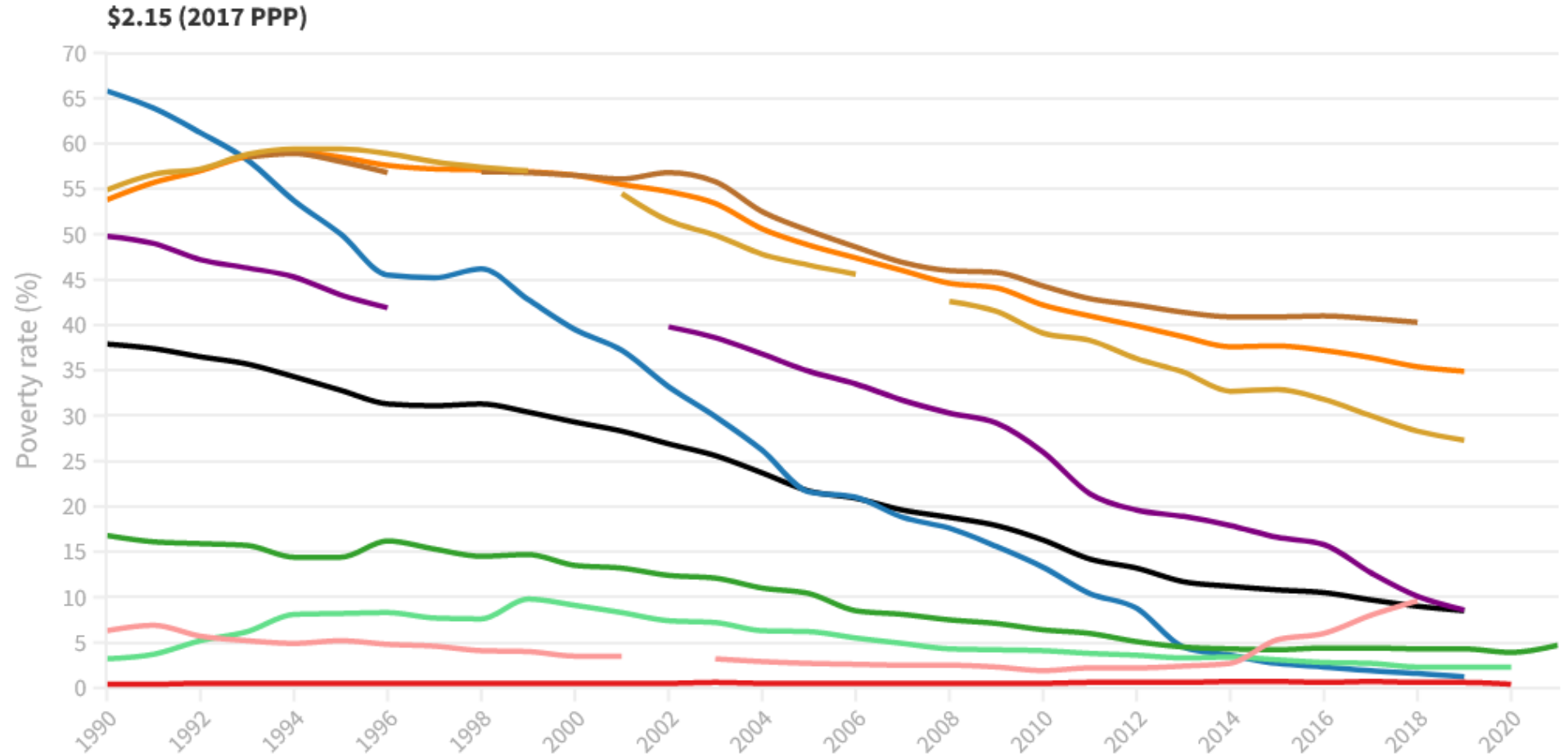


Population below
2.15\$ 1990-2021 by
groups of countries

Figure 1: Global and regional poverty estimates, 1990 - 2021

\$2.15 (2017 PPP) ▼

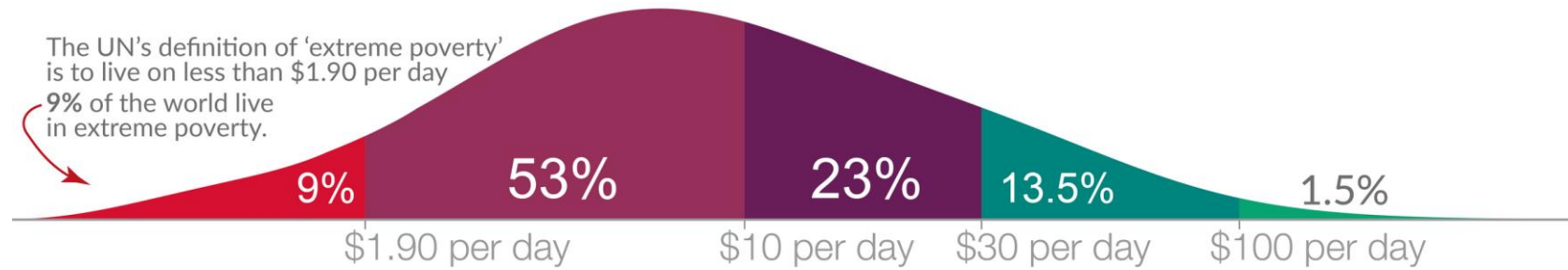
- World
- East Asia and Pacific
- Europe and Central Asia
- Latin America and the Caribbean
- Middle East and North Africa
- Other High Income
- South Asia
- Sub-Saharan Africa
- Eastern and Southern Africa
- Western and Central Africa



Source: [Poverty and Inequality Platform](#)

Note: PIP's global and regional coverage rule is applied.

Global distribution of population with previous global poverty line \$1.90

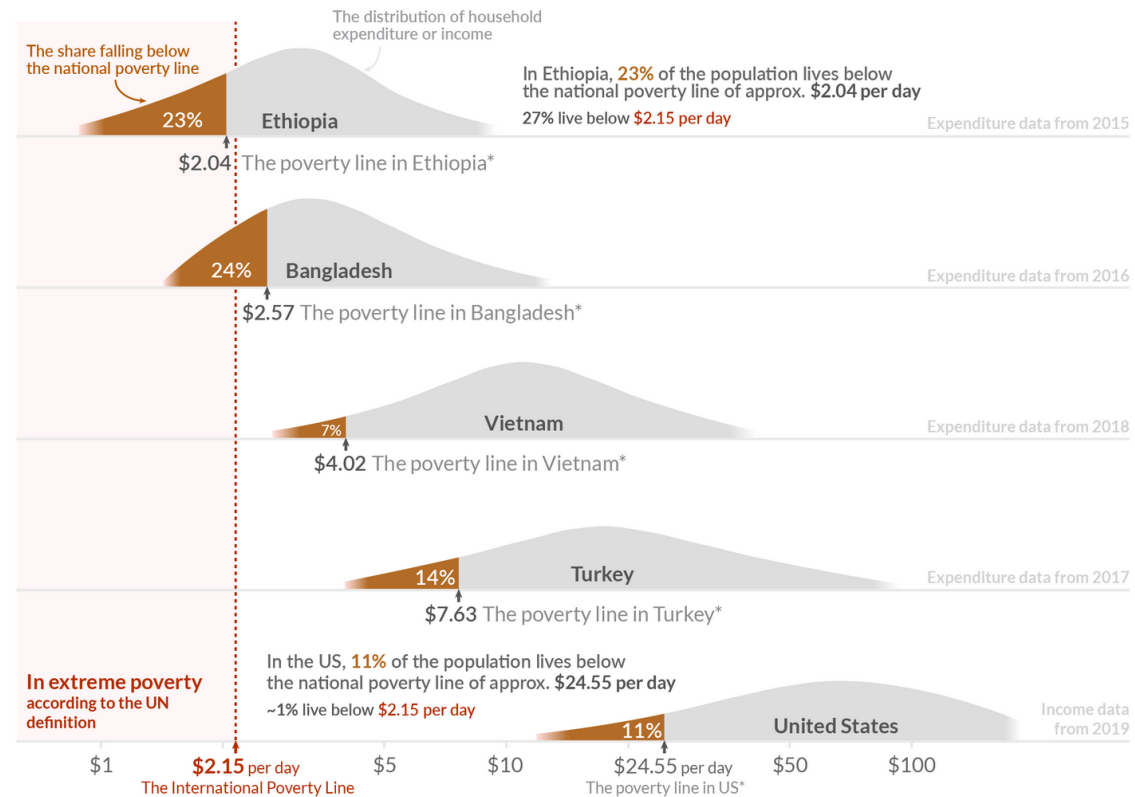


National poverty lines at different levels with less and more affluent countries and global poverty line at \$2.15

National poverty lines, poverty rates & incomes in five countries

Our World in Data

All figures are adjusted to account for differences in the cost of living across countries.



Note: All figures are expressed in 2017 international-\$. The tails of the distribution are not shown since they tend to be poorly captured by household surveys on which this data is based.

*Poverty lines are approximations of national definitions, harmonized to allow comparisons across countries. All poverty lines are from Jolliffe et al. (2022), except for US - which we calculate from the value that in the World Bank's poverty data yields the same rate as the official US Census Bureau poverty rate in 2019.

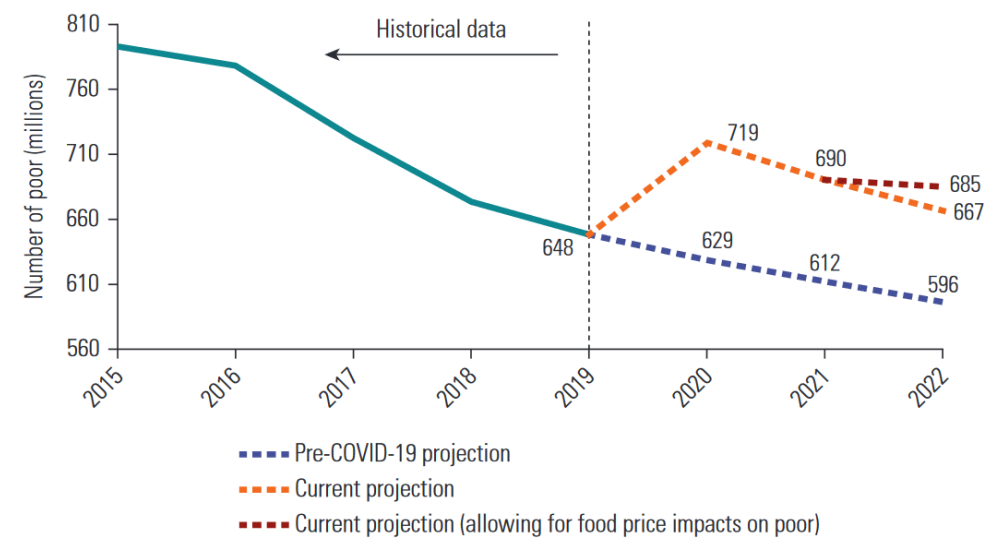
Source: Jolliffe et al. (2022); US Census Bureau; World Bank Poverty and Inequality Platform.

OurWorldinData.org - Research and data to make progress against the world's largest problems.

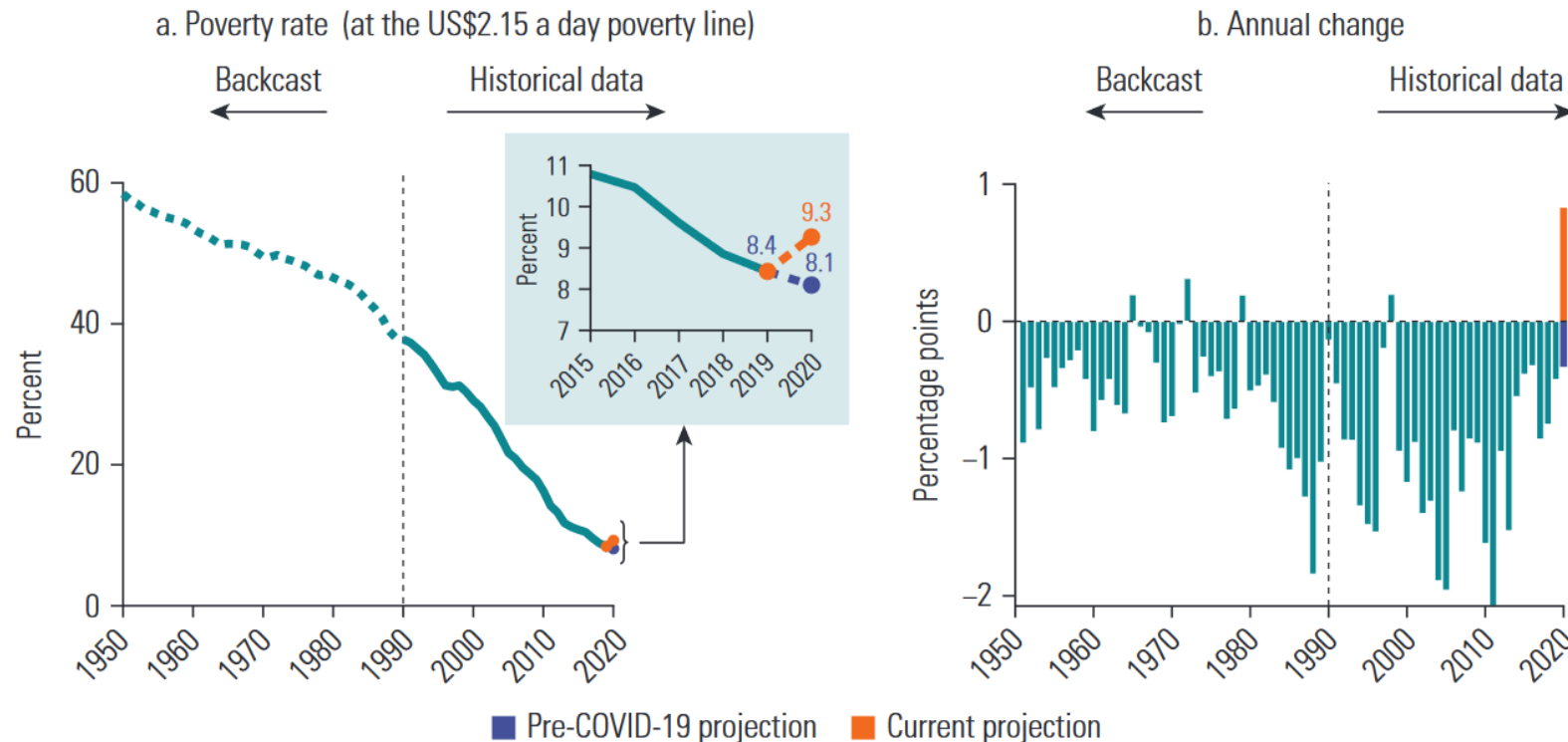
Licensed under CC-BY by the author Joe Hasell.

COVID-19 shock to global poverty

Poverty reduction resumed slowly in 2021 but may stall in 2022



The COVID-19 pandemic triggered a historic shock to global poverty



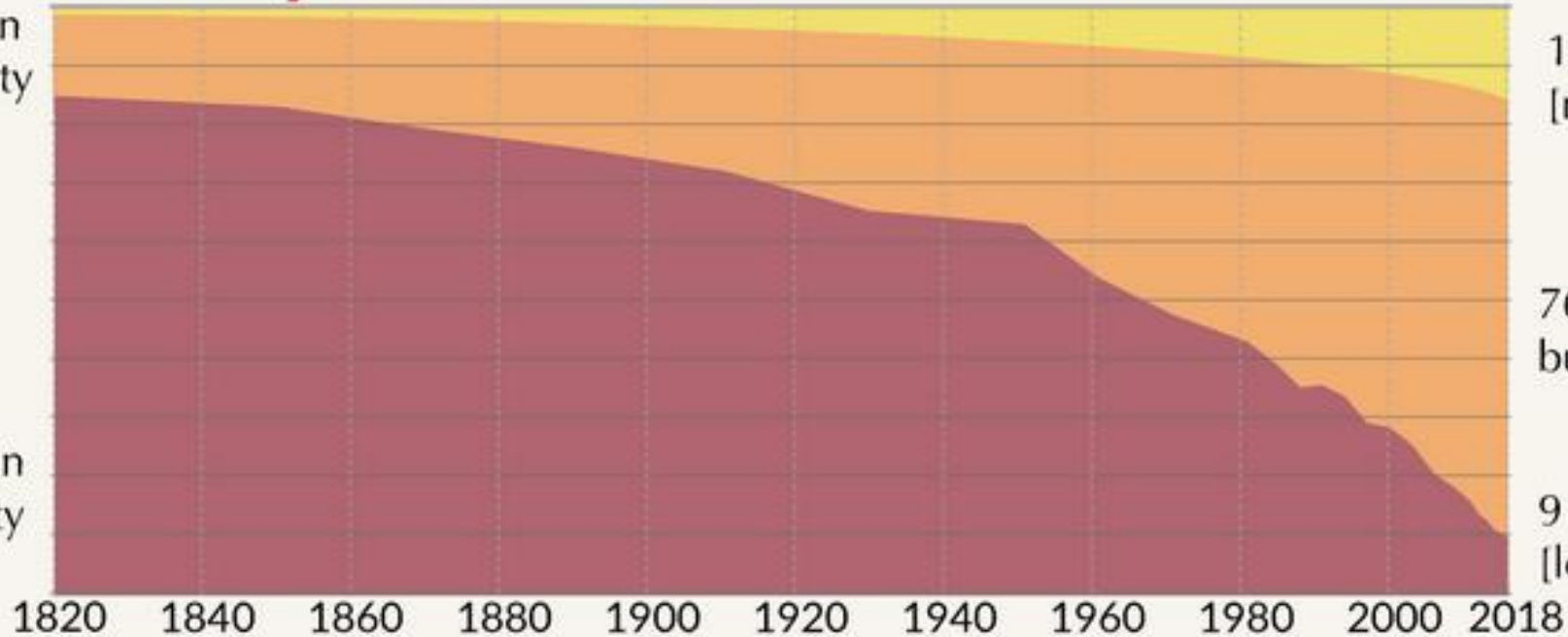
But what if the poverty threshold is set at \$30?

The world as 100 people

Poverty

16 not living in extreme poverty

84 living in extreme poverty



15 not living in poverty
[more than \$30 per day]

76 not in extreme poverty
but in poverty

9 living in extreme poverty
[less than 1.90 per day]

[The controversy about poverty rate charts in long periods](#)

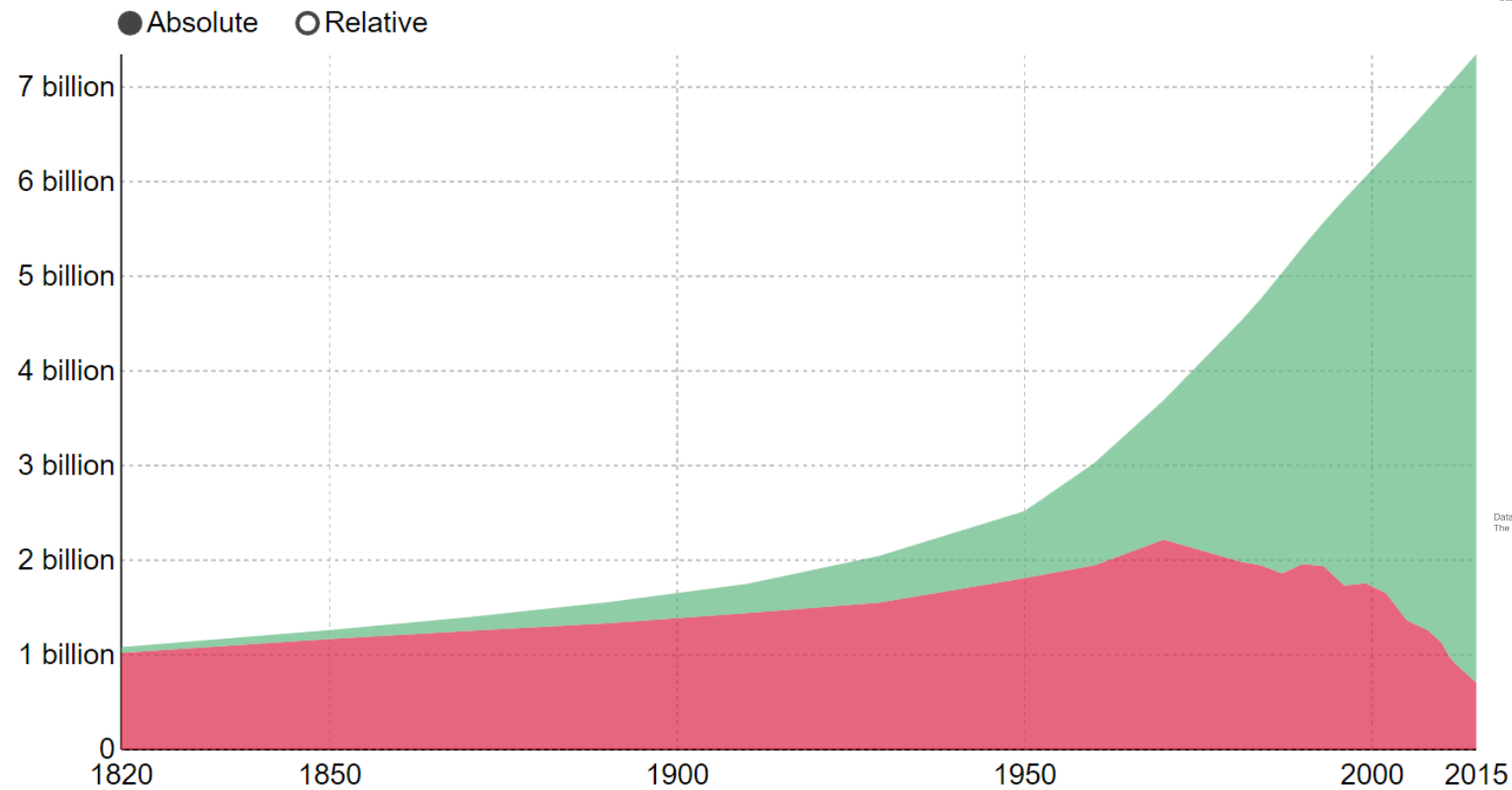
Global poverty trends vs people pessimism

World population living in extreme poverty, 1820-2015

Extreme poverty is defined as living at a consumption (or income) level below 1.90 "international \$" per day. International \$ are adjusted for price differences between countries and for price changes over time (inflation).



Number of people living in extreme poverty Number of people not in extreme poverty

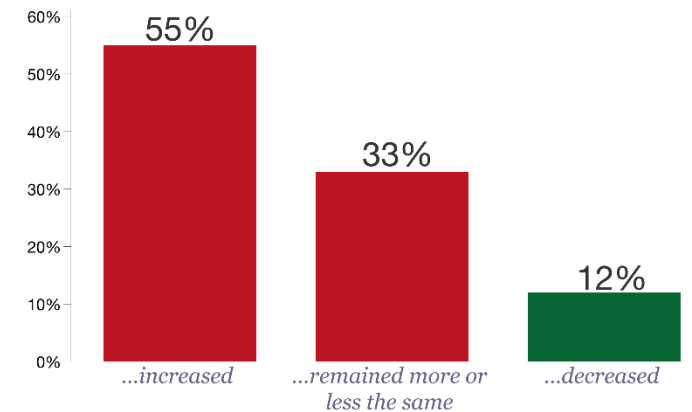


Survey result: Only few people know that extreme poverty is declining

Shown is how respondents to the survey by Gapminder completed the following statement:



"In the last 30 years the proportion of the World population living in extreme poverty has..."



Data source: Gapminder - Ignorance Test for the UK, N=373 respondents that reported to have a university degree. The interactive data visualization is available at OurWorldInData.org. There you find the raw data and more visualizations on this topic.

Licensed under CC-BY-SA by the author Max Roser.

Source: World Poverty in absolute numbers (Max Roser based on World Bank and Bourguignon and Morrisson (2002))

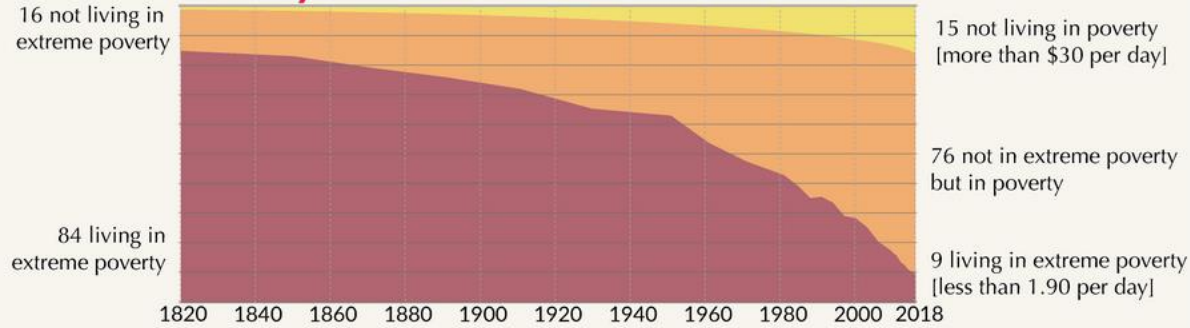
OurWorldInData.org/optimism-pessimism/ • CC BY-SA

[Max Roser and Esteban Ortiz-Ospina \(2018\) - "Global Extreme Poverty". Published online at OurWorldInData.org.](#)

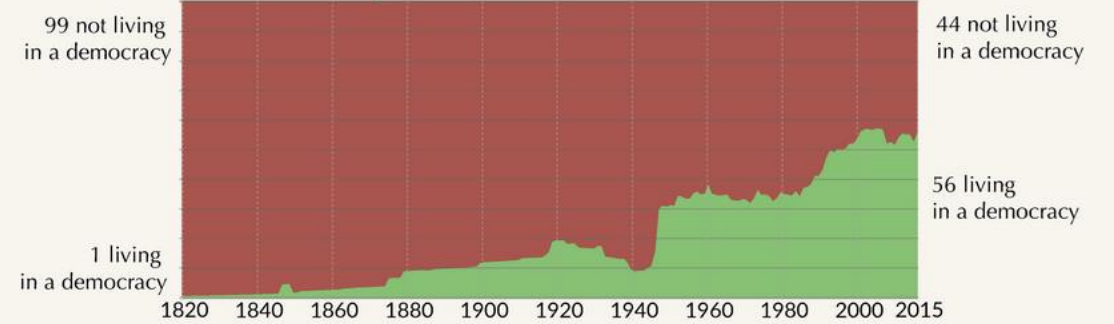
The World as 100 People over the last two centuries

Broader picture

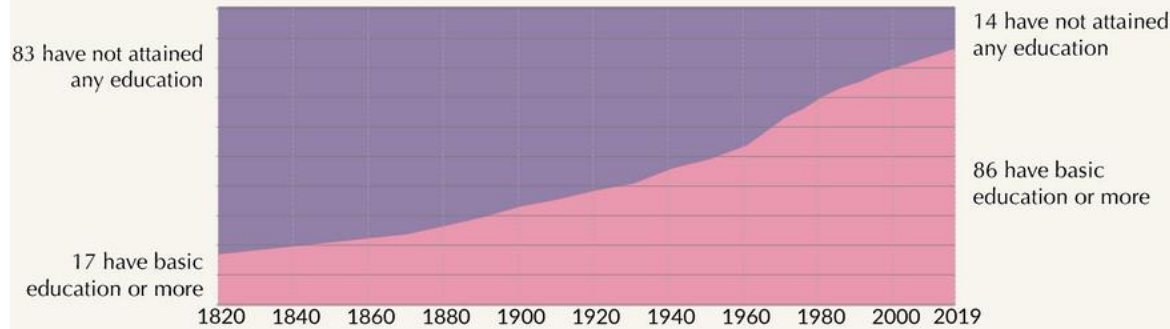
Poverty



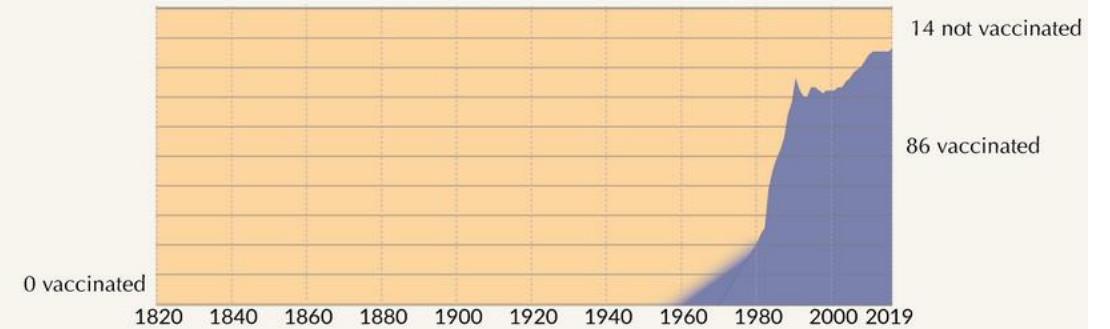
Democracy



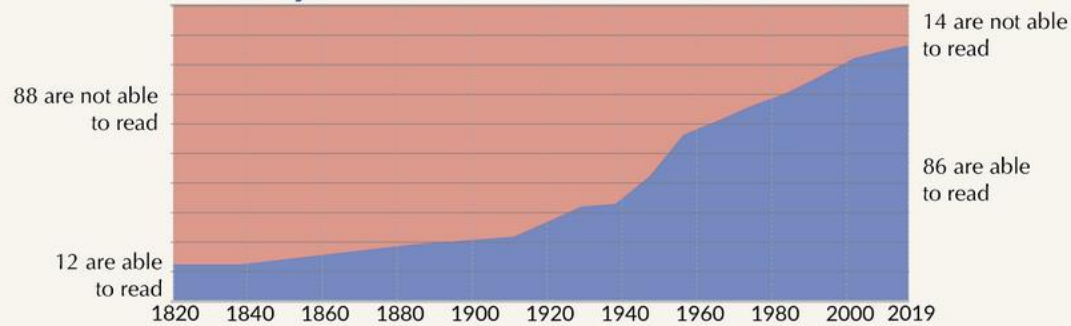
Basic Education



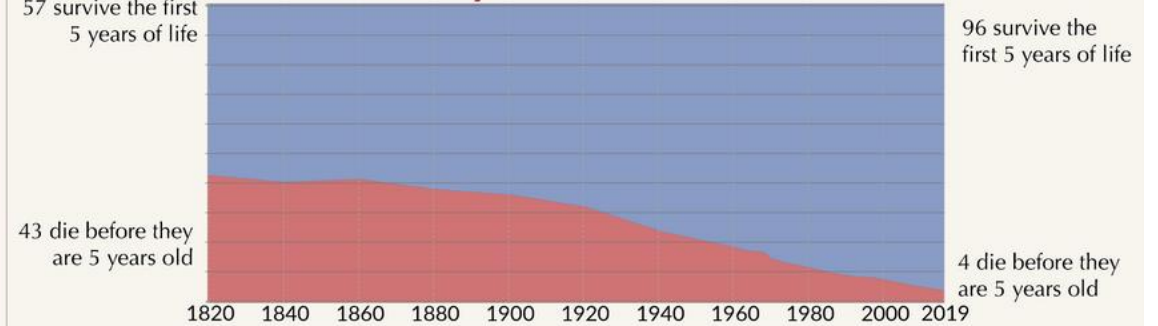
Vaccination against diphtheria, whooping cough, and tetanus



Literacy



Child Mortality

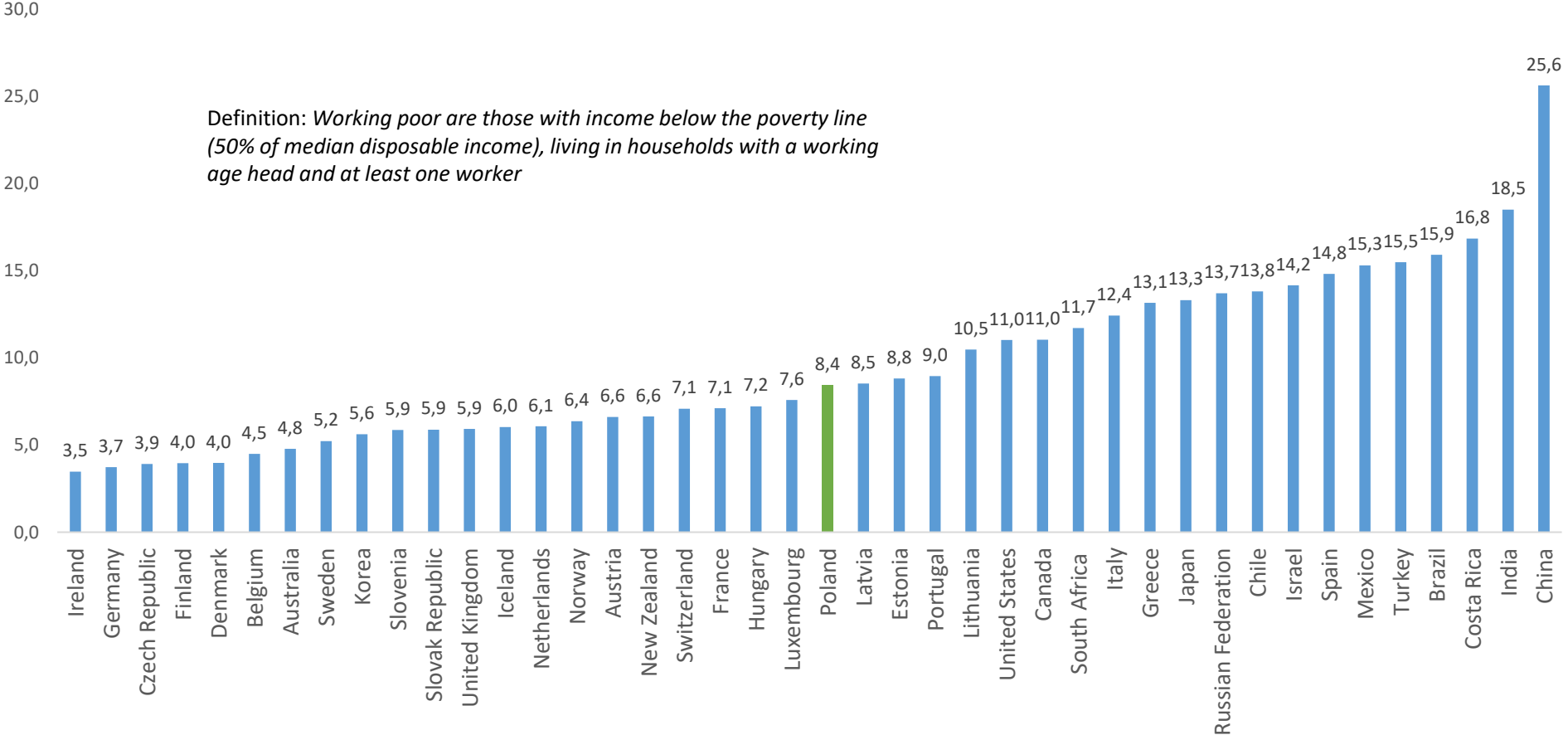


Other interesting empirical findings

In-work poverty or working poor: employed people in households below poverty line

Is employment a guarantee against poverty? No

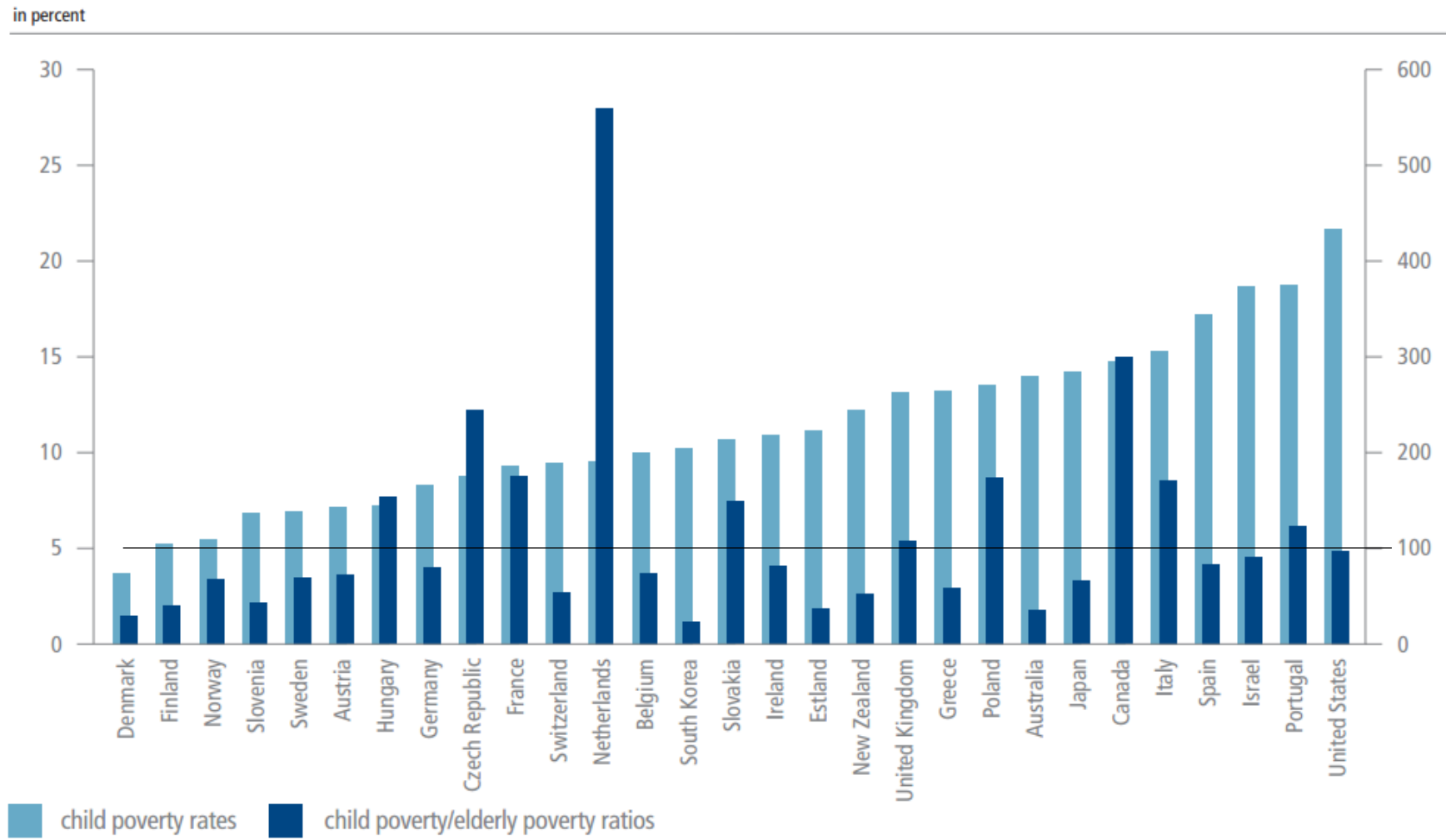
Working poor, relative poverty rate (in %, OECD data, last available year, 2017)



Data: <http://www.oecd.org/social/soc/IDD-Key-Indicators.xlsx>

Child and elderly poverty rates: comparison for OECD countries

Figure 3: Child poverty rates (left axis), and child poverty/elderly poverty ratios (right axis), late-2000s

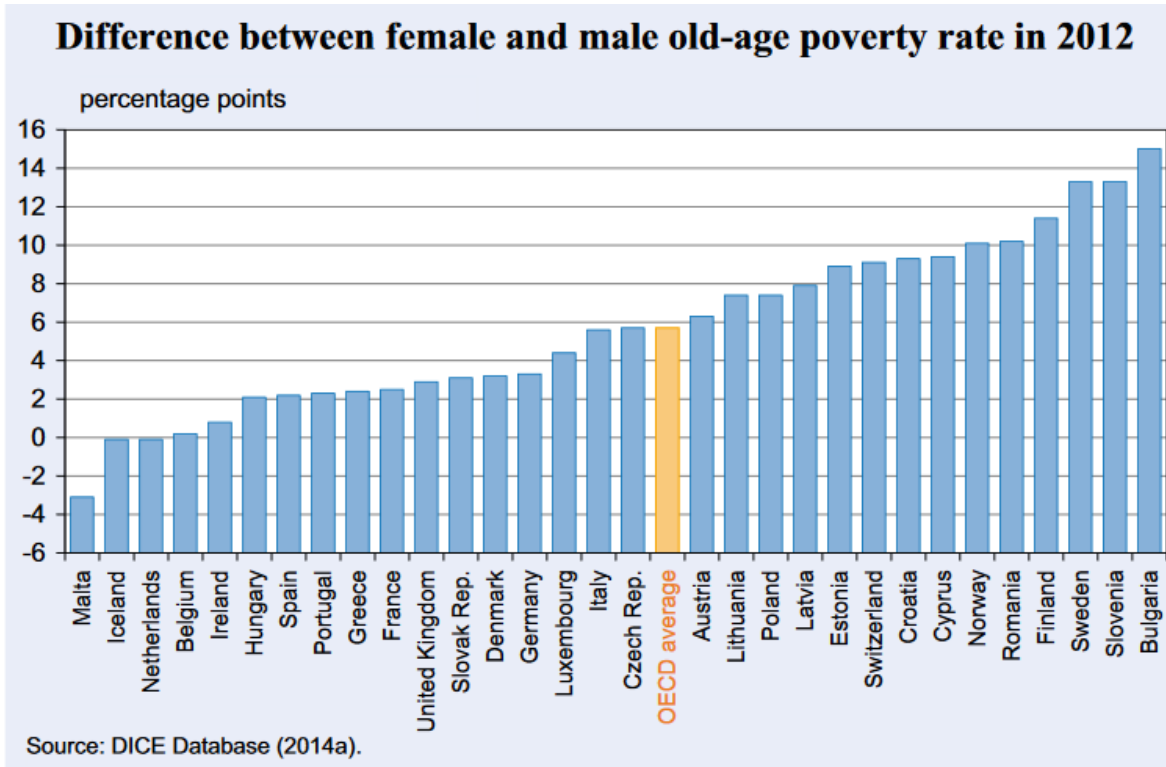


The lower the elderly poverty relative to child poverty the higher the ratio is e.g. 10% child poverty to 2% elderly poverty equals 500% ratio. If the ratio is below 100% it means that child poverty rate is less than elderly poverty rate

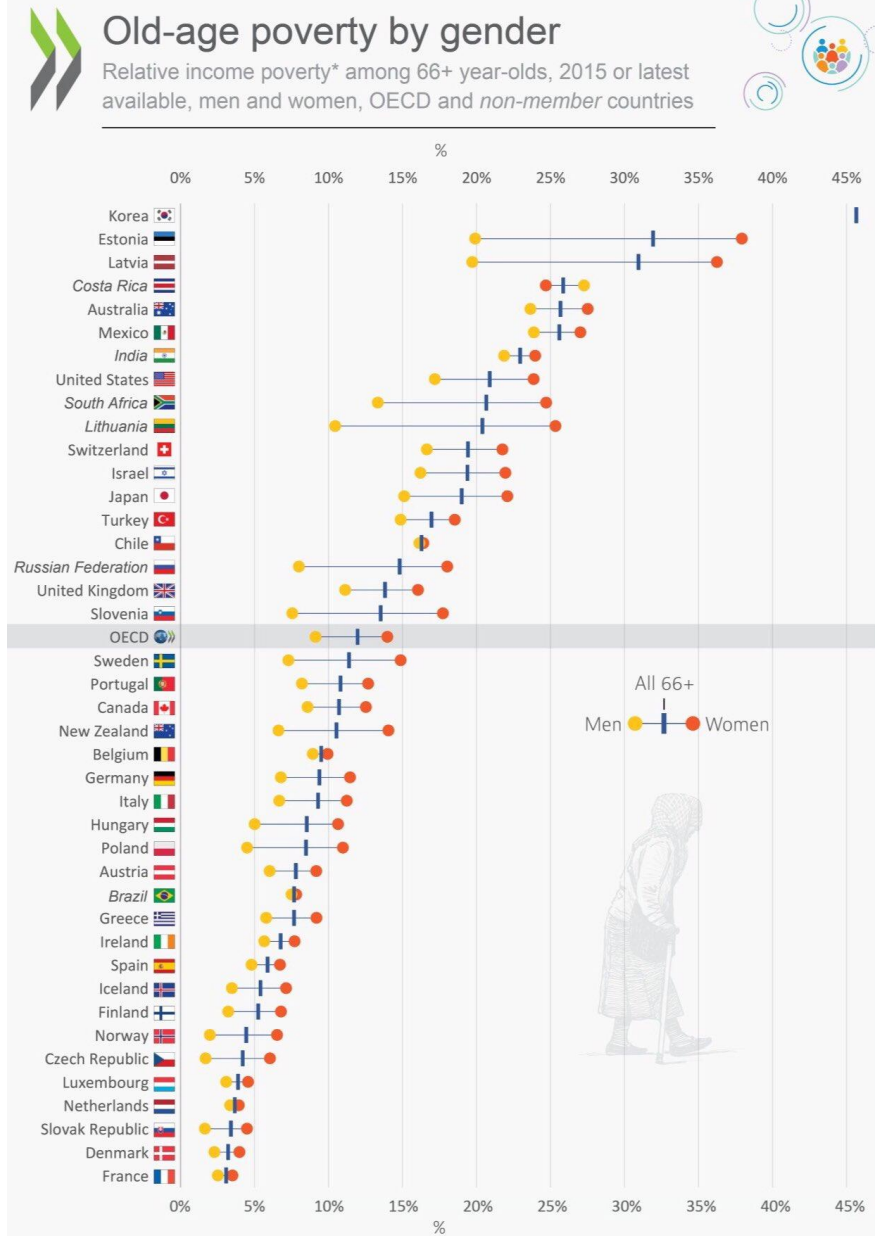
Note: Thresholds for both child poverty and elderly poverty are defined as less than 50 percent of median equivalized household income.

Source: OECD (2011).

Poverty rates for elderly by gender in OECD countries



<http://www.cesifo-group.de/DocDL/dice-report-2015-2-haitz-poverty-june.pdf>

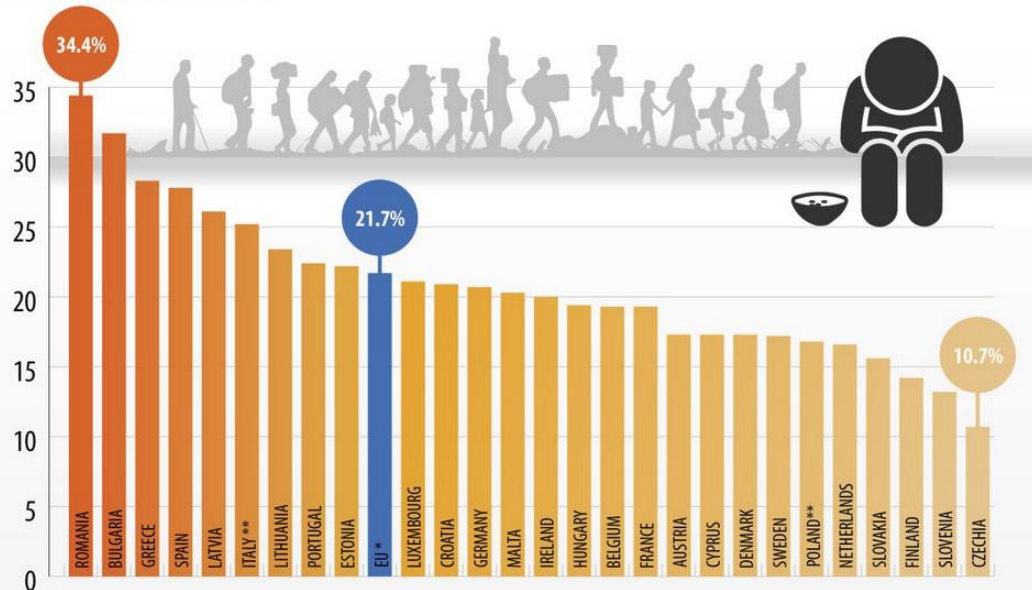


What if we use three indicators in one index: EU approach (at risk of poverty and social exclusion, AROPE) disaggregated for the EU

People identified by AROPE as percent of population

People at risk of poverty or social exclusion in the EU Member States

(% of total population, 2021)



* Estimates. ** Provisional.

Number of people at risk of poverty or social exclusion

Analysed by type of risk, EU, 2021, million



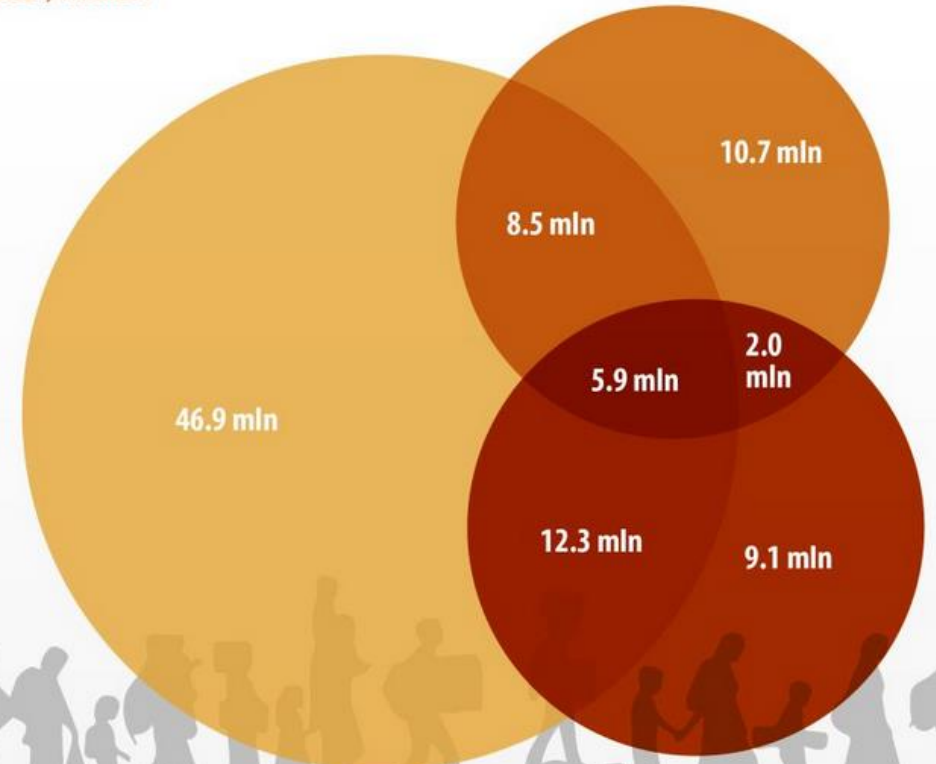
73.7 mln
at risk of poverty



27.0 mln
severely materially deprived



29.3 mln
living in a household
with low work intensity



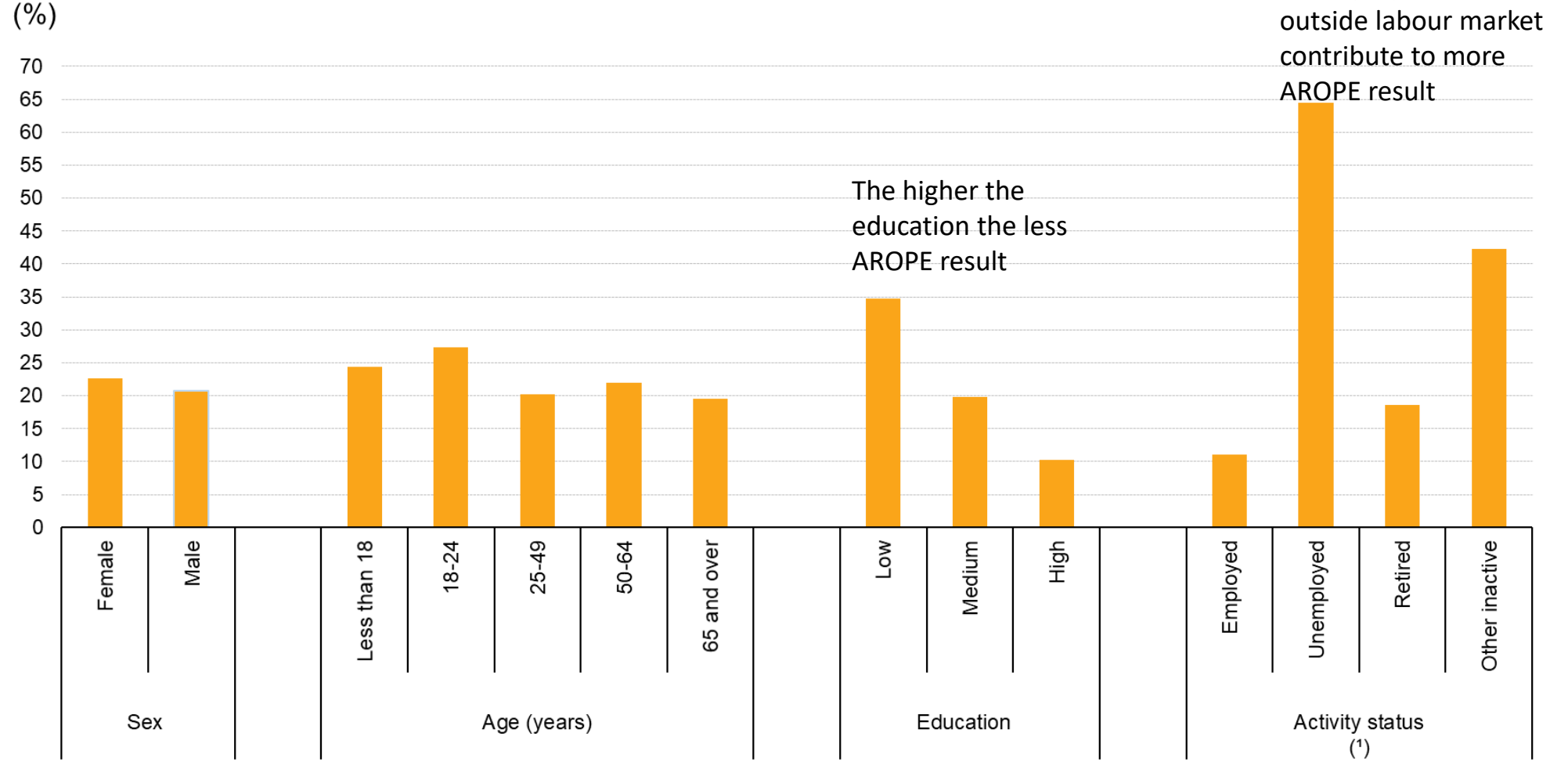
Note: estimates.

Due to rounding, the sum of the data for the seven intersecting groups may differ slightly from the totals published elsewhere.

Overlapping areas indicate people with two or all problems, e.g. in a low income and low work intensity household (12.3 million), in a low income and severe material deprivation household (8.5 million). However, the majority are in households with low income but no deprivation and low work intensity (46.9 million).

EU approach
disaggregated by
sex, age,
education,
economic activity
status

Share of people at risk of poverty or social exclusion, analysed by socio-economic characteristic, EU, 2021



Note: estimates.

(1) Population aged 18 years and over.

Source: Eurostat (online data codes: ilc_peps01n, ilc_peps02n, ilc_peps04)

Figure 4.6: Share of individuals who are income poor, asset poor, and both income and asset poor, total population, 2015 or closest available year

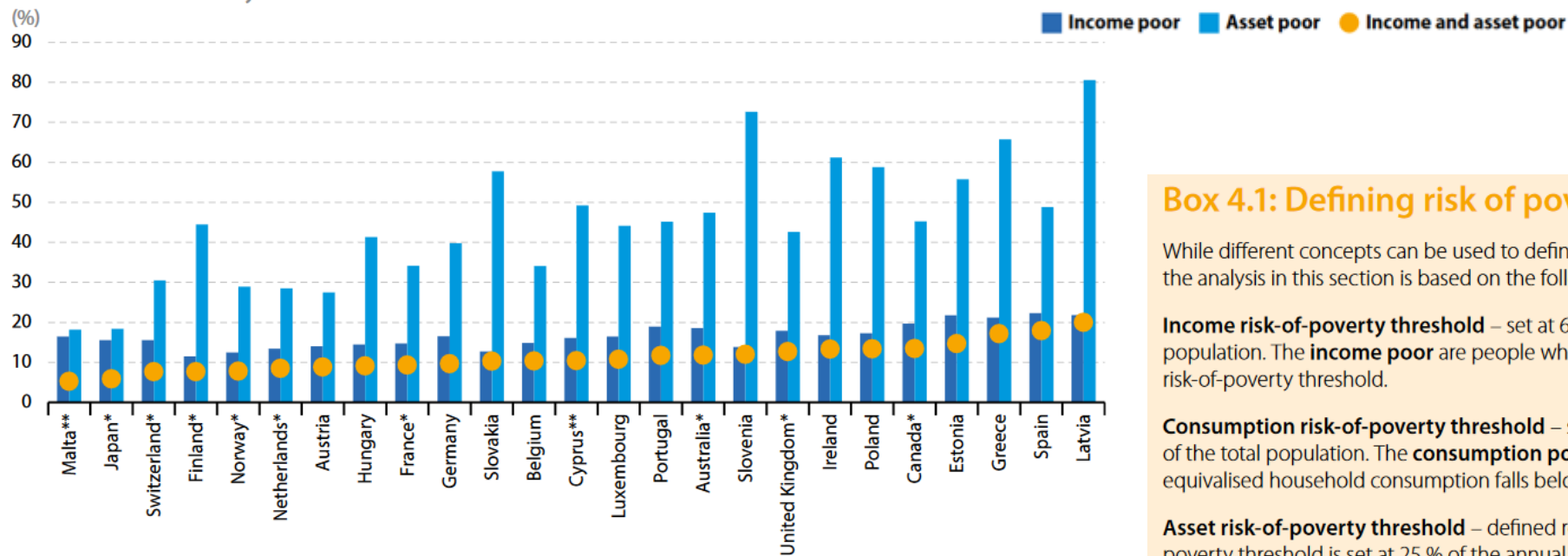
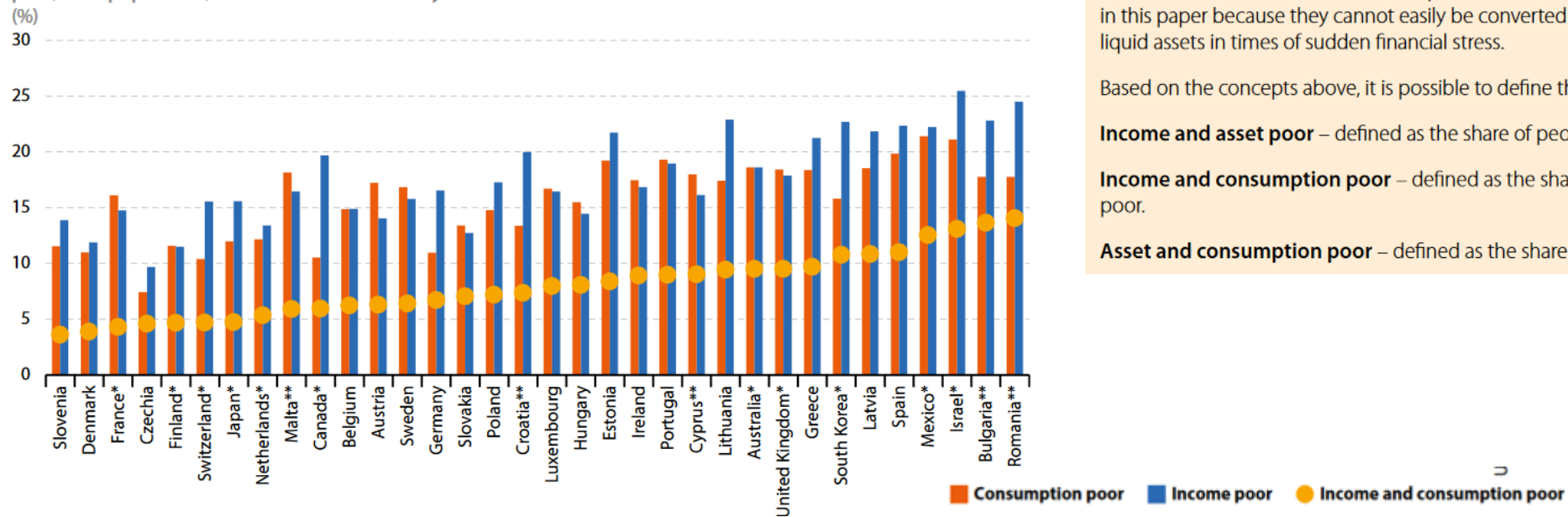


Figure 4.7: Percentage of individuals who are income poor, consumption poor, and both income and consumption poor, total population, 2015 or closest available year



Box 4.1: Defining risk of poverty in a multi-dimensional setting

While different concepts can be used to define risk of poverty (in terms of income, consumption and wealth), the analysis in this section is based on the following.

Income risk-of-poverty threshold – set at 60 % of the median household equivalised income of the total population. The **income poor** are people whose equivalised household disposable income falls below this risk-of-poverty threshold.

Consumption risk-of-poverty threshold – set at 60 % of the median household equivalised consumption of the total population. The **consumption poor** are people (in different demographic groups) whose equivalised household consumption falls below this risk-of-poverty threshold.

Asset risk-of-poverty threshold – defined relative to either income or consumption. The asset risk-of-poverty threshold is set at 25 % of the annual income (consumption) risk-of-poverty threshold. As such, the **asset poor** are people who lack sufficient *liquid financial assets* to maintain a risk-of-poverty-level living standard for at least three months. Illiquid assets are excluded from the definition of asset risk of poverty used in this paper because they cannot easily be converted into cash and are less useful than savings and other liquid assets in times of sudden financial stress.

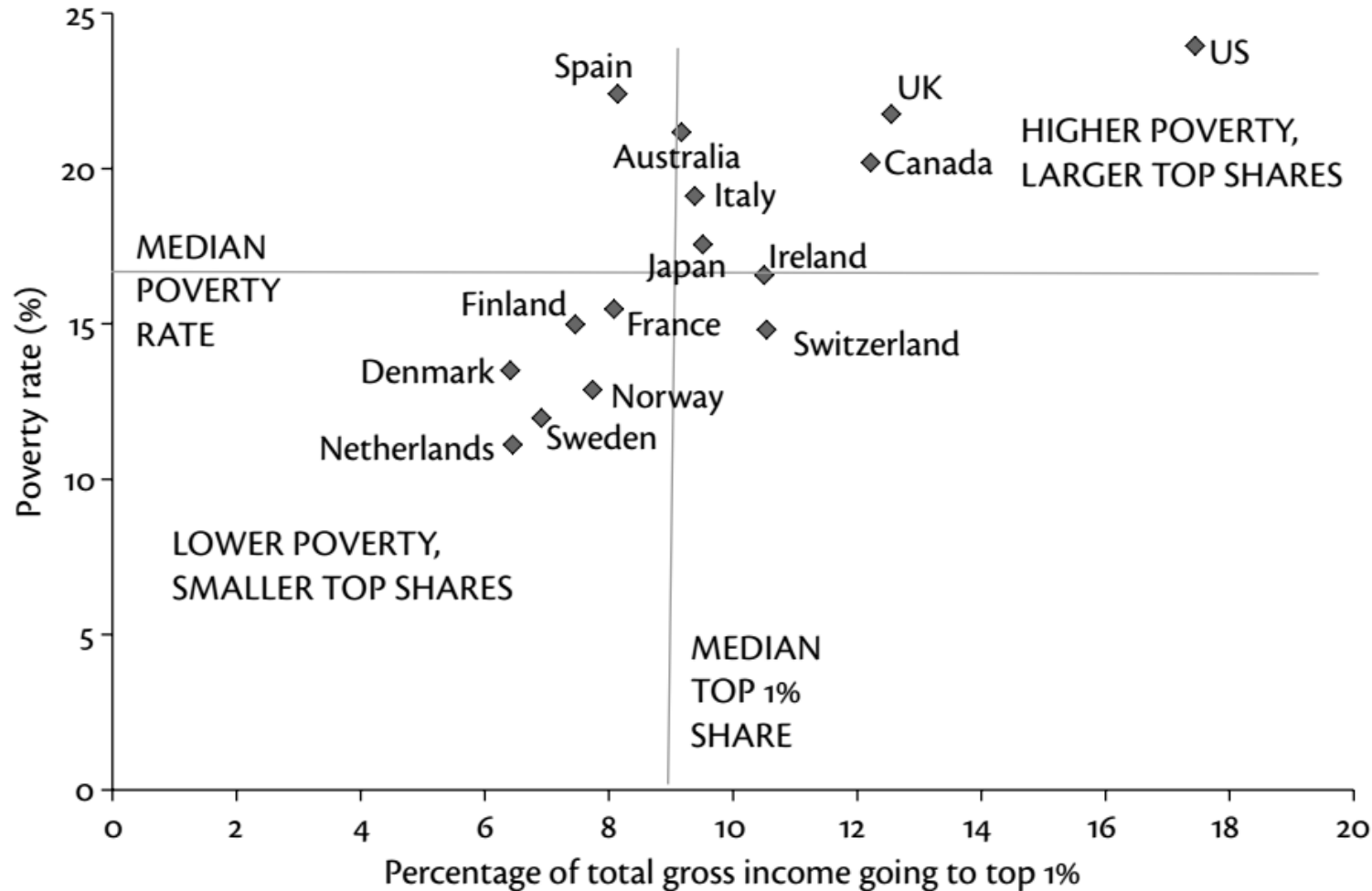
Based on the concepts above, it is possible to define the following groups of people.

Income and asset poor – defined as the share of people who are both income and asset poor.

Income and consumption poor – defined as the share of people who are both income and consumption poor.

Asset and consumption poor – defined as the share of people who are both asset and consumption poor

Poverty and inequality correlation



The higher the inequality measured as gross income going to top 1% the higher the poverty rate

FIGURE 1.4: Poverty and top income shares in selected countries, c. 2010

What we have learnt? Summary

1. There are several data tools we can use to describe poverty trends in time and with comparison between countries and continents: Luxembourg Income Study (LIS), Our World in Data, World Bank Poverty and Inequality Platform
2. Understanding and perception of poverty trends can be measured with interesting insights
3. There was a huge progress in reduction of extreme (absolute) poverty in the world from 1990s, but it depends on the poverty line and the trend was interrupted by COVID-19
4. Poverty is disaggregated in many different ways, e.g. by age, sex, economic activity
5. In-work poverty is a real issue, having a job is not a guarantee to be free from poverty due to measurement of poverty at the level of the household
6. EU approach to poverty is based on the complex index with three sub-measures of relative poverty (at risk of poverty), material and social deprivation and work intensity in the household. The higher education and economic activity, the lower the index of at risk of poverty or social exclusion
7. Poverty and inequality are positively correlated at least for some measures: the higher the poverty, the higher inequality