

Applied Research in Public Policy Making

Fall 2024

The many dimensions of poverty

Week 8

Martin Guzi

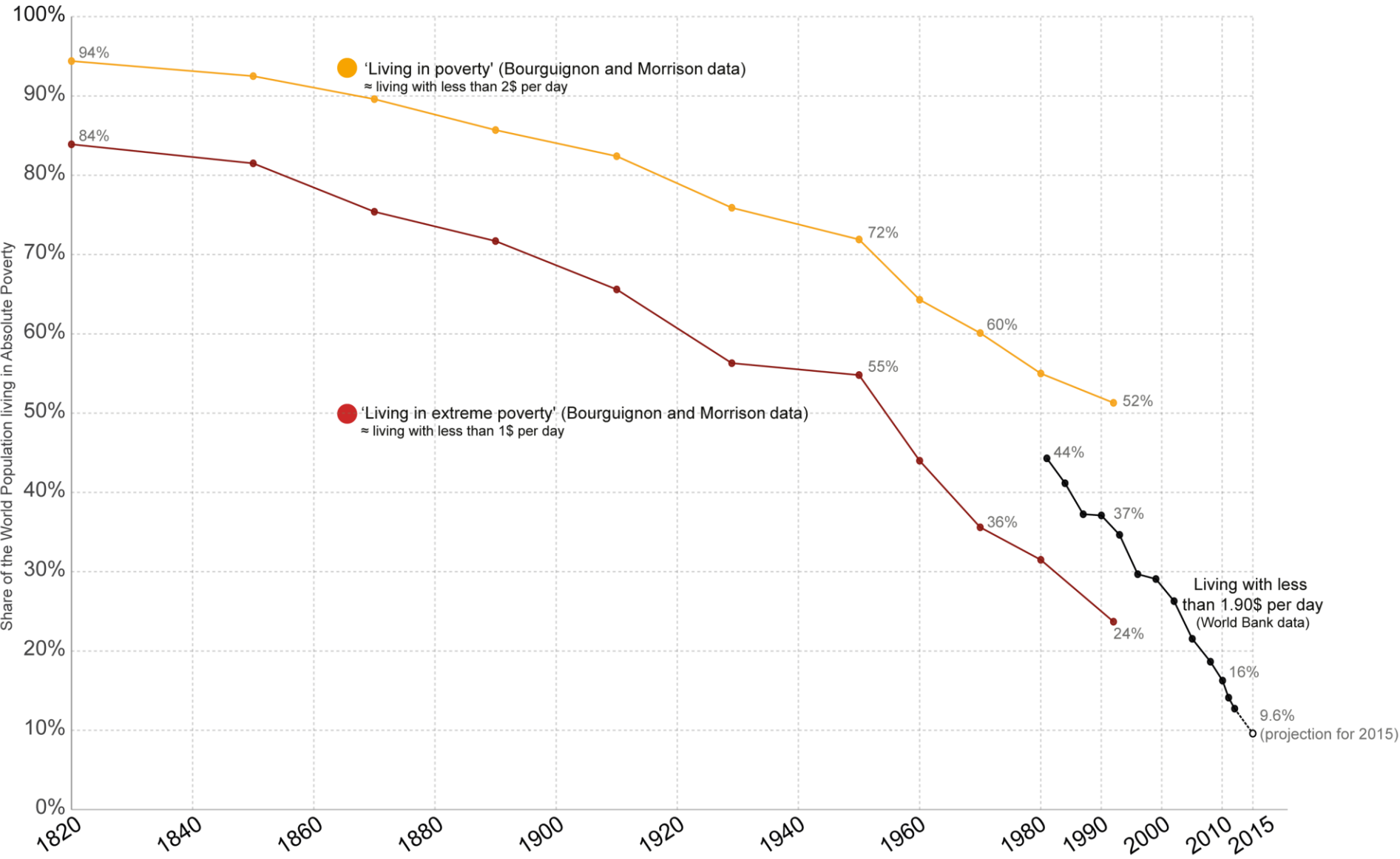
martin.guzi@econ.muni.cz

Outline

1. Measures of poverty based on income
2. Multidimensional measures of poverty
3. Self-employment and poverty
4. Poverty indicators used in the EU
5. Limitations of poverty indicators

Share of the World Population living in Absolute Poverty, 1820-2015

All data are adjusted for inflation over time and for price differences between countries (PPP adjustment).



Data sources: 1820-1992 Bourguignon and Morrison (2002) - Inequality among World Citizens, In The American Economic Review; 1981-2015 World Bank (PovcalNet)

The interactive data visualisation is available at OurWorldinData.org. There you find the raw data and more visualisations on this topic.

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

From \$1.90 to \$2.15 a day

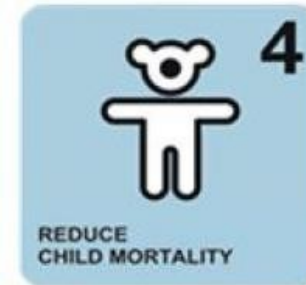
- In September 2022, World bank shifted the poverty line from \$1.90 to \$2.15.
- This reflects a change in the units in which the World Bank expresses its poverty – from international dollars given in 2011 prices to international dollars given in 2017 prices.
- In 2019 an estimated of 650 million people live below \$2.15 a day (2017 prices).
- <https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm>

8 Millennium Development Goals

From 2000 to 2015:

- extreme poverty declined from 2b to 900m
- Significant improvements in malnourishment, attendance in primary education, infant mortality.

The 8
Millennium
Development
Goals



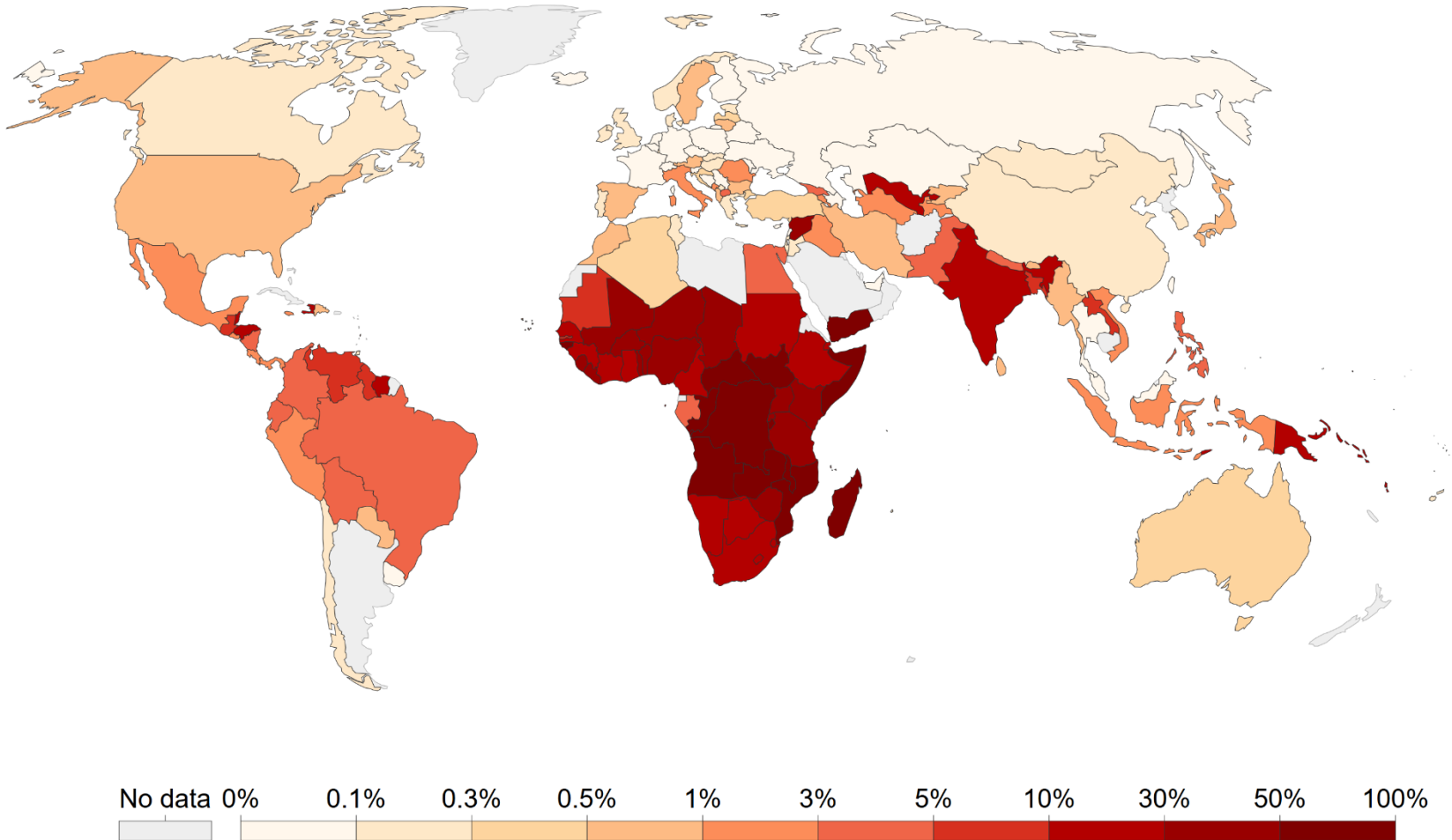
17 Sustainable Development Goals



SDGs demonstrates the strong interdependence of our world community.
<http://www.un.org/sustainabledevelopment/takeaction/>

Share of population in extreme poverty, 2019

The share of individuals living below the 'International Poverty Line' of 1.90 international-\$ per day.



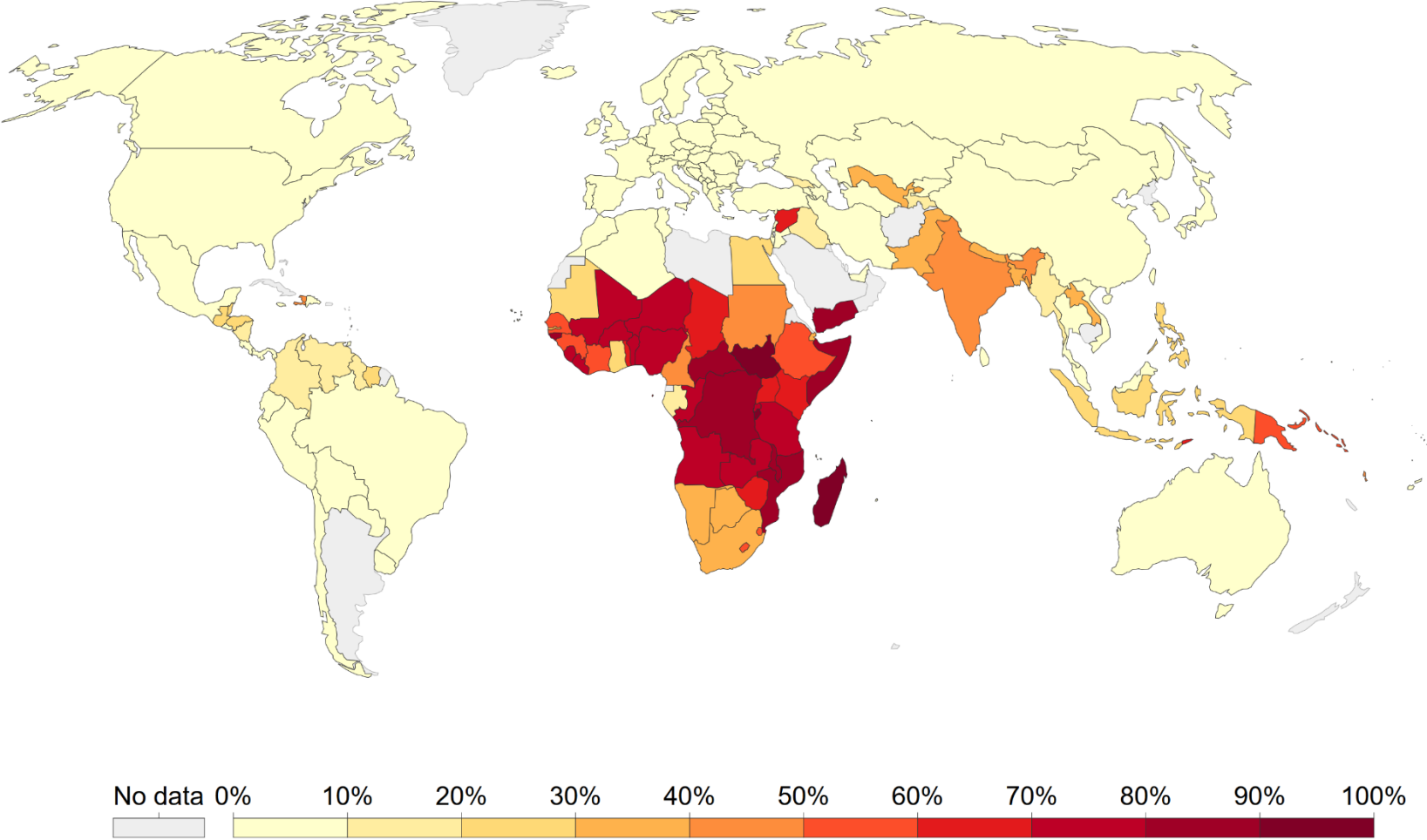
Source: World Bank PovcalNet

OurWorldInData.org/extreme-poverty • CC BY

Note: Figures relate to household income or consumption per person, measured in international-\$ (in 2011 PPP prices) to account for price differences across countries and inflation over time.

Share living on less than 3.20 int.-\$ per day, 2019

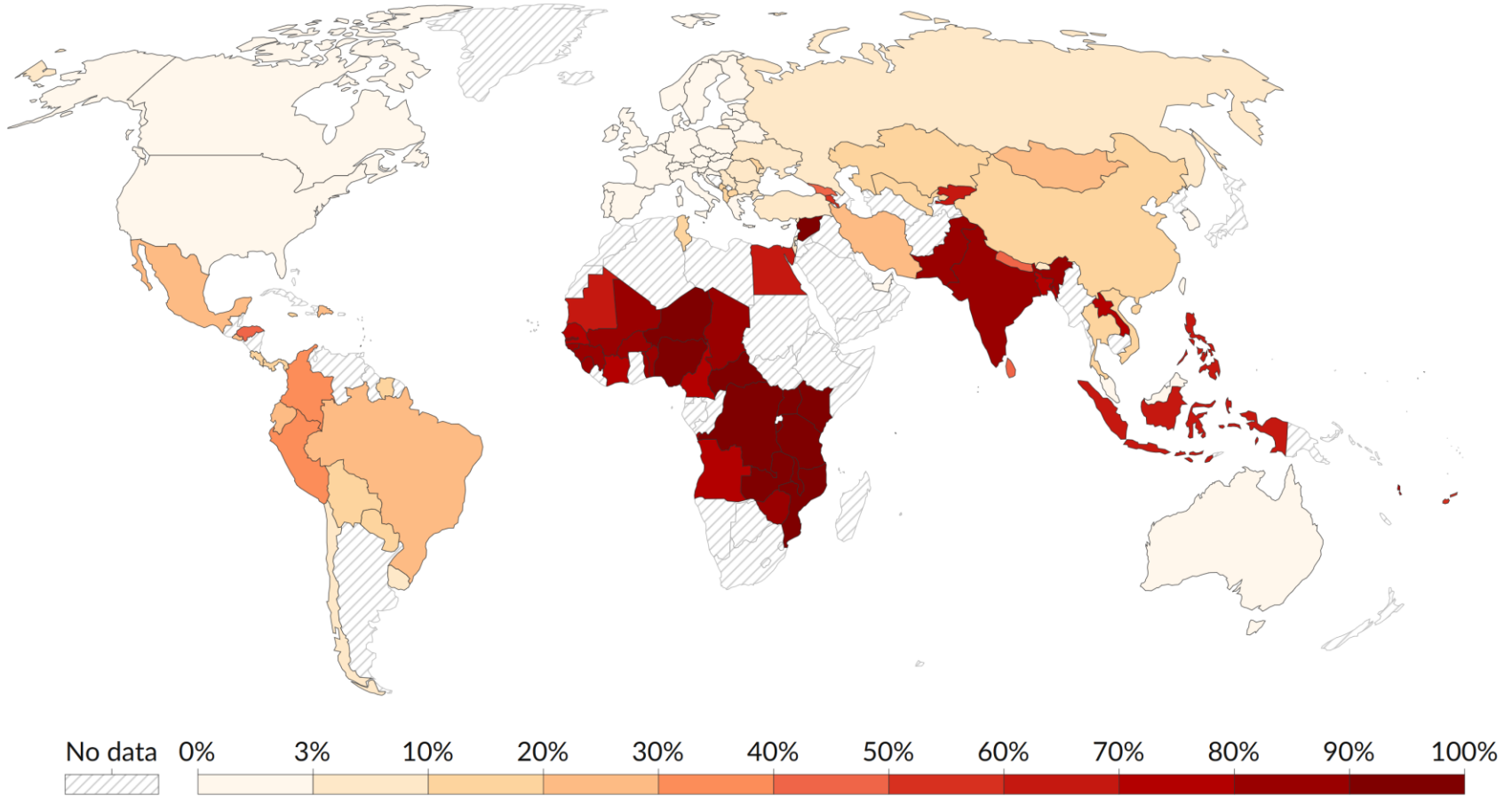
Figures relate to household income or consumption per person, measured in international-\$ (in 2011 PPP prices) to account for price differences across countries and inflation over time.



Source: World Bank PovcalNet

Poverty: Share of population living on less than \$6.85 a day, 2023

The poverty line of \$6.85 per day is set by the World Bank to be representative of the definitions of poverty adopted in upper-middle-income countries. This data is adjusted for inflation and for differences in the cost of living between countries.



Data source: World Bank Poverty and Inequality Platform (2024)

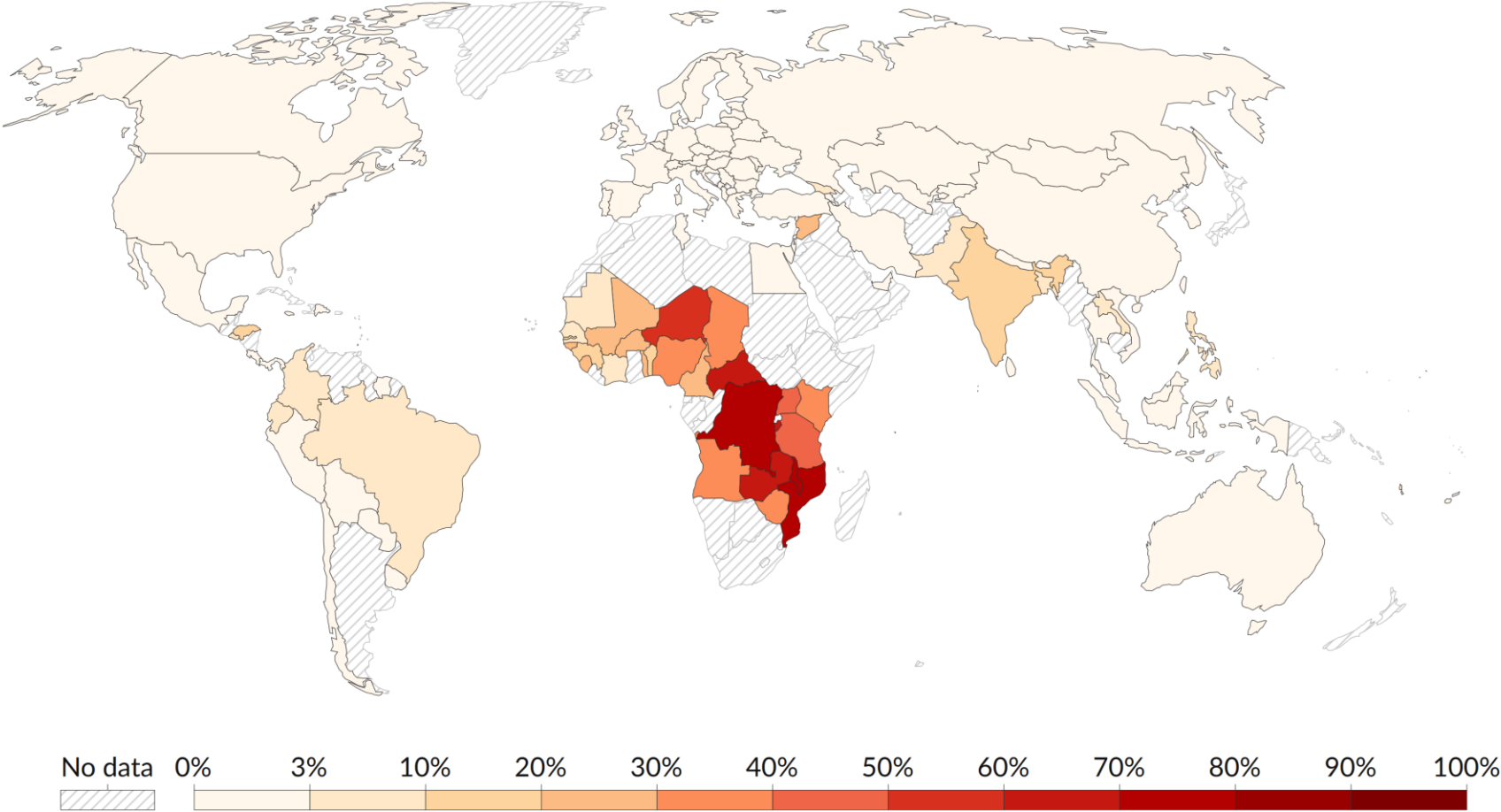
CC BY

Note: This data is expressed in international-\$¹ at 2017 prices. Depending on the country and year, it relates to income measured after taxes and benefits, or to consumption, per capita².

1. International dollars: International dollars are a hypothetical currency that is used to make meaningful comparisons of monetary indicators of living standards. Figures expressed in international dollars are adjusted for inflation within countries over time, and for differences in the cost of living between countries.

Share of population living in extreme poverty, 2023

Extreme poverty is defined as living below the International Poverty Line of \$2.15 per day. This data is adjusted for inflation and for differences in the cost of living between countries.



Data source: World Bank Poverty and Inequality Platform (2024)

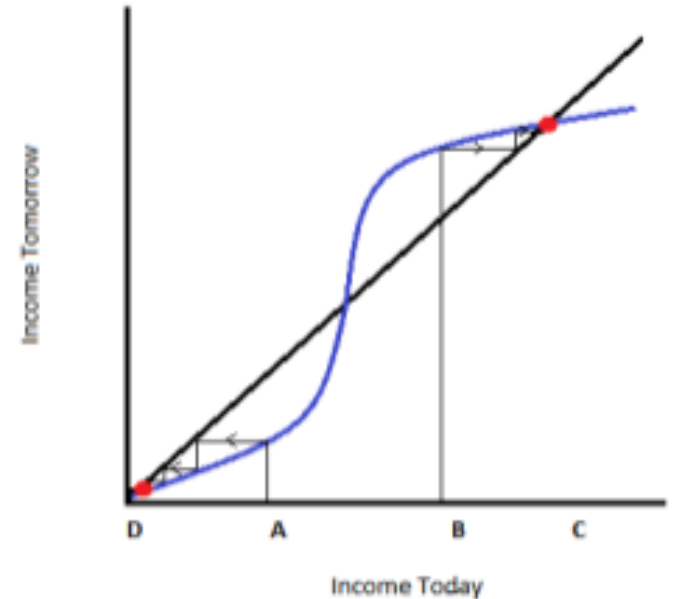
CC BY

Note: This data is expressed in international-\$¹ at 2017 prices. Depending on the country and year, it relates to income measured after taxes and benefits, or to consumption, per capita².

1. International dollars: International dollars are a hypothetical currency that is used to make meaningful comparisons of monetary indicators of

Poverty trap

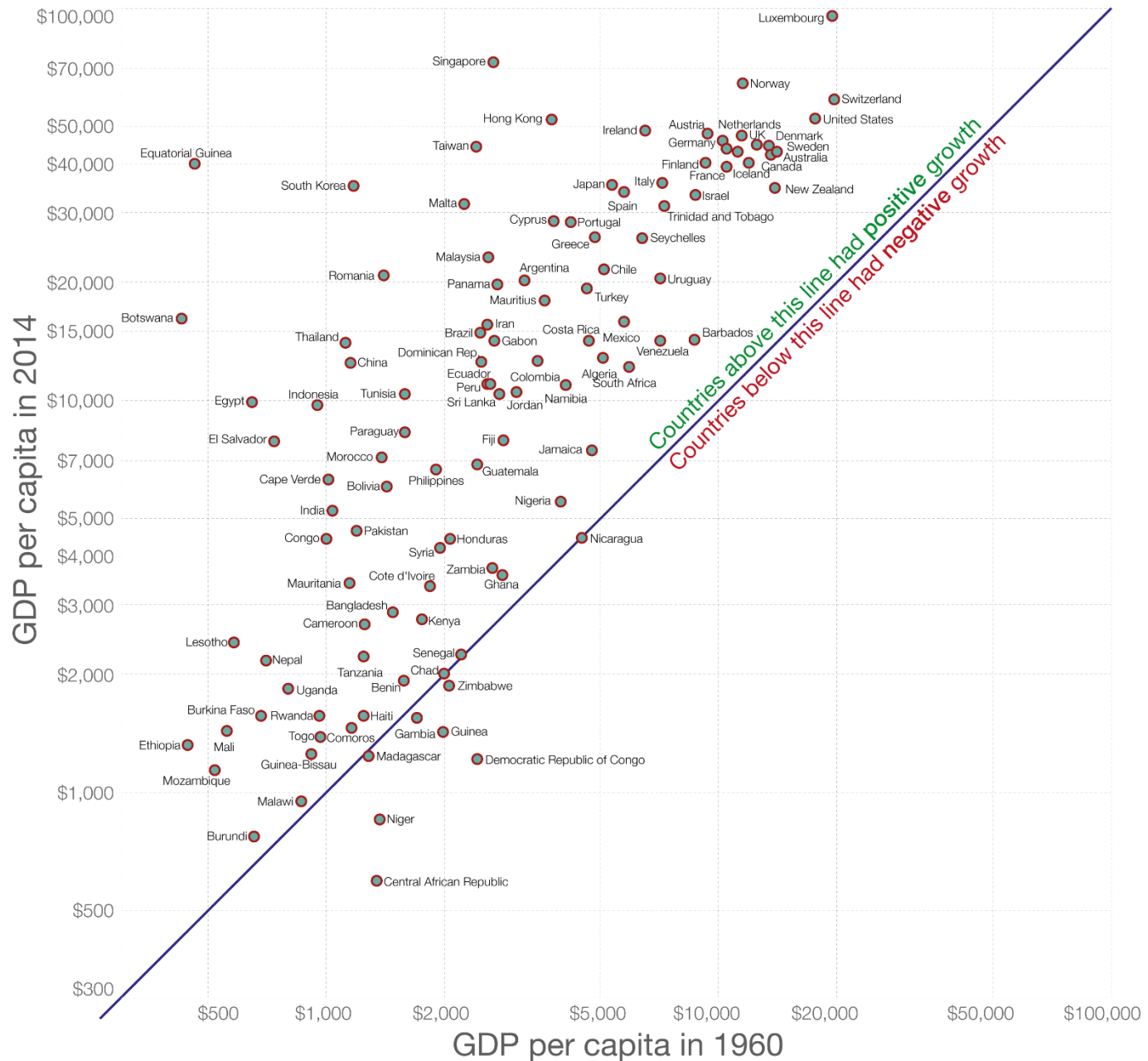
- The amount of money you have today determines what you eat, how much you spent on health, education, etc., which in turn influences your income in the future.



- The poverty trap is seen as an “S-shaped” curve: the poor are stuck on the left side of the graph below the diagonal line, wherein future income is lower than present income, and it continues to decrease over time.

GDP per capita in 1960 and 2014

GDP per capita is adjusted for price changes over time (inflation) and for price differences between countries (purchasing power parity (PPP) adjustment).



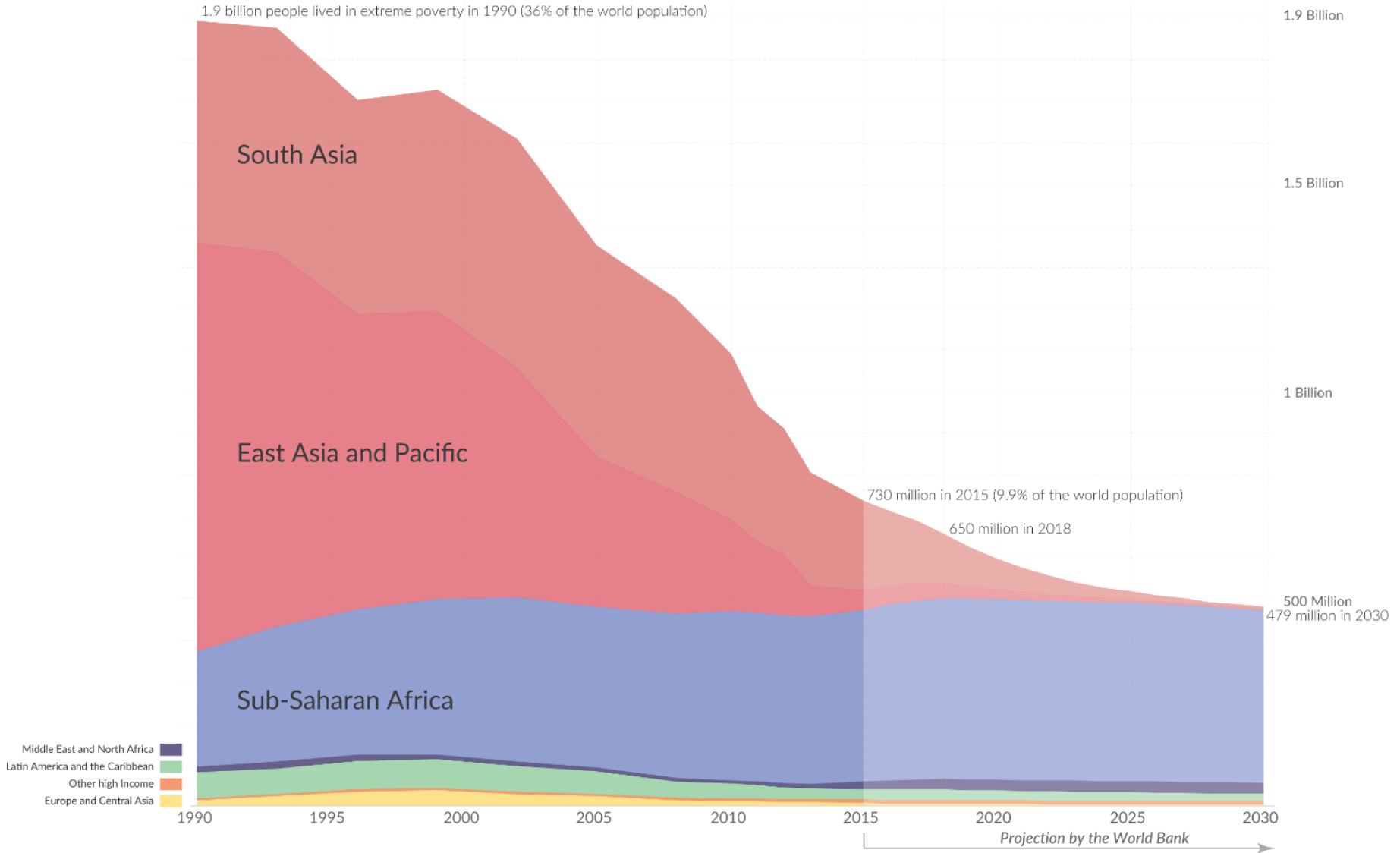
Data source: Penn World Table 9.0

The visualization is available at OurWorldinData.org where you find more visualizations and research on global development.

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

The number of people in extreme poverty – including projections to 2030

Extreme poverty is defined by the 'international poverty line' as living on less than \$1.90/day. This is measured by adjusting for price changes over time and for price differences between countries (PPP adjustment). From 2015 to 2030 the World Bank's projections are shown.



Data source: World Bank data from 1990 to 2015. The projections from 2015 to 2030 are published in the World Bank report *Poverty and Shared Prosperity 2018*.

This is a visualization from [OurWorldinData.org](https://ourworldindata.org), where you find data and research on how the world is changing.

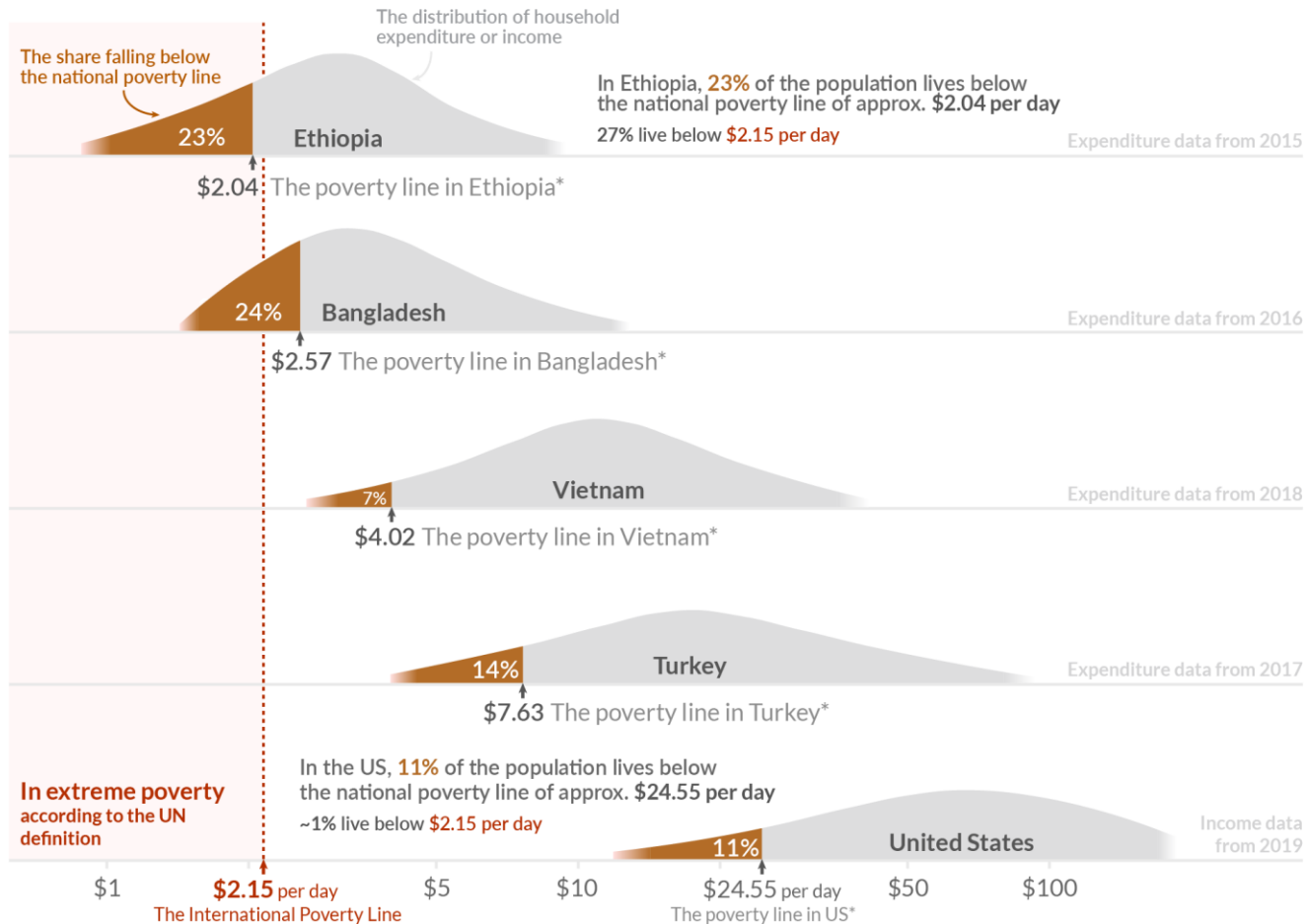
Licensed under CC-BY by the author Max Roser.

Richer and poorer countries set very different poverty lines in order to measure poverty

National poverty lines, poverty rates & incomes in five countries



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.

What Does It Mean To Be Poor?

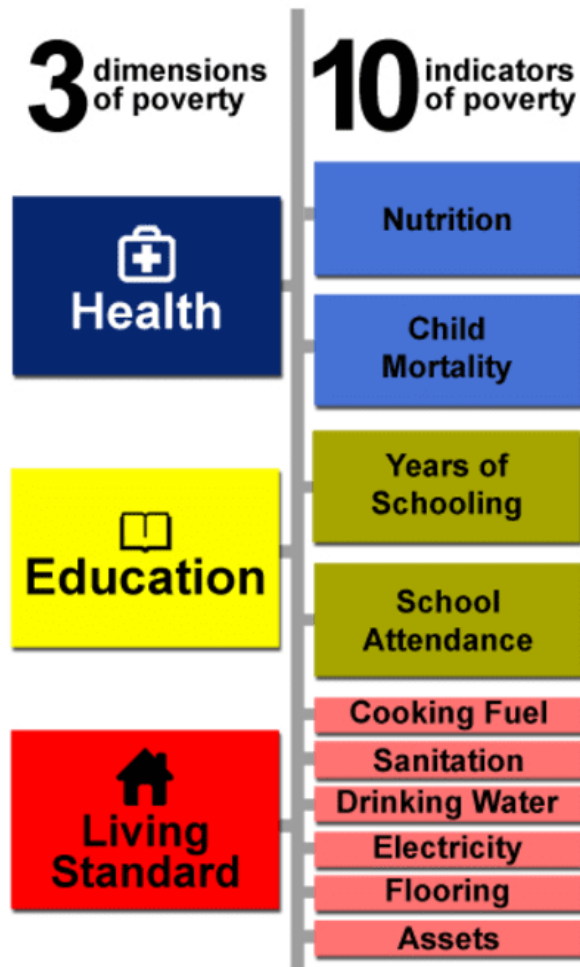
- Poverty is measured on the basis of income, but that is often too one-dimensional for such a complex phenomenon.

What people in poverty experience?

- Lack of basic necessities
- Isolation from family and friends
- Lack information about the supports and services available to them due to bureaucracy
- Lack of decent work
- Fear for one's children
- Being unable to afford to buy medicines
- Unable to participate in normal social

Global Multidimensional Poverty Index

The Global Multidimensional Poverty Index (MPI)



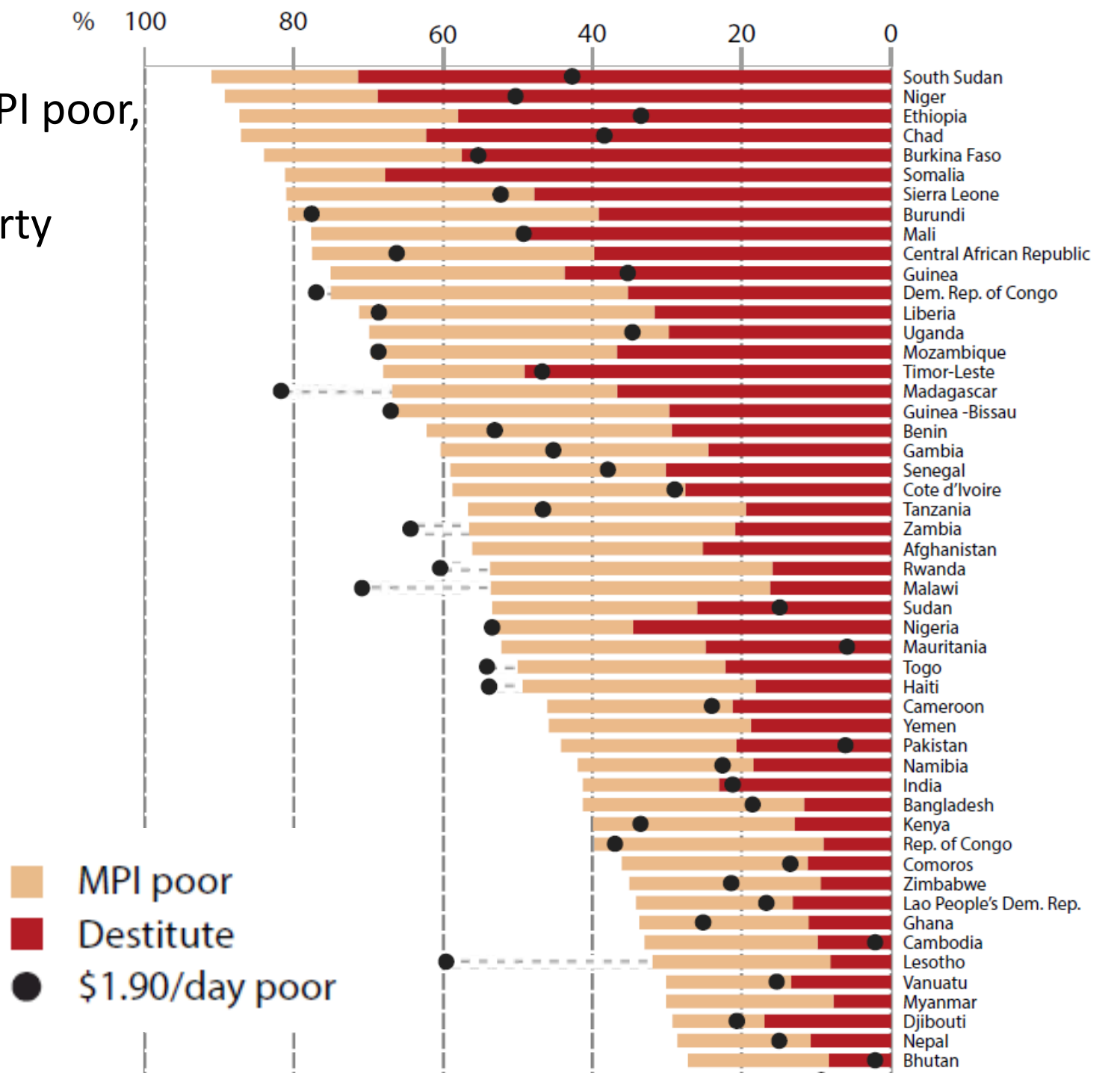
- An international measure of acute poverty covering over 100 developing countries
- If someone is deprived in a third or more of ten (weighted) indicators (see left), the global index identifies them as 'MPI poor'.
- In 2017 1.45 billion people are MPI poor, some 26.5% of the people living in 103 countries (5.4 billion). 40 percent of them live in India.
- In 2021, 1.3 billion are MPI poor.
- Sanitation is the biggest problem.
- Half of all MPI poor people are destitute and experience extreme deprivations such as severe malnutrition.
- Two-thirds MPI poor households have girls or women with less than 6y of education.

DIMENSIONS OF POVERTY	INDICATOR	DEPRIVED IF LIVING IN A HOUSEHOLD WHERE...	WEIGHT	SDG AREA
Health (1/3)	Nutrition	Any person under 70 years of age for whom there is nutritional information is undernourished .	1/6	SDG 2: Zero Hunger
	Child mortality	A child under 18 has died in the household in the five-year period preceding the survey.	1/6	SDG 3: Health and Well-being
Education (1/3)	Years of schooling	No eligible household member has completed six years of schooling .	1/6	SDG 4: Quality Education
	School attendance	Any school-aged child is not attending school up to the age at which he/she would complete class 8 .	1/6	SDG 4: Quality Education
Living Standards (1/3)	Cooking fuel	A household cooks using solid fuel , such as dung, agricultural crop, shrubs, wood, charcoal, or coal.	1/18	SDG 7: Affordable and Clean Energy
	Sanitation	The household has unimproved or no sanitation facility or it is improved but shared with other households.	1/18	SDG 6: Clean Water and Sanitation
	Drinking water	The household's source of drinking water is not safe or safe drinking water is a 30-minute or longer walk from home, roundtrip.	1/18	SDG 6: Clean Water and Sanitation
	Electricity	The household has no electricity .	1/18	SDG 7: Affordable and Clean Energy
	Housing	The household has inadequate housing materials in any of the three components: floor, roof, or walls .	1/18	SDG 11: Sustainable Cities and Communities
	Assets	The household does not own more than one of these assets : radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck.	1/18	SDG 1: No Poverty

Table 2: The dimensions, indicators, deprivation cutoffs and weights of the Destitute

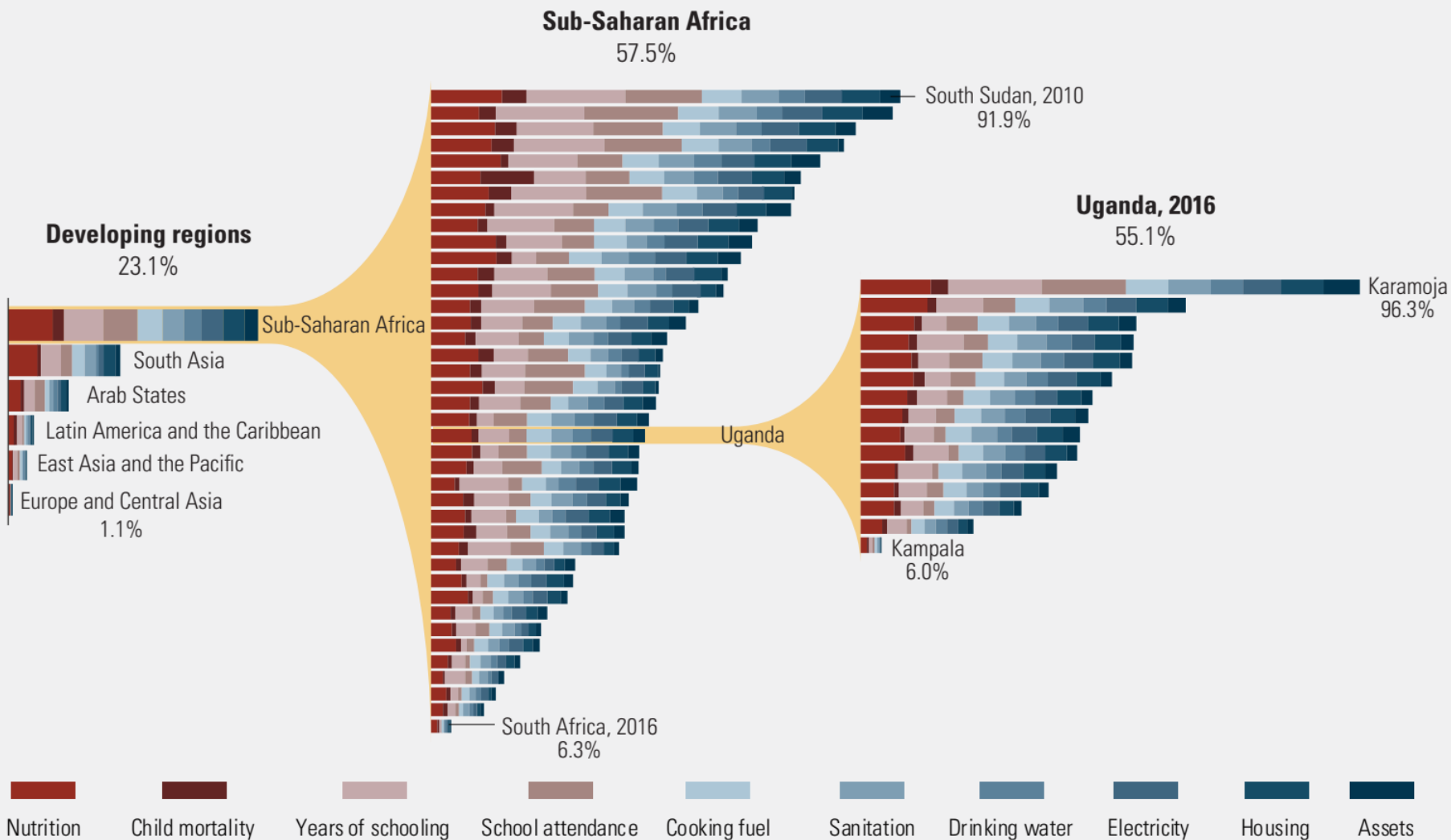
Dimensions of poverty (same as for standard MPI)	Indicator (same as for standard MPI)	Deprived if...
Education	Years of Schooling	No household member has completed at least one year of schooling.
	Child School Attendance	No children are attending school up to the age at which they should finish class 6 .
Health	Child Mortality	2 or more children have died in the household.
	Nutrition	Severe undernourishment of any adult (BMI<17kg/m²) or any child (-3 standard deviations from the median).
Living Standard	Electricity	The household has no electricity (no change).
	Improved Sanitation	There is no sanitation facility (open defecation) .
	Improved Drinking Water	The household does not have access to safe drinking water, or safe water is more than a 45-minute walk (round trip).
	Flooring	The household has a dirt, sand, or dung floor (no change).
	Cooking Fuel	The household cooks with dung or wood (coal/lignite/charcoal are now non-deprived).
	Assets ownership	The household has no assets (radio, mobile phone, refrigerator, etc.) and no car.

Comparing MPI poor, destitute and extreme poverty



Going beyond averages shows great subnational disparities in Uganda

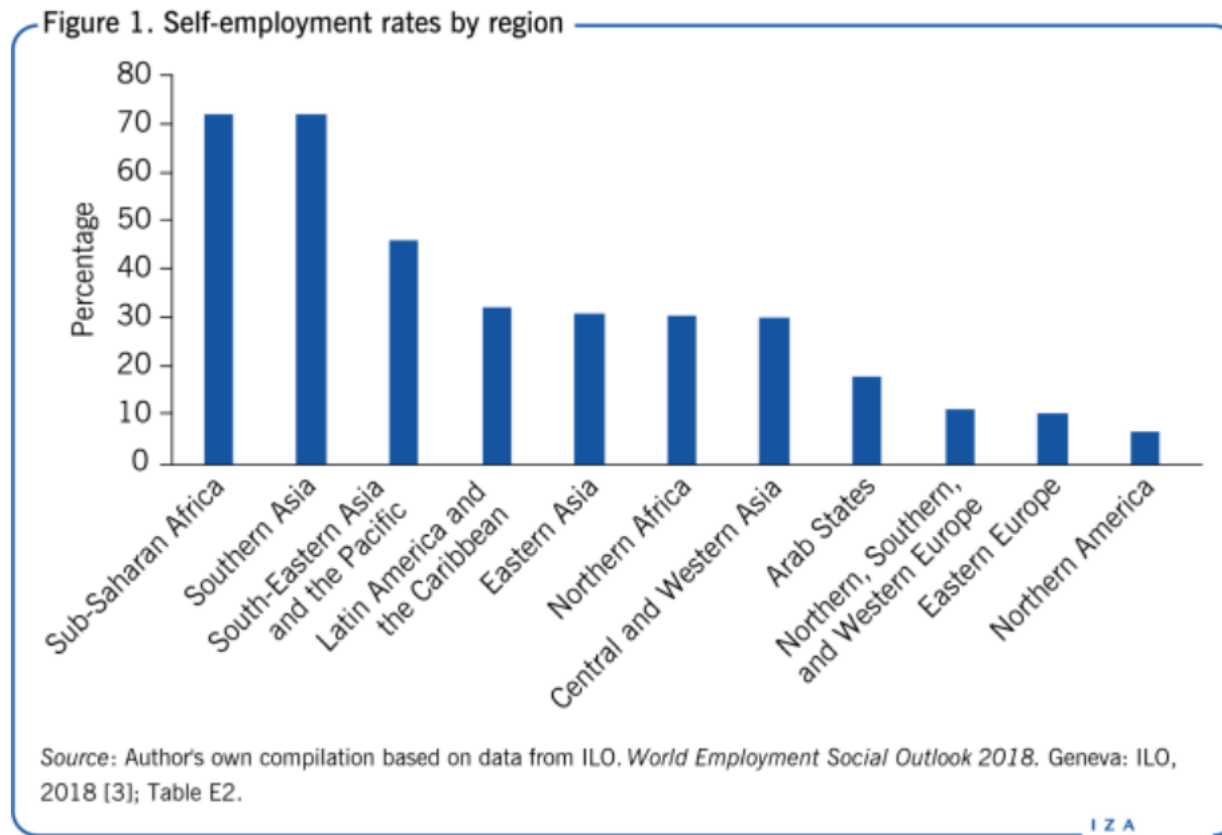
Contribution of deprivation in each indicator to overall multidimensional poverty
Percent values represent incidence of multidimensional poverty



Source: Alkire, Kanagaratnam and Suppa (2019) based on Human Development Report Office and Oxford Poverty and Human Development Initiative calculations.

SELF-EMPLOYMENT AND POVERTY IN DEVELOPING COUNTRIES

Majority of workers in developing countries are self-employed



Approximately 40% of workers are self-employed globally.
Self-employment as a choice — or lack of choice?

Effective policy interventions

1. Support the self-employed in their current activities
 - raise the productivity of the self-employed
 - Training to improve their skills and business know-how
 - making affordable credit
2. Help self-employed with transition into better-paying jobs
 - Training people for wage employment
 - Creating more wage employment (off-farm jobs)



LIVING ON ONE DOLLAR

56 DAYS | 56 DOLLARS | HOW DO YOU SURVIVE?



<http://livingononedollar.org/>

<https://www.gapminder.org/dollar-street/>

- Visit "[Dollar street](#)" website and explore how living standards vary with family income across the globe. Compare the living conditions in selected countries. To visit a family click on the "Visit this family" button on the right side.

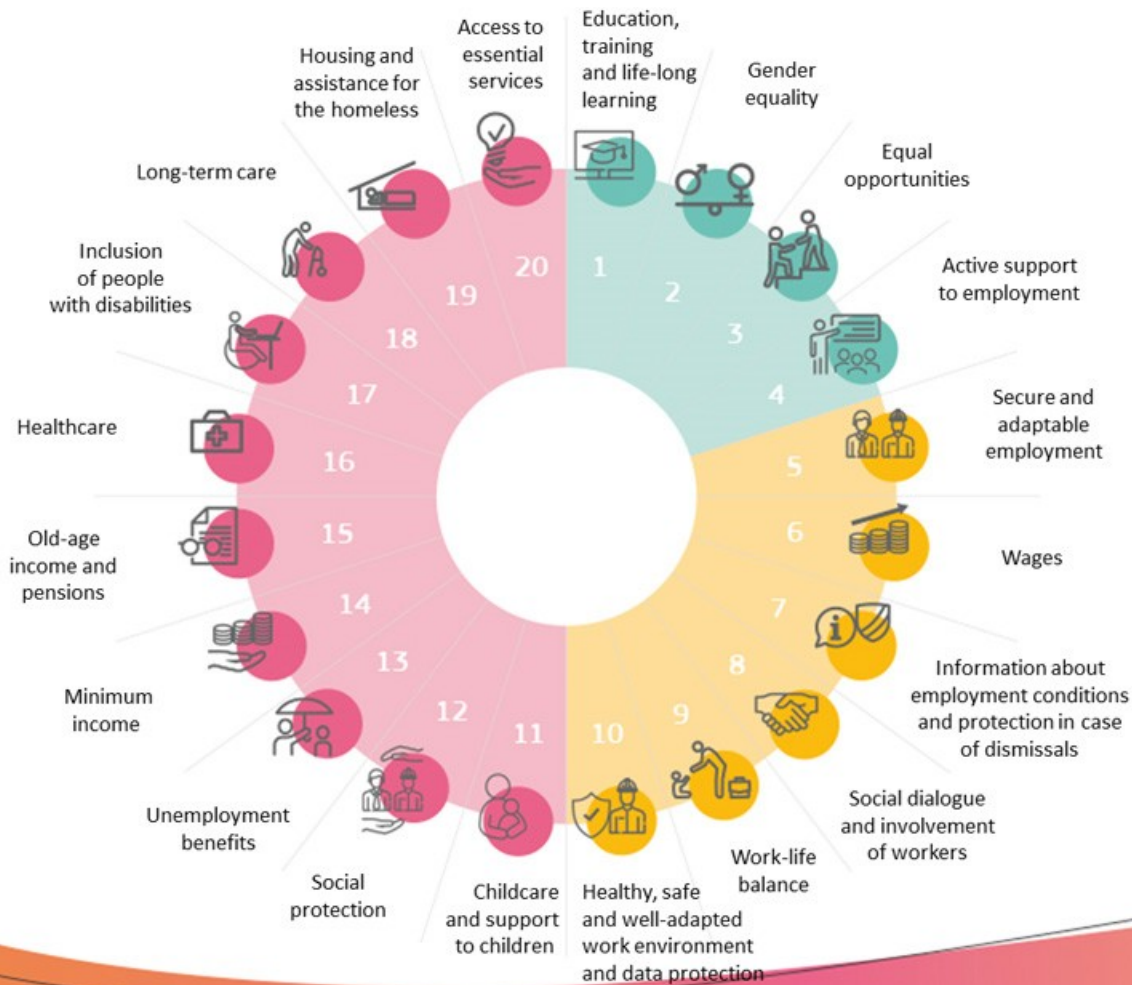
1/ What % of their budget do families spend on food and on housing?

- 2/ What do they wish to buy next (is it a necessity or a luxury thing)?

3/ What shortages or unnecessary luxury do you observe in the living of families?

POVERTY INDICATORS IN THE EU

#SocialRights



Your social rights at a glance

At-risk-of income poverty

- People at-risk-of income poverty have an equalized disposable income below the risk-of-poverty threshold, set at 60 % of the national median equalized disposable income (after social transfers).

Equalized disposable household income

Total household income

$$\begin{aligned} & \text{Earnings of Person 1} \\ & + \text{Earnings of Person 2} \\ & + \text{Income from Capital} \\ & + \text{Private transfers} \\ & + \text{State transfers} \\ & - \text{Direct taxes} \\ & = \\ & \text{Disposable income} \\ & / \\ & \text{Number of equivalent adults} \\ & = \\ & \text{Household equivalent} \\ & \text{disposable income} \end{aligned}$$

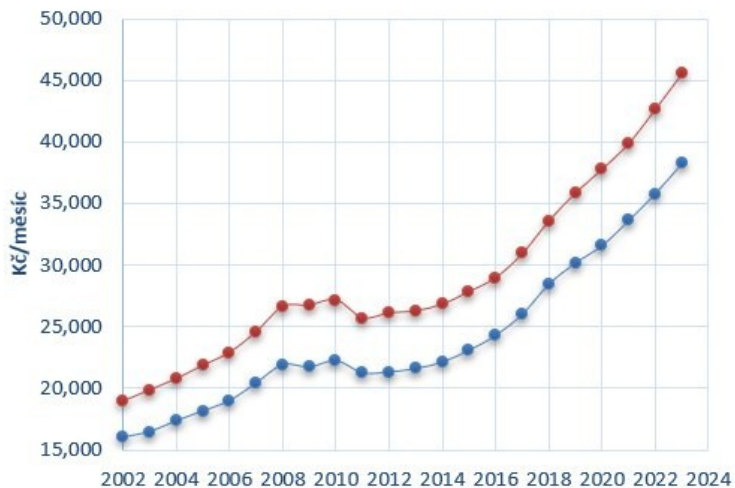
Individual earnings

Disposable income is the amount of money that individuals and families have available for spending or saving after they have paid their direct taxes and received any state welfare benefits.

Number of equivalent adults is calculated as according to equivalence scale:
1.0 to the first adult;
0.5 to each subsequent person 14+;
0.3 to each child aged under 14;
e.g. family 2+2 is scaled by factor 2.1

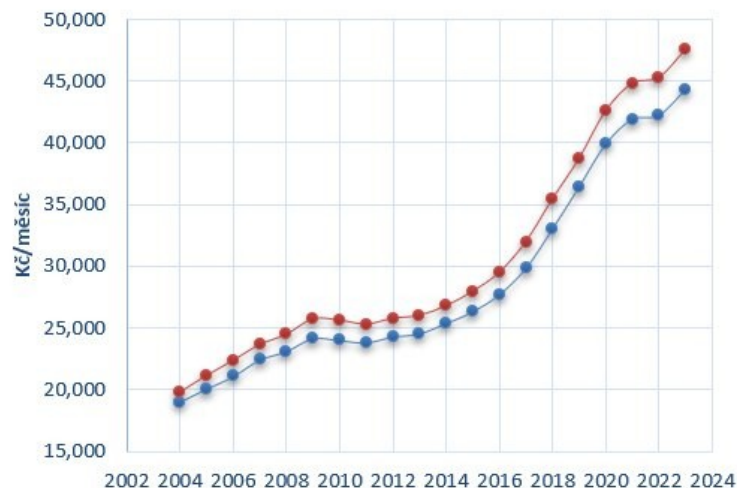
Mzdy v soukromém sektoru

—●— mzdy medián —●— mzdy průměr



Platy ve veřejném sektoru

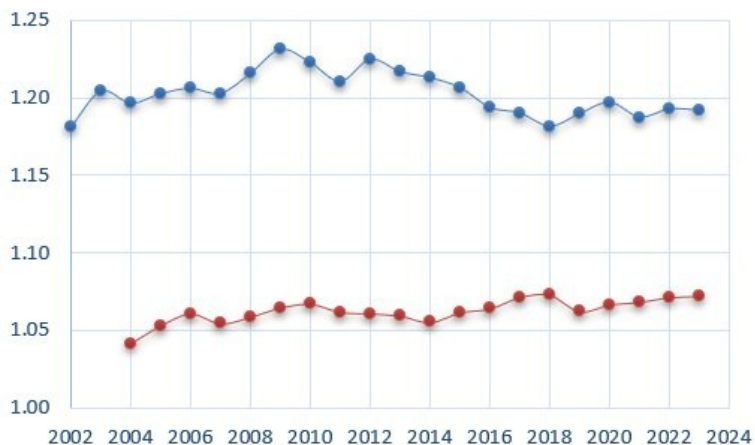
—●— platy medián —●— platy průměr



Czech Republic
wage levels
Poverty Threshold
in 2023 is **16 774**
CZK

Poměr průměrného a mediánového příjmu

—●— mzdy průměr/medián —●— platy průměr/medián



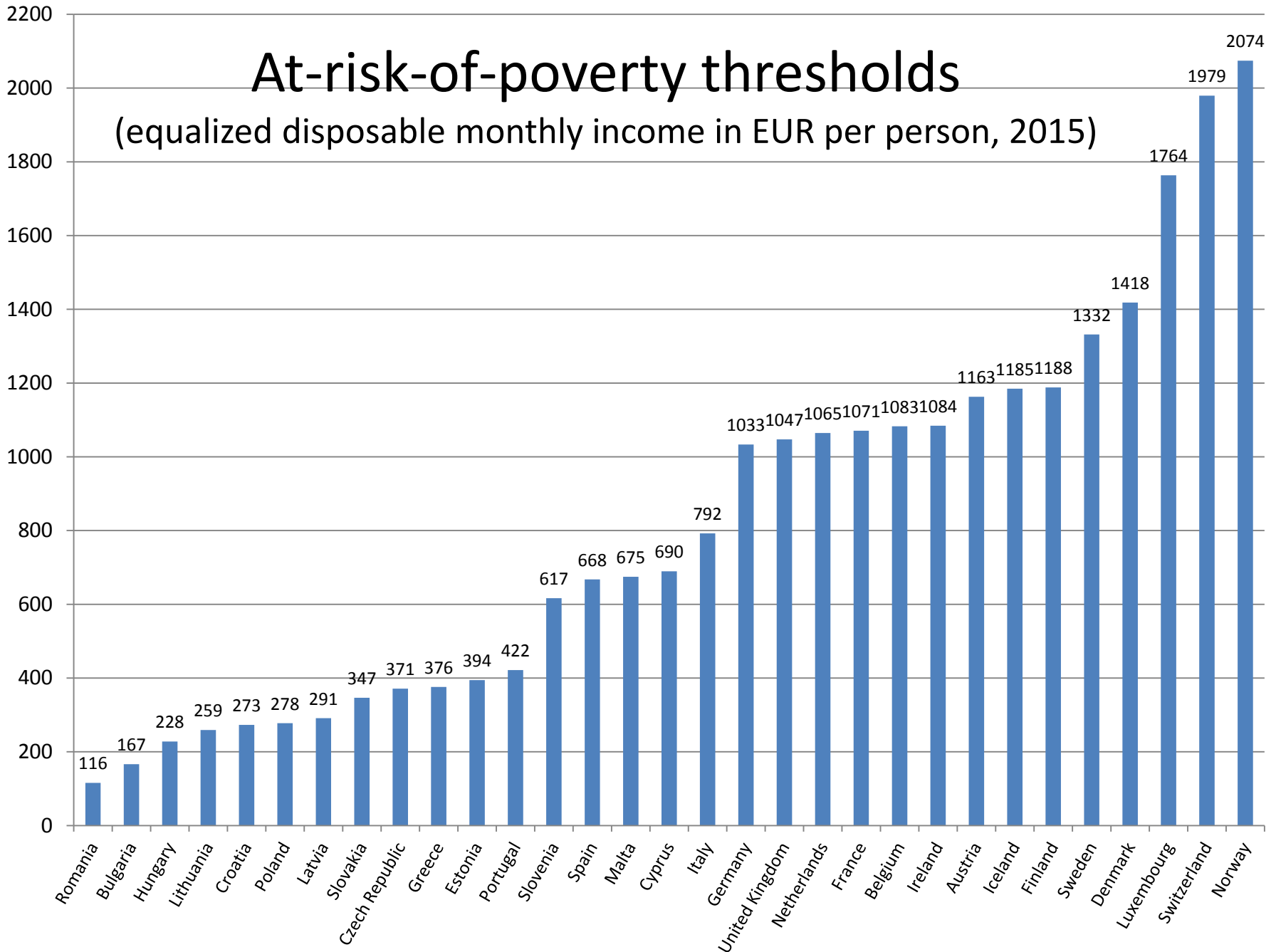
Poměr příjmů ve veřejném a soukromém sektoru

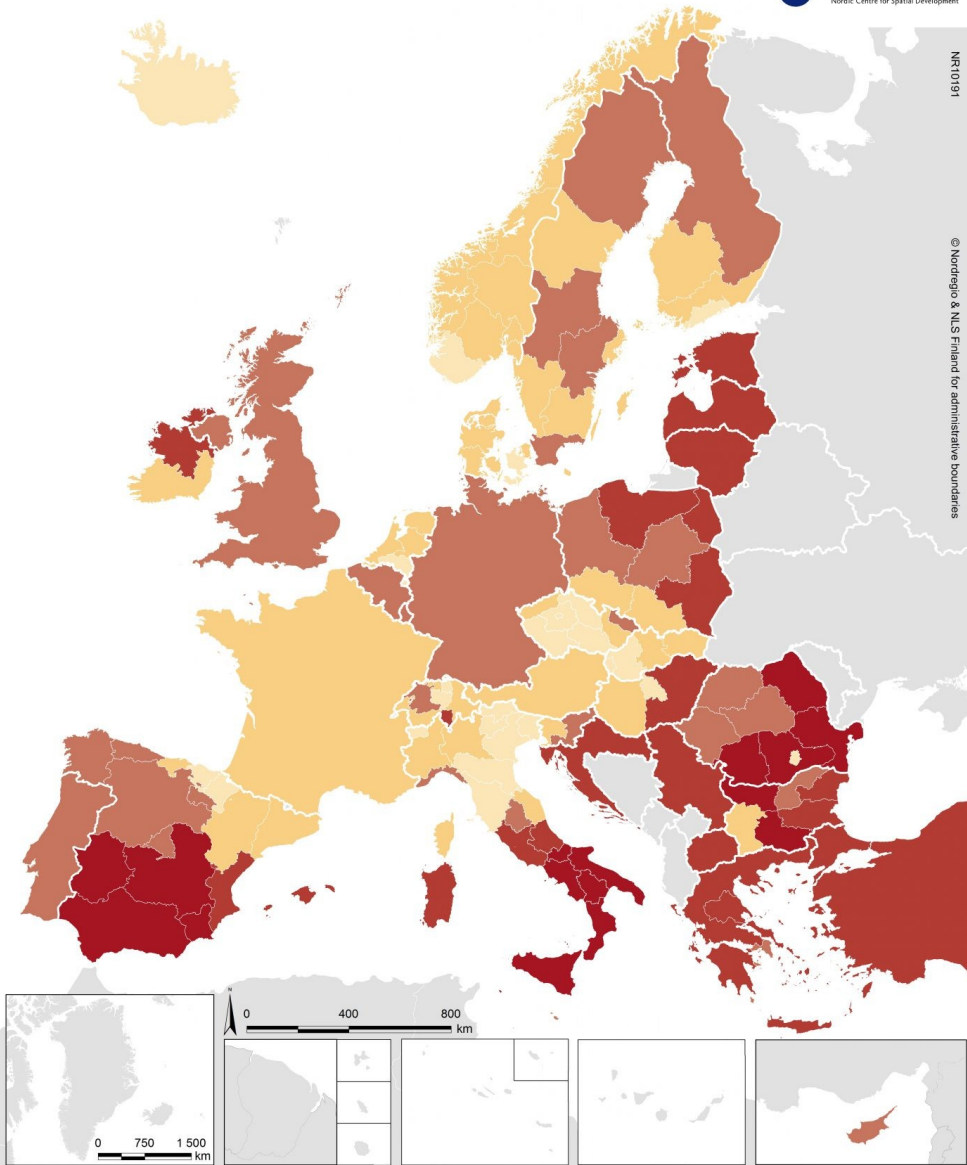
—●— poměr mediánů platy/mzdy —●— poměr průměrů platy/mzdy



At-risk-of-poverty thresholds

(equalized disposable monthly income in EUR per person, 2015)



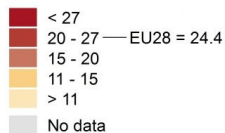


NRS10191
 © Nordregio & NLS Finland for administrative boundaries

The highest at-risk-of-poverty rates can be found in Southern and Eastern Europe, and there are also large regional differences within countries such as Spain and Italy, with substantially higher at-risk-of-poverty rates found in the southern regions.

All the regions in the Nordic countries have at-risk-of-poverty rates below the EU average.

At risk of poverty rate in 2015, in %



At risk of poverty rate refers to the share of people with a disposable income below 60% of the national median disposable income after social transfers

NUTS 2, except NL, HU, PL (NUTS1) and BE, PT, DE, FR, AT, IS, RS, TR (NUTS0)

2015 except: CH, IE, MK (2014) and TR (2013)

Data source: Eurostat

Poverty indicators in the EU

- (Severe) Material deprivation (9% of EU in 2014)
- At-risk-of-income poverty (17% of EU)
- Social exclusion - low work intensity (11% of EU)
- At-risk-of-poverty or social exclusion (24% of EU)

Poverty indicators in the EU

1. (Severe) Material deprivation (9% of EU in 2014)

Living conditions are severely constrained by a lack of resources. People cannot afford at least 3 (4) out of the 9 following items: i. to pay rent or utility bills, ii. keep home adequately warm, iii. Face unexpected expenses, iv. eat meat, fish or a protein equivalent every second day, v. a week holiday away from home, vi. a car, vii. a washing machine, viii. a color TV, or ix. a telephone.

2. At-risk-of-income poverty (17% of EU)

People who have an equalized disposable income below the risk-of-poverty threshold, set at 60 % of the national median equalized disposable income (after social transfers).

3. Social exclusion – low work intensity (11% of EU)

People 0-59 who live in households where on average the adults (aged 18-59) worked less than 20% of their total work potential during the past year

->> At-risk-of-poverty or social exclusion (24%=122mil) << -

Any member of a household that falls below the defined threshold in at least one of these indicators is identified as at risk of poverty or social exclusion.

In 2017, the EU adopted the material and social deprivation (MSD) indicator. The threshold was set as a lack of five of thirteen items

Table 1.10 List of items linked to severe material deprivation and material and social deprivation

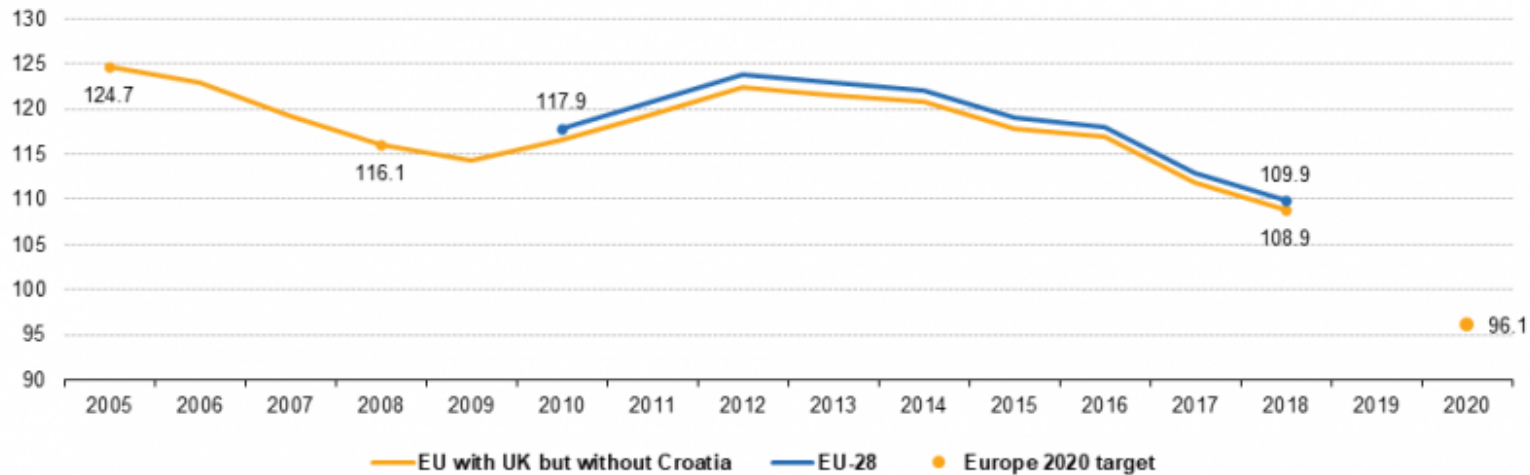
	Level	MD	MSD
Avoiding being in arrears on mortgage and rental payments, utility bills, and loan payments	household	√	√
Capacity to handle unexpected financial expenses	household	√	√
Capacity to afford one week annual holiday away from home	household	√	√
Capacity to afford a meal with meat every second day	household	√	√
Ability to keep home adequately warm	household	√	√
Having a washing machine	household	√	X
Having a colour TV	household	√	X
Having a telephone (including mobile phone)	household	√	X
Having a car for private use	household	√	√
Ability to replace worn-out furniture	household		√
Having an internet connection	individual		√
Replacing worn-out clothes with new ones	individual		√
Having two pairs of properly fitting shoes	individual		√
Spending a small amount of money each week on him/herself	individual		√
Having regular leisure activities	individual		√
Getting together with friends/family for a drink/meal at least monthly	individual		√

Notes: MD – severe material deprivation, MSD – material and social deprivation.

People at risk of poverty or social exclusion

People at risk of poverty or social exclusion, EU, 2005-2018

(million persons)



Note: Data for 2005 and 2006 are estimates. The overall EU target (referring to the 27 EU countries (including the UK) before the accession of Croatia) is to lift at least 20 million people out of the risk of poverty or social exclusion by 2020. Due to the structure of the survey on which most of the key social data is based (i.e. EU Statistics on Income and Living Conditions), a large part of the main social indicators available in 2010, when the Europe 2020 strategy was adopted, referred to 2008 as the most recent year of data available. This is the reason why monitoring of progress towards the Europe 2020 strategy's poverty target takes 2008 as a baseline year.

Source: Eurostat (online data code: t2020_50)

eurostat 

2020 target

20

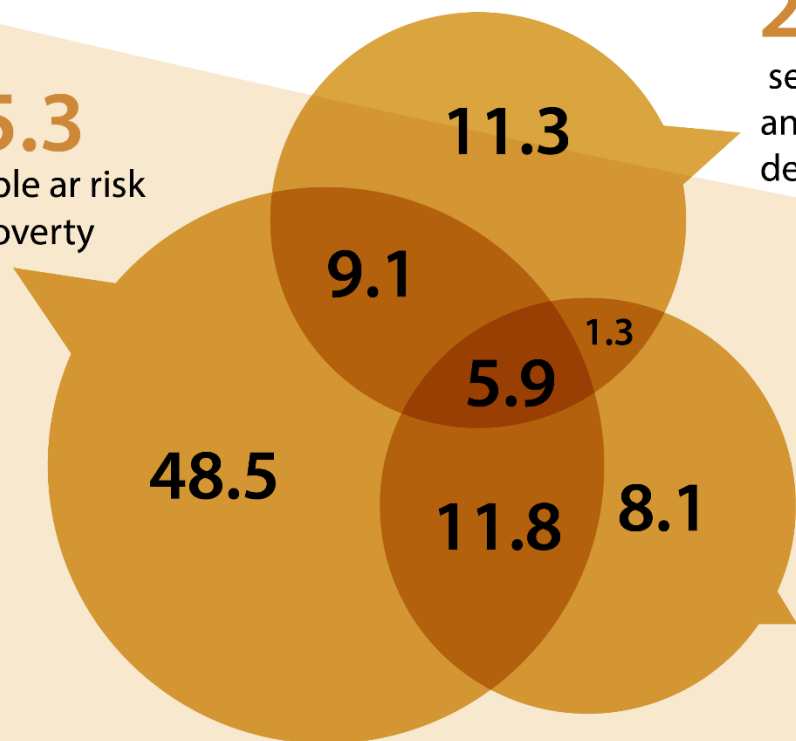
million people to be lifted out of the risk of poverty or social exclusion by 2020 compared with 2008 ⁽²⁾

⁽¹⁾ Data for 2005 and 2006 are estimates.

⁽²⁾ The Europe 2020 strategy has set the target of lifting at least 20 million people out of the risk of poverty or social exclusion by 2020.

Number of people at risk of poverty or social exclusion, analysed by type of risk, EU (million)

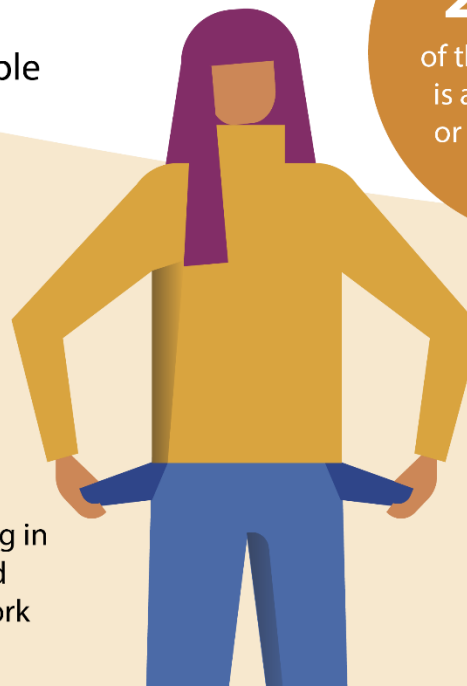
75.3
people at risk
of poverty



27.6
severely materially
and socially
deprived people

21.9%
of the EU population
is at risk of poverty
or social exclusion.

27.1
people living in
a household
with low work
intensity



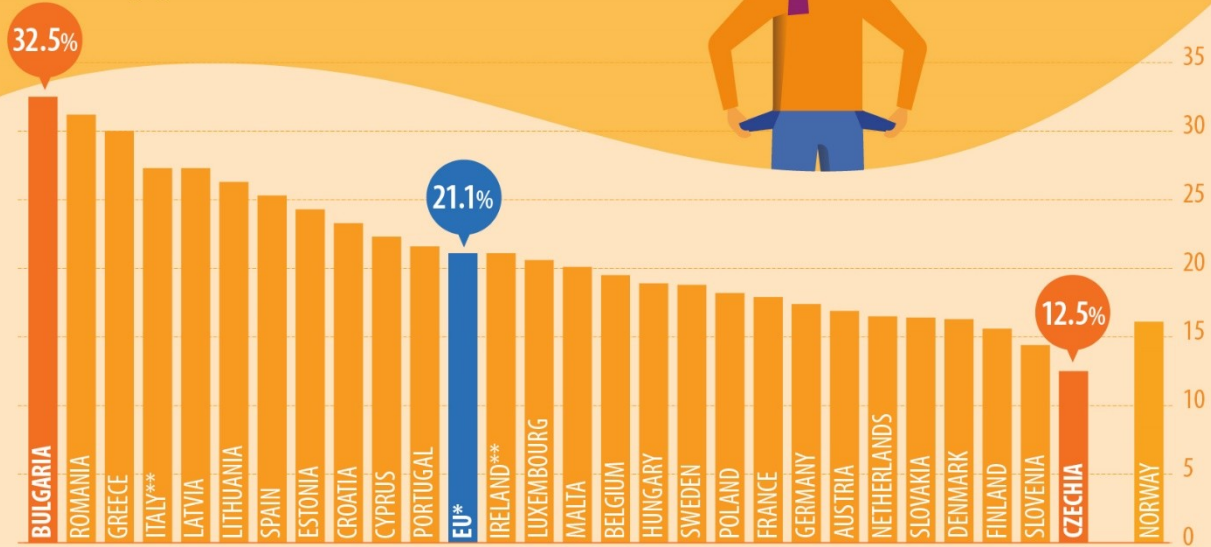
Note: estimates. Due to rounding, the sum of the data for the seven intersecting groups may differ slightly from the totals published elsewhere.

ec.europa.eu/eurostat

People at risk of poverty or social exclusion', EU-28, 2020 (96.5 mil)

People at risk of poverty or social exclusion

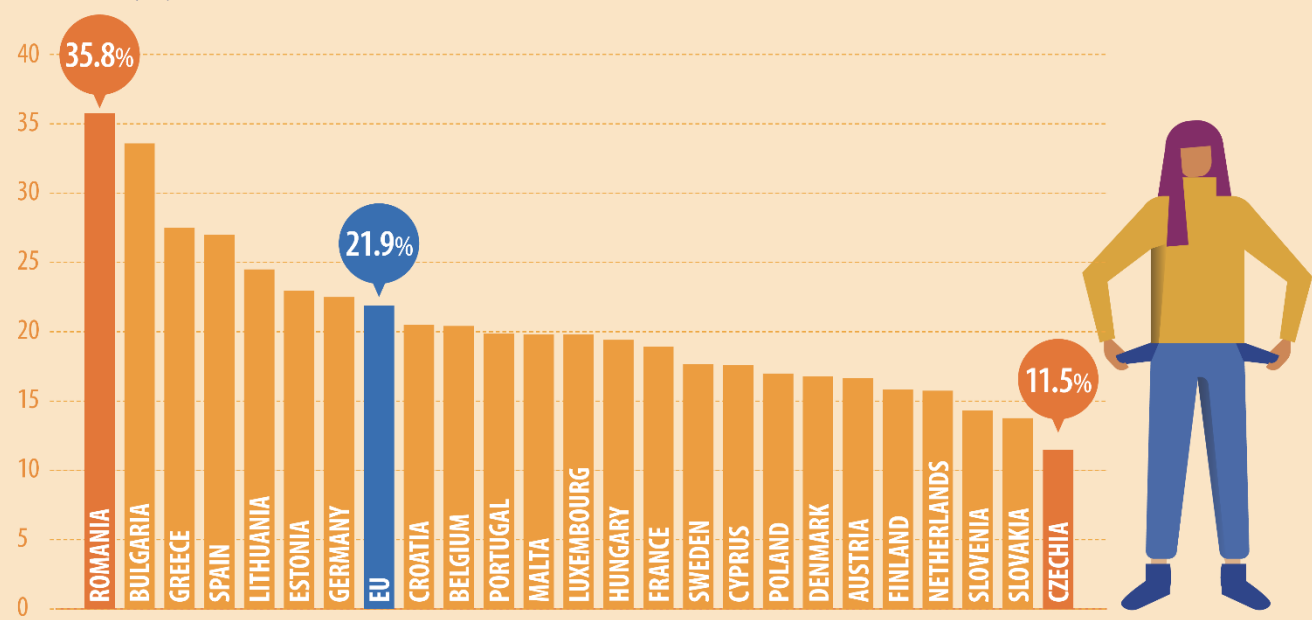
(% of total population, 2019 data)



* Data have been estimated.
** 2018 data

People at risk of poverty or social exclusion in the EU, 2020

(% of total population)

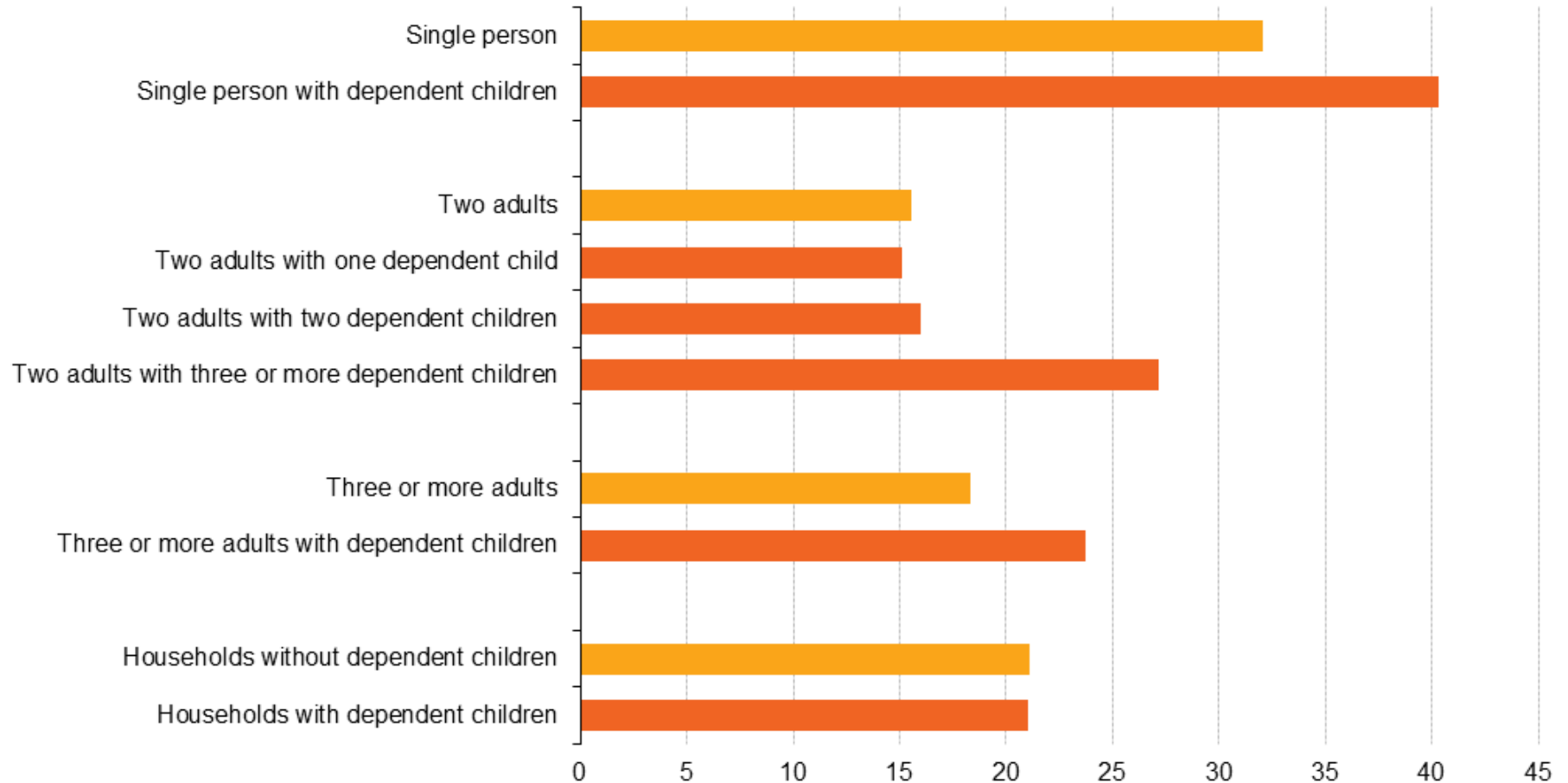


Provisional values: France, Croatia, Netherlands Poland, Slovakia

Poverty rates differ between groups

Share of the population at risk of poverty or social exclusion, analysed by household type, EU-27, 2019

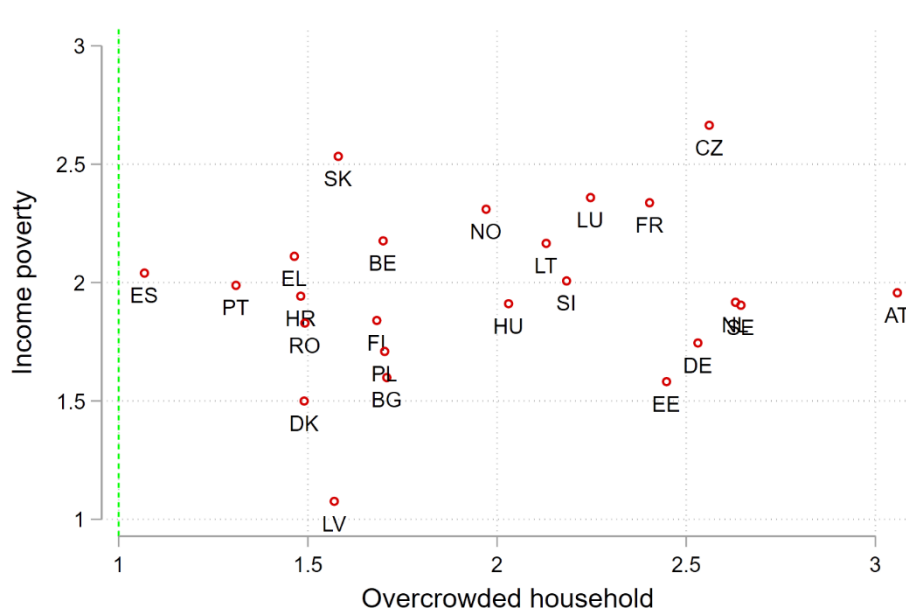
(%)



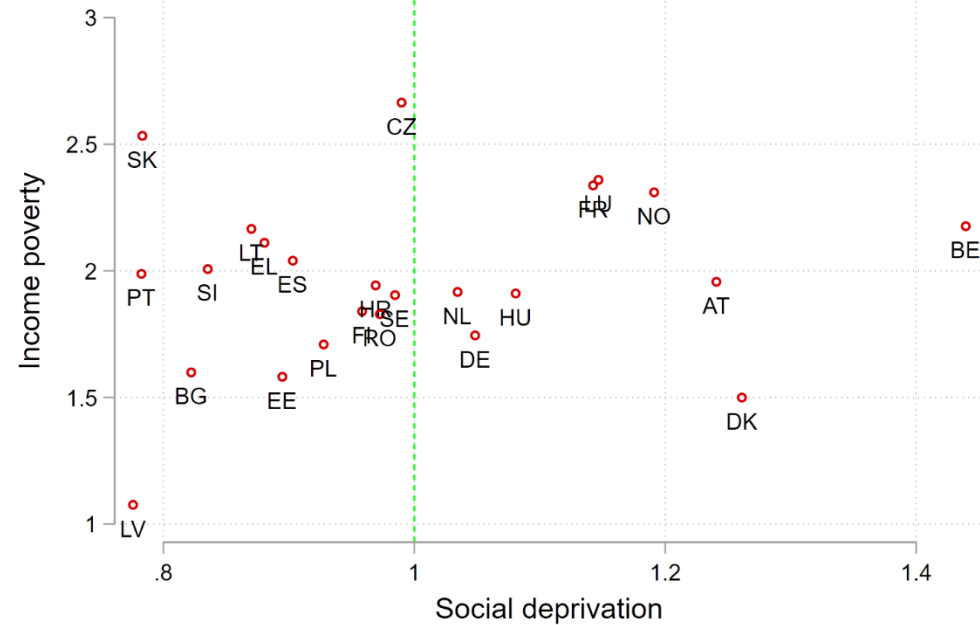
Note: estimates.

Source: Eurostat (ilc_peps03)

Vulnerability of single parent family, 2019



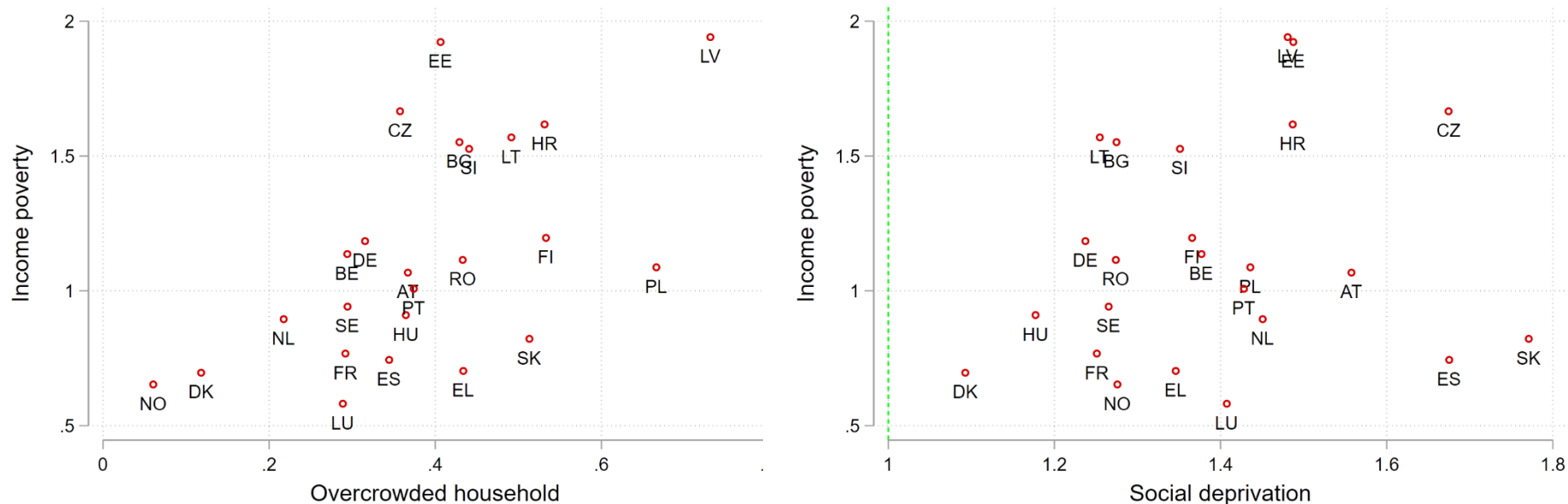
In Czechia incomplete families face 2.5x higher risk of income poverty and are 2.5 time more likely to live in overcrowded household relative to the average family (represented by green line)



Social deprivation is a problem to single parent families in Scandinavian and Benelux countries.

Note: Social deprivation includes persons who cannot meet with friends/family (relatives) for a drink/meal at least once a month or cannot regularly participate in a leisure activity.

Vulnerability of older people (65+), 2019



Elderly face low risk (at least by 50%) of living in overcrowded household but they suffers from the higher level of social deprivation. In most Central European countries elderly face higher risk of from income poverty.

Note: Housing quality (overcrowded household) includes persons who do not have enough rooms compared to the size of household. For example, a household of a single parent with two children is considered overcrowded unless the family has a living room and two separate bedrooms.

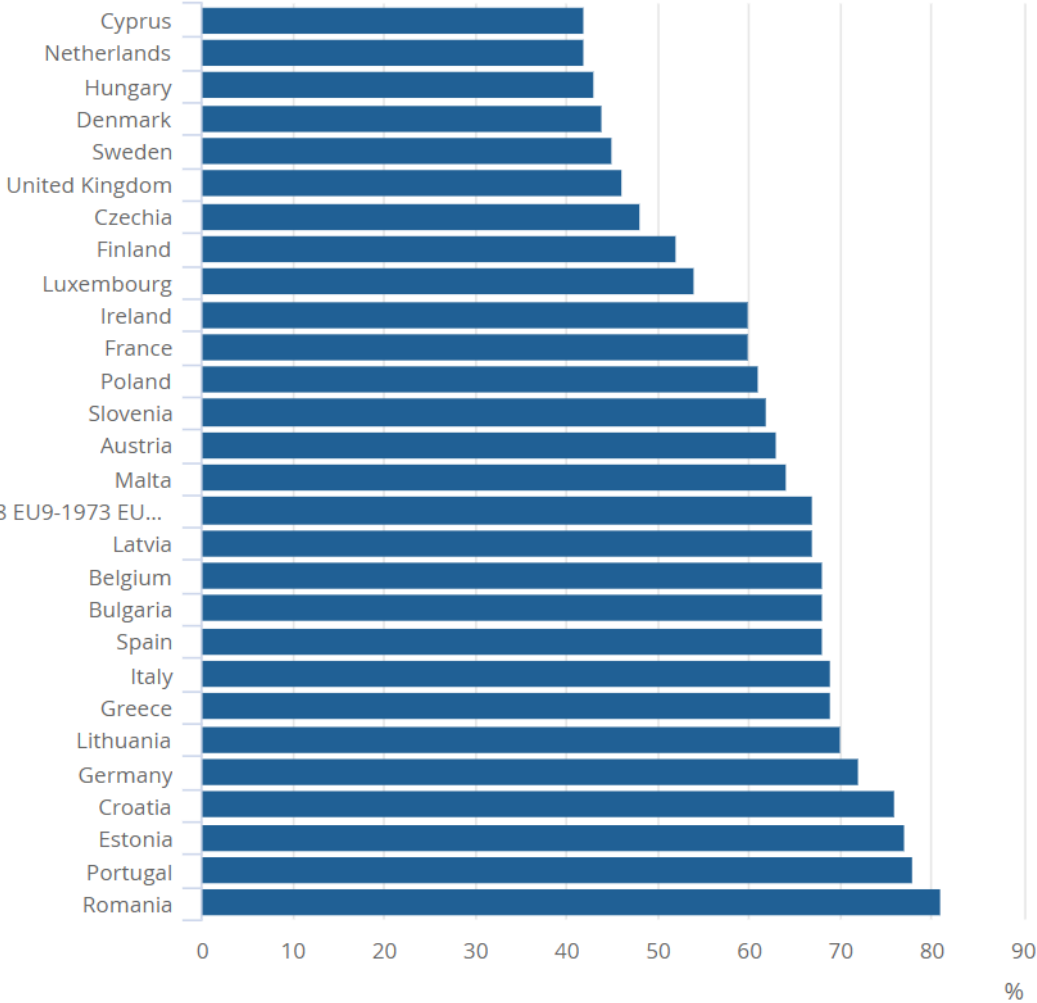
Limitations of poverty measures

- Cut-off point is a rather arbitrary process
- Poverty gap (or Depth of poverty) measures the intensity of poverty. It gives the total resources needed to bring all the poor to the level of the poverty line (under perfect targeting).
- The length of time people have been poor
i.e. the duration and persistence of poverty.
- Multi-dimensional nature of poverty: indebtedness, joblessness, poor health, inadequate housing or access to public services.
- Social benefits can drastically reduce poverty.

Persistent poverty

- Persistent poverty rates measure the percentage of the population that are at-risk-of-poverty in the current year and at least 2 out of the 3 preceding years. This is the definition used by the European Commission as part of their indicators to monitor poverty and social exclusion across the EU.

Proportion of those in poverty who are persistently in poverty,

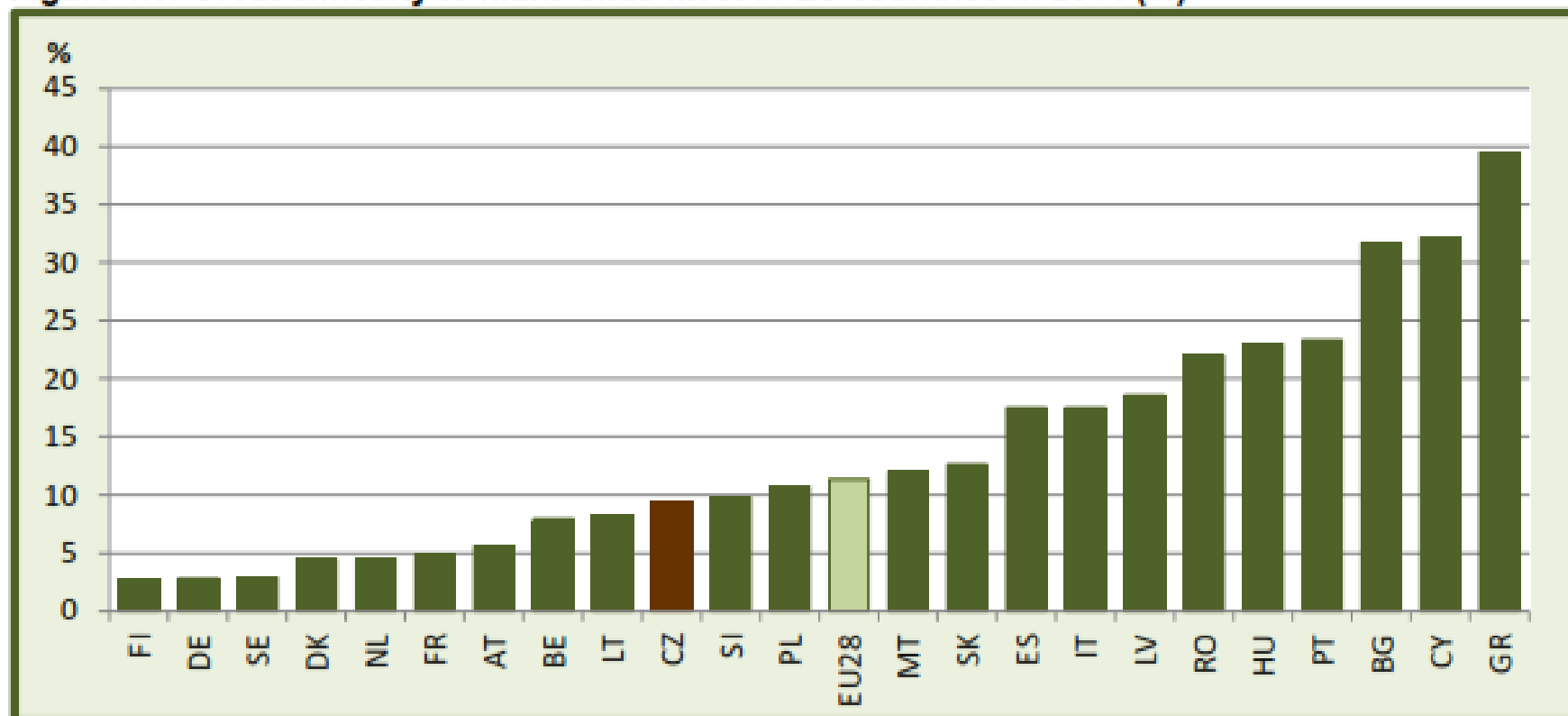


Persistent poverty rates measure the percentage of the population that are at-risk-of-poverty in the current year and at least 2 out of the 3 preceding years.

In many countries half of those in poverty are in persistent poverty. In Czechia individuals are overall less likely to enter poverty but stay longer in poverty than in Hungary.

Subjective indicators of poverty

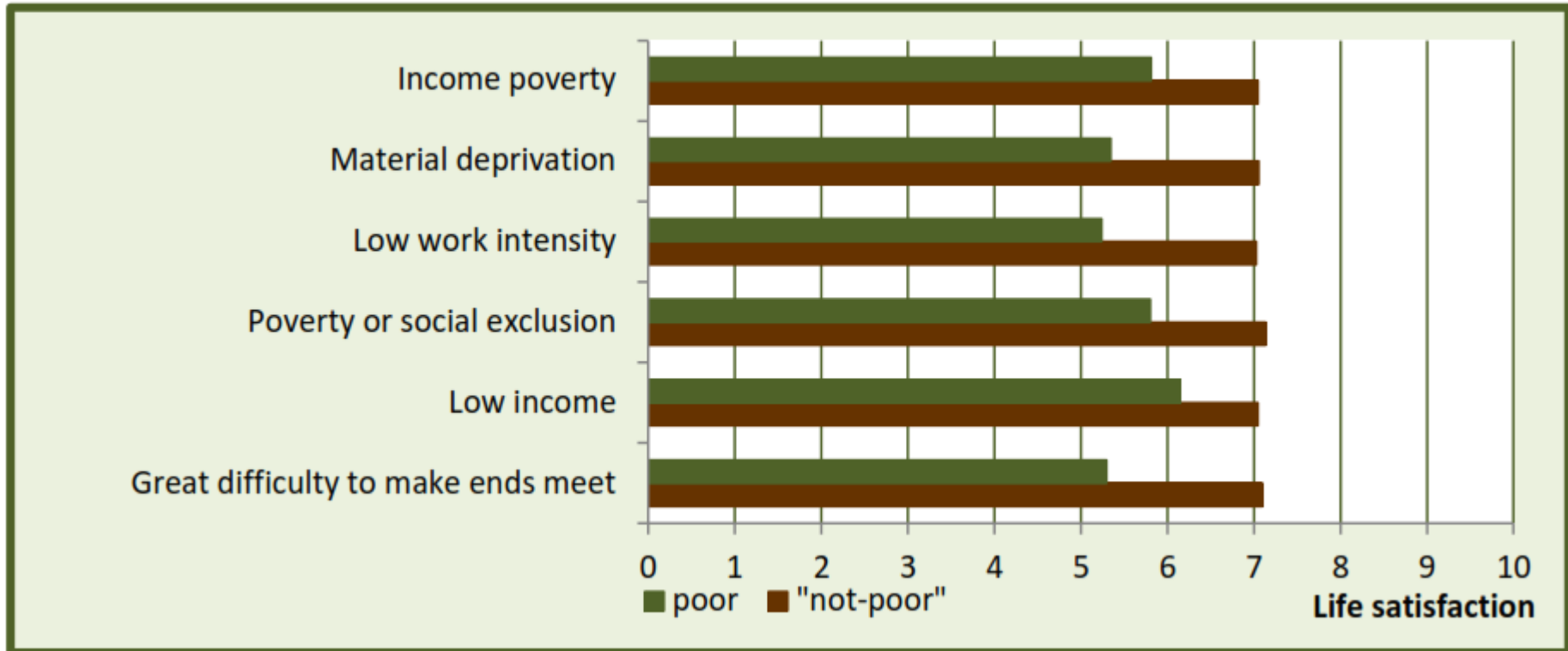
Figure 4.5: Great difficulty to make ends meet in EU countries in 2014 (%)



Source: EU-SILC - Eurostat tab ilc_mdcs09.

Being poor = being unhappy

Figure 2.9: Average score of life satisfaction (0-10) of persons at risk of poverty and others, by various indicators in 2013



Source: EU-SILC 2013, authors' computations.

Figures illustrate the situation in the Czech Republic.

Other difficulties

- Is income equally distributed within the household? Women have lower income but responsibility for the expenditure on children.
- Standard surveys do not capture groups typically at very high-risk poverty and social exclusion.
e.g. Roma and immigrants are underrepresented in data.

Conclusions

- Instant indicators of poverty are essential for identifying social risks in the society and for preparing public policy.
- The very equal societies in Europe tend to have the lowest levels of poverty.
- Adequate minimum income levels and good access to services are essential.

Extreme poverty today exists only in

- a) Countries in Latin America and South Asia
- b) Developing countries
- c) Developed countries
- d) Still exists in all countries

How does Eurostat measure the material deprivation?

- a) Each country has its own definition of national poverty line and material deprivation.
- b) Household is materially deprived when the purchasing power of disposable household income falls below the 60% of median equalized disposable income.
- c) Household is materially deprived when it cannot afford adequate housing and a meal with meat at least once a week.
- d) Household is materially deprived when its members cannot afford certain material goods.