# INEQUALITIES IN HEALTH AND WELL-BEING
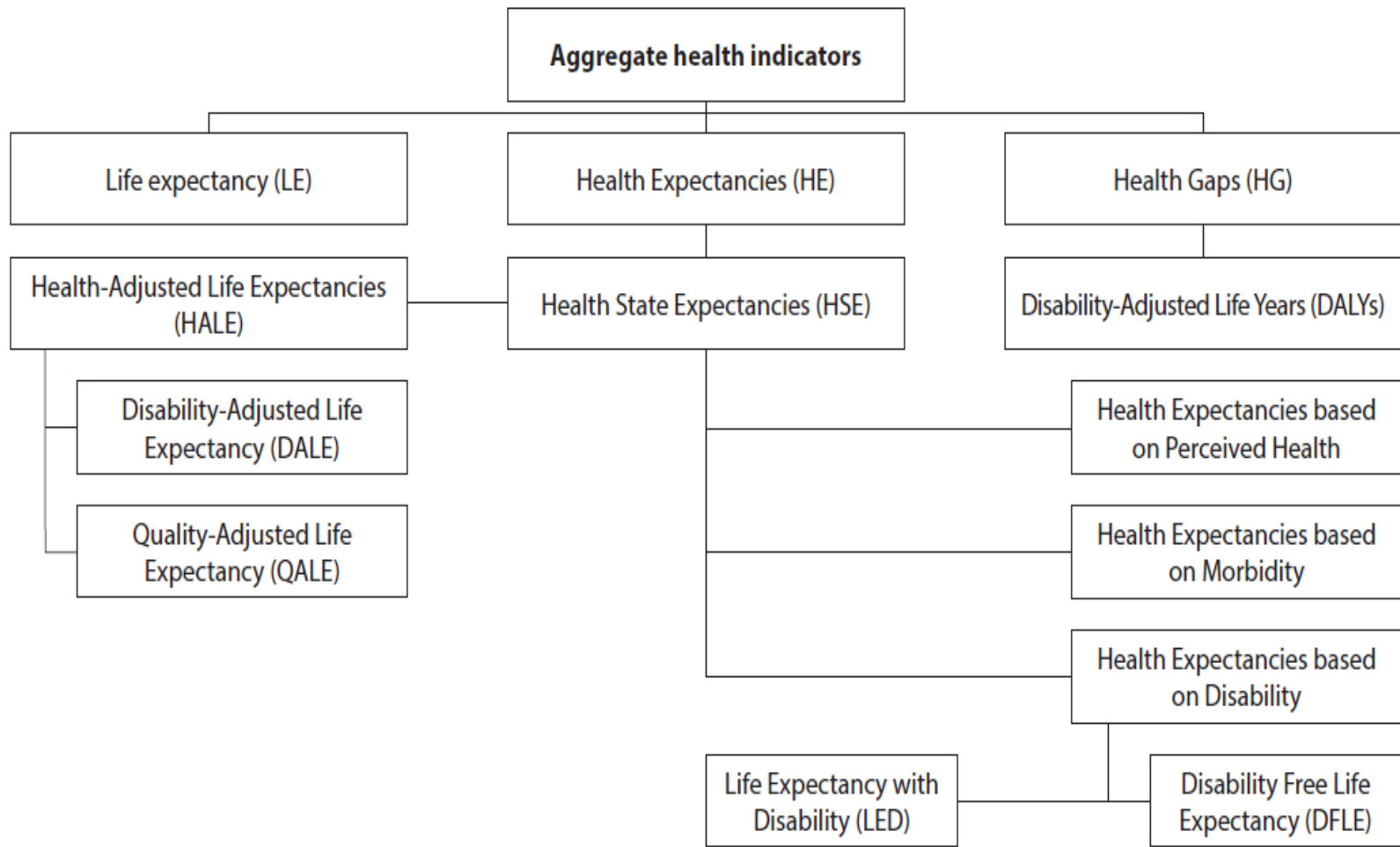
Week 12

# Health status

- Health status includes physical, psychical and social characteristics of quality of life.

- Evaluation of health status of the population is mainly based on specific information systems, registers and reports on activity of health establishments.

- Basic information on heath status is reported by primary health care providers.

# Health and its measurement

- Where? - in social and medical sciences

- „Hard" and „soft" indicators

- Sociology – „soft" – concept of health (*self-rated health*)

Aggregate health indicators
- Life expectancy (LE)
- Health Expectancies (HE)
- Health Gaps (HG)

Health-Adjusted Life Expectancies (HALE) — Health State Expectancies (HSE) — Disability-Adjusted Life Years (DALYs)

Health-Adjusted Life Expectancies (HALE):
- Disability-Adjusted Life Expectancy (DALE)
- Quality-Adjusted Life Expectancy (QALE)

Health State Expectancies (HSE):
- Health Expectancies based on Perceived Health
- Health Expectancies based on Morbidity
- Health Expectancies based on Disability
  - Life Expectancy with Disability (LED)
  - Disability Free Life Expectancy (DFLE)

Source: Czech Demographic Society (2010): English and Czech terms for summary indicators of population health: Basic overview.

# Subjective measurement of health – historical overview

- Up to the 90s XX century – objective indicators.

- Subjective measurement of health appears in connection with research focused on *quality of life* and/or *subjective well-being*.

# Different ways to measure SRH

2 ways:

- the individual evaluates his own health
- the health status is assessed by another, "third" person.

In social research - self-rated health - SRH.

# Operacionalization in survey

- question: "*Would you say that your health is…?*"

For evaluation:

- most often similar to the so-called Likert scale: "very good; good; average; poorly; very bad"
- an interval scale ranging from 1 to 100.
- Less often - pictograms or using a "Visual Analogue Scales"

## Wong-Baker FACES® Pain Rating Scale

| 0 | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|
| No Hurt | Hurts Little Bit | Hurts Little More | Hurts Even More | Hurts Whole Lot | Hurts Worst |

www.wongbakerFACES.org                    ©1983 Wong-Baker FACES® Foundation. Used with permission.

FIGURE 2. Wong-Baker Pain Scale. ©1983 Wong-Baker FACES® Foundation. Used with permission.

# Measuring SRH by use of different scales in Czechia and Slovakia



Obrázek č. 1a: Rozložení subjektivního zdraví měřeno pomocí různých škál v ČR v období let 1991 – 2018 (v %)

Obrázek č. 1b: Rozložení subjektivního zdraví měřeno pomocí různých škál v SR v období let 1991 – 2018 (v %)
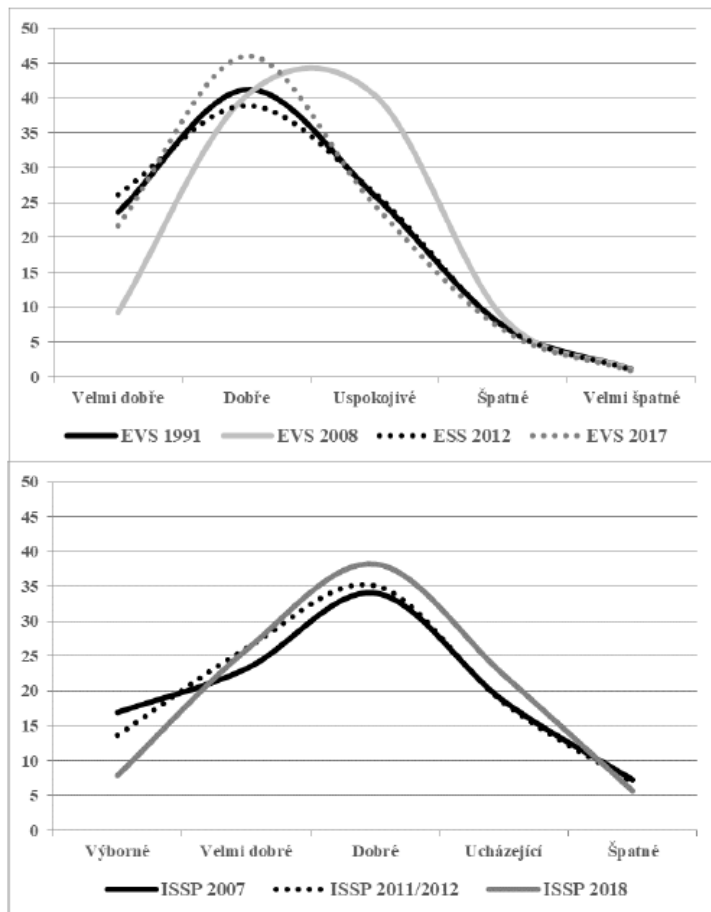
Zdroj: EVS integrated 1981-2008, ESS 2012, ISSP 2007, ISSP 2011/2012, ISSP 2018, EVS 2nd release EVS Cross-Sectional Data 2018 (vlastní výpočty)
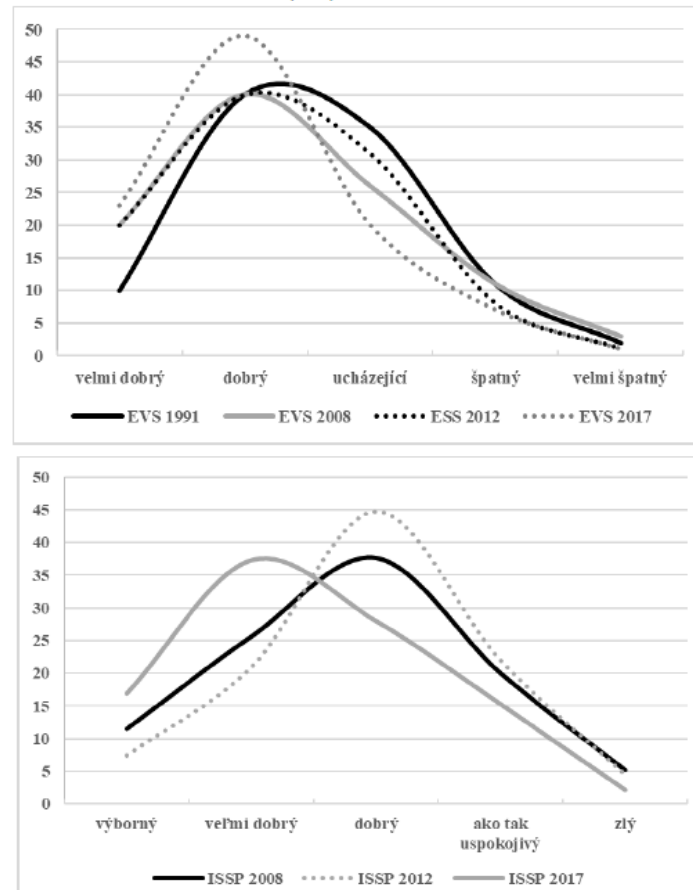
Zdroj: EVS integrated 1981-2008, ESS 2012, ISSP 2008, ISSP 2012, ISSP 2017, EVS 2nd release EVS Cross-Sectional Data 2018 (vlastní výpočty)

# Limits of SRH

1. Different wording of questions, number of answers/options offered and the role of translation

2. Heterogeneity in reporting

3. Health optimism and pessimism
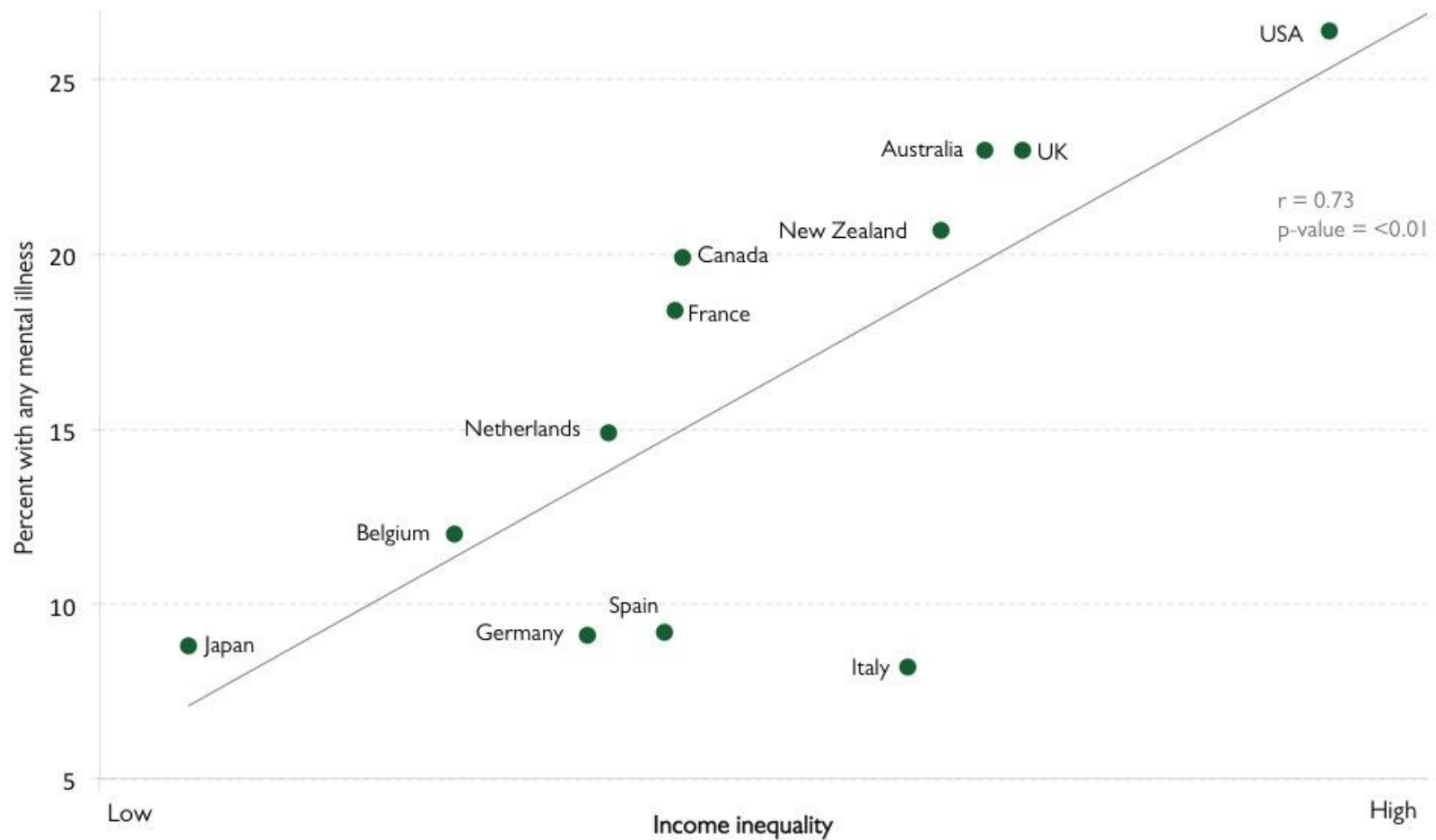
# Health in high-income countries

*Cardiovascular diseases, obesity* , which is on the rise in high-income nations.

- Improvements in technology and reduced family size have led to a reduction of work to be done in household production.
- Unhealthy market goods are replacing home-produced goods.
- Leisure activities are growing more sedentary.
- More workers are shifting from active work (agriculture and manufacturing) to service industries.
- Increased access to passive transportation has led to more driving and less walking.

# More adults are obese in more unequal rich countries



Source: Wilkinson & Pickett, The Spirit Level (2009)

THE EQUALITY TRUST
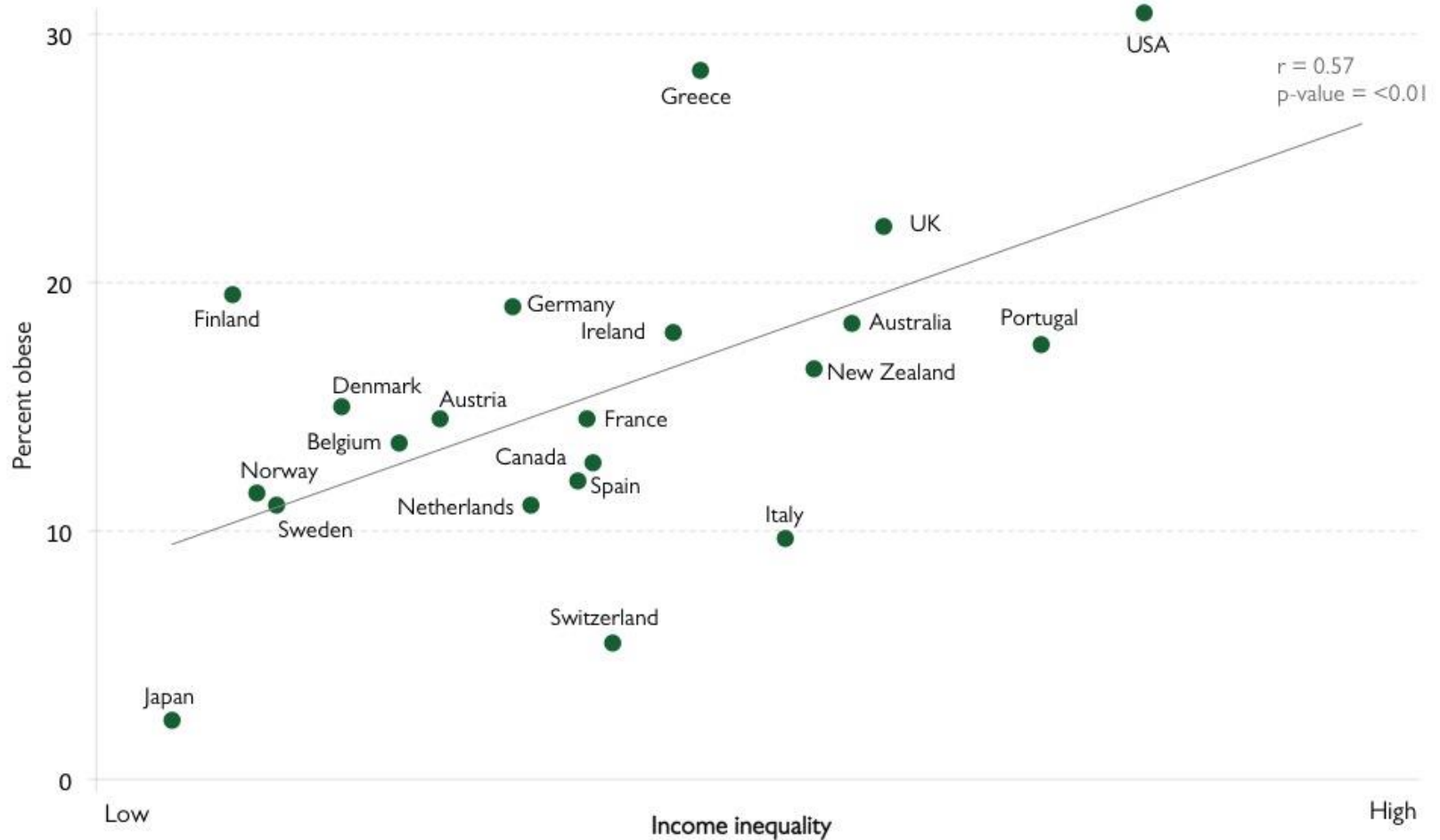
# The prevalence of mental illness is higher in more unequal rich countries



Source: Wilkinson & Pickett, The Spirit Level (2009)
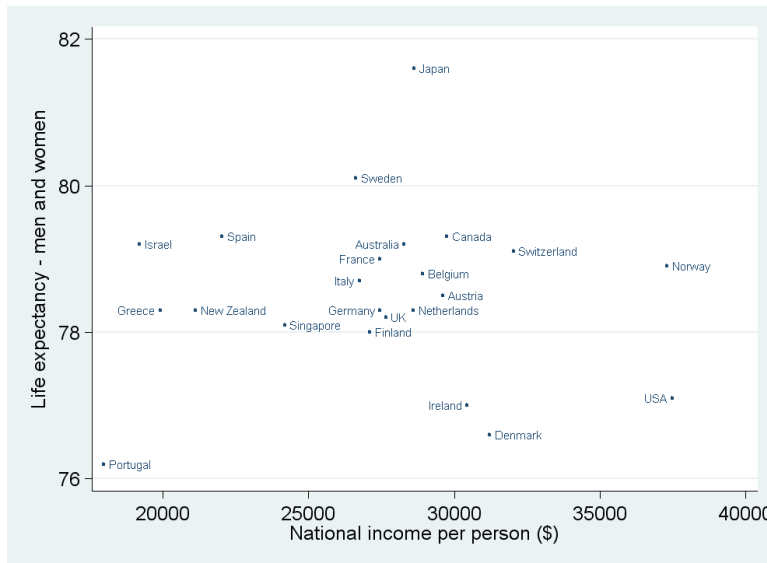
THE EQUALITY TRUST

# Health in low-income countries

- Problems such as infectious disease, high infant mortality rates, scarce medical personnel, and inadequate water and sewer systems.

- The most frequent causes of death for children under five were pneumonia and diarrheal diseases.

- The availability of doctors and nurses in low-income countries is one-tenth that of nations with a high income.

# Health and income

## Between (rich) societies



## Within societies
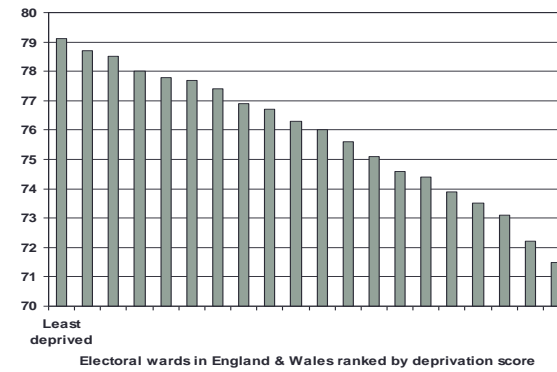


**Health is related to income differences *within* rich societies but not to those *between* them**

www.equalitytrust.org.uk  The Equality Trust

- **Predominantly female-bias:**

1) cultural norms
2) legal codes

   Developing countries ⇨ more vulnerable to suffering from health problems, less able to have access and control over healthcare resources.

- **Disparities against males:**

1) armed conflicts
2) drug cartels
3) alcohol consumption and psychological stress

# Health status and women

- Women live longer than men, but they tend to be "sicker" than men (Waldron, 1994, 2002).

- When social discrimination decreases, women's life expectancy increases (Waldron, 1983, 2001)

- Women show healthier behaviors than men do across a wide range of activities ⇨ For example????

# Health status and men

- Behavioral factors are fundamental causes in the etiology of gender differences in health and illness ⇨ **Macho's self-concept**

- In general, men tend to engage in more health-risk behaviors than women ⇨ For example????

- Fewer men than women engage in positive or preventive health behaviors.

- Men have more toxic/death occupational exposure.

# Health and social problems are worse in more unequal countries

**Index of:**
- Life expectancy
- Math & Literacy
- Infant mortality
- Homicides
- Imprisonment
- Teenage births
- Trust
- Obesity
- Mental illness – incl. drug & alcohol addiction
- Social mobility
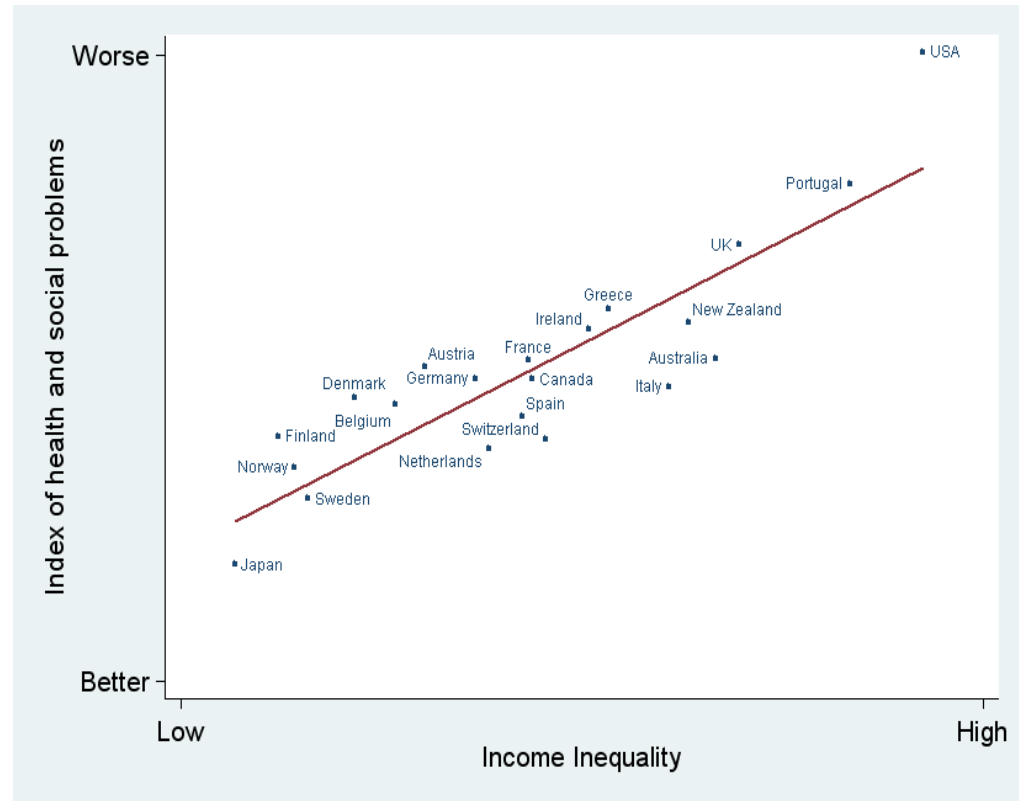
www.equalitytrust.org.uk

The Equality Trust

# Health and social problems are not related to average income in rich countries

**Index of:**
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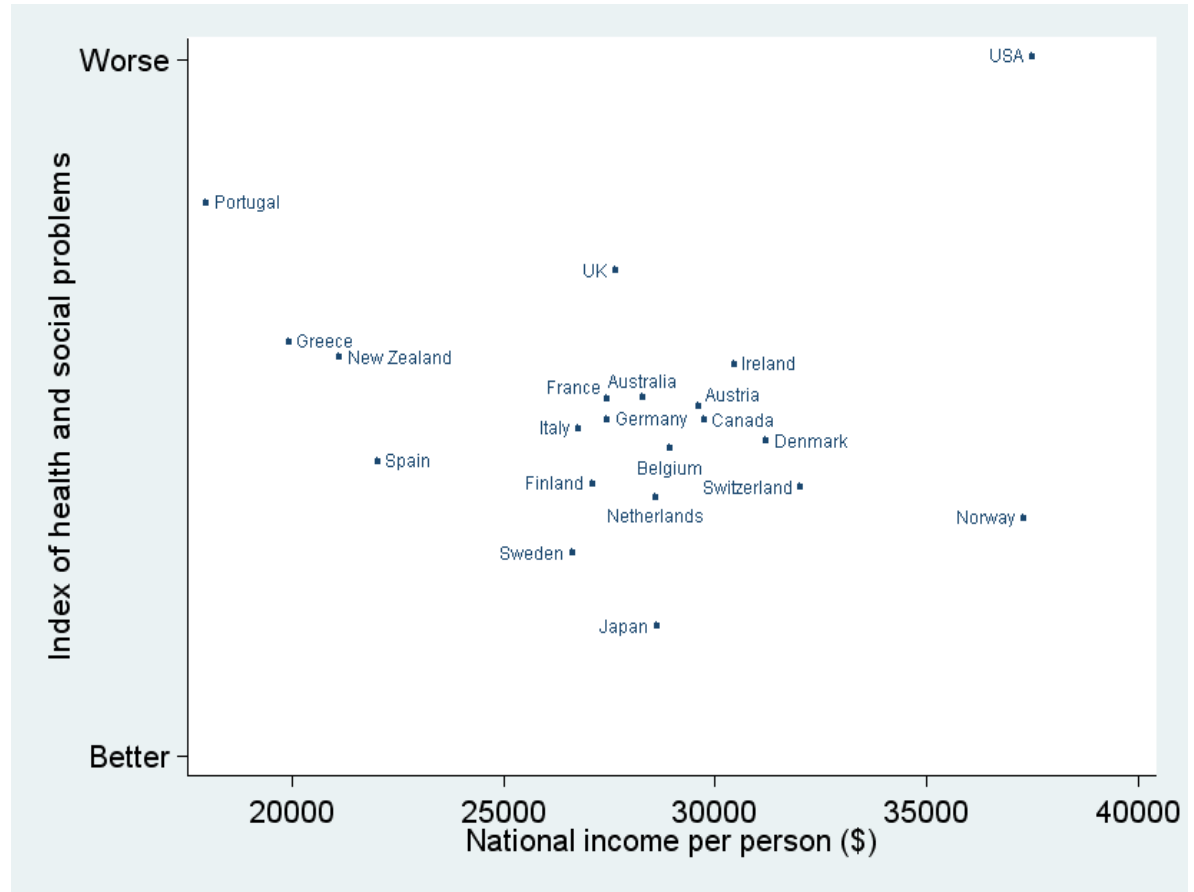
If you want more insights on inequalities, check the following link - **Richard Wilkinson: The link between inequality and anxiety | TED**

https://www.youtube.com/watch?v=gAHI34ivbgs

# Child mortality vs type of political regime, 2015

Political regime are classified on a range from -10 (full autocracy) to +10 (full democracy). Child mortality is the share of newborns who die before reaching the age of five.

Our World in Data



Legend:
- ■ Africa
- ■ Asia
- ■ Europe
- ■ North America
- ■ Oceania
- ■ South America

Y-axis: Child mortality (0%, 2%, 4%, 6%, 8%, 10%, 12%)
X-axis: Political Regime (OurWorldInData based on Polity IV and Wimmer & Min) (-10, -5, 0, 5, 10)

Country labels: Chad, Central African Republic, Somalia, Nigeria, Mali, Democratic Republic of Congo, South Sudan, Mozambique, Cameroon, Angola, Mauritania, Pakistan, Togo, Zambia, Afghanistan, Djibouti, Eswatini, Gambia, Tanzania, Madagascar, Laos, Uganda, Gabon, Papua New Guinea, India, Turkmenistan, Myanmar, Rwanda, Nepal, South Africa, Azerbaijan, Bangladesh, Cambodia, Iraq, Indonesia, Uzbekistan, Egypt, Algeria, China, Jordan, Venezuela, Brazil, Saudi Arabia, Thailand, Libya, Russia, Sri Lanka, United States, Cuba, Singapore, Czechia

Source: UN Inter-agency Group for Child Mortality Estimation (via World Bank), Polity IV

OurWorldInData.org/democracy/ • CC BY

# Well-being

- An increasing interest in quality of life and life satisfaction.

- Subjective wellbeing (SWB) ⇨ a person's evaluation of his or her life, including both *cognitive judgments* of life satisfaction and *affective evaluations* of moods.

# Well-being in an aggregate perspective – 1.

- Well-being = Gross Domestic Product (GDP)

- <u>Is is a valid measurement tool?</u>

**WHY???**

- GDP reflects the economic dimension only.

- Determinants that cannot be traded on market.

# Well-being in an aggregate perspective – 2.

- *Well-being = a multidimensional phenomenon*

- Quantification by aggregation = **weighting scheme**

- No clear consensus can be found in existing literature on the issue of weighting.

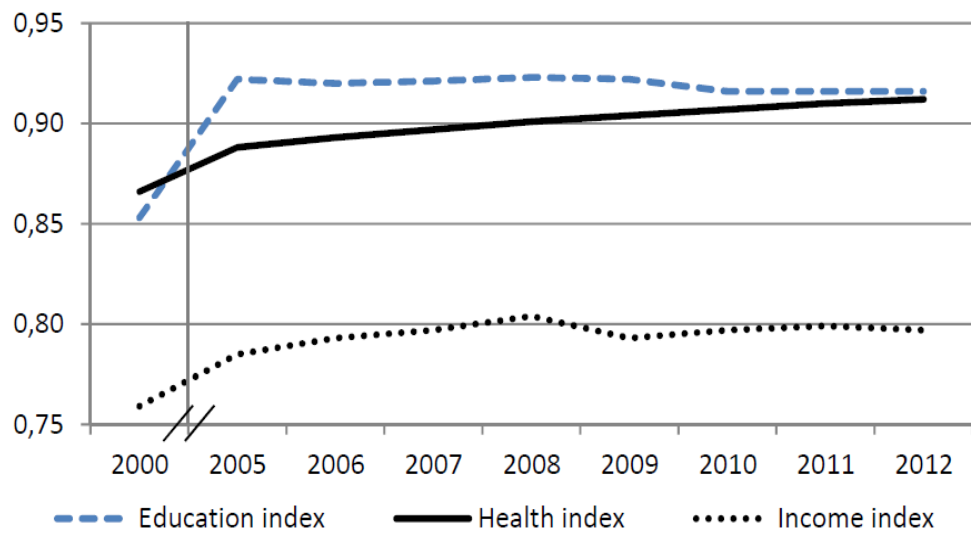# Well-being in an aggregate perspective – 3.

- *Human Development Index (HDI)* = first synthetic well-being metrics designed to overcome the GDP-related issues.
- Three dimensions:
1. "Long and healthy life"
2. "Education"
3. "Decent standard of living"

- A new well-being measure = *Inequality-adjusted HDI (IHDI).*

**Figure 1 Human Development Index, 2000-2012**
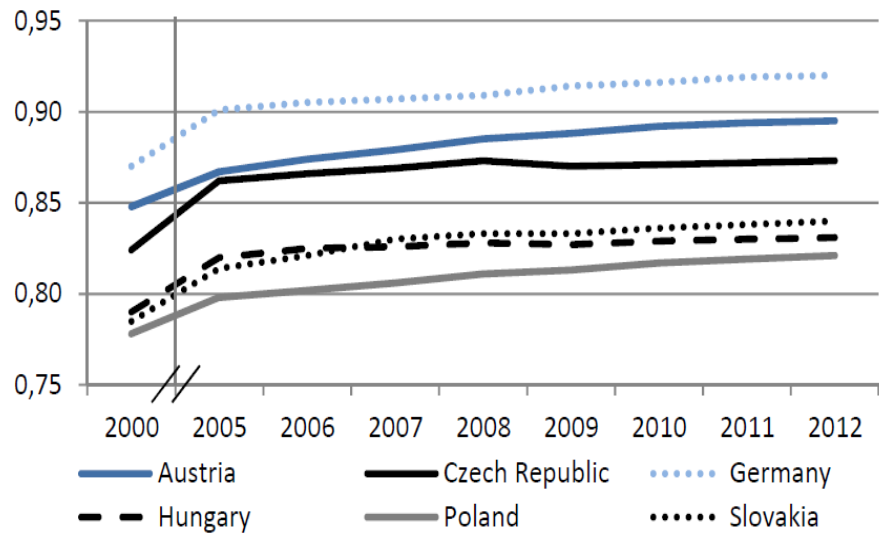


Source: UNDP

**Figure 2 Human Development Index Components in the Czech Republic, 2000-2012**



Source: UNDP

# Well-being in an aggregate perspective – 4.

Subjective measurement of well-being:

*"All things considered, how satisfied are you with your life as a whole these days?"*

**Table 2 Life Satisfaction (Cantril Ladder, mean value) in 2006, 2010, and 2012**

|                | 2006 | 2010 | 2012 |
|----------------|------|------|------|
| Austria        | 7.1  | 7.3  | 7.4  |
| Czech Republic | 6.4  | 6.2  | 6.3  |
| Germany        | 6.6  | 6.7  | 6.7  |
| Hungary        | 5.2  | 4.7  | 4.7  |
| Poland         | 5.9  | 5.8  | 5.9  |
| Slovakia       | 5.2  | 6.1  | 5.9  |

*Note: The Cantril Ladder is measured on a scale from 0 to 10.*
*Source: Gallup World Poll in: OECD (2013)*

# Self-reported life satisfaction, 2022

"Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?"

No data   0        1        2        3        4        5        6        7        8        9        10
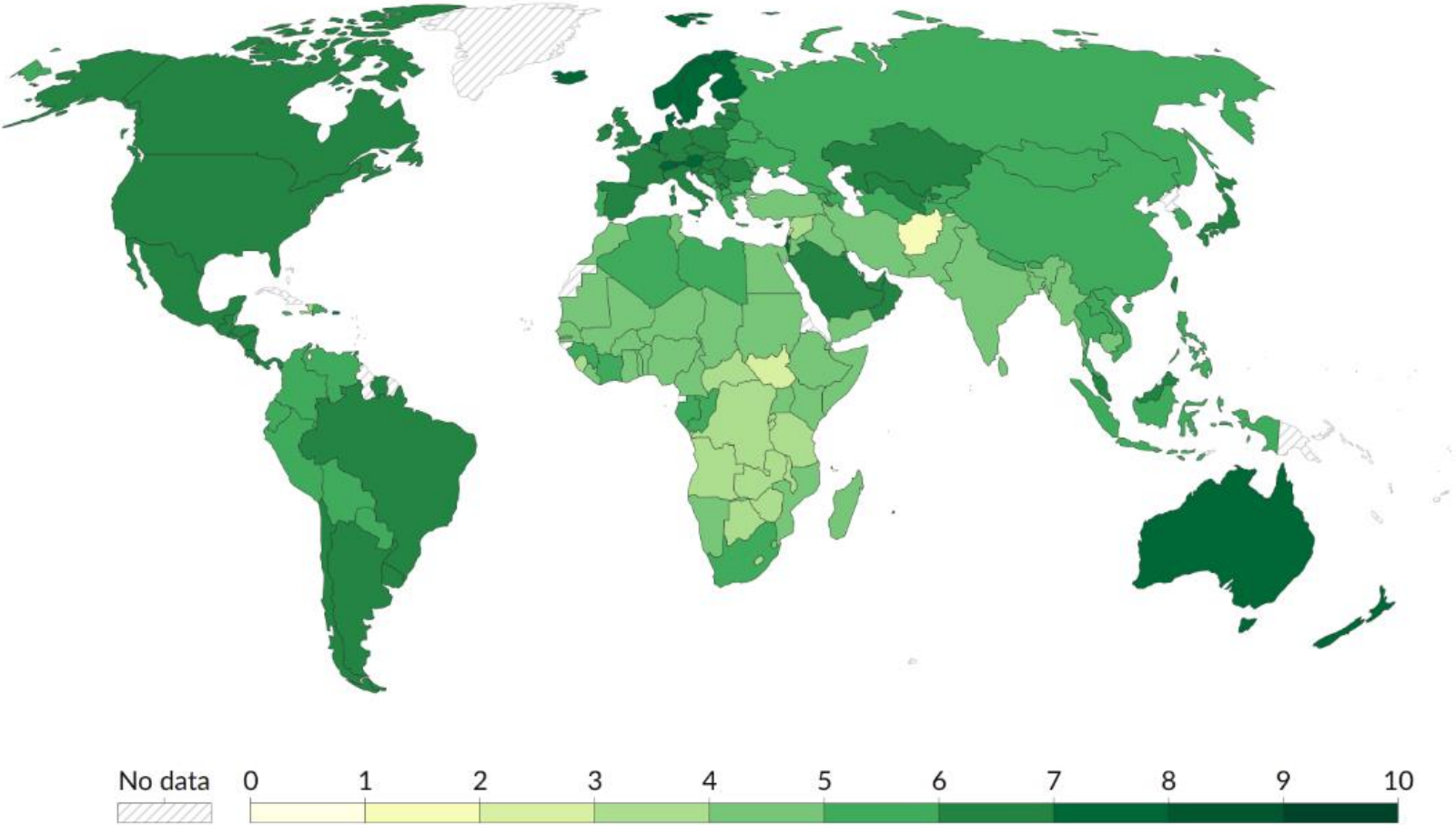
# Self-reported life satisfaction vs. GDP per capita, 2022

Self-reported life satisfaction is measured on a scale ranging from 0-10, where 10 is the highest possible life satisfaction. GDP per capita is adjusted for inflation and differences in the cost of living between countries.

Legend:
- Africa
- Asia
- Europe
- North America
- Oceania
- South America

Circles sized by **Population (historical estimates)** — 1:4B, 600M

X-axis: GDP per capita — $1,000 / $2,000 / $5,000 / $10,000 / $20,000 / $50,000 / $100,000

Y-axis: Life satisfaction (country average; 0-10) — 3, 4, 5, 6, 7

Country labels: Israel, Netherlands, United States, Ireland, France, Costa Rica, Lithuania, Singapore, Brazil, Chile, Japan, Philippines, China, Bolivia, Russia, Nepal, Indonesia, Bangladesh, Hong Kong, Ghana, Iran, Senegal, Mozambique, Pakistan, Turkey, Somalia, Uganda, Egypt, Chad, Ethiopia, Sudan, India, Burundi, Malawi, Tanzania, Botswana, Democratic Republic of Congo, Lebanon, Afghanistan

**Data source:** World Happiness Report (2023); World Bank (2023)
**Note:** GDP per capita is expressed in international-$[1] at 2017 prices.

OurWorldInData.org/happiness-and-life-satisfaction | CC BY

**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. The goal of such adjustments is to provide a unit whose purchasing power is held fixed over time and across countries, such that one international dollar can buy the same quantity and quality of goods and services no matter where or when it is spent. Read more in our article: What are Purchasing Power Parity adjustments and why do we need them?

# Life satisfaction vs. life expectancy, 2021

The vertical axis shows life expectancy at birth. The horizontal axis shows self-reported life satisfaction in the Cantril Ladder (0-10 point scale with higher values representing higher life satisfaction).

**Our World in Data**

**Legend:**
- Africa
- Asia
- Europe
- North America
- Oceania
- South America

1:4B
600M

Circles sized by
**Population**
(historical estimates)

**Labeled data points:**
Hong Kong, Japan, Italy, Australia, China, Chile, Germany, Sri Lanka, Algeria, Poland, United States, Lebanon, Iran, Brazil, Bangladesh, Egypt, Iraq, Mexico, India, Indonesia, Tanzania, Pakistan, Malawi, Uganda, South Africa, Afghanistan, Democratic Republic of Congo, Mozambique, Eswatini, Lesotho, Nigeria

**Vertical axis (Life expectancy at birth):** 40 years, 50 years, 60 years, 70 years, 80 years

**Horizontal axis (Life satisfaction measured from lowest=0 to highest=10 on Cantril Ladder):** 3, 4, 5, 6, 7

**Data source:** UN, World Population Prospects (2022); World Happiness Report (2023)
OurWorldInData.org/happiness-and-life-satisfaction | CC BY

# Well-being in an aggregate perspective – 5.

- OECD within *Better Life Initiative*.

- It builds upon three pillars: *material living conditions*, *quality of life*, and *sustainability*.

- Each of the domains is measured by several indicators.

- *Your Better Life index* - a composite indicator combined from these eleven dimensions: http://www.oecdbetterlifeindex.org/

**Table 3 Rankings of Countries Among 34 OECD Countries Under Different Well-being Indicators, 2012**

|                | HDI | IHDI | LS | YBLI |
|----------------|-----|------|----|------|
| Austria        | 17  | 12   | 9  | 14   |
| Czech Republic | 25  | 14   | 22 | 23   |
| Germany        | 5   | 5    | 19 | 16   |
| Hungary        | 29  | 25   | 34 | 29   |
| Poland         | 30  | 28   | 28 | 25   |
| Slovakia       | 28  | 22   | 27 | 28   |

Source: UNDP, OECD

# Well-being in an aggregate perspective – 6.

- *Happy Planet Index*

https://neweconomics.org/2006/07/happy-planet-index/

$$HPI = \frac{\text{Life satisfaction x Life expectancy at birth}}{\text{Ecological footprint}}$$

- *Sustainable Society Index*

https://ssi.wi.th-koeln.de/

# Components of SWB (subjective well-being)

- *Cognitive* component of SWB: *satisfaction.*
- *Affective* component of SWB: *happiness.*

- Most widely used measure of SWB: *life satisfaction.*

- *Satisfaction* and *happiness* are often used interchangeably in the literature✋ It can complicate interpretation of findings and comparability between countries.

- https://personal.eur.nl/veenhoven/

- Relatively high positive levels of SWB consistently found even in developing countries.

# „Happiness" – Subjective well-being in Czechia

**Question:** *All things together, would you say you are…*
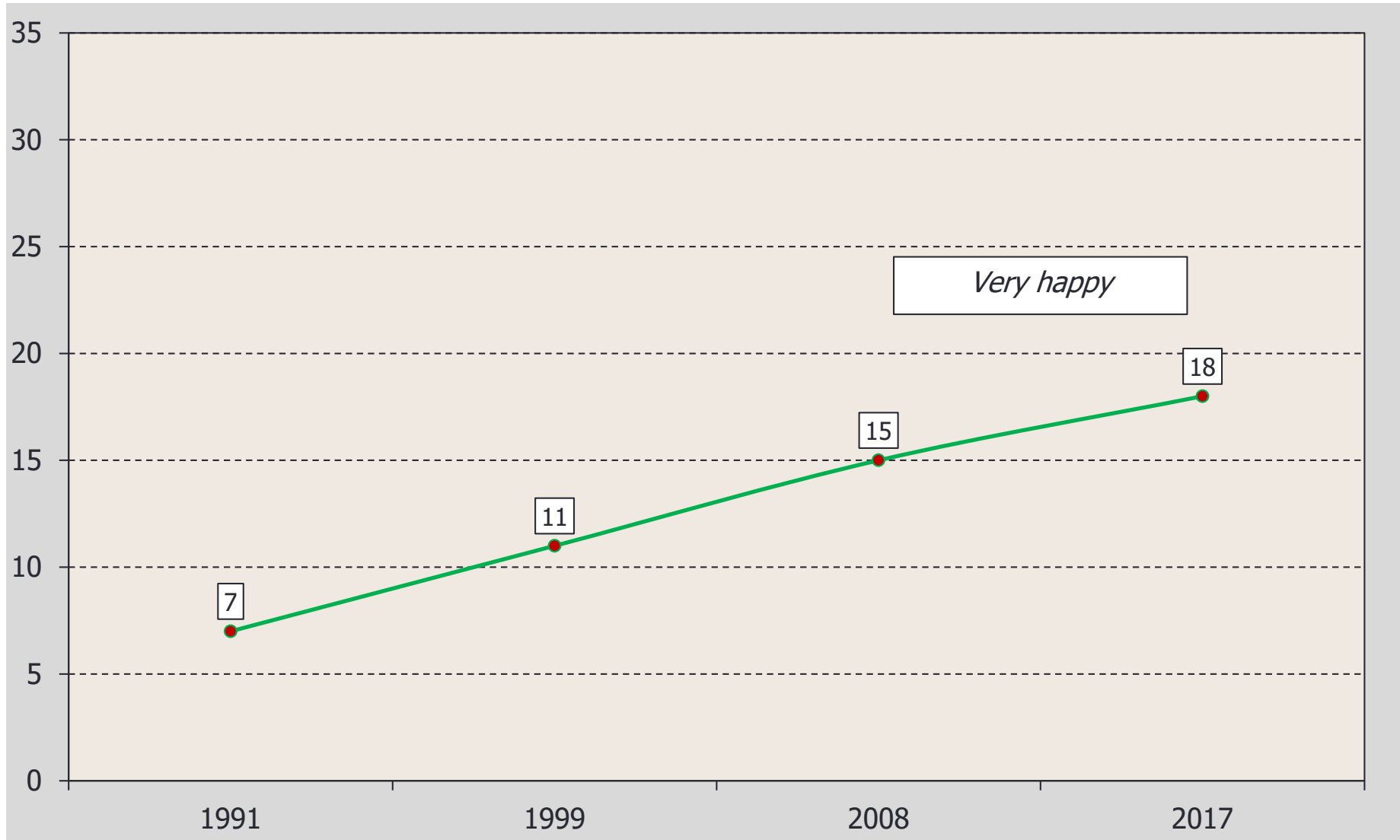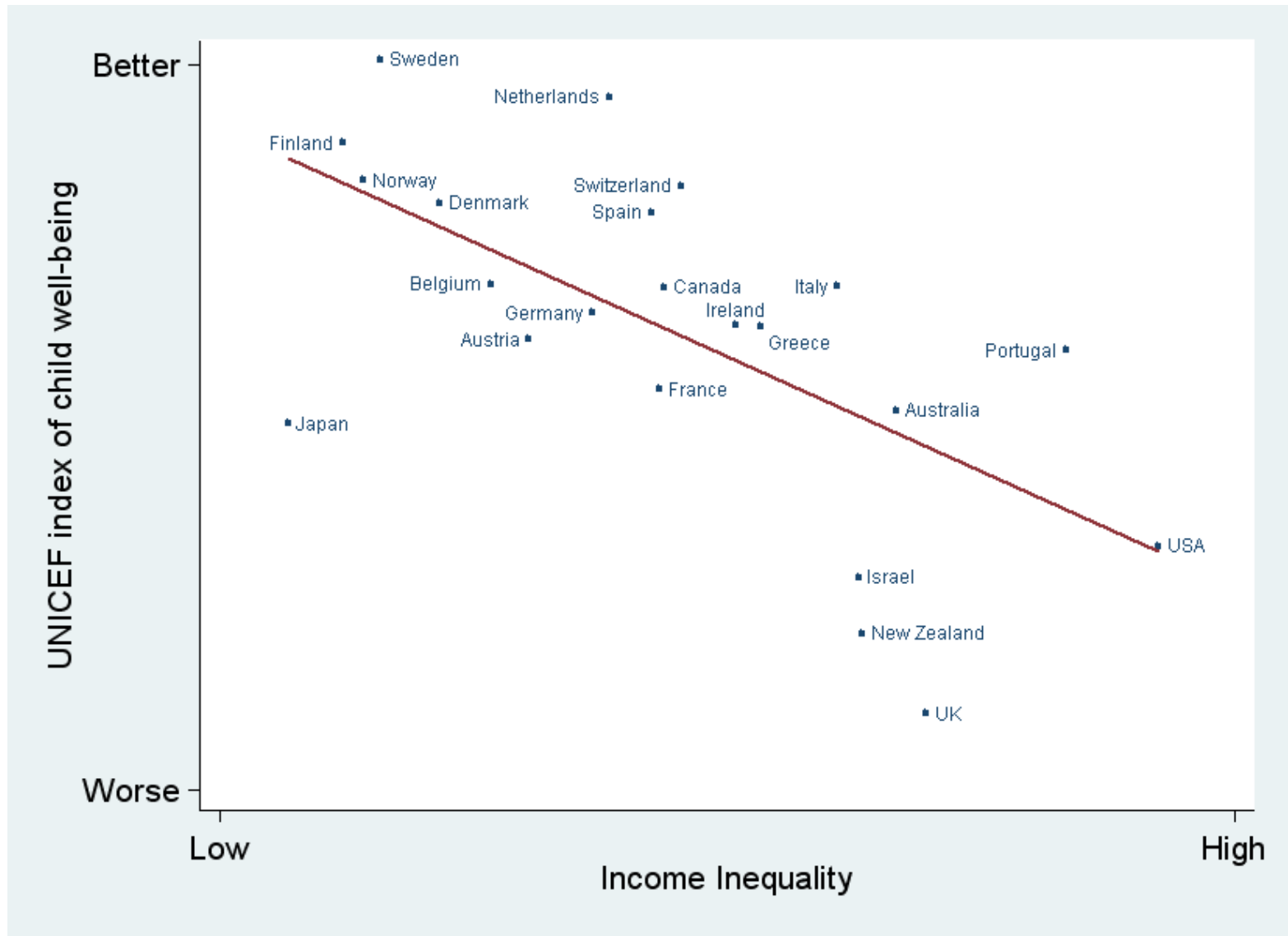
# „Happiness" – Subjective well-being

| | Very happy | Happy | Not too happy | Very unhappy | % |
|---|---|---|---|---|---|
| 1991 | 7 | **78** 71 | 19 | 2 | 100 % |
| 1999 | 11 | **86** 75 | 13 | 1 | 100 % |
| 2008 | 15 | **86** 71 | 13 | 2 | 100 % |
| 2017 | 18 | **90** 72 | 10 | 1 | 100 % |

# Life satisfaction in Czechia- answer (%): *satisfied*

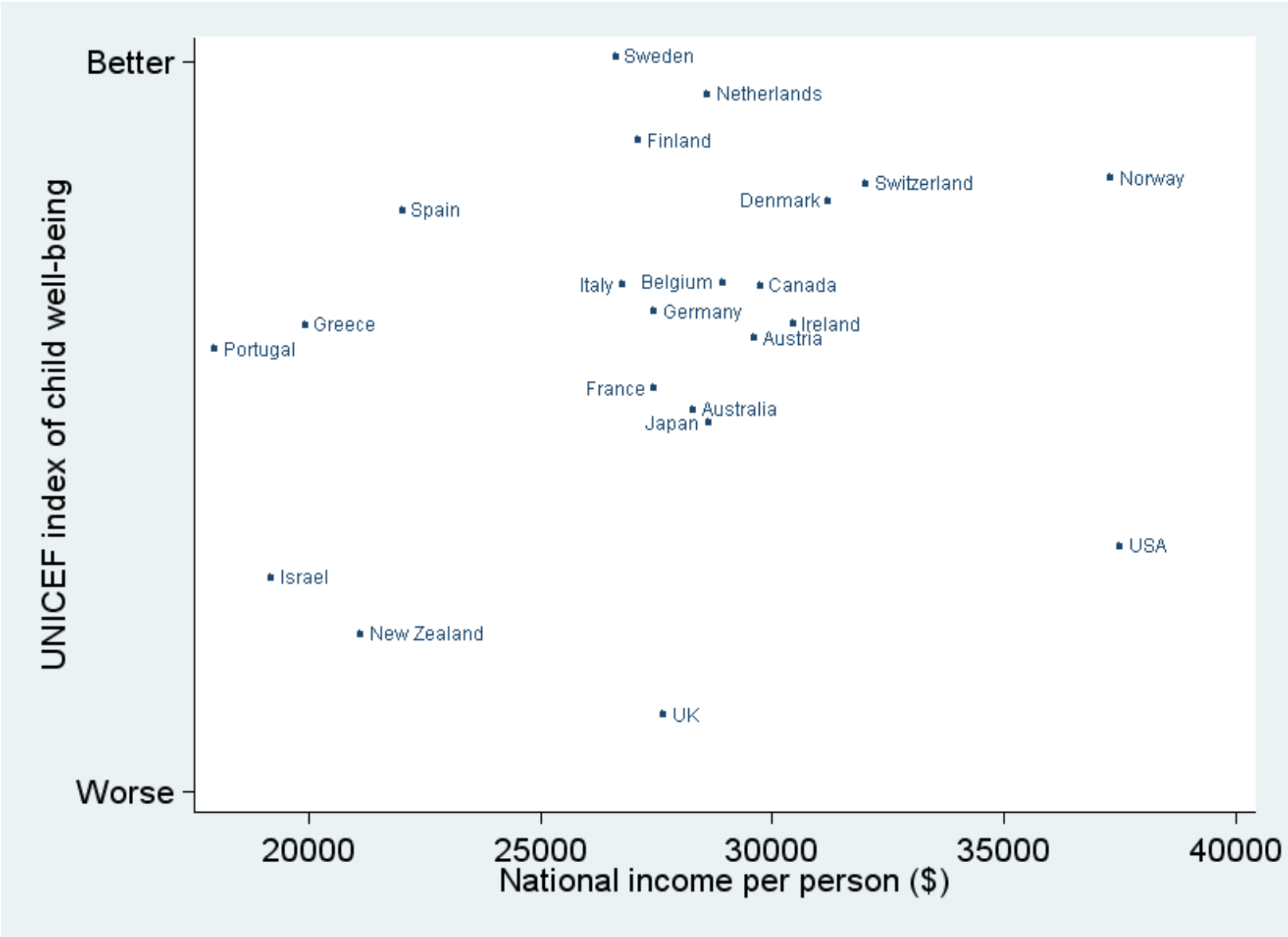*All things together, how satisfied are you with your own life?*

# Child well-being is better in more equal rich countries

# Child-wellbeing is unrelated to average incomes in rich countries