Inequality: Wealth, health and longevity

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Agenda

• Introduction

• Economic inequality

• Lifespan inequality

• The role of education

• Conclusions
Inequality can be good or bad

**Diversity**
- Biological – essential for evolution
- Intellectual – different and better ideas
- Cultural – richer life experiences
- Workforce – supports commercial success

**Opportunity**
- When it relates to inequality of opportunity

**Extreme**
- When it reflects extreme, unfair and avoidable differences

We focus on the bad kind of inequality
What’s so bad about this kind of inequality?

<table>
<thead>
<tr>
<th>At the individual level</th>
<th>At the societal level</th>
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</thead>
<tbody>
<tr>
<td><strong>Poor outcomes in terms of:</strong></td>
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<tr>
<td>• Unfulfilled potential</td>
<td>• Populism</td>
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<tr>
<td>• Life satisfaction</td>
<td>• Social cohesion</td>
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<tr>
<td>• Self esteem</td>
<td>• Democratic participation</td>
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<tr>
<td>• Health</td>
<td>• Missed talent</td>
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<tr>
<td>• Lifespan</td>
<td>• Economic underperformance</td>
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<td>• Conflict</td>
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</table>
The Global Financial Crisis shone the spotlight on inequality

Economic inequality

- USA
  - "We are the 99%"
  - Youth unemployment > 50%

- Spain
  - "Older workers not bearing their share of the pensions burden"

Generational inequality

- UK
  - "How the baby boomers took their children’s future – and why they should give it back"

Source: Occupy Wall St
Source: Movimiento 15-M
Source: The Guardian

26 Feb 2018
Generational battle lines harden over pensions
Measuring inequality

Inequality variables:
- Economic
- Health
- Lifespan (Longevity)
- Education
- Employment opportunities

Inequality statistics:
- Top 1% share
- 90/10 ratio
- Gini coefficient

Inequality breakdowns:
- By:
  - Gender
  - Age (generation)
  - Socio-economic group
  - Geography
  - Education attainment
  - Parent characteristics

For example, Gini Coefficients:
- Global Income Inequality: 65%
- Global Lifespan Inequality: 18%
Agenda

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Income inequality is the most studied measure of inequality.

Global Income Inequality (Gini)

- 2003: 69%
- 2013: 65%
- 2035 E: 61%

Global income distributions 2003, 2013, 2035 E

Source: Hellebrandt and Paolo Mauro (2015), The Future of Worldwide Income Distribution
There is wide variation across countries of the income inequality within countries.

**Gini coefficient** - household per capita disposable income in late 2000s

**90/10 ratio** - household per capita disposable income in late 2000s

Source: Hellebrandt and Paolo Mauro (2015), The Future of Worldwide Income Distribution
Improvements in the top 1% share of income have reversed in English-speaking countries since the 1980s.

Share of total income going to top 1% (before tax and transfers)

Data source: World Wealth and Income Database (2018). This is income before taxes and transfers. This data visualisation is available at OurWorldInData.org. There you find the raw data and more visualisations on inequality and how the world is changing. Licensed under CC-BY-SA by the author Max Roser.
The whole distribution of income gives a the more complete picture

- Experience is country specific

* Deciles 1 to 9. Income is adjusted for household size, inflation and price differences between countries and expressed in 2011 dollars.

Source: Incomes across the Distribution Database, Nolan, Thewissen, Roser 2016 (Our World in Data)
Inequality in wealth exceeds inequality in income

### Distribution of global wealth

<table>
<thead>
<tr>
<th>Individual wealth held</th>
<th>$1m+</th>
<th>$100,000 to $1m</th>
<th>$10,000 to $100,000</th>
<th>Under $10,000</th>
</tr>
</thead>
</table>

- **0.7% of all adults (36m adults)**
  - **7.9%** (391m) own 45.9% of global wealth ($128.7tn)
  - **21.3%** (1,054m) own 39.7% of global wealth ($111.4tn)
  - **70.1%** (3,474m) own 11.6% of global wealth ($32.5tn)
  - **2.7%** own $7.6tn

*Guardian graphic | Source: Credit Suisse Global Wealth Databook 2017*

*The Guardian, Tuesday, 14 November 2017*

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**Wealth inequality in the developed world is largely linked to property and pensions wealth**
Country rankings of wealth inequality differ from income inequality

OECD average 72.8%.

Source: The Equality Trust; https://www.equalitytrust.org.uk/scale-economic-inequality-uk
Credit Suisse Global Wealth Databook 2016
Agenda

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Life expectancy increases with income – the “Preston Curve”

Life Expectancy vs. GDP per Capita from 1800 to 2012 – by Max Roser

Data sources: Data on life expectancy are from Gapminder.org; data on GDP per capita are from the ‘New Maddison Project Database.

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

Non-Restricted (NR)
Over time lifespan inequality has been falling

Gini coefficient for lifespan inequality

- Sweden
- England/Wales
- France
- Germany
- US

Source: Peltzman 2009
Journal of Economic Perspectives 23 (4) Fall
175–190

Note: Data are five-year averages centered around year shown.
Lifespan inequality has fallen as LE has risen

- Trajectory of **lifespan inequality** vs. LE through time and across countries
- Based on 9063 life tables for 212 countries

Source: Smits and Monden 2009, Length of life inequality around the globe. Soc Sci Med. 68(6), 1114-23
LE at birth by US county 2014

Life expectancy inequality has been worsening across US counties.

**Life expectancy at birth inequality – US counties**

**Absolute inequality**
99/1 difference

**Relative inequality**
99/1 ratio

Within countries, lifespans are longer where income is higher

- Preston curve for US counties
  - Similar to international Preston Curve
  - Longevity positively associated with income

- Two counties separated by 350 miles could not be more different:
  - Fairfax County
  - McDowell County


Sources: Institute for Health Metrics and Evaluation (life expectancy); socialexplorer.com (income data from the 1990 decennial Census and 2008-2012 American Community Survey)
Differences in LE from health status, education and lifestyle for two neighbouring US counties

Life expectancy

- St. Johns: 82.5
- Putnam: 78.5

Percentage who:

- Are obese
  - St. Johns: 22%
  - Putnam: 35%

- Who smoke
  - St. Johns: 15%
  - Putnam: 27%

- Are insured
  - St. Johns: 17%
  - Putnam: 24%

- Graduate from high school
  - St. Johns: 92%
  - Putnam: 75%

There are even wider inequalities in *Healthy* Life Expectancy – related to level of deprivation*

**LE at birth (Males England)**

- **Gap:** 9.2 years male
- **Gap:** 7.1 years female

**Healthy LE at birth (Males England)**

- **Gap:** 20 years (male & female)

*Level of deprivation as reflected in deciles of the Index of multiple deprivations (IMD)*

Life expectancy shows significant relationships with economic, education and health factors

Range of US county outcomes for factors associated with LE

<table>
<thead>
<tr>
<th>Economic</th>
<th>Education</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median income*</td>
<td>Below poverty line</td>
<td>Unemployment rate</td>
</tr>
<tr>
<td>0.41</td>
<td>0.47</td>
<td>0.18</td>
</tr>
</tbody>
</table>

Range over all counties
Mean over all counties


* Median household income of each county as % of maximum median household income.
The association between economic and education factors and life expectancy is mediated through the “health” risk factors

Economic

Education

“Health”
- Behavioural risk factors
- Metabolic risk factors

Life Expectancy

Agenda

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In many countries education is a highly significant predictor of LE

**Denmark: Life expectancy age 30 by education quartile**

- **Men**
  - Top
  - 2nd
  - 3rd
  - 4th

- **Women**
  - Top
  - 2nd
  - 3rd
  - 4th

**Gap:**
- **Men:** 5.8 years
- **Women:** 4.1 years

Education seems to be a better predictor of life expectancy than income

Education policy is a key element of addressing lifespan inequality

*Based on multivariate analyses on 174 countries for 1970–2015
More evidence that education is positively associated with low mortality

- USS is a UK pension plan for the higher education sector
- Socio-economic groups reflect deciles of the UK index of multiple deprivations (IMD)

**Education-related effect exists across socio-economic groups**
Education also seems to play a key role in addressing economic inequality

- Financial returns from education are large in high-inequality countries
- **Parental education** also has a positive association with income

- Education facilitates mobility
  - Immobility and inequality are positively associated through the “Great Gatsby Curve”

**US median income by education**


**The “Great Gatsby Curve”**

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Conclusions

• Globally inequality has been falling, looking at the whole distribution
  o But there are pockets where inequality remains persistently high or is increasing

• Economic inequality and lifespan inequality are positively associated

• Education seems to play a key role in reducing inequality
  o Both economic and lifespan inequality
  o The effects are compounded across generations
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