Global Inequality & Growth:
Inequality between individuals

Ludvig Wier

Previously on Global Inequality & Growth…

- Last time got fairly abstract but main message was simple:

1. Wealth has been accumulating at rates higher than the income growth since the 1950's…
2. … meanwhile capital owners have captured a larger share of national income

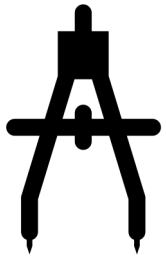
Previously on Global Inequality & Growth…

- We furthermore asked the question:
- *Does an increase in wealth accumulation necessarily imply a larger capital income share?*
  - It does not: depends on the relative bargaining power of workers vs capital owners

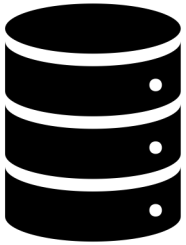
- What determines the bargaining power of workers vs capital owners:
  1. The ease of substituting from labour to capital inputs
  2. Market power: unions, legislation, etc.

  ⇨ Evidence that bargaining power of capital owners increased since 50's

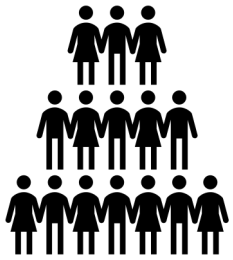
Today: Inequality between individuals!



Metrics



Data sources



Unit of observation

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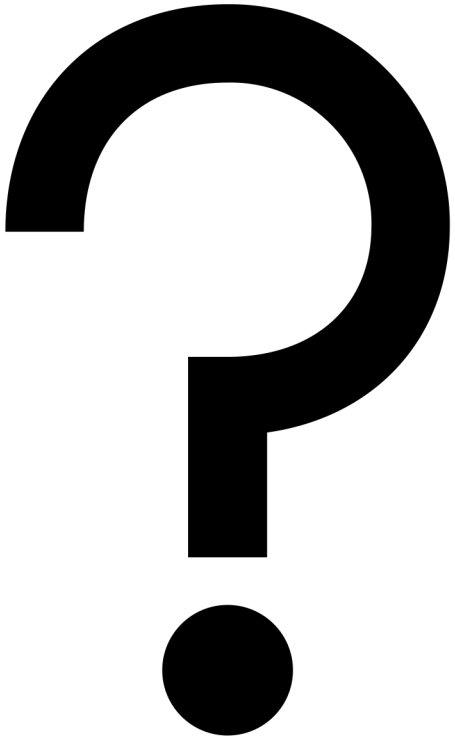
Metrics: how do we measure inequality?



Metrics: how do we measure inequality?

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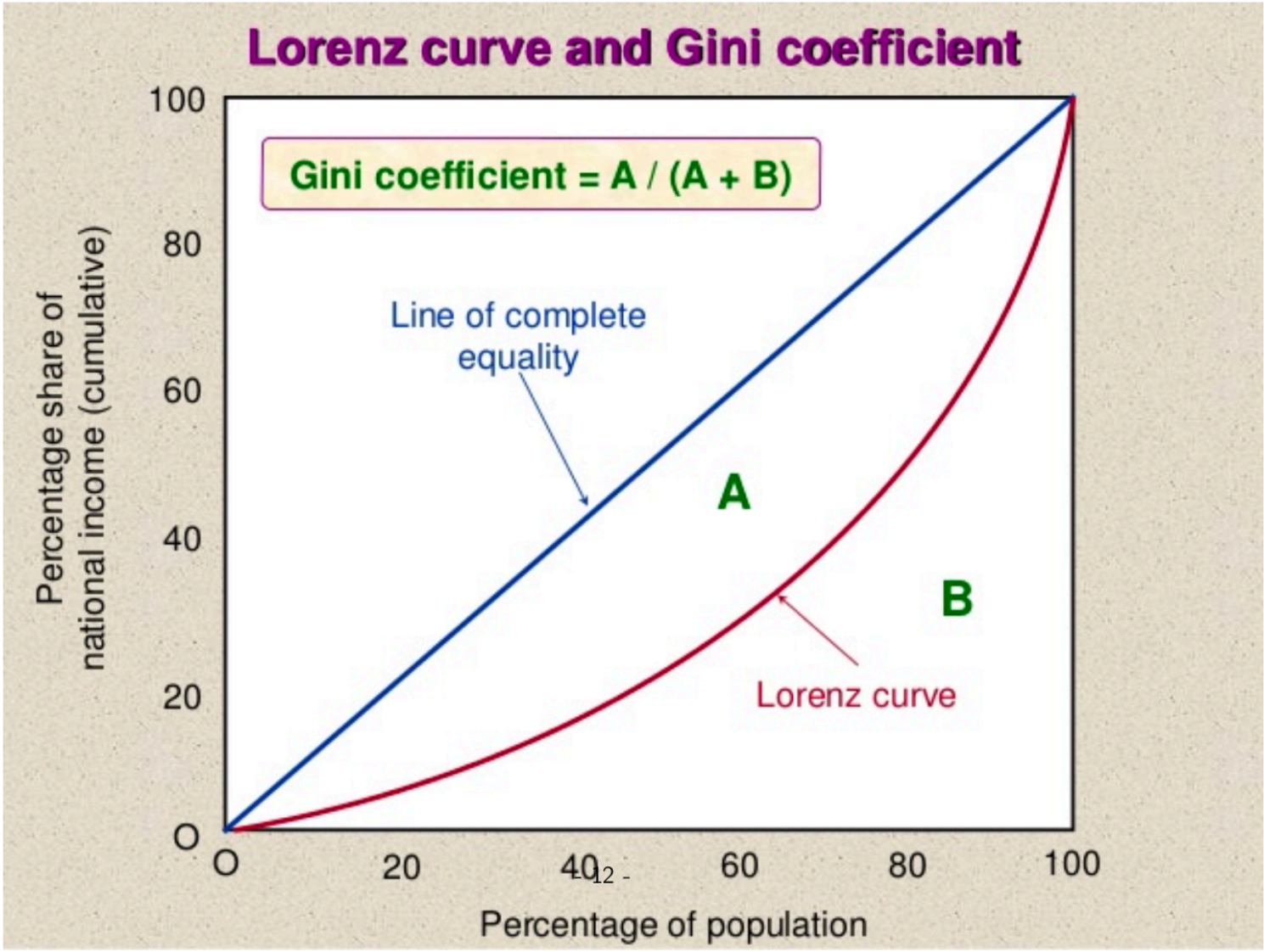
Relative inequality measured by the Gini-index

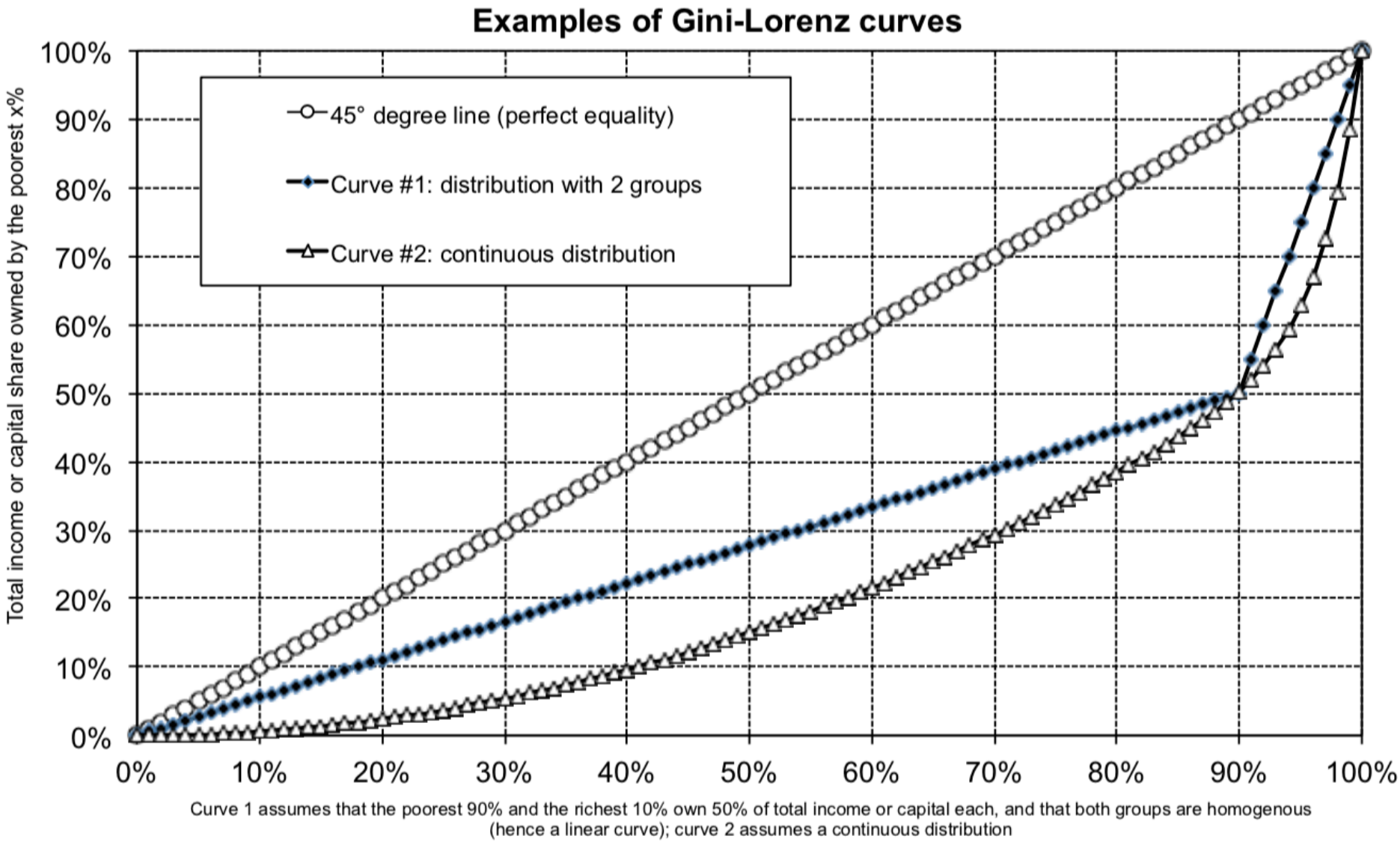
Gini coefficient =

- Inequality often summarized by the Gini coefficient
- Lorenz curve shows % of income earned by people below fractile p
- Gini = 2 x area between 45 degree line and Lorenz curv
- G =0 means Lorenz curve is the 45 degree line = perfect equality
- G =1 means 1 person has all = perfect inequality



Perils of Gini

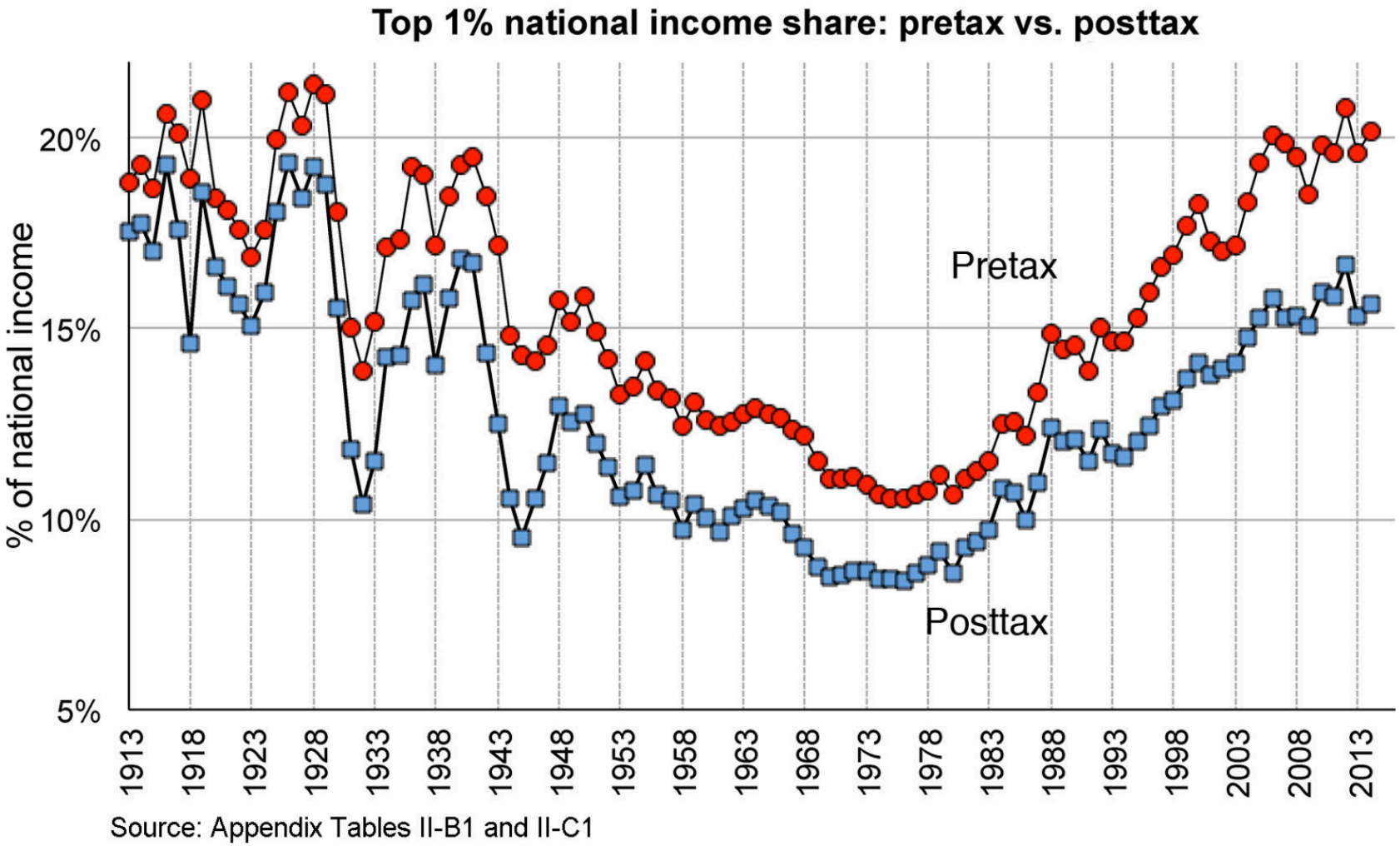
- Abstract measure to summarize full distribution
  - *What does a Gini coefficient of 30% mean?*
- Can hide large movements between income groups
  - E.g. a squeezed middle class



Relative inequality: pareto coefficient

- We ask the question: for any given threshold, how large is the average income above?
- E.g. lets assume the pareto coefficient =2, then:
  - Average income above $100,000 = $200,000
  - Average income above $1 million = $2 million, etc.
- US 2010s, income: b = 2.2–2.5

Top income shares: Intuitive and easy to compute



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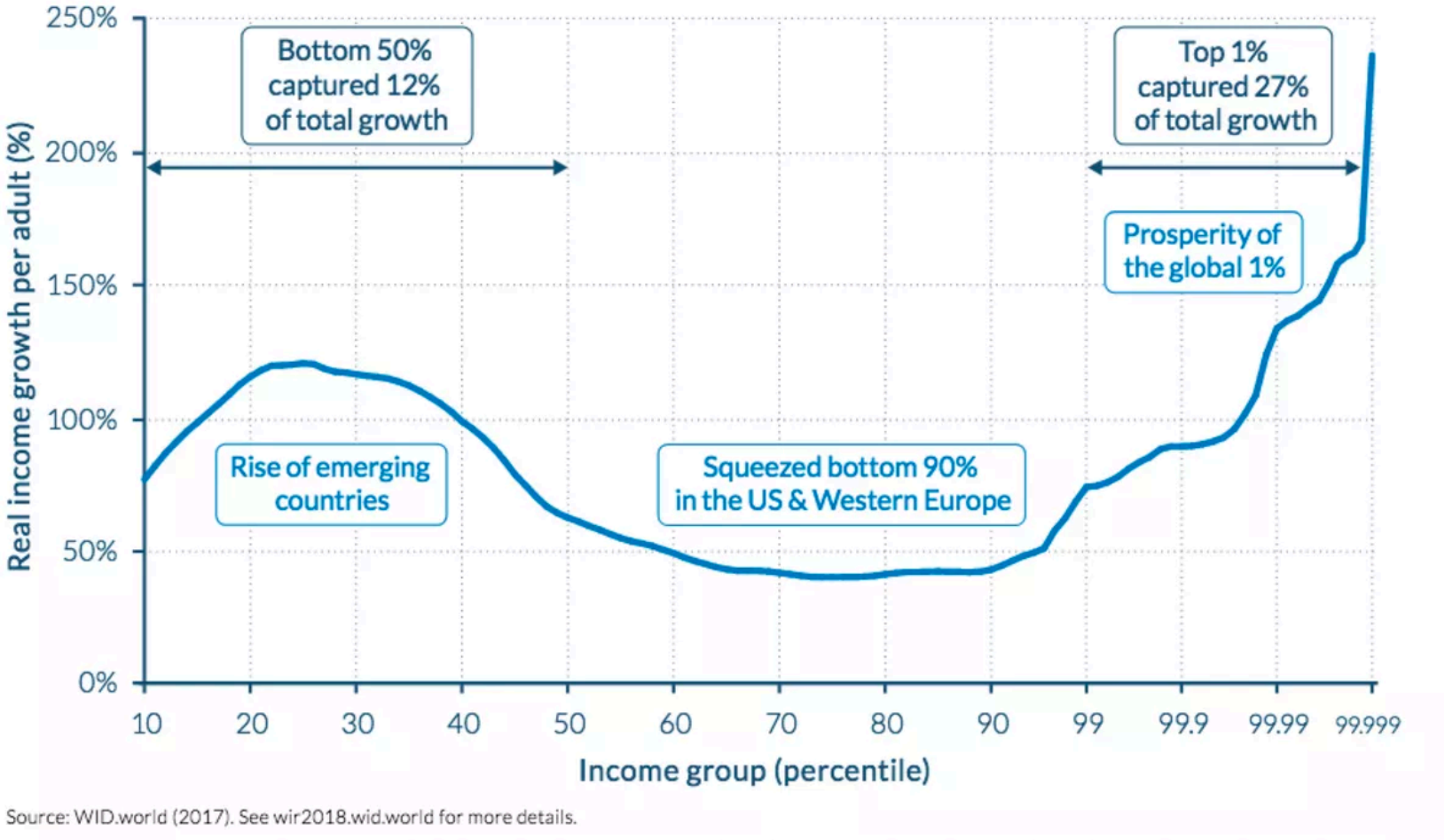
Distributional accounts: the full picture

Figure 2.1.4

Total income growth by percentile across all world regions, 1980–2016



Source: WID.world (2017). See wir2018.wid.world for more details.

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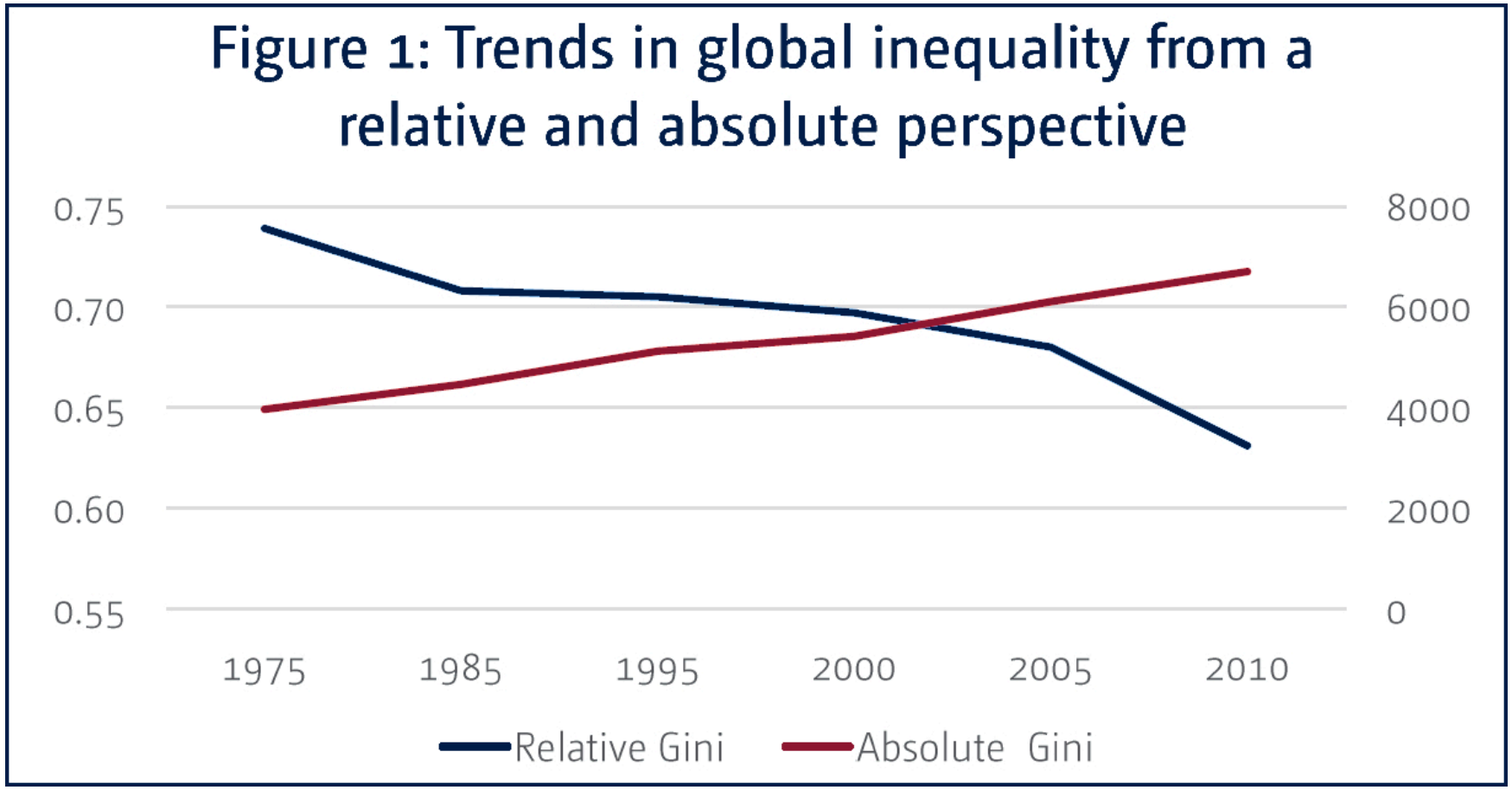
What is inequality?

World consists of two individuals: Adam and Anna

- Adam earns $2 Bn. & Anna $2.000
- New reform:
- Adam gets $2Bn. extra!
- Anna only gets $2000 extra ☹

Kahoot! Has the world gotten more or less unequal?

Relative vs absolute inequality



Niño-Zarazúa et al. (2016)

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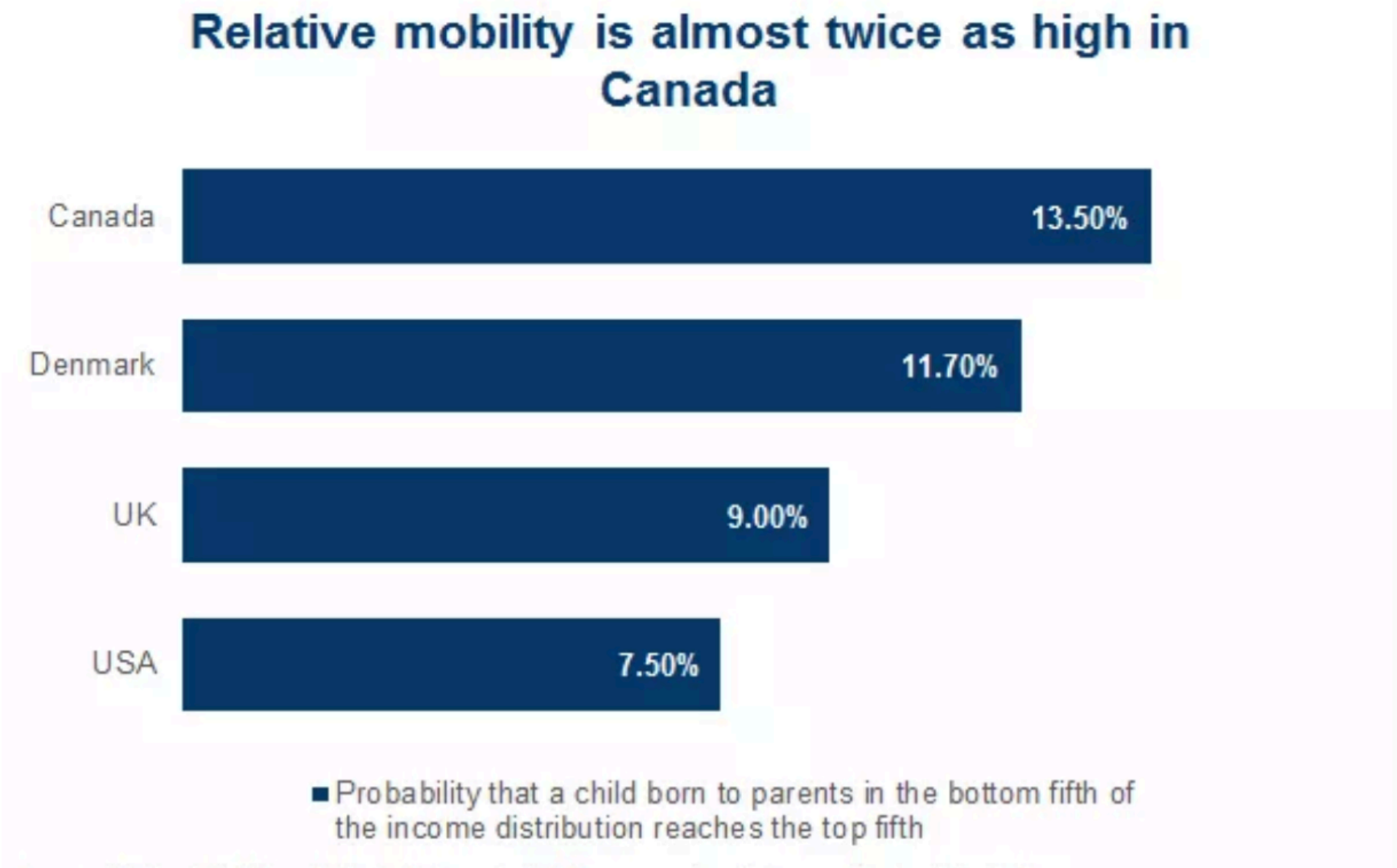
Inequality of opportunity



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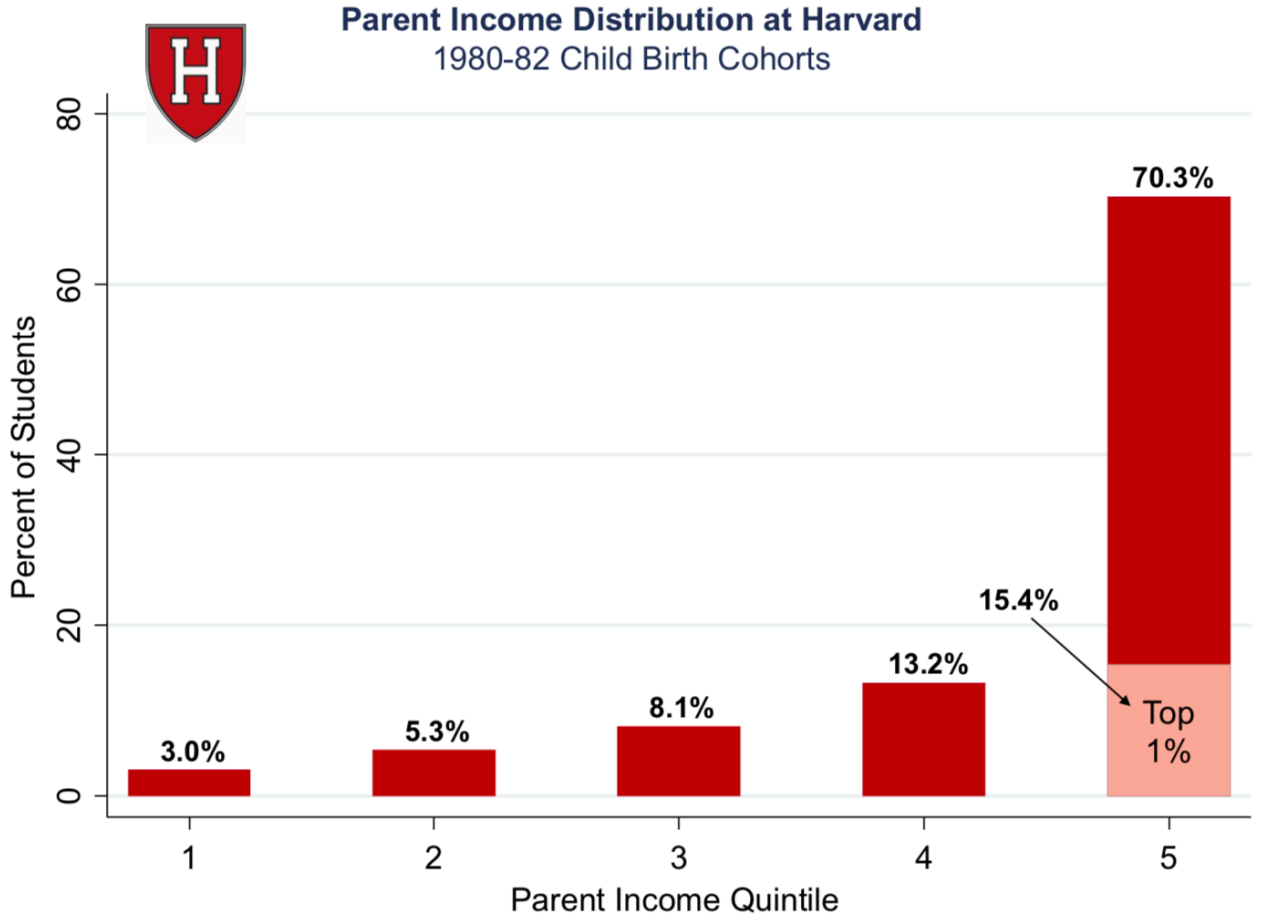
Inequality of opportunity



Source: Chetty et al. (2016)

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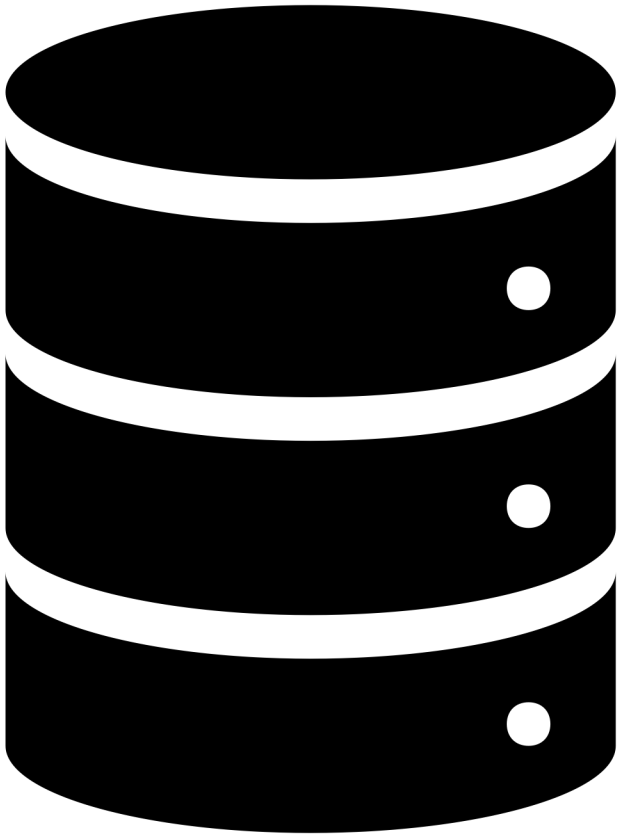
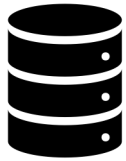
What data do we use?



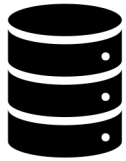
Data sources: Surveys



Surveys are a popular data source to study inequality:

- Ask a sample of families about their income, wealth...
- Lots of socio-demographic characteristics
- Revolutionized empirical research in second half of 20th century

Data sources: Surveys



Numerous household surveys now available:

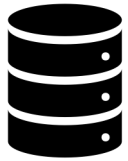
- Luxembourg income study (40 countries, 1968–)
- Luxembourg wealth studies (12 countries, 1994–)
- World Bank Living Standard Measurement Studies (39 countries, 1985–)

Survey data are useful, but insufficient:

- Large gap between surveys and macro totals
- Non-response & under-reporting at the top and bottom

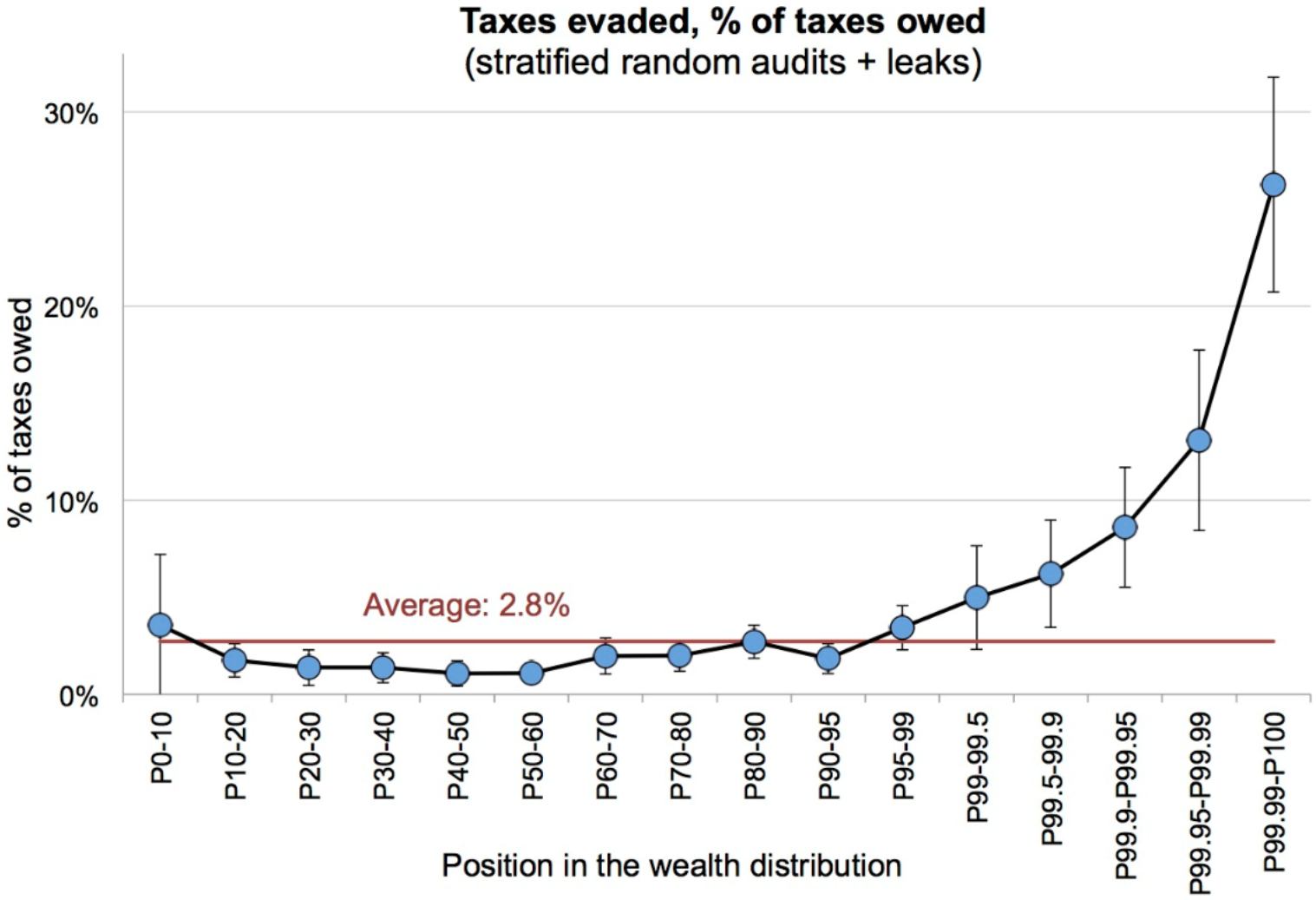
"The Uncounted" by Alex Cobham

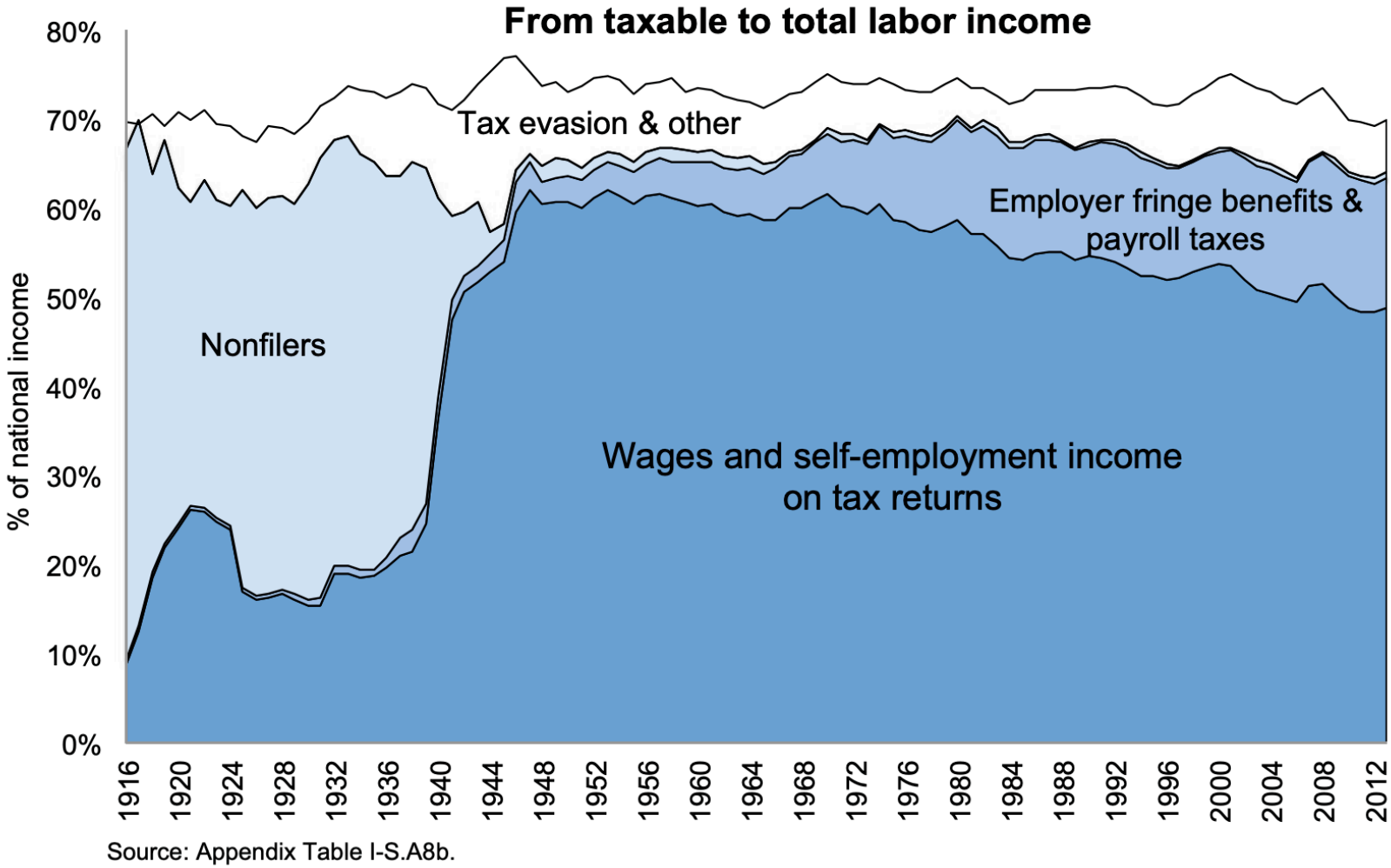
Data sources: Tax data



- Tax administrations have published tabulations of income by size of income since beginning of income tax (usually early 20th century)
  - In recent decades, availability of micro-samples of tax returns
  - Kuznets (1953) first to use tax data to compute top income shares

- Limits of tax data:
  - Miss tax evasion
  - Miss legally tax-exempt income
  - Ex: US tax data only capture 60% of US national income


Taxes evaded, % of taxes owed
(stratified random audits + leaks)
30%
20%
10%
0%
% of taxes owed
Average: 2.8%
P0-10
P10-20
P20-30
P30-40
P40-50
P50-60
P60-70
P70-80
P80-90
P90-95
P95-99
P99-99.5
P99.5-99.9
P99.9-P99.95
P99.95-P99.99
P99.99-P100
Position in the wealth distribution



Source: Appendix Table I-S.A8b.

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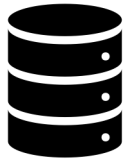
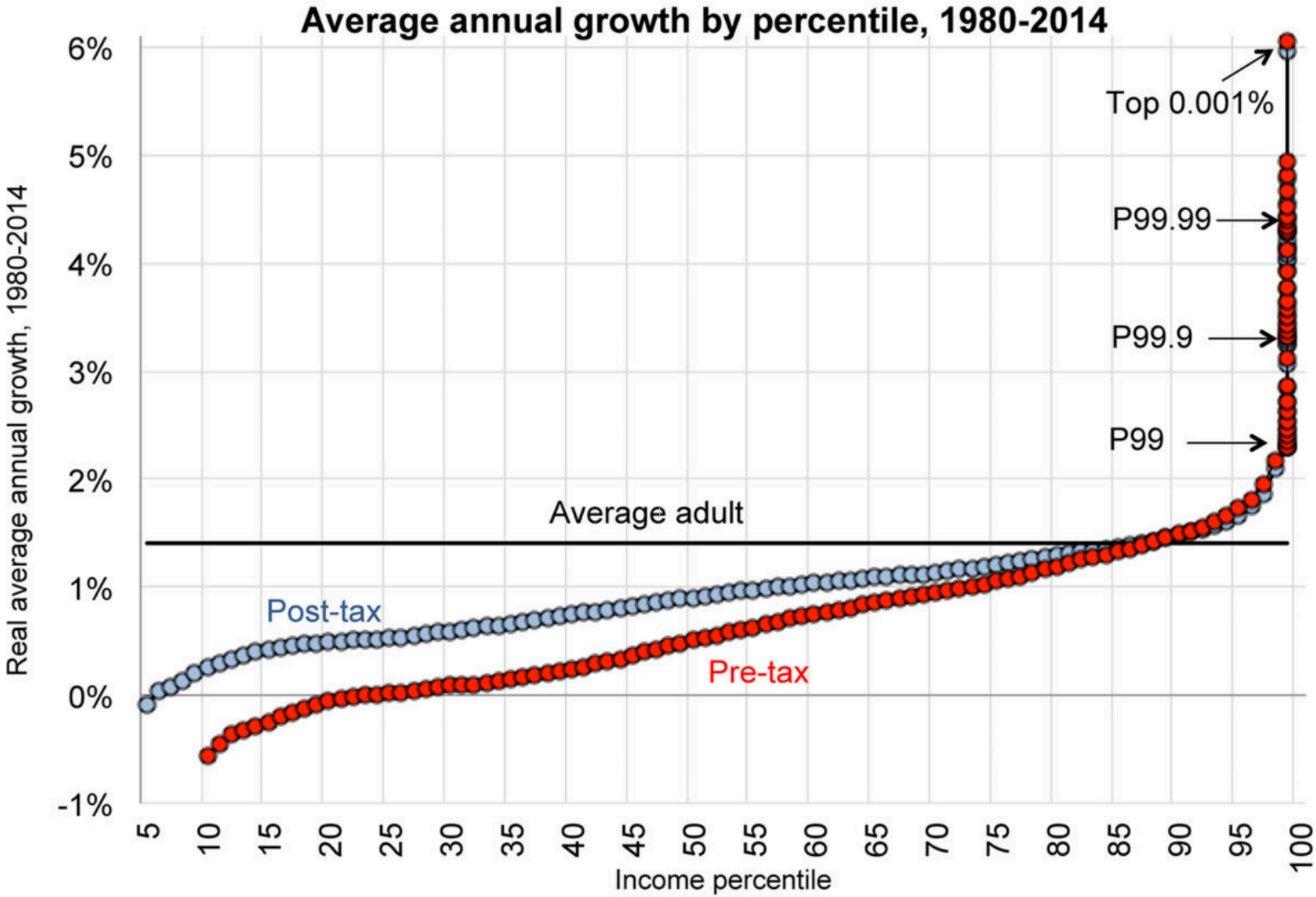
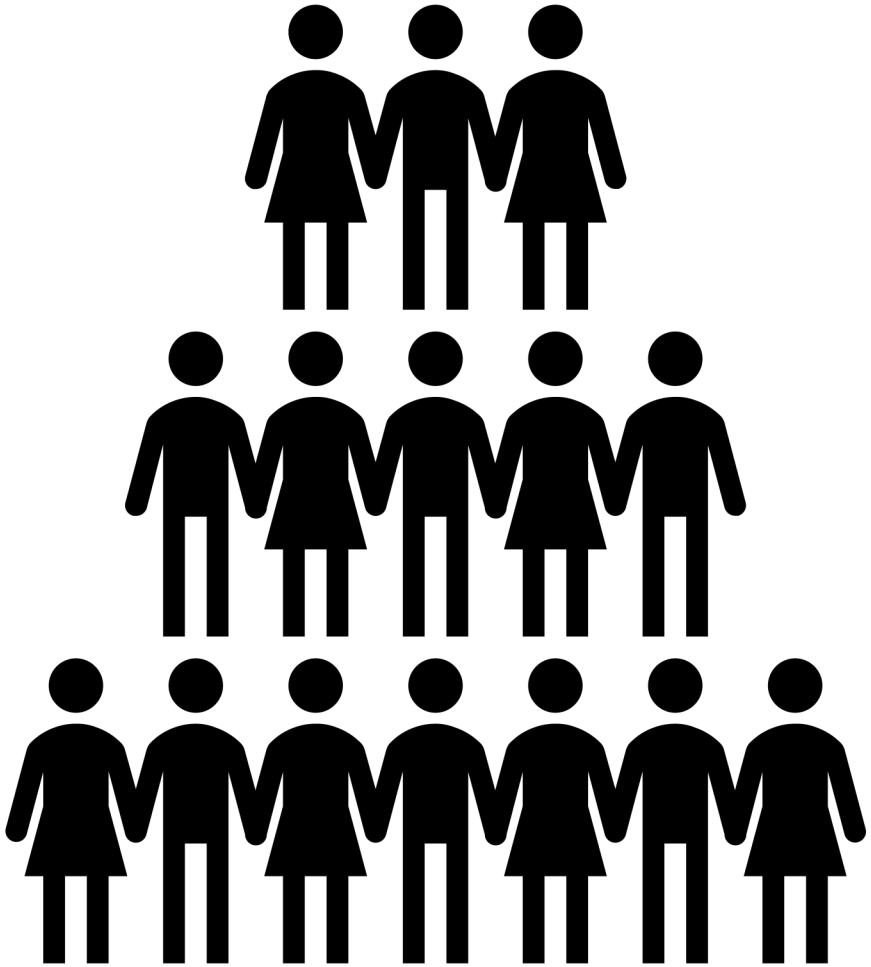
Data sources: Distributional national accounts



- DINAs = decompositions of national account aggregates such that:
- Distributions of income, wealth, saving, taxes, transfers… are consistent with what survey/tax data show
- Totals match macro aggregates
- First attempt: King (1696)
- Current attempt to compile DINAs throughout the world: WID.world


Average annual growth by percentile, 1980-2014
Real average annual growth, 1980-2014
6%
5%
4%
3%
2%
1%
0%
-1%
Top 0.001%
P99.99
P99.9
P99
Average adult
Post-tax
Pre-tax
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Income percentile

Unit of observation



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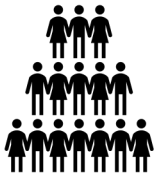
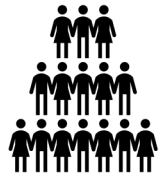
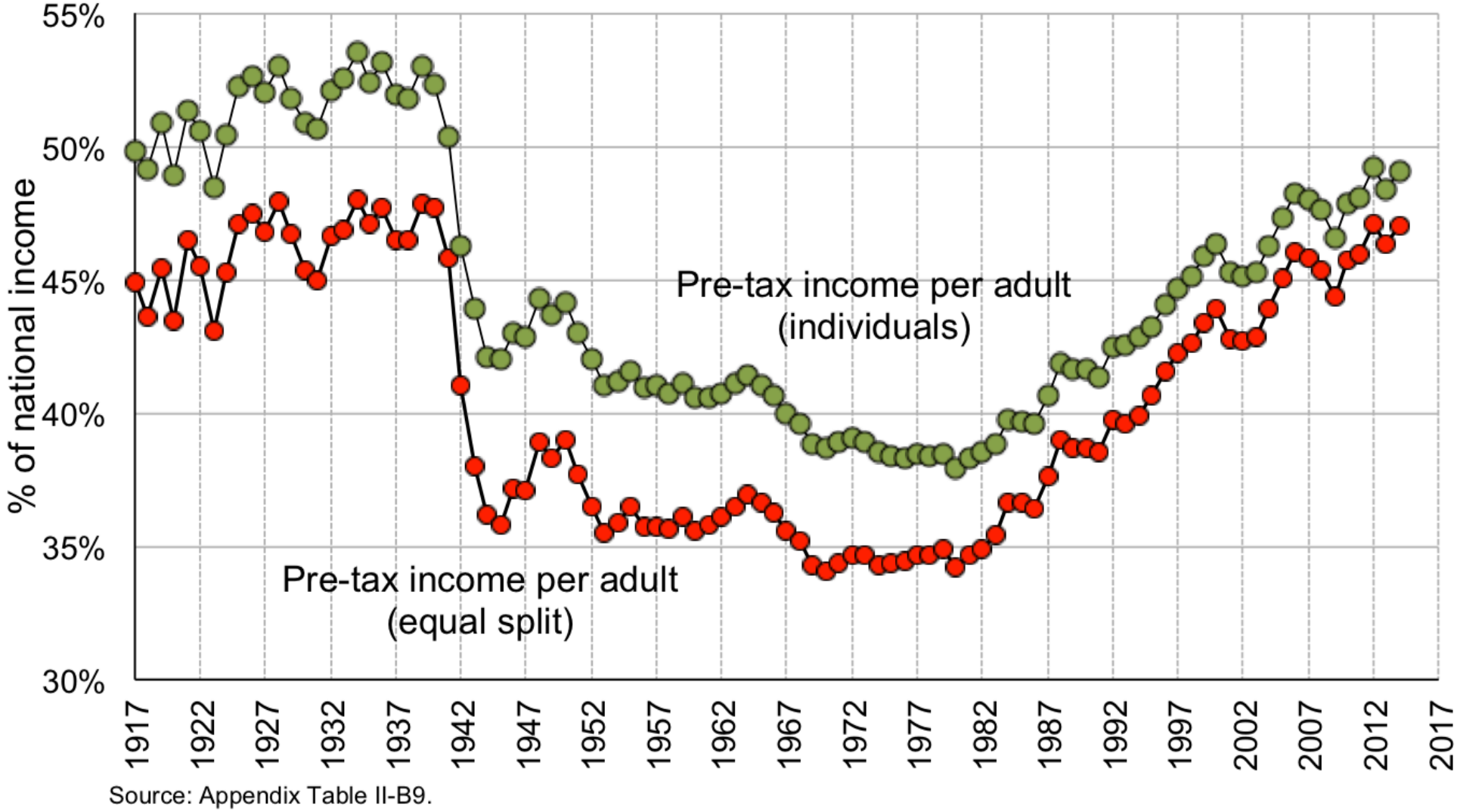
Unit of observation: Household vs Individuals?



- Individual adult: assumes no sharing of resources between spouses
- Equal-split adults: assumes full sharing of resources
- Tax unit in US ≈ households: relevant for tax policy simulations
- Matters a lot for inequality!



Top 10% pre-tax income share: equal-split vs. individuals



Source: Appendix Table II-B9.

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Source: Appendix Table II-F1.

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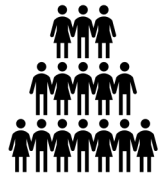

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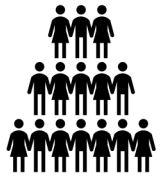
Intra household allocation matters!



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Grandmothers and Granddaughters: Old-Age Pensions and Intrahousehold Allocation in South Africa

Esther Duflo

- Conclussion: income received by women Implies improvement in daughter outcome

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Intra household allocation matters!

References

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- King, Gregory, Natural and Political Observations and Conclusions Upon the State and Condition of England, 1696, 45p.
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- Thomas Piketty, Emmanuel Saez, and Gabriel Zucman (2018), "Distributional National Accounts: Methods and Estimates for the United States", *Quarterly Journal of Economics*.