Dimensions of (Global) Inequality

Income & Relative Income Poverty Rates

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Introduction

Koen Caminada, professor Empirical analysis of social and tax policy, Leiden University

- Vice-dean Faculty Governance & Global Affairs (LU The Hague)
- Board of Director Una Europa (alliance 11 European universities)

Topics
- ❑ Distribution tax-benefits social security and pensions
- ❑ Tax policy / Reform social and tax regulations
- ❑ Poverty EU / OECD / LIS

Policy
- ❑ Member Committee Social Minimum
- ❑ Member Committees Income tax & Allowances / Forecast Tax Revenues
- ❑ Academic Partner Centraal Planbureau
- ❑ Governor Foundation of International Studies on Social Security
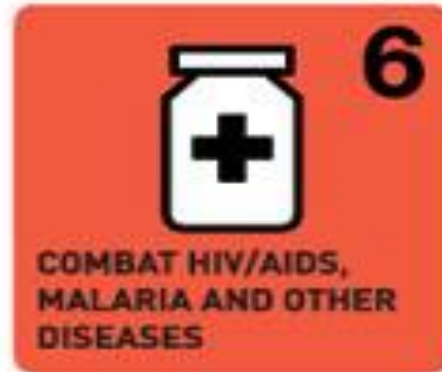
Outline

1. Introduction – setting the scene - must reads – research design - theory

   - Why income inequality and poverty matter?

   - Stiglitz, Deaton, Atkinson, Milanovic, Ravallion, Piketty & OECD

   - Testing scholarly claims & policy recommendations

2. Measuring issues - getting into empirics

   a) Data sources

   b) Global Income (Re) Distribution & Poverty, 1967 onwards

   c) Dutch Income (Re) Distribution & Poverty, 1977 onwards

3. Distribution of (top) income

4. Getting to work - Some related work – further reading

1 Setting the scene - must reads – research design - theory

WE CAN END POVERTY
2015 MILLENNIUM DEVELOPMENT GOALS

1 ERADICATE EXTREME POVERTY AND HUNGER

2 ACHIEVE UNIVERSAL PRIMARY EDUCATION

3 PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

4 REDUCE CHILD MORTALITY

5 IMPROVE MATERNAL HEALTH

6 COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

7 ENSURE ENVIRONMENTAL SUSTAINABILITY

8 GLOBAL PARTNERSHIP FOR DEVELOPMENT

Rising income inequality and top incomes: big issue *in international perspective?*

Joseph Stiglitz
Rewriting the Rules of the American Economy. An Agenda for Growth and Shared Prosperity (2015)

Angus Deaton
Inequality is often a consequence of progress. On the one hand: many people escaped from poverty in lower income countries. Many lower income countries have been catching up with richer countries, because of higher growth. On the other hand: many people are left behind, not everyone profits from progress. (*The Great Escape*, 2013)

International perspective (LIS)

Anthony Atkinson
Inequality is one of the most urgent social problems. But: we can do something about it (*Inequality; What can be done?* 2015)

Branko Milanovic
Global inequality: A New Approach for the Age of Globalization (2016)
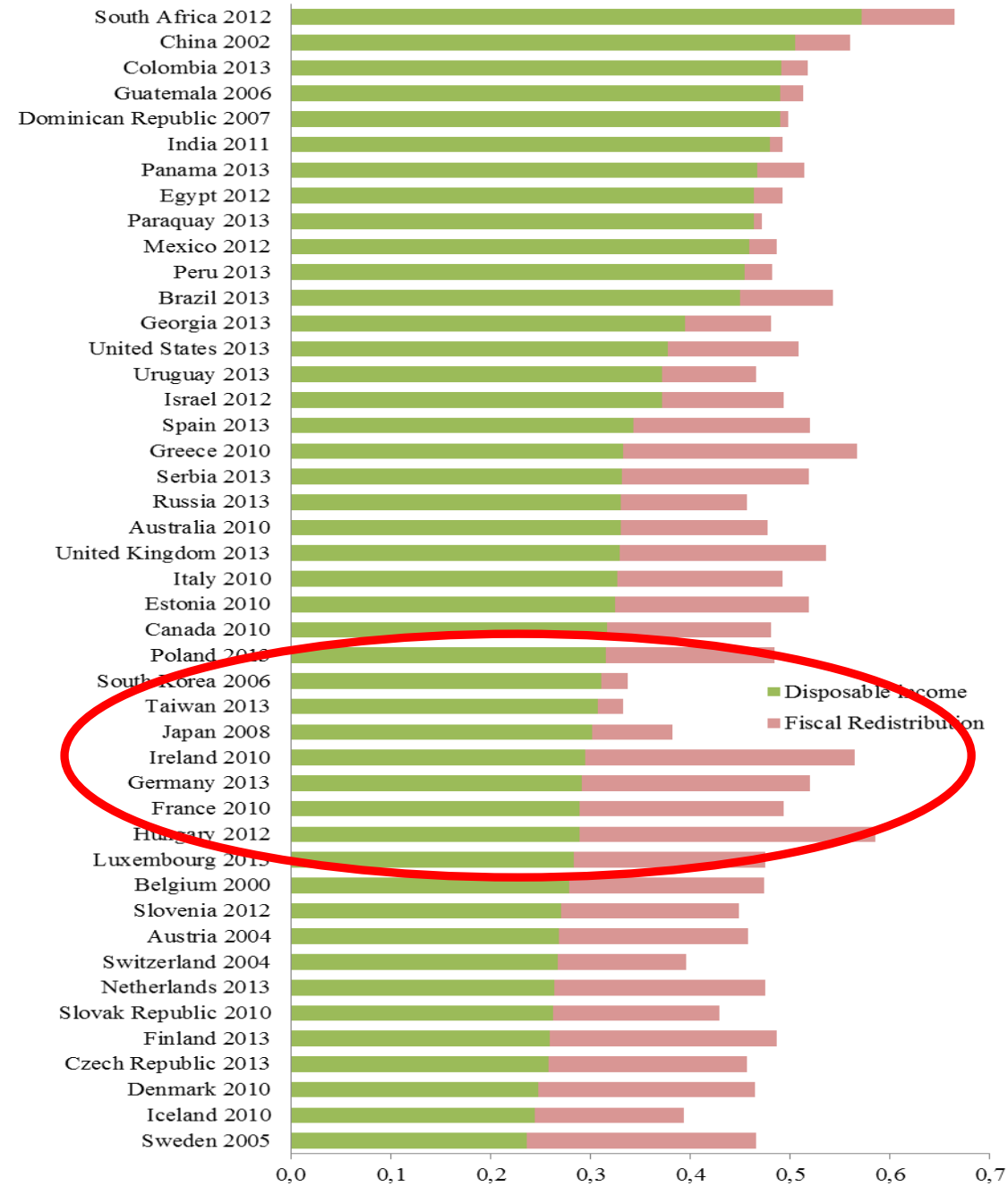
Big issue in international perspective?

Thomas Piketty

Tendency of returns on capital to exceed rate of growth threatens to generate extreme inequalities that undermine social values (*Capital in the Twenty-First Century*, 2014)) (***video*** 3:11)
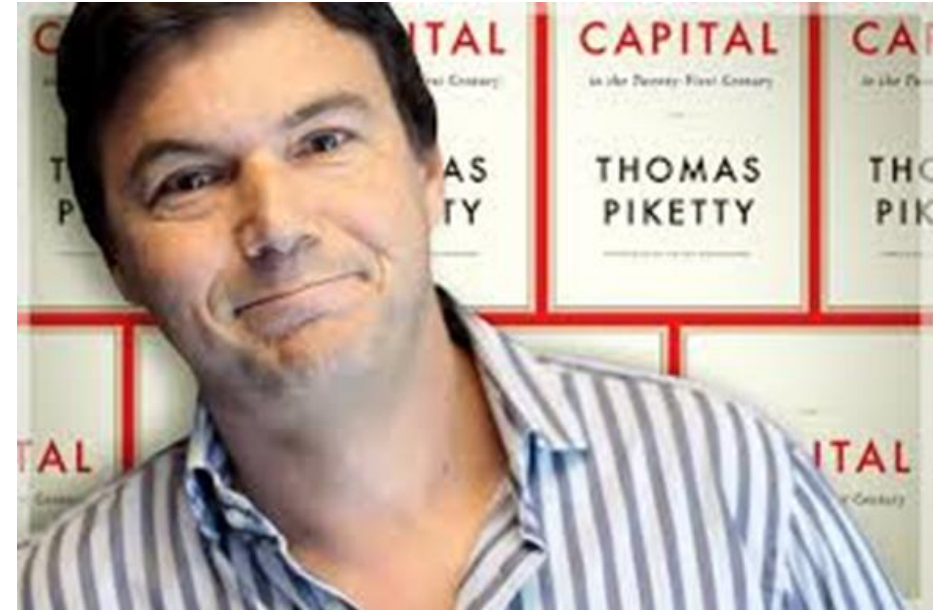
Debate

Societal debate = normative → use best available data → fact finding →
research team Leiden University

Notes:

- Piketty (2014) did *not* include the Netherlands
  and may other countries as China in his book.

- Great data collection – well-documented ☺ and he published in top journals
  ☺, but his explanation is based on interpretation ☹, expectations / forecasts
  ☹, policy recommendation ☹.
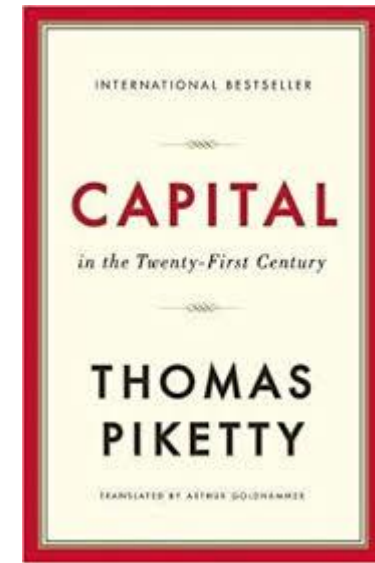
… while superrich (income & wealth)

Superrich	Similarities
Donald Trump	Top incomes
Jacky May	Male (gender)
John de Mol	Family (inheritance)
Bill Gates	Mediocratic
Joop vd Ende	Political power?
	Influence tax policy?

Tax race to the bottom: CIT rates over time across the globe

Figure 2: Corporate income tax rates, 1980–2013

Legend:
- High income: OECD
- High income: non-OECD
- Upper middle income
- Lower middle income
- Low income
- Tax haven
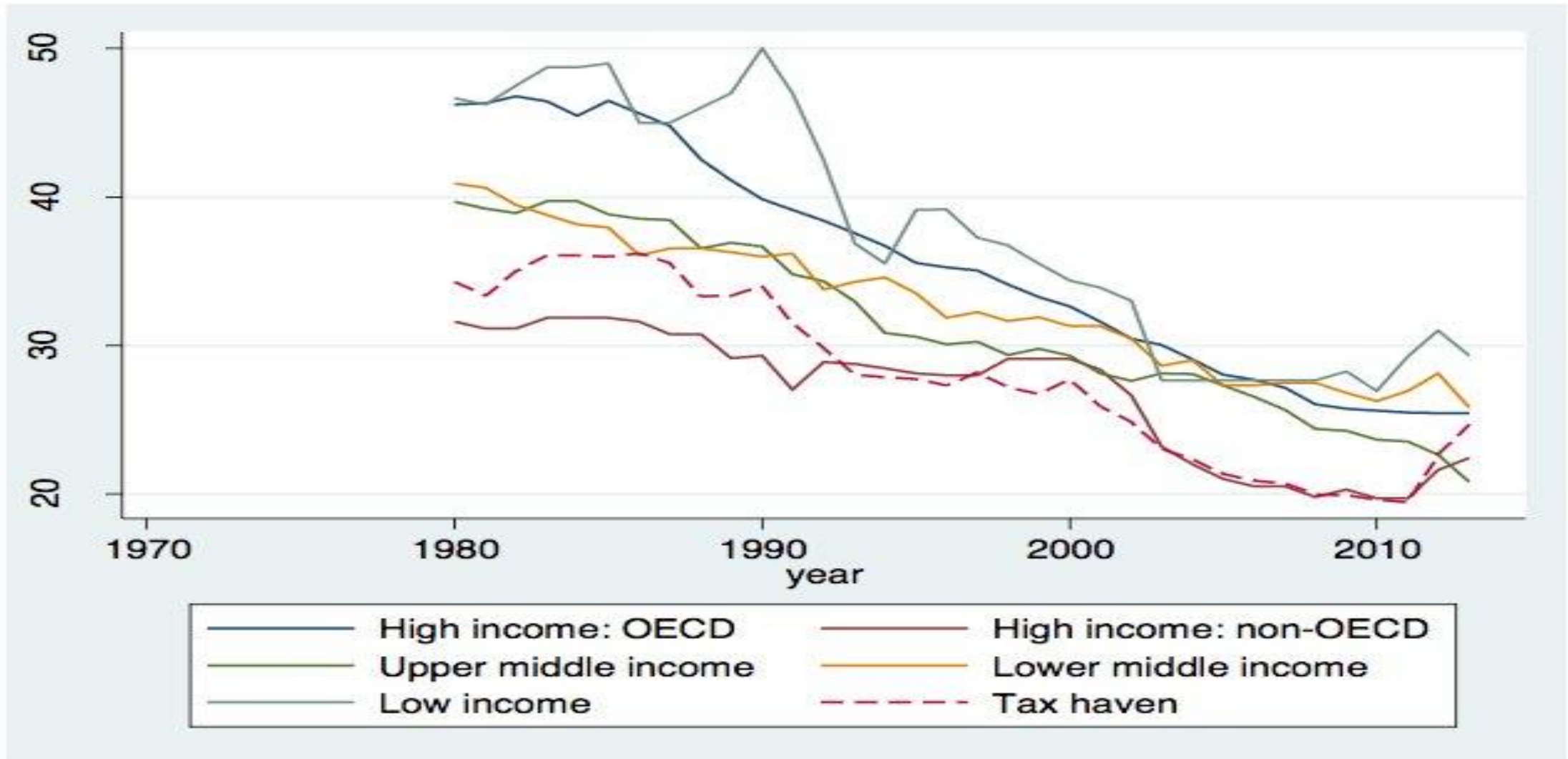
Social cohesion versus Social tension / unrest

Alberto Alesina & Edward Glaeser, Richard Wilkinson, Dani Rodrik

• White America lives a largely segregated life

• Brexit / Catalonia

• Migration

• Ageing of the population

• Welfare states under solidarity constraints

Research design

The distribution of *what?*

- Rich or poor: income or wealth?

- Pre-tax-pre-transfer-income or after T/B-systems?

- Individuals, households or equivalence scales?

- Top and bottom coding

- One moment in time or trends?

- What about poverty: absolute, relative, thresholds?

- Areas: global, within or between country differences?

- Global or local measurement?

- What if Lorenz curves intersect (no LD) ?
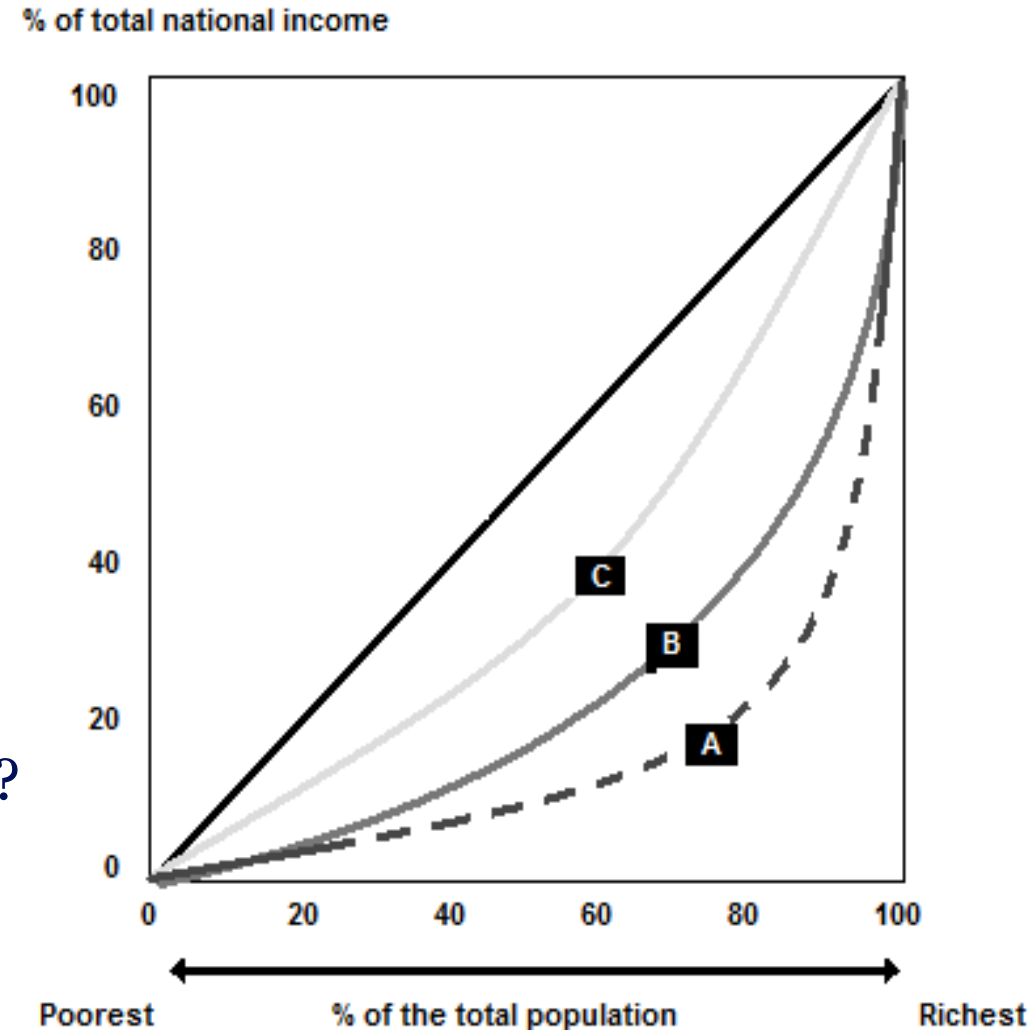
Income (re-)distribution and inequality

Past decades:

• Much more and higher-quality of data

• Growing knowledge on trends and causes (in an international comparative perspective)

Research:

Income distribution (and changes) caused by many factors.

Each individual decision influences the distribution of income.

Readings

Testing claims

Must read (most based on massive data collection)

❖ Anthony Atkinson (2015), Inequality; What can be done?

❖ Joseph Stiglitz (2015), Rewriting the Rules of the American Economy. An Agenda for Growth and Shared Prosperity

❖ Angus Deaton (2013), The Great Escape

❖ *Branko Milanovic (2016), Global inequality: A New Approach for the Age of Globalization*

❖ *Thomas Piketty (2014), Capital in the Twenty-First Century*

❖ *OECD (2008), Growing Unequal?*

❖ *OECD (2011), Divided We Stand: Why Inequality Keeps Rising*

❖ *OECD (2015), In It Together: Why Less Inequality Benefits All*

Literature on redistribution of income by taxes and social transfers in a comparative setting

- Atkinson (2003)
- Atkinson & Brandolini (2001)
- Brady (2004)
- Brandolini & Smeeding (2007)
- Ervik (1998)
- Gottschalk & Smeeding (1997, 1998 and 2000)
- Kenworthy & Pontusson (2005)
- Kopi & Palme (1998)

- Lambert et al (2010)
- Mahler & Jesuit (2006 and 2017)
- Morillas (2009)
- O'Higinis et al (1990)
- Smeeding (2000, 2004 and 2008)
- OECD (2008, 2011 and 2015)
- Immervoll & Richardson (2011)
- Research team Reform of Social Legislation, Leiden University

Our findings

- Tax-benefit systems have ***NOT*** become less effective in redistribution since the mid-1990s.

- The claim that reduced redistribution is a main driver of widening income gaps since the mid-1990's must be toned down.

Based on:

- ***Budget Incidence Fiscal Redistribution Database*** of Caminada & Wang (2017)
  http://www.lisdatacenter.org/resources/other-databases

- ***Budget Incidence Fiscal Redistribution Database on Relative Income Poverty Rates*** of Caminada, Wang & Wang (2019)
  http://www.lisdatacenter.org/resources/other-databases

Why inequality rises? (1)

Many possible factors, including:

• Technological progress and a resulting rise in the skill premium for labor

• Globalization: highly educated workers profit, low skilled labor not (as much)

• Good education may not be reachable for lower income groups

• Demographic factors: ageing (more pensioners who have relatively low incomes)

• Several institutional factors, which vary from country to country, are important. E.g. for China the urban-rural gap is important.

• Developments at the sectoral level

• Reduced government redistribution - became T/B-systems less redistributive?

Why inequality matters? (2)

- A perfectly equal society is not desirable (no incentives). However, high inequality may undermine social stability.

- It deprives people of educational opportunities, human and physical capital accumulation.

- It may harm labor supply and productivity. Research shows that high and rising inequality is detrimental to economic growth and development.

Why inequality matters? (3)

IMF (2015)

- If the income share of the top 20 percent increases by 1 percentage point, GDP growth is 0.08 percentage points lower.

- A 1 percentage point increase in the share of the bottom 20 percent is associated with 0.38 percentage point *higher* growth.

OECD (2014)

Rising inequality is estimated to have knocked down growth since 1990 by 9 points in the UK and by 6-7 points in the US, Italy and Sweden.

OECD (2015): In It Together - Why Less Inequality Benefits All?

- Overview of inequality trends, key findings and policy directions.

- Lowest incomes were increasingly left behind since 1985.

- Taxes and benefits cushioned the effect of the crisis.

- Risk income poverty shifted from the elderly to the young.

- Higher inequality drags down economic growth.

- Over half of jobs created since '95 were non-standard jobs.

- T/B- systems for efficient redistribution. In many countries the effectiveness of T/B- systems to redistribute market income declined → focus on T/B-systems for efficient redistribution.

Trends real household incomes OECD average, 1985 = 1
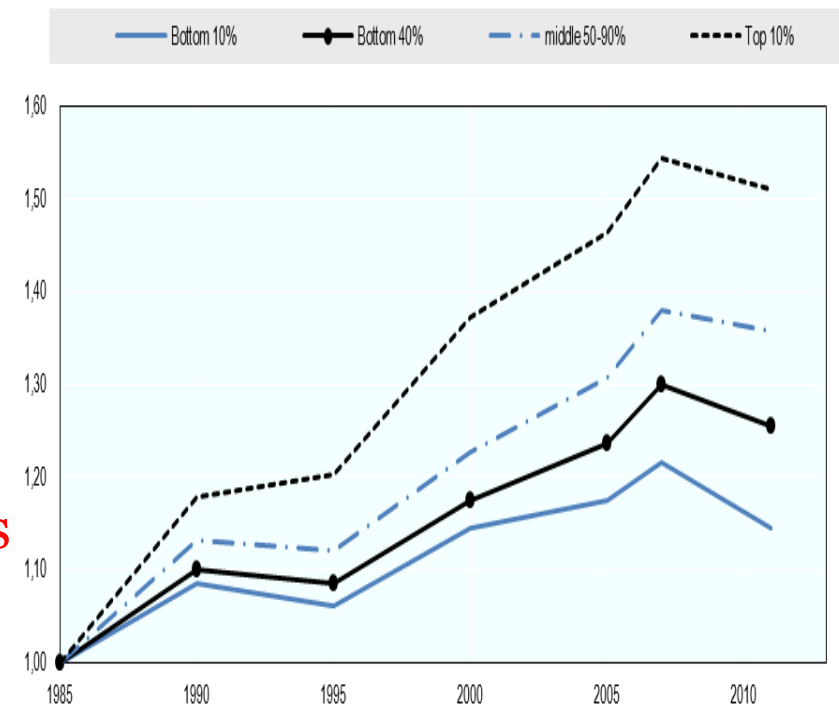
Lakner & Milanovic (2016): The Elephant

- Chart reveals most dramatic change in incomes.

- Real income gains realized at different percentiles of the global income distribution, 1988-2008.

- Income measured in 2005 international dollars

- Individuals ranked by real household per capita income.

- Result: large income gains by people around global median (point A) and the global top 1% (point C). However, absence of real income growth around 80-85th percentile of the global distribution (point B). The squeezed middle.

Cumulative real income growth 1988-2008 at various percentiles of global income distribution
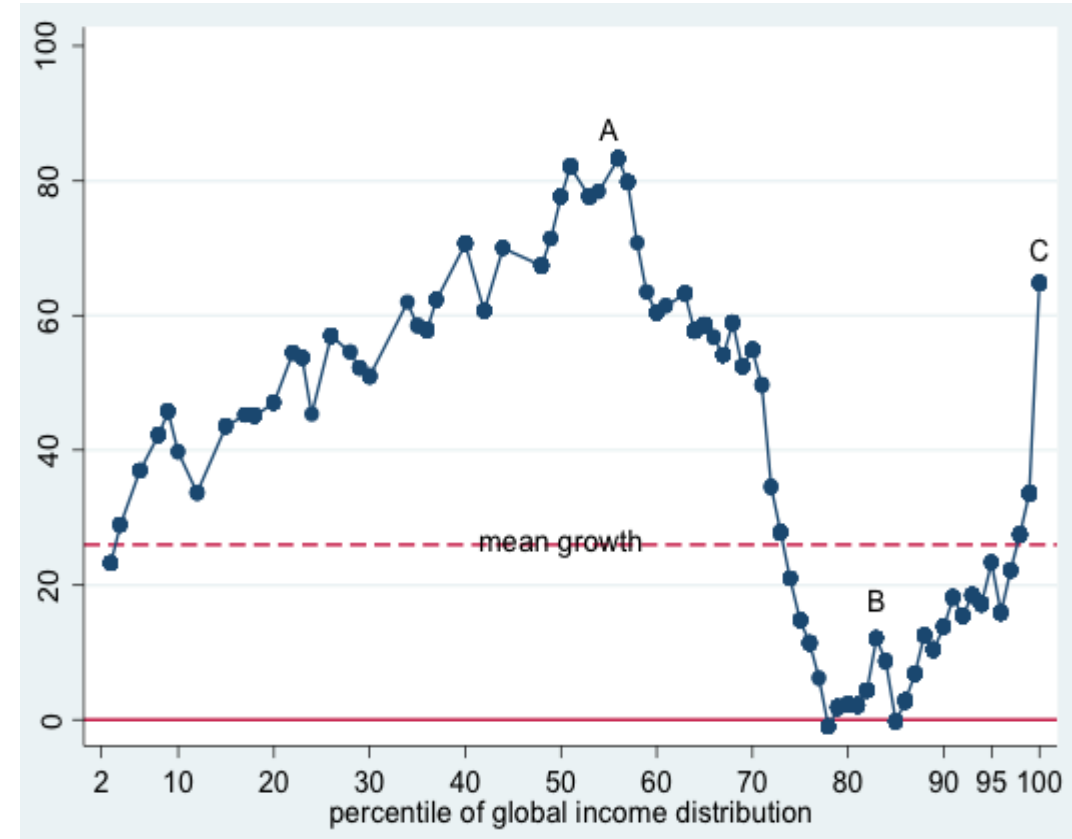
The Elephant: Who are the people at these three key points?

- Point A = median: 9 out of 10 around global median are from China and India → Asian GDP per capita increased. People around global median are still poor by Western standards (per capita income: 5 to 15 international dollars per day).

- Point C = global top 1%: people from advanced economies. Threshold top 1% = 45,000 international dollars per person → translated into two partners and two children = after-tax income of $180,000 (= before-tax > $300,000).

- Point B: 7 out of 10 are from the 'old rich' OECD countries → lower halves of their countries' income distributions. Rich countries' income distributions start around 70th percentile (Denmark around 80th global percentile).

- Open to debate: success people at point A versus point B → effect of globalization? → 'losses' of European working class related to gains of Chinese?

The Elephant: Where are the Dutch in global inequality?

Cumulative income growth 1988-2008 per decile
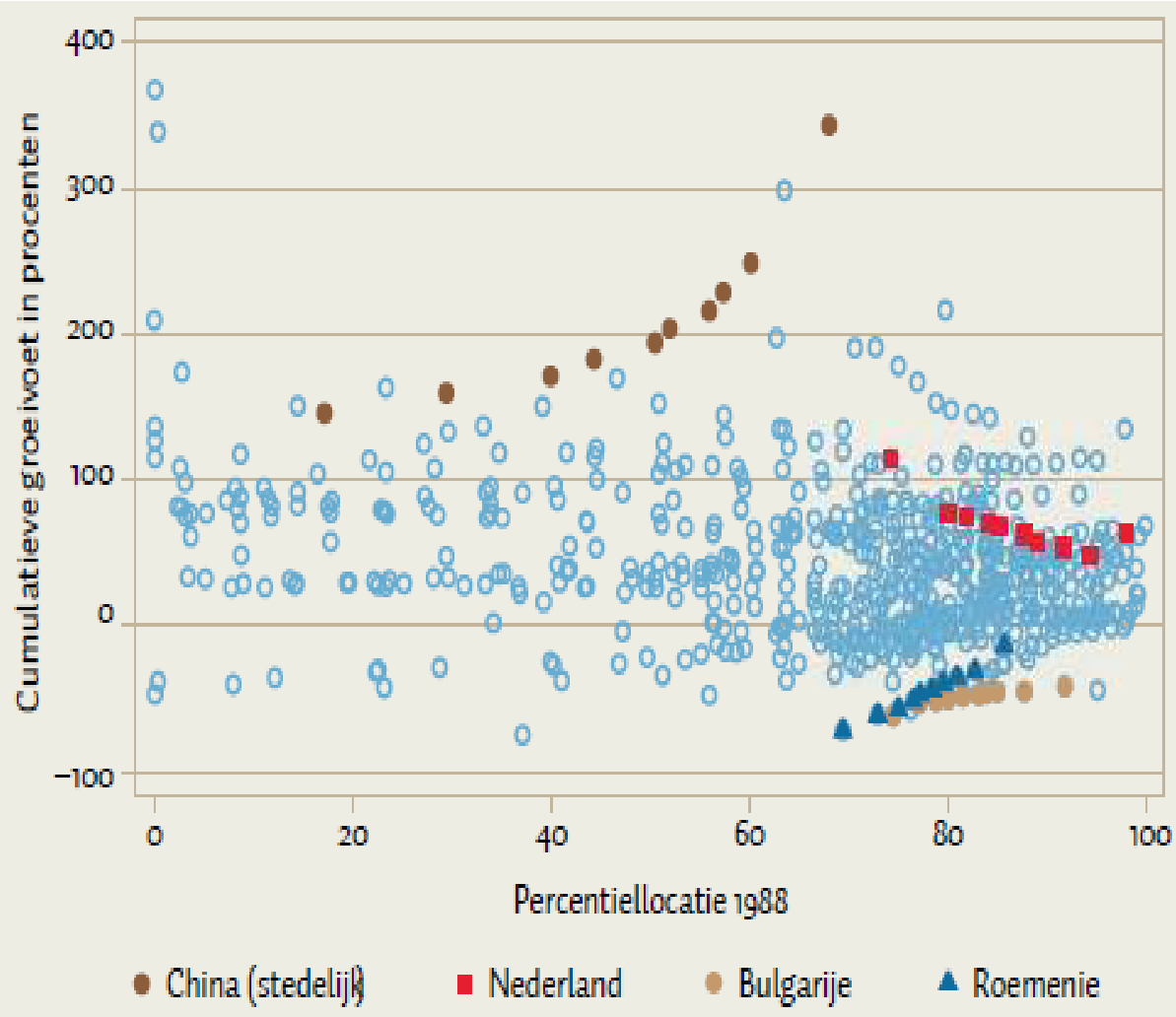
Change income 1988-2008 NL and USA

Source: Van Dijk & Van der Linde (2017: ESB)
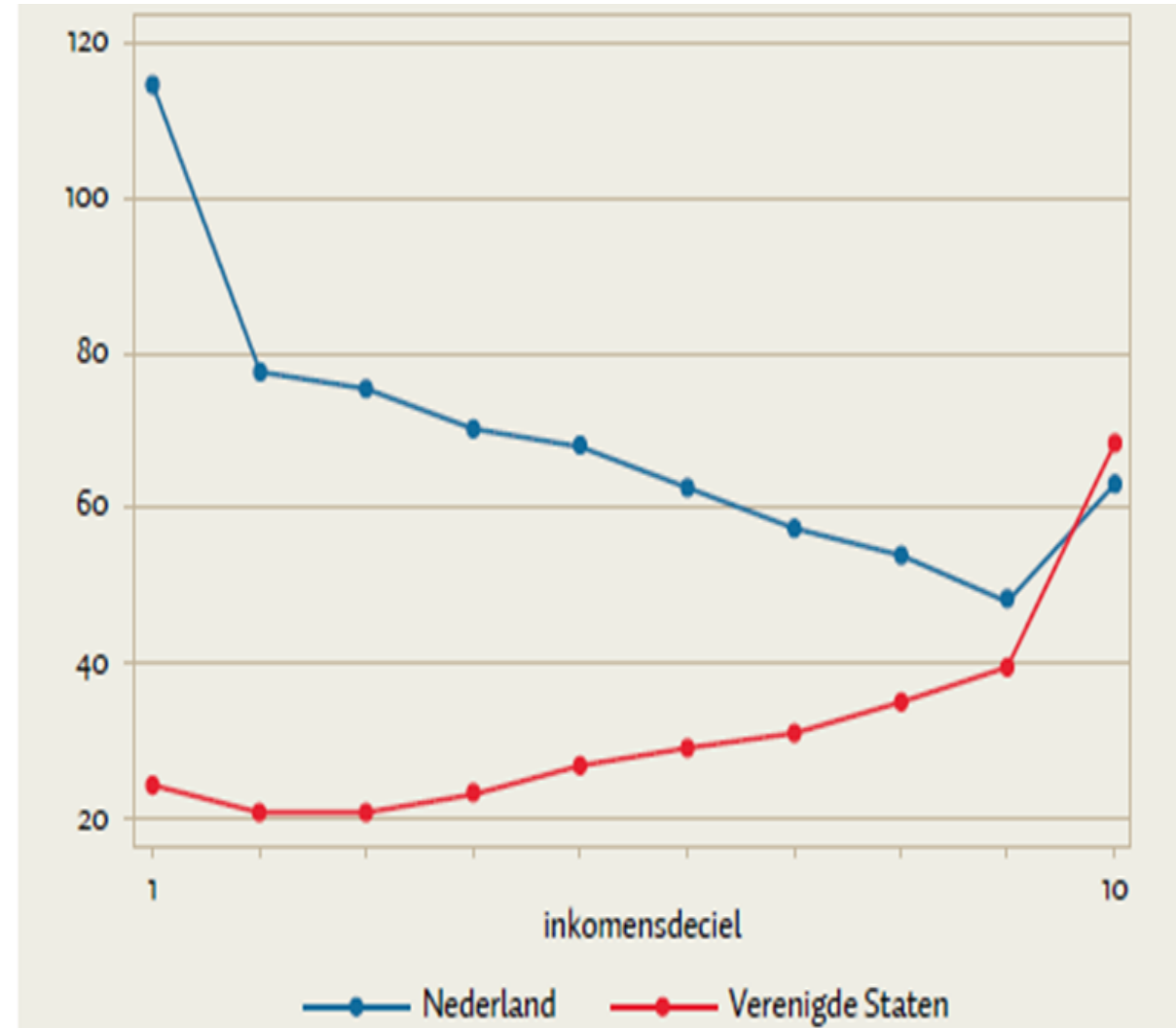
However ... Martin Ravallion (2017)

- Global inequality: falling inequality *between* countries alongside rising average inequality *within* countries.

- The fact that growth is positive for many is good news from the point of view of absolute *poverty*.

- Fundamental question: why should we care about global inequality?

- Instead: most citizens of the world care about *poverty*.

Figure 1: Global inequality and its between- and within-country components
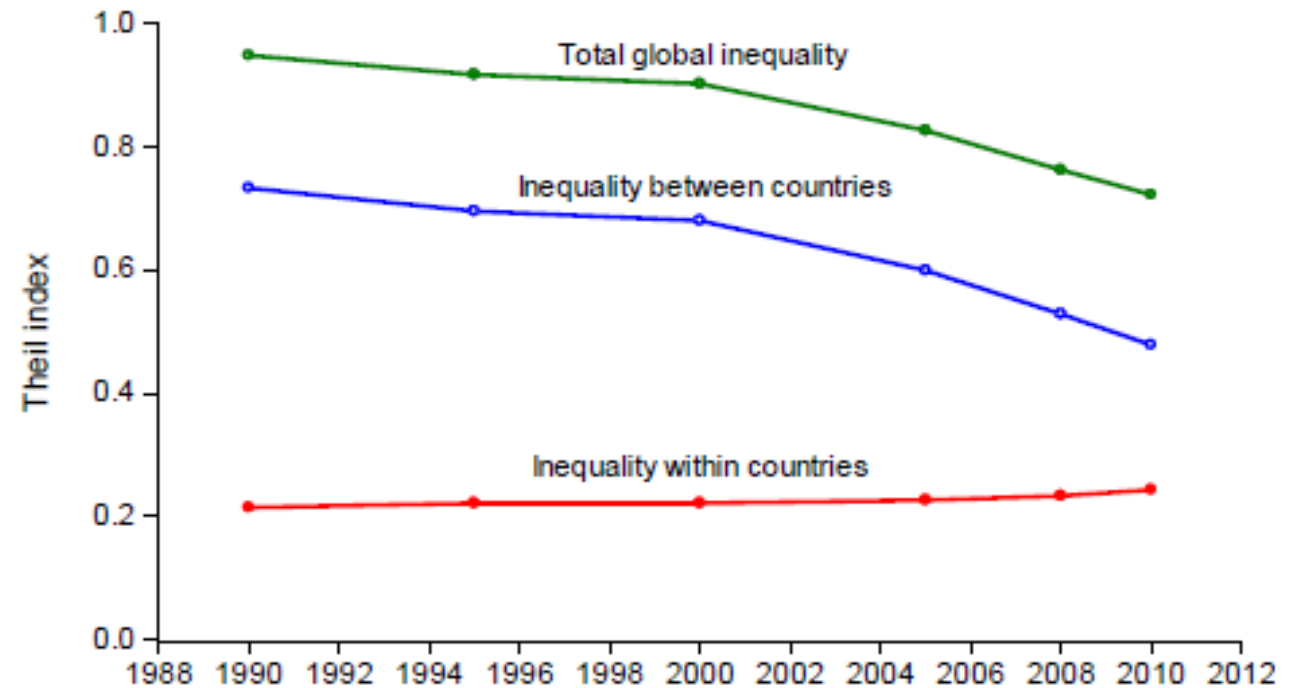
However ... Martin Ravallion (2017)

- Global Lorenz curves intersect (no LD).

- No LD implies that the claim global inequality is changing is _not_ robust to the choice of index.

Figure 3: Lorenz curves for global income 1988 and 2008
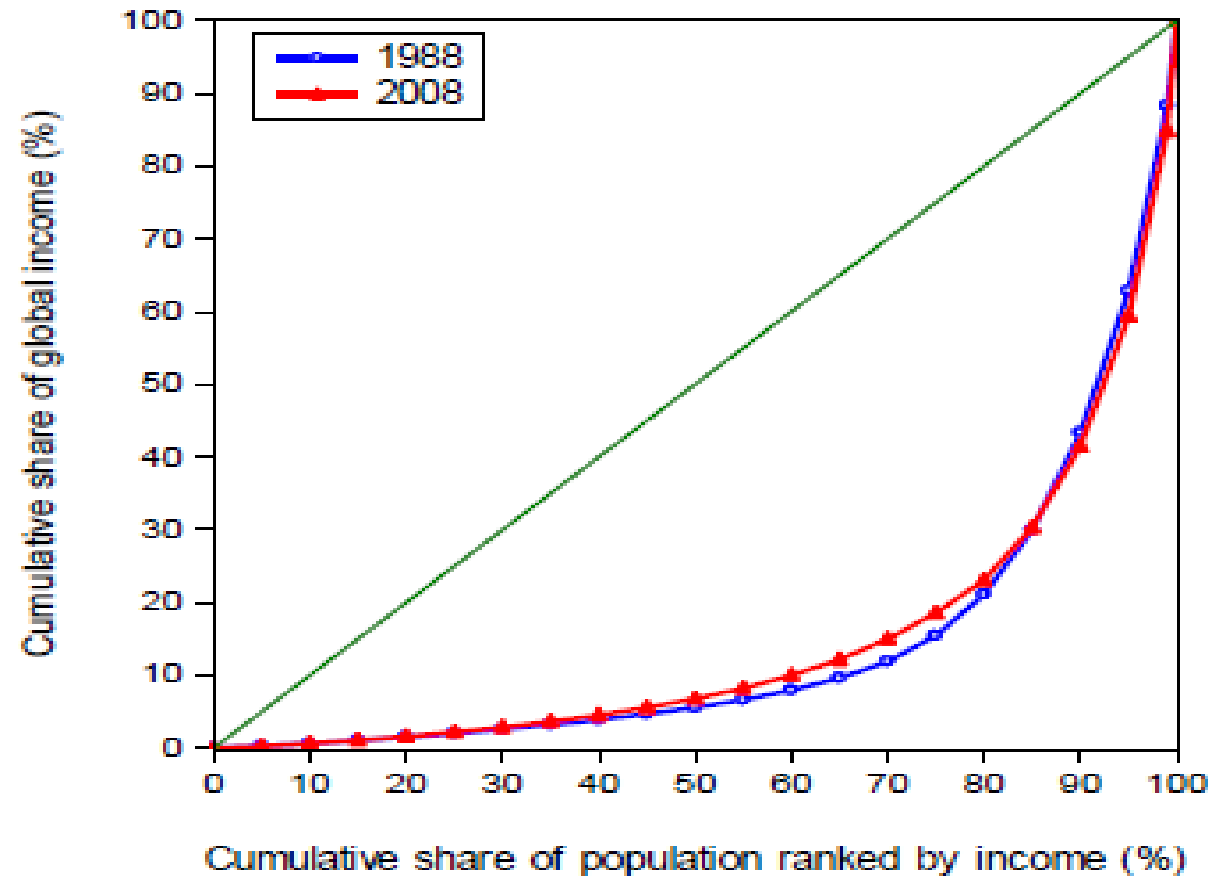
Source: Based on estimates in Lakner and Milanovic (2016a).

However, global percentile location deciles NL and USA

- 1988: position first decile both NL and USA at 74th global percentile

- 2008: Dutch first decile at 82nd global percentile, while USA at 76th

- Income growth 1988-2008

  1st decile: NL = +114%   USA = +25%

  2nd decile: NL = +77%   USA = +20%

  9th decile: NL = +50%   USA = +40%

  10th decile: NL = +63%   USA = +70%

Deciles	Netherlands		USA	
	1988	2008	1988	2008
1	74,3	81,9	74,3	75,7
2	80,1	86,5	82,6	85,0
3	82,0	88,5	86,6	88,5
4	84,2	89,8	90,2	91,2
5	85,3	90,7	92,5	93,6
6	87,8	91,9	94,3	95,8
7	89,2	93,6	96,2	96,9
8	91,7	94,7	97,7	98,0
9	94,4	96,4	99,1	99,2
10	98,0	98,6	100,0	100,0

Source: Van Dijk & Van der Linde (2017: ESB)

Other claims Branko Milanovic

20th century tools can (not) be used to address 21st century income inequality

1945-1980: reduced income inequality in rich countries

1. Strong trade unions

2. Mass education

3. High taxes

4. Large government transfers

Claim Branko Milanovic: None of them will do the job in the 21st century.

High taxes and high social transfers were crucial to reduce income inequality; still are.

Test: LIS data, 47 countries, 1967-2013, 277 datasets → a global view

2 Measuring issues - getting into empirics

Decomposition income inequality

Income inequality and redistribution accounting framework

Income components	Income inequality and redistributive effect
Labor income + capital income + private transfers = **Primary income**	**Income inequality before social transfers and taxes**
+ Social security transfers	-/- Redistributive effect of social transfers
= Gross income	**= Income inequality before taxes**
-/- Income taxes and social security contributions	-/- Redistributive effect of taxes
= Disposable income	**= Income inequality after social transfers and taxes**

Budget incidence approach

- Redistribution: pre-transfer-pre-tax inequality is compared to the post-transfer-post-tax inequality *keeping all other things equal*.

- Assumptions: unchanged household and labor market structures, disregarding any possible behavioral changes that the situation of absence of social transfers would involve.

- Despite this problem, analyses on statutory and budget incidence can be found for decades in literature.

Measuring income inequality

Global indices of inequality

- Gini index
- Theil / Mean Log Deviation
- Atkinson index (α=0, α=1)

Local measures

- Deciles(10)
- Quartiles (4)
- Quintiles (5)
- Percentiles (100)
- Top-1%

Other

- S80/S20, mean, median

Gini coefficient $= \dfrac{\text{shaded area } A}{\text{total area } BCD}$

Line of equality

Lorenz curve

Percentage of income

Percentage of population
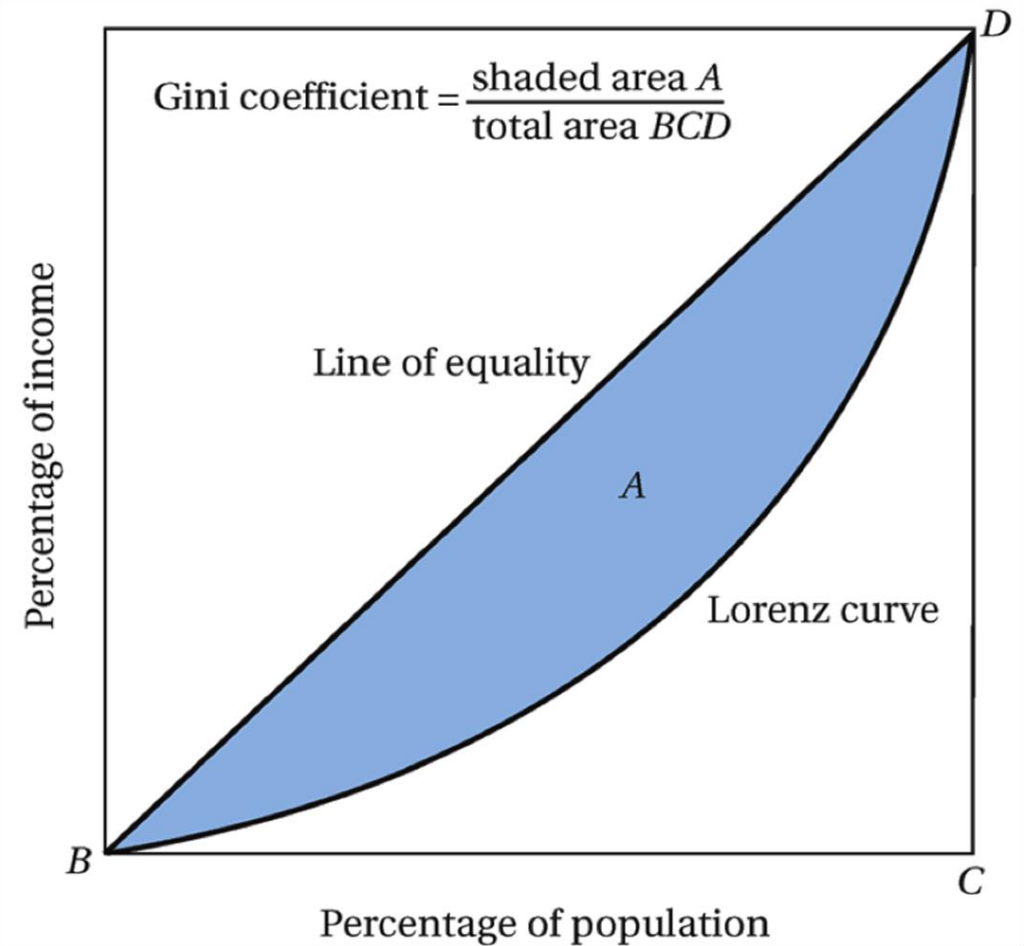
- Gini → value between 0 (all equal income) and 1 (all income goes to only one person)

- Calculation of Gini's for both pre-tax-pre-transfer income and post-tax-post-transfer income (effect of redistribution by T/B-system)

Data

1. Eurostat
2. OECD
3. United Nations
4. World bank

5. Luxembourg Income Study
6. Inkomensstatistiek   Assembled micro data
7. IFS Deaton Review

CAN YOU TRUST YOUR DATA?

2a Databases & codebooks

1. [Leiden LIS Budget Incidence Fiscal Redistribution Dataset on Income Inequality](#) (2017)

2. [Idem, on Relative Income Poverty Rates](#) (2019)

3. [Social Assistance and Minimum Income Levels and Replacement Rates Dataset](#)

4. [Unemployment Replacement Rates Dataset](#)

5. [Sectoral Income Inequality Dataset](#)

6. [Inequality in the Netherlands: 1973-2022 (IFS Deaton Review)](#)

7. [Dutch Income (Re)Distribution, trends 1977-2019](#)

Website: [Leiden Law School / Economics / Data](#)

Empirics: global research team & data
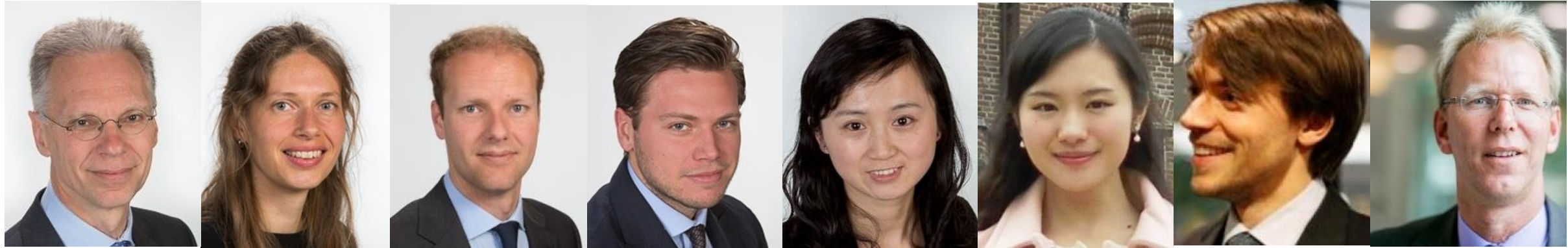
Kees Goudswaard Leiden	**Marike Knoef** Leiden	**Olaf van Vliet** Leiden	**Jim Been** Leiden	**Jinxian Wang** Beijing	**Chen Wang** Shanghai	**Stefan Thewissen** Oxford	**Koen Caminada** Leiden

Assembled Datasets (URL: **www.economie.leidenuniv.nl)**

- Budget Incidence Fiscal Redistribution Dataset on Income Inequality (2017)

- Idem, on Relative Income Poverty Rates (2019)

- Social Assistance and Replacement Rates Dataset

- Unemployment Replacement Rates Dataset

- Sectoral Income Inequality Dataset

Luxembourg Income Study
World Wealth & Income Database
ECHP-EU-Silc
Dutch Income Statistics

Megan Martin USA

Ferry Koster EUR

Leiden LIS Budget Incidence Fiscal Redistribution Dataset

LIS information is still expanding!

- Countries: 53

- Time-series: 1967 onwards

- We provide data and codebooks on:

  o Income inequality & Poverty rates (by age groups et cetera)

  o Fiscal redistribution (social benefits + income taxes and social contributions)

  o Budget size and target efficiency (decomposition transfers and taxes)

  o Decomposition income inequality & poverty (by income source)

LIS country coverage
- Country not covered
- Country covered
- Country with newly added dataset
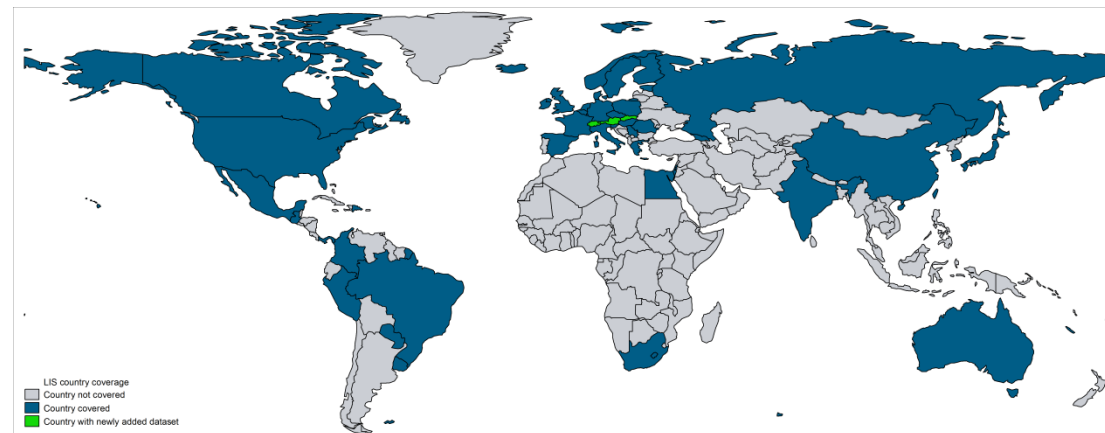
Overview micro-data: 53 countries - 1967-2022

	Gross incomes		Mixed		Net incomes		Total	
	# obs	# datasets	# obs	# datasets	# obs	# datasets	# obs	# datasets
Anglo-Saxon	1,169,111	35	-	-	-	-	1,169,111	35
EU15	1,483,386	92	108,439	9	226,025	37	1,817,850	138
Europe - other	792,132	20	-	-	30,946	7	823,078	27
BRICS	490,020	8	17,112	1	104,349	7	611,481	16
Latin America	185,378	12	53,205	4	1,086,663	34	1,325,246	50
CEE	215,795	20	250,184	8	71,692	17	537,671	45
Middle East	68,219	11	-	-	11,849	1	80,068	12
South-East Asia	223,886	16	-	-	-	-	223,886	16
Total	4,627,927	214	428,940	22	1,531,524	109	6,588,391	339

Empirics: Dutch research team & data

- Repair breaks time-series Dutch Income Statistics since 1977

- Massive project

- Research team from Statistics Netherlands (7) & LeidenUniv (5)

- Populaire publication - release 14th of October 2021

Wim Bos

Egbert Jongen

Ferdy Otten

Koen Caminada

Marion van den Brakel

Heike Vethaak

Kai Gidding

Koos Arts

Jim Been

Kees Goudswaard

Jeroen Nieuweboer

Noortje Pouwels-Urlings

Deliverables – Open Access

- Book Dutch Income (Re) Distribution, trends 1977-2019 (pdf)

- Supplement Figures and Tables (xls)

- Presentation Main Findings (ppt)

- CBS Web publication (link)

- Data, data, data

- Website

[Website: click here](#)

Trajectory revision Dutch Income Statistics

o 2009 → income records converted from ASCII to SPSS-files

o 2018 → CBS stores records – central storage in Data Service Centrum

o 2018 → data users: long and consistent time series

Cooperation and agreement Statistics Netherlands & Leiden University

Secondary objectives

o Storage of data records

o Make revised records accessible for (longitudinal) research

Income records; break in series 2001 & 2011
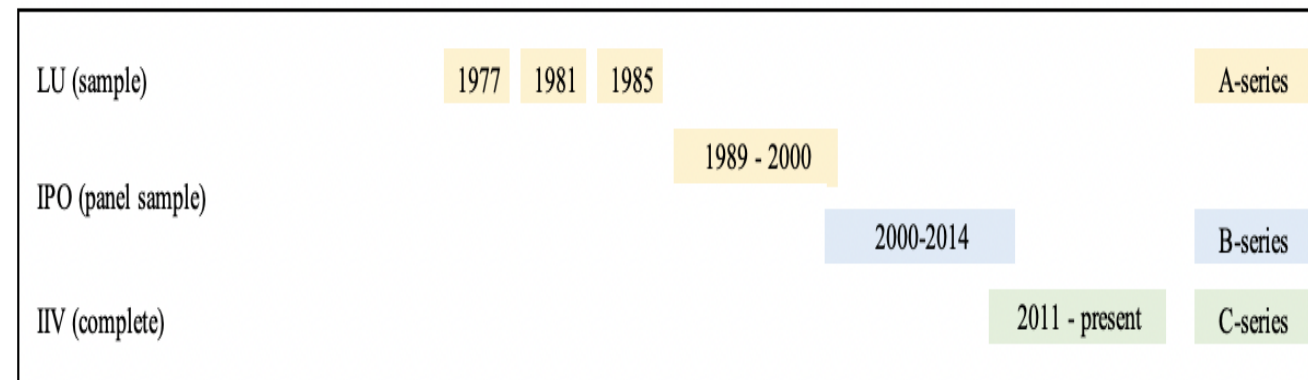
Revision Income Statistics

Aim: align outcomes 1977-2011 with series starting from 2011

o Define and determine income variables in order to have consistency to series from 2011 onwards
  o Lack of social premium variables 1977-2000
  o Values "Imputed Rents" 1977-2011 comparable to series from 2011 onwards

o Similar classifications of population groups (socio-economic status and primary source of household income)

o Identical names for variables in all records

CBS Equivalence scales, 1977-2019 (one person household = 1.00)

	1977-2000	2001-2017	From 2018 onwards
1 Adult with 1 child	1,33	1,33	1,32
2 Adults	1,38	1,37	1,40
1 Adult with 2 children	1,52	1,51	1,52
2 Adults with 1 child	1,70	1,67	1,69
3 Adults	1,73	1,73	1,78
2 Adults with 2 children	1,90	1,88	1,91

- Equivalize → economies of scale; expenditures of households depend on their size and composition
- Divide household income by equivalence factor that expresses the size of the economies of scale that arises because of shared households
- Numeraire: one person household = 1.00

Inequalities in Europe and North America (IFS Deaton Review)

Serie reports on evolution of inequalities → 17 countries in Europe and North America

Aim:

- Examine a broad set of inequalities in a coherent framework across the major economies of Europe and North America and how they have changed in recent decades

- To provide a source of comparative international research on economic inequality

Dutch team: Egbert Jongen, Heike Vethaak, Jim Been & Koen Caminada

https://ifs.org.uk/inequality/country-studies/

% married or cohabiting, 25-60 year olds
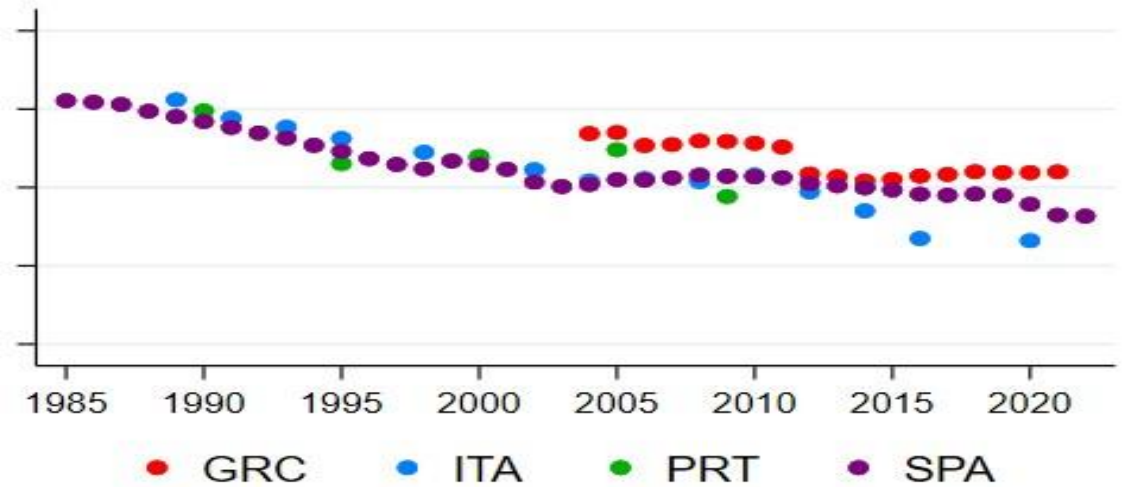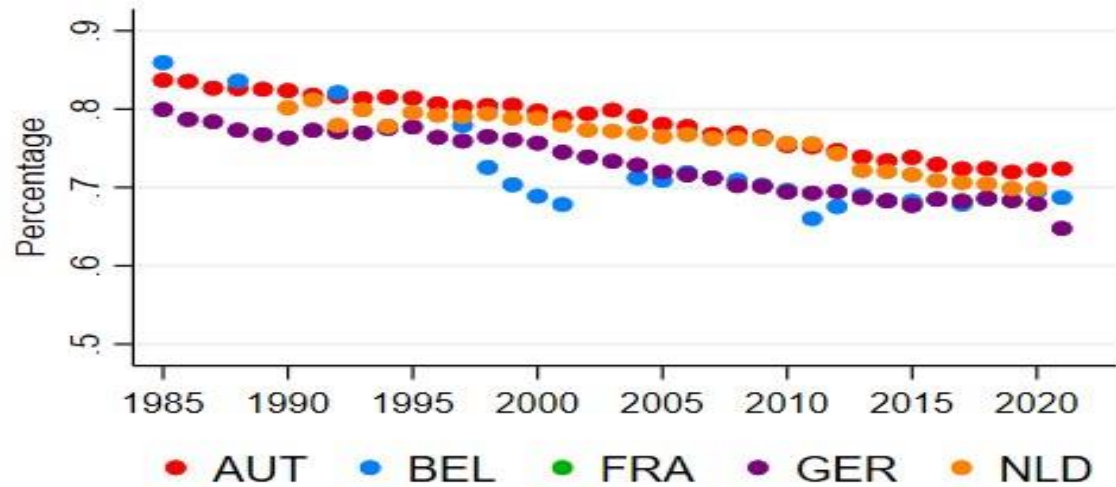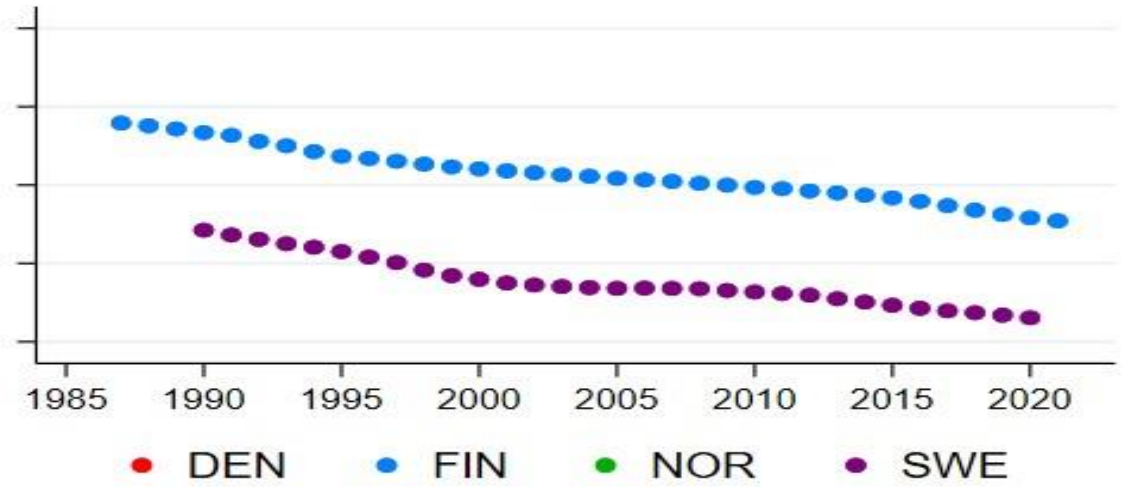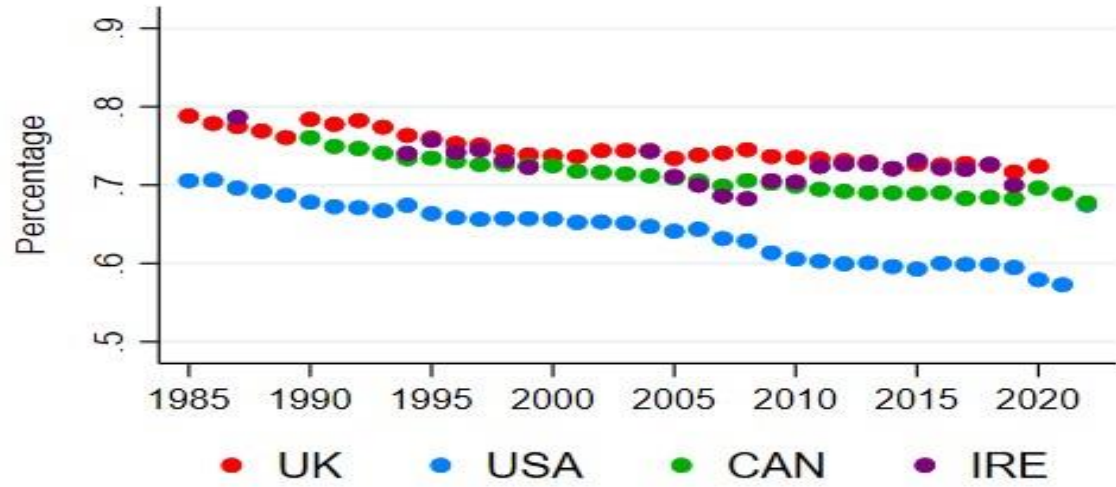
Note: 25-60 year olds only

Trends in female labour market participation
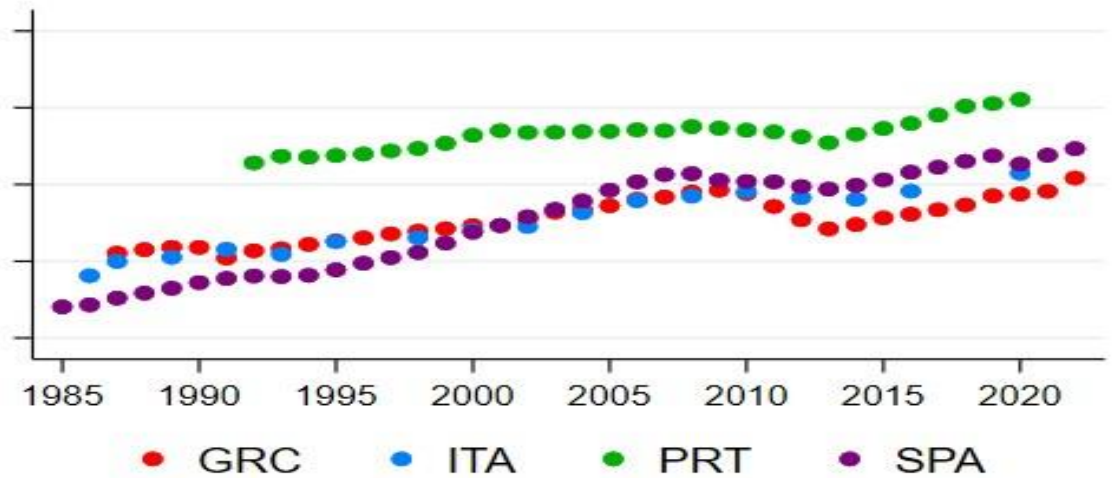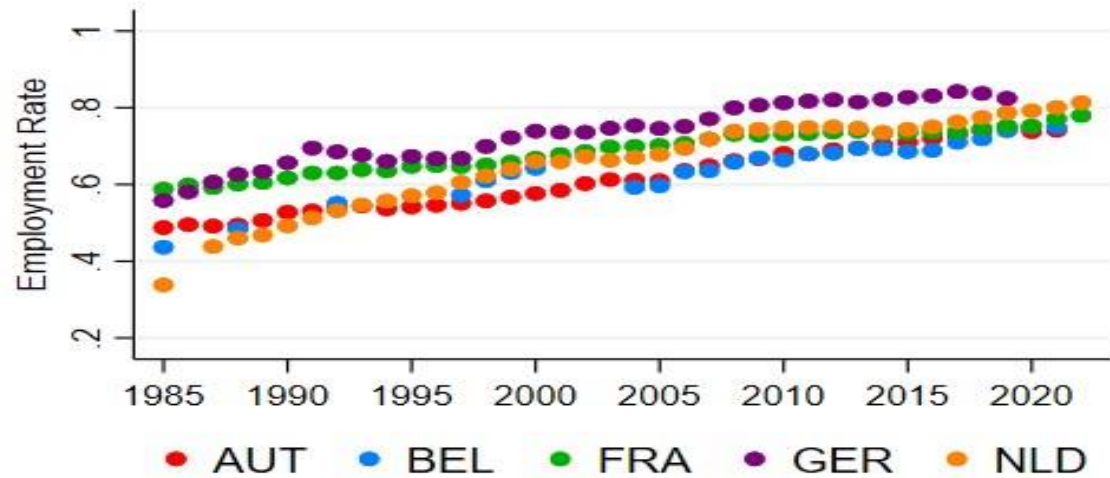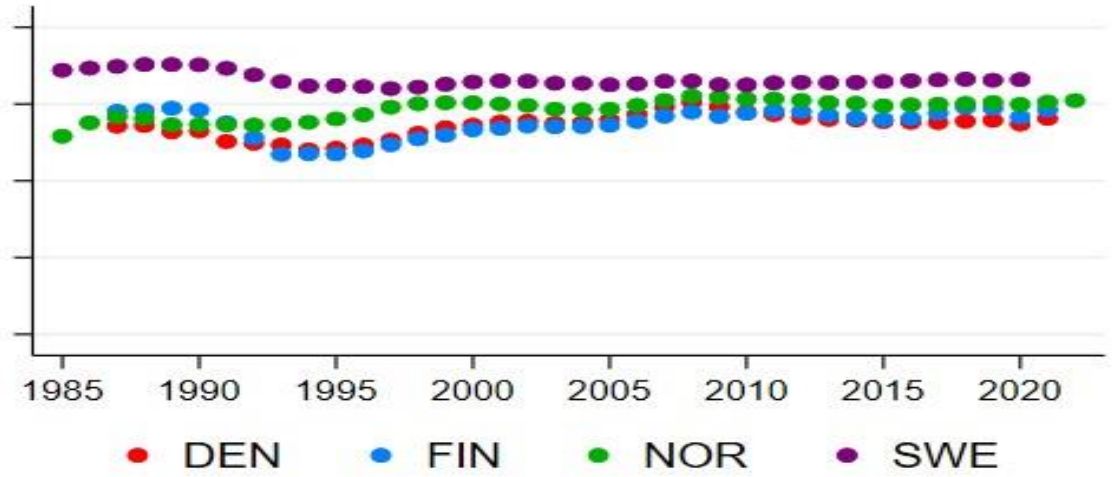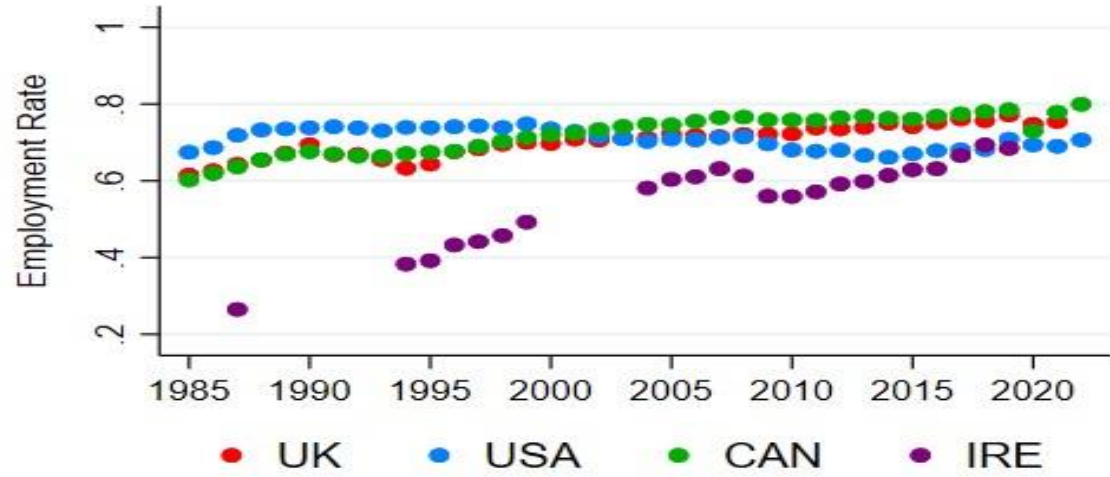
Note: 25-60 year olds only

Real median wages, indexed to 100 in 2007
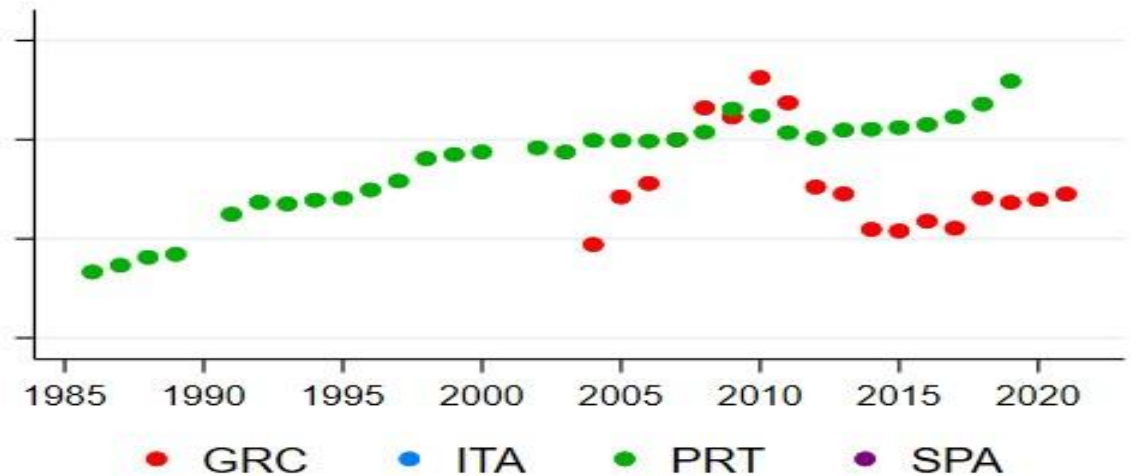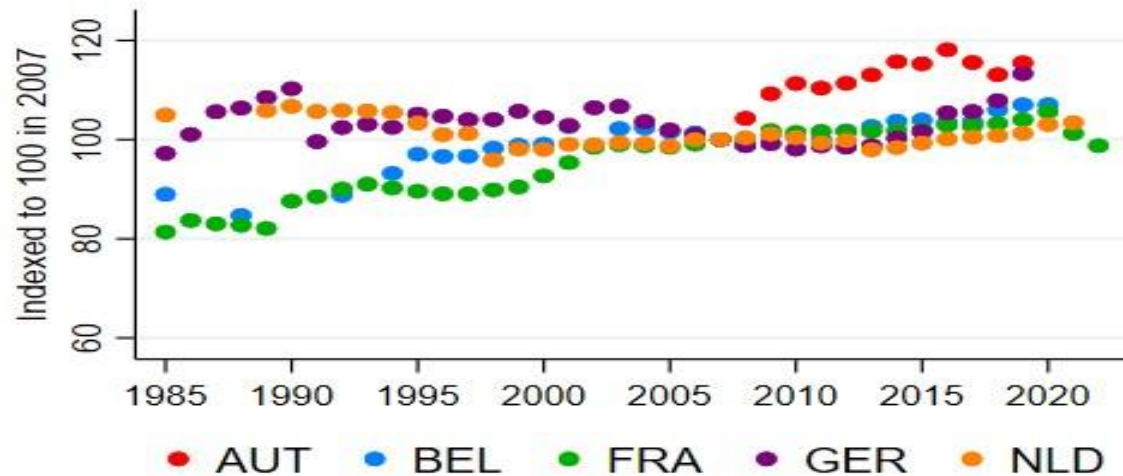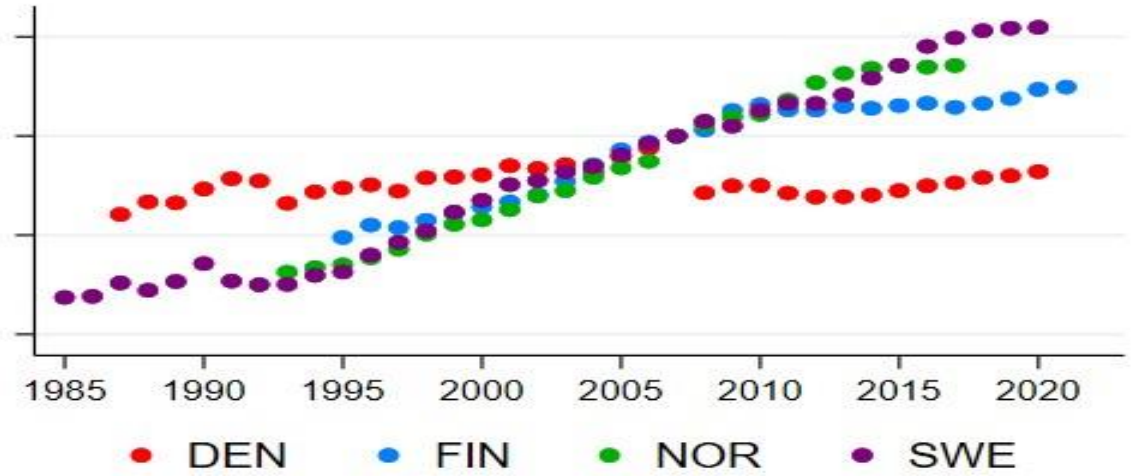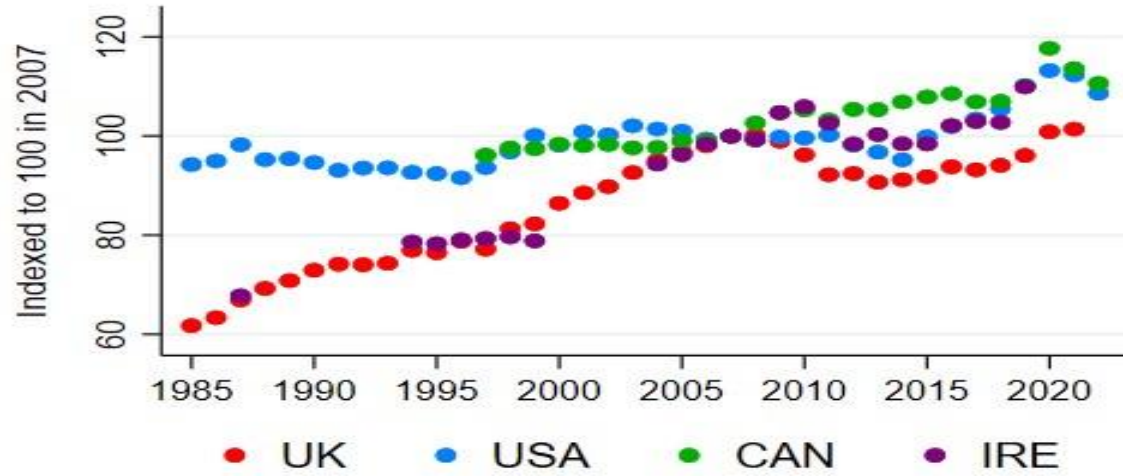
Note: 25-60 year olds only

Gini coefficient of HH disposable incomes
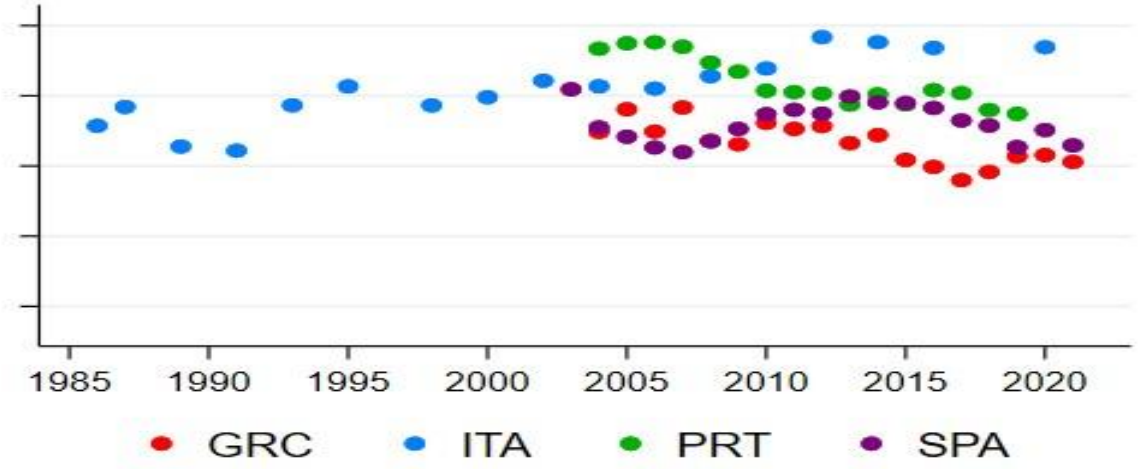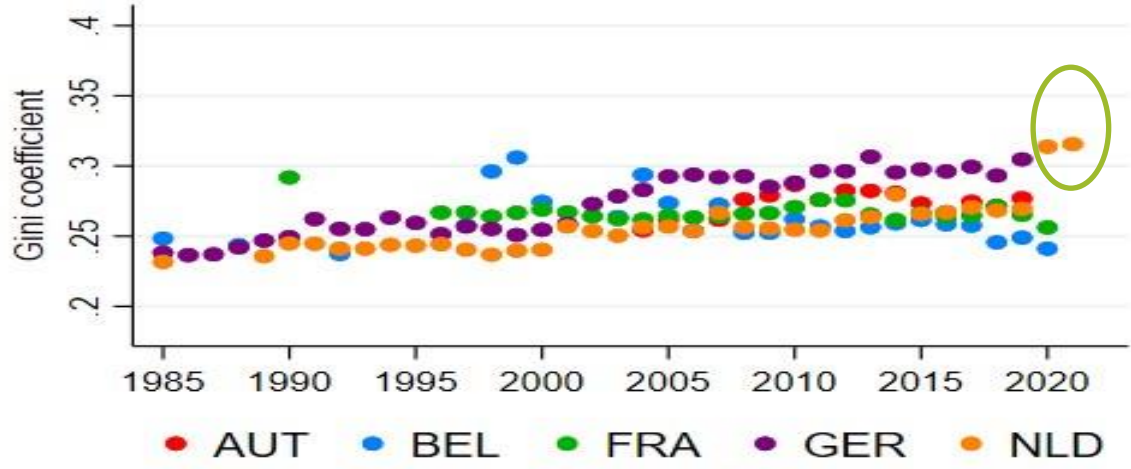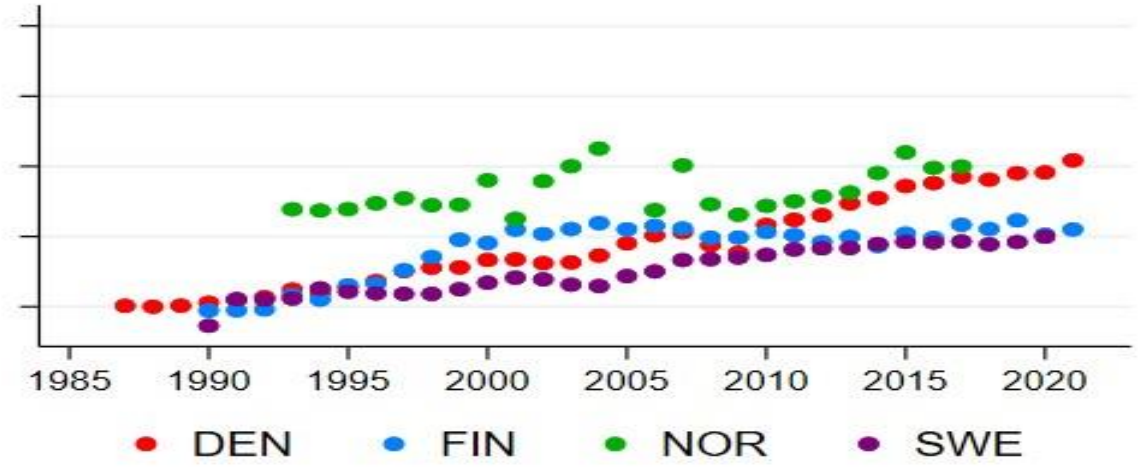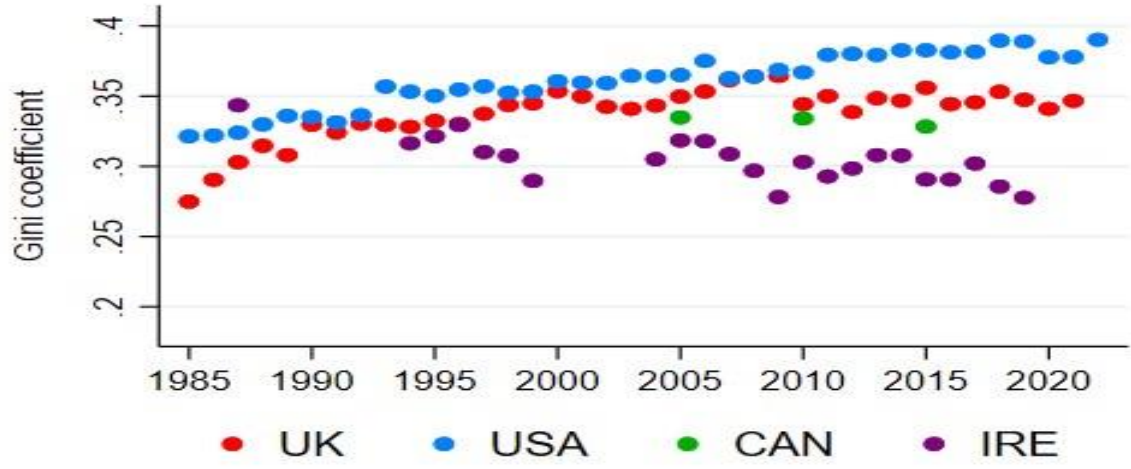
Note: 25-60 year olds only

Ratio of net income to gross income, top quartile of net income
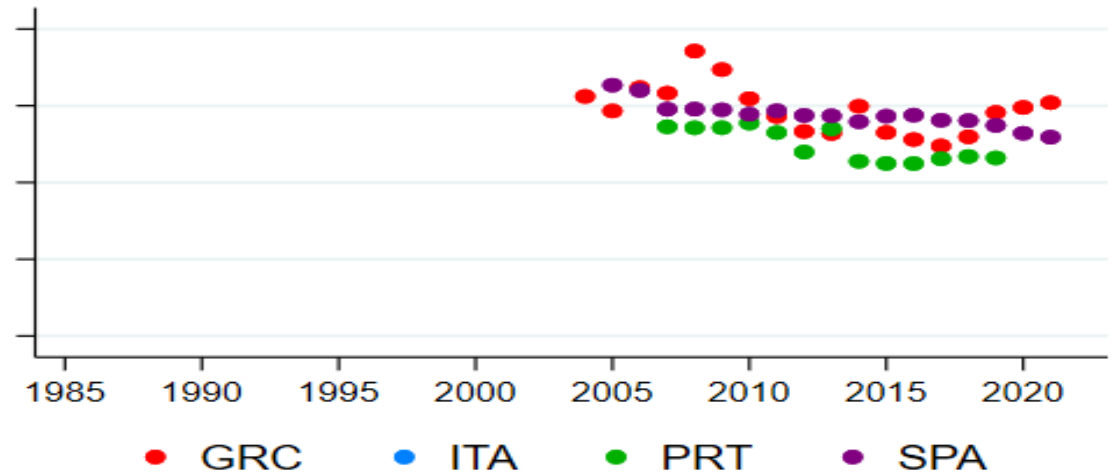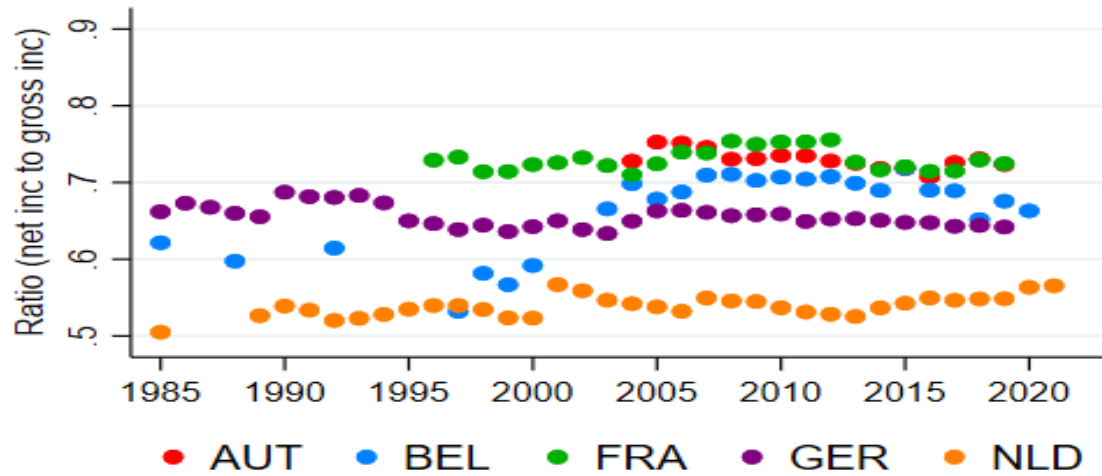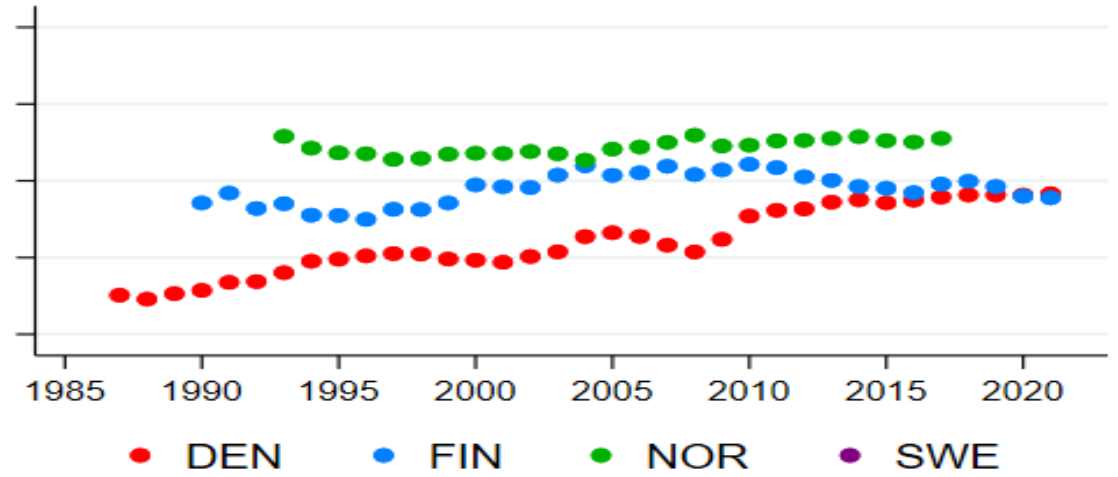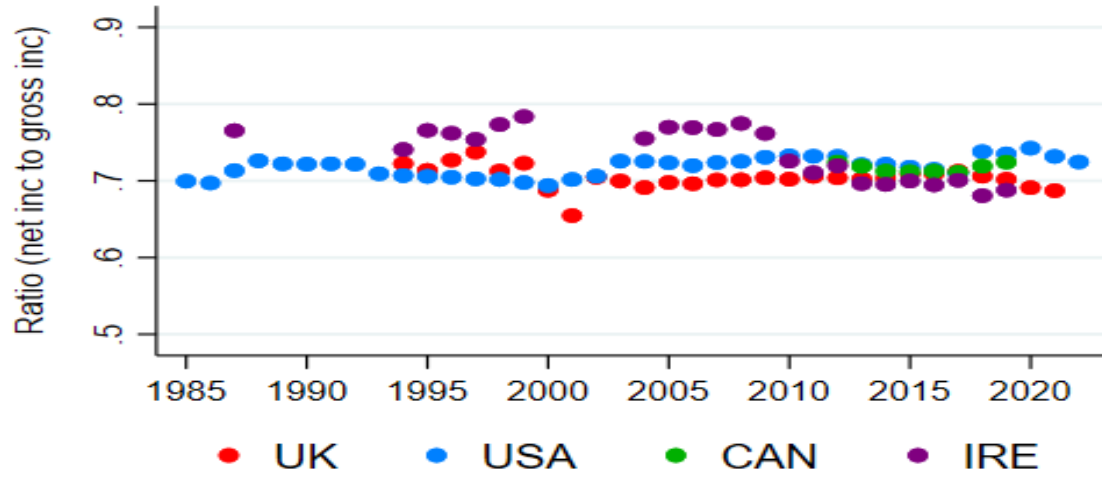
Note: 25-60 year olds only

2b Global Income (Re) Distribution & Poverty, 1967 onwards

- Income inequality: Gini's

  Gini primary income = Gini(pri)

  Gini disposable income = Gini(dhi)

- Redistribution:

  - Overall redistribution = Gini(pri) – Gini(dhi)

  - Decomposition redistribution by transfers and taxes.

  - Decomposition redistribution by social programs: old-age benefits, disability benefits, survivor benefits, sickness benefits, family/children benefits, education benefits, unemployment benefits, housing benefits, other benefits and income taxes and social security contributions.

- Equivalence scale LIS

- LIS Top-and-Bottom-coding

- Target groups: total population, working-age population

Disposable and primary income inequality across LIS countries
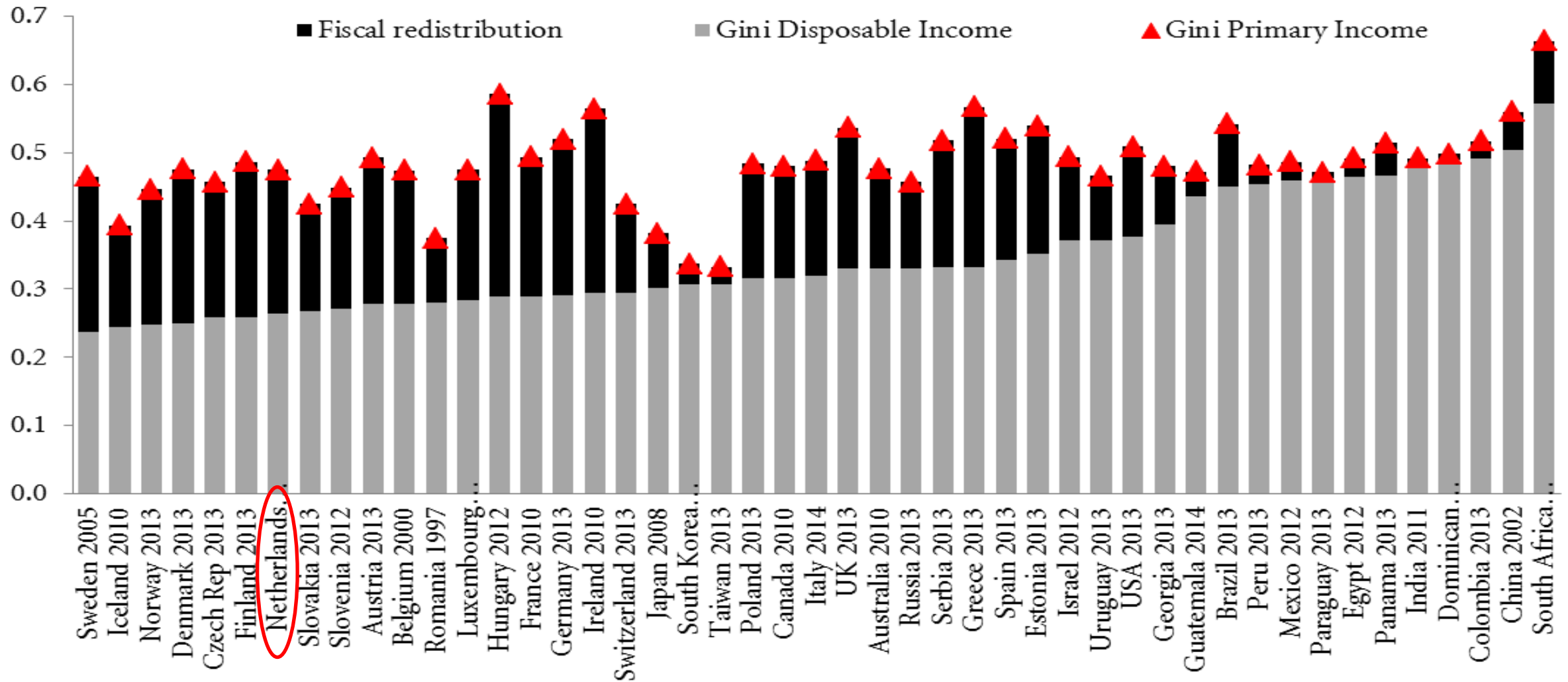
Fiscal redistribution across LIS countries around
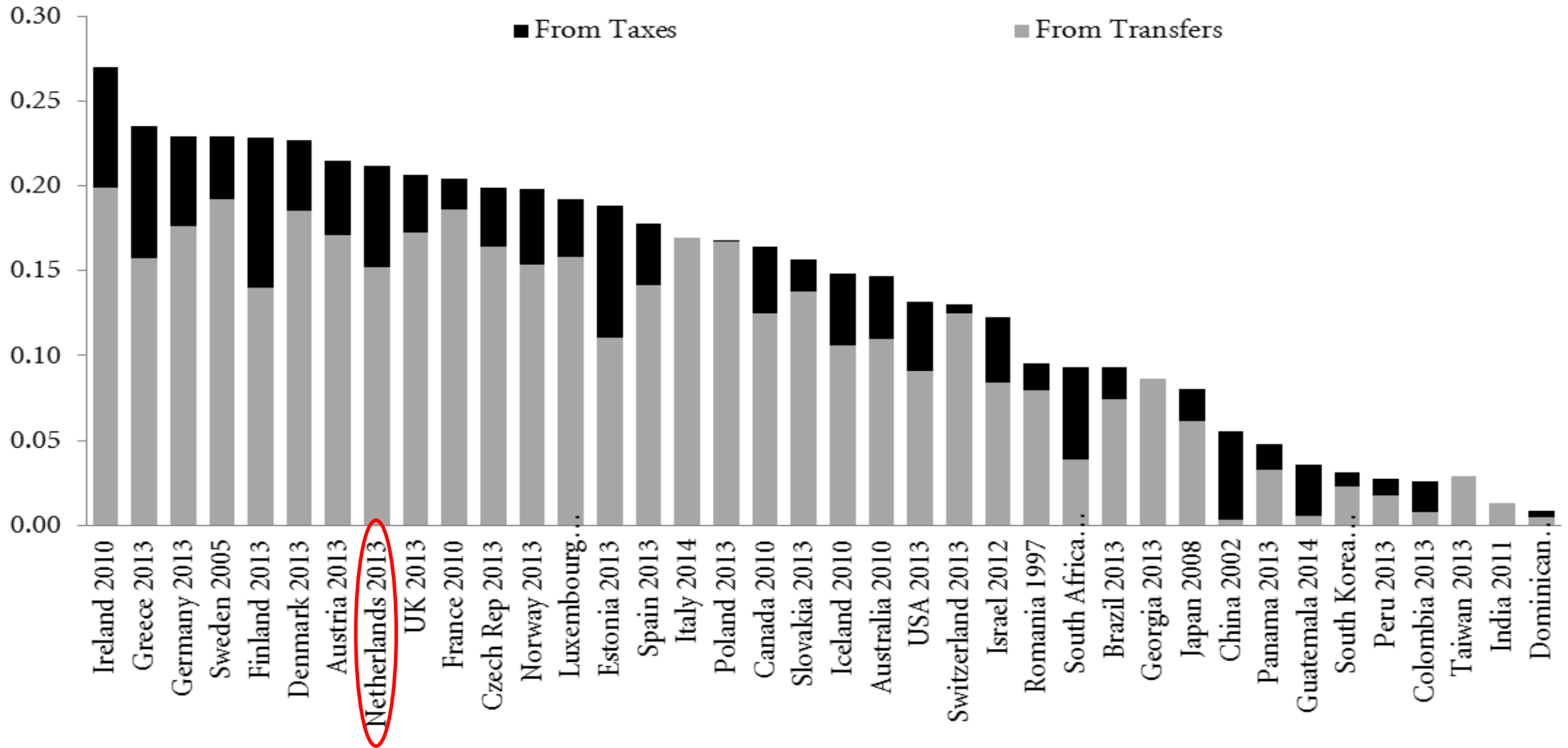
Further decomposition fiscal redistribution

+/+ Transfers

- Old-age/disability/survivor transfers
- Sickness transfers
- Family/children transfers
- Education transfers
- Unemployment transfers
- Housing transfers
- General/food/medical assistance transfers
- Other transfers

-/-Taxes

- Income taxes and social security contributions

Database:

- 47 countries
- 9 waves: 1967-2014
- 293 datasets

$$G = 2 \int_0^1 \left[x - L(x) \right] \, dx$$
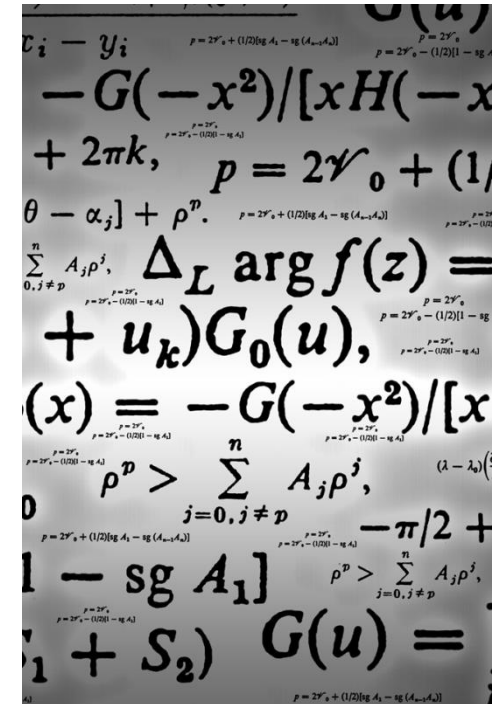
Decomposition fiscal redistribution around 2013 (country-average-26)

	Gini	Share
(a) Gini primary income	0.496	
(b) Gini disposable income	0.331	
Overall redistribution (a-b)	0.165 (=33%)	100%
Transfers	*0.128*	*78%*
Old-age/Disability/Survivor transfers	0.089	54%
Sickness transfers	0.002	1%
Family/Children transfers	0.013	8%
Education transfers	0.002	1%
Unemployment transfers	0.010	6%
Housing transfers	0.004	3%
General/food/medical assistance transfers	0.005	3%
Other transfers	0.003	2%
Income taxes and social security contributions	0.038	23%
Residual	-0.001	-1%

Decomposition of disposable income inequality for 8 countries 1985-2013: averages by periods

	Gini 1985	Gini 1995	Gini 2013	Change 1985-2013
(a) Gini primary income	0.447	0.460	0.485	0.039
(b) Gini disposable income	0.289	0.286	0.310	0.021
Overall redistribution (a-b)	0.158	0.174	0.176	0.018
Transfers	75%	78%	78%	3%
Old-age/Disability/Survivor transfers	47%	52%	56%	9%
Sickness transfers	1%	1%	0%	-1%
Family/Children transfers	7%	8%	7%	0%
Education transfers	6%	2%	1%	-5%
Unemployment transfers	5%	7%	6%	1%
Housing transfers	1%	3%	2%	2%
General/food/medical assistance transfers	2%	3%	3%	0%
Other transfers	7%	3%	2%	-5%
Income taxes and social security contributions	25%	22%	24%	-1%
Residual	0%	0%	-2%	-2%

Trend fiscal redistribution total population (15 countries)

	Gini PI	Gini Dhi	Fiscal Red
Around 1985	0.431	0.280	0.152
Around 1997	0.453	0.281	0.172
Around 2012	0.479	0.297	0.182
Change 1985-2012	0.048	0.018	+0.030
Change 1985-1997	0.022	0.002	+0.020
Change 1997-2012	0.026	0.016	+0.010
	Share rise inequality offset by Fiscal Redistribution		
1985-2012	63%		
1985-1997	93%		
1997-2012	37%		

Tax-benefit systems *effective at reducing inequality over time*. However, share of the rise in primary income inequality *offset* by fiscal redistribution *decreased over time.*

Measuring monetary poverty in international perspective

No agreed-upon definition of (income) poverty

Poverty lines

• World Bank: $ 1 dollar a day ($1.90)

• USA: Absolute – Orshansky (basket)

• EU: Relative → poverty line (PL) 60 percent of median income (AROP)

International comparative research → apply poverty lines – % median income
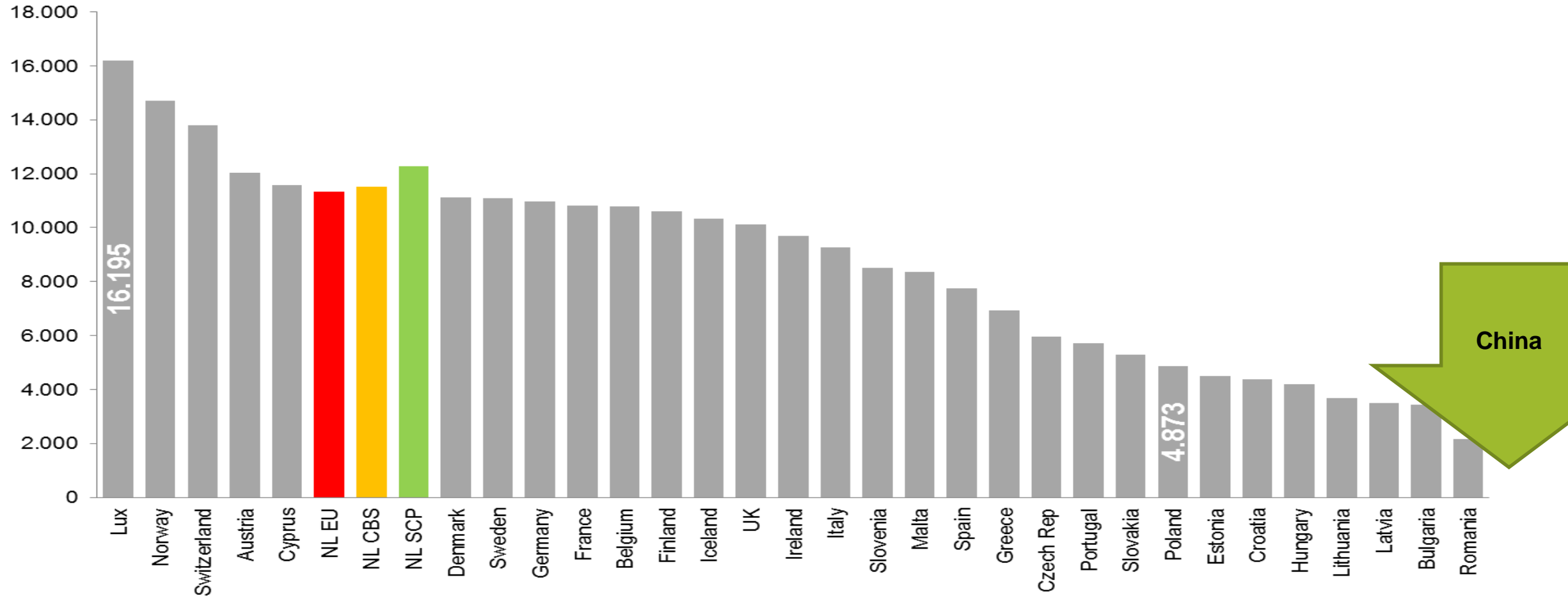
How to measure poverty?

Monetary poverty in an international setting → no agreed-upon definition how to measure poverty

Research → apply poverty lines – % median income

How many people are at risk of poverty = below 60% of median income?

- China (PL60: 2.840 yuan) → 31% of population

- Netherlands (PL60: €11.326) → 11% of population

Thresholds Monetary Poverty

Data and method relative income poverty rates

- Poverty rates
  - Relative poverty rate primary income = Pov(pri)
  - Relative poverty rate disposable income = Pov(dhi)

- Redistribution = % of people lifted out of poverty

  - Overall redistribution = Pov(pri) – Pov(dhi)

  - Decomposition redistribution by social benefits and income taxes.

  - Decomposition redistribution by social programs: old-age benefits, disability benefits, survivor benefits, sickness benefits, family/children benefits, education benefits, unemployment benefits, housing benefits, other benefits and income taxes and social security contributions.

- Equivalence scale LIS

- LIS Top-and-Bottom-coding

- Target groups: total population, working-age population, children & elderly

Disposable and primary income poverty rates (PL60) across LIS countries (most recent data year)
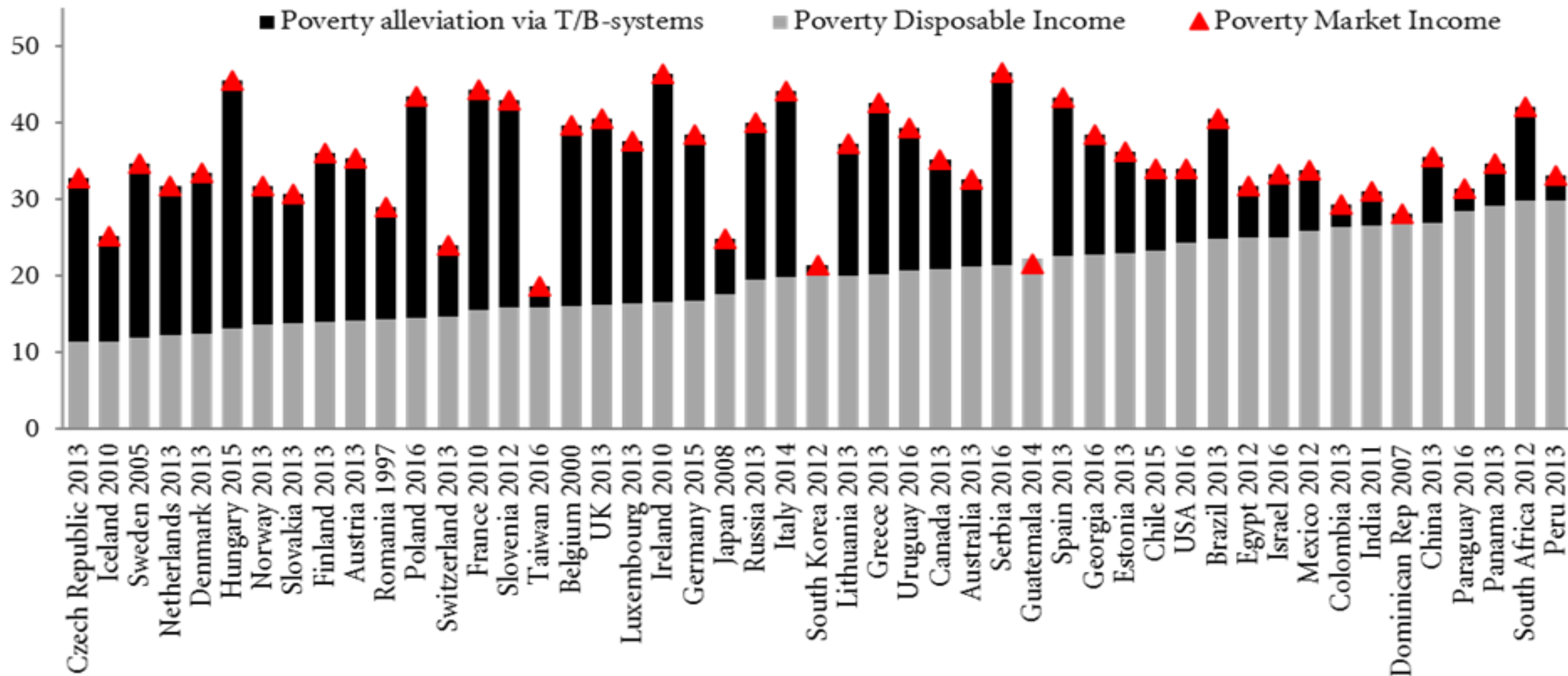
Disposable income poverty (PL60) across 49 LIS countries among different age groups (most recent data year)
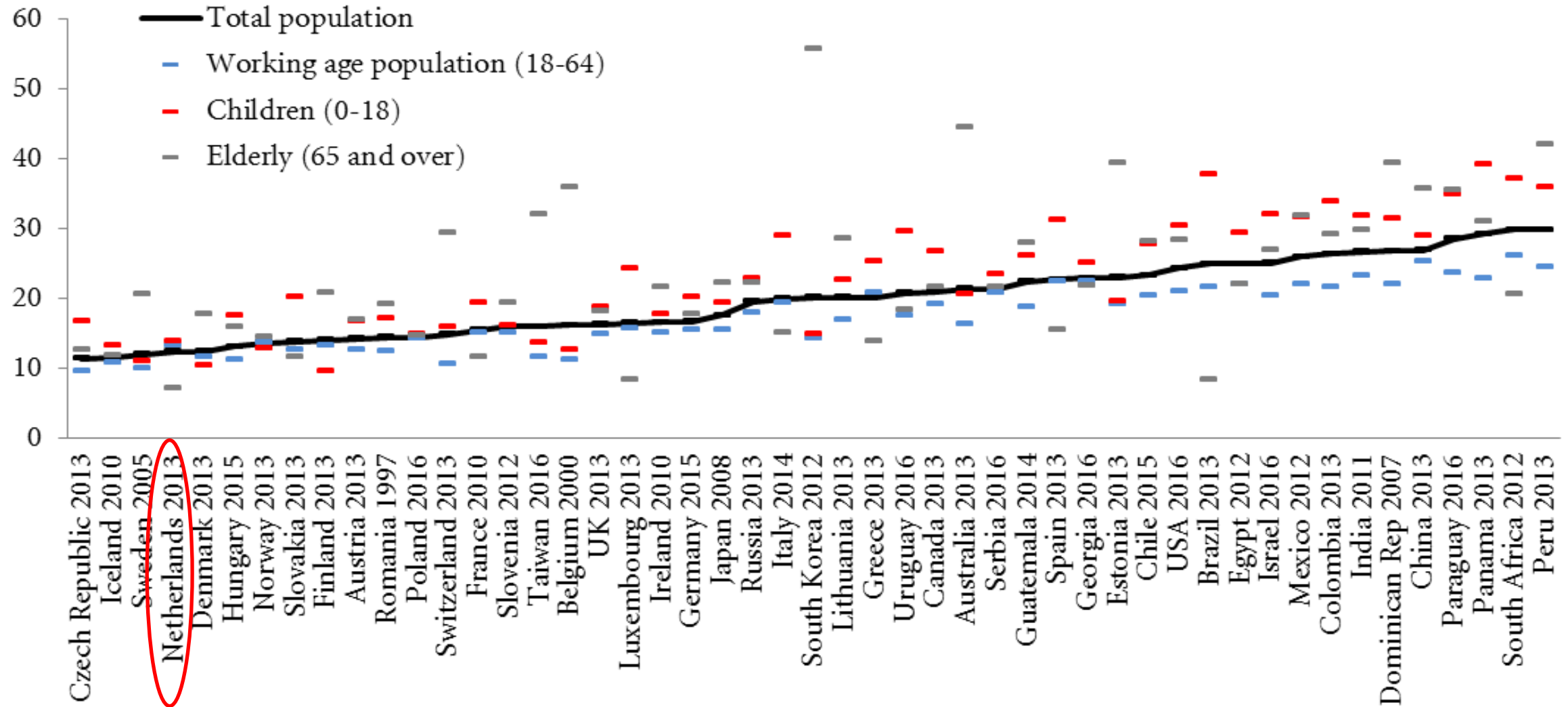
Higher relative poverty rates (PL60) of disposable income among females across 49 LIS countries (most recent data year)
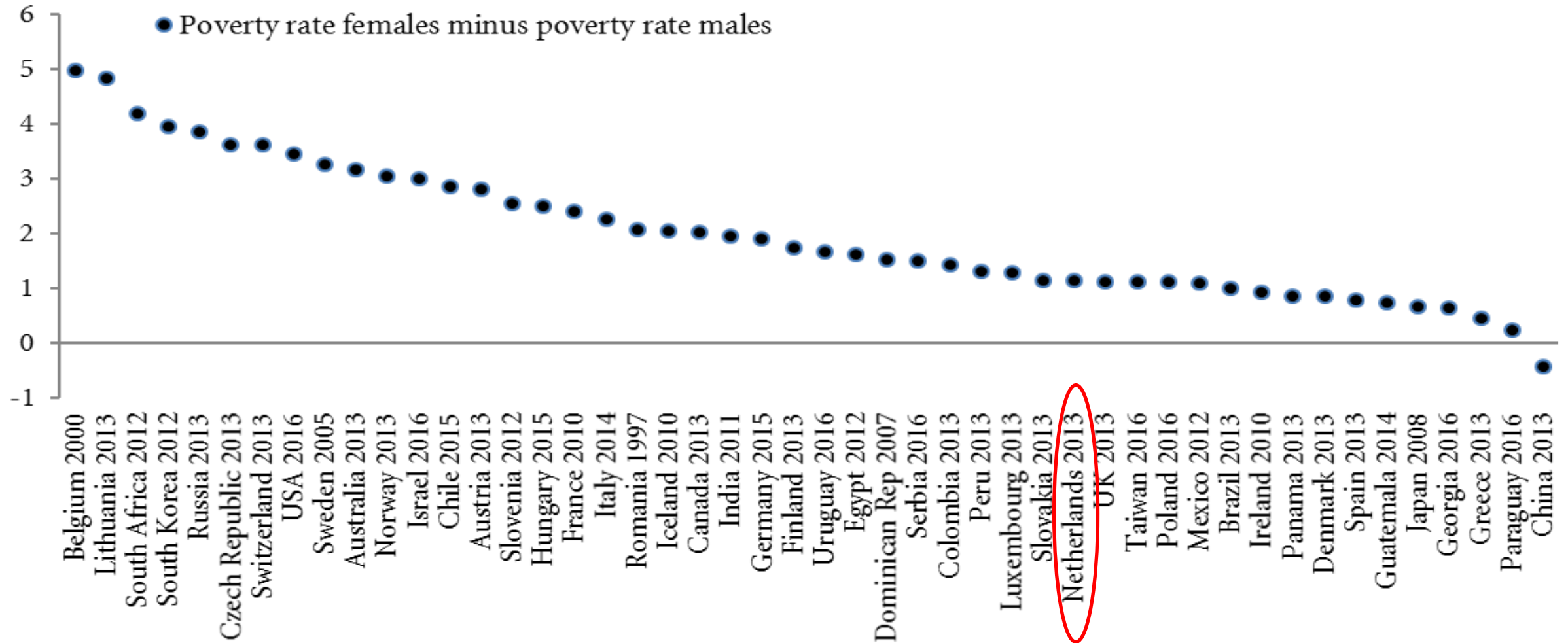
Trend poverty alleviation among working-age and total population in 15 countries

	Total population			Working-age population		
	Poverty Pri	Poverty Dhi	Reduction	Poverty Pri	Poverty Dhi	Reduction
Around 1985	28.5	15.7	12.7	20.7	12.7	8.0
Around 2013	34.3	16.8	17.5	24.3	14.8	9.6
Change 1985-2013	5.8	1.0	4.8	3.6	2.0	1.6
	Share rise poverty offset by Fiscal Red			*Share rise poverty offset by Fiscal Red*		
1985-2013	82%			44%		

Tax-benefit systems *increasingly effective at reducing income poverty over time*. Share of the rise in primary income poverty *offset* by fiscal redistribution *rather high*.

Decomposition fiscal redistribution around 2013 (country-average-26)

	Poverty (PL60)	Share
(a) Poverty primary income	35.7	
(b) Poverty disposable income	18.8	
Overall poverty alleviation (a-b)	16.9 (=47%)	100%
Transfers	19.8	117%
Old-age/Disability/Survivor transfers	13.6	81%
Sickness transfers	0.3	2%
Family/Children transfers	2.4	14%
Education transfers	0.3	2%
Unemployment transfers	1.4	9%
Housing transfers	0.6	3%
General/food/medical assistance transfers	0.7	4%
Other transfers	0.5	3%
Income taxes and social security contributions	-2.9	-17%
Residual	0.0	0%

Decomposition of disposable income poverty (PL60) for 8 countries 1985-2013 (averages by periods)

	Poverty 1985	Poverty 1995	Poverty 2013	Change 1985-2013
(a) Poverty primary income	29.1	31.9	34.2	5.1
(b) Poverty disposable income	16.1	15.7	17.5	1.4
Overall poverty alleviation (a-b)	13.1 **(45%)**	16.1	16.7 **(51%)**	3.6
Transfers	15.6	19.5	20.4	4.8
Old-age/Disability/Survivor transfers	9.9	13.0	14.3	4.3
Sickness transfers	0.2	0.3	0.1	-0.1
Family/Children transfers	1.9	2.3	2.4	0.5
Education transfers	0.6	0.4	0.3	-0.3
Unemployment transfers	1.0	1.7	1.5	0.5
Housing transfers	0.1	0.7	0.6	0.5
General/food/medical assistance transfers	0.2	0.4	0.5	0.3
Other transfers	1.6	0.6	0.7	-0.9
Income taxes and social security contributions	-2.6	-3.4	-3.6	-1.0
Residual	0.1	0.1	-0.1	-0.2

Poverty alleviation in LIS countries

Lift out of poverty = Poverty primary income -/- Poverty disposable income

= Fiscal redistribution social benefits and income taxes = Lift out of poverty by T/B-system

	China 2013	India 2011	USA 2016	Netherlands 2013	Mean 49 countries
Poverty pri	36%	31%	34%	32%	35%
Poverty dpi	27%	27%	24%	12%	20%
Reduction	9%-p	4%-p	10%-p	20%-p	15%-p
Partial effects					
Social benefits	-	4.3	12.6	25.5	17.3
Income taxes	-	-	-3.0	-6.1	-2.1

Source: Caminada, Goudsward, Wang & Wang (2019)

Poverty alleviation in LIS countries

Lift out of poverty by T/B-system

|	China 2013	India 2011	USA 2016	Netherlands 2013	Mean 49 countries
Total population	9%	4%	10%	20%	15%
WA population	7%	4%	4%	9%	9%
Children	5%	4%	4%	1%	9%
Elderly	31%	8%	39%	84%	48%

Source: Caminada, Goudsward, Wang & Wang (2019)

Poverty rates and poverty alleviation via social transfers and income taxes across regions (most recent data year)

Source: Caminada, Goudsward, Wang & Wang (2019)
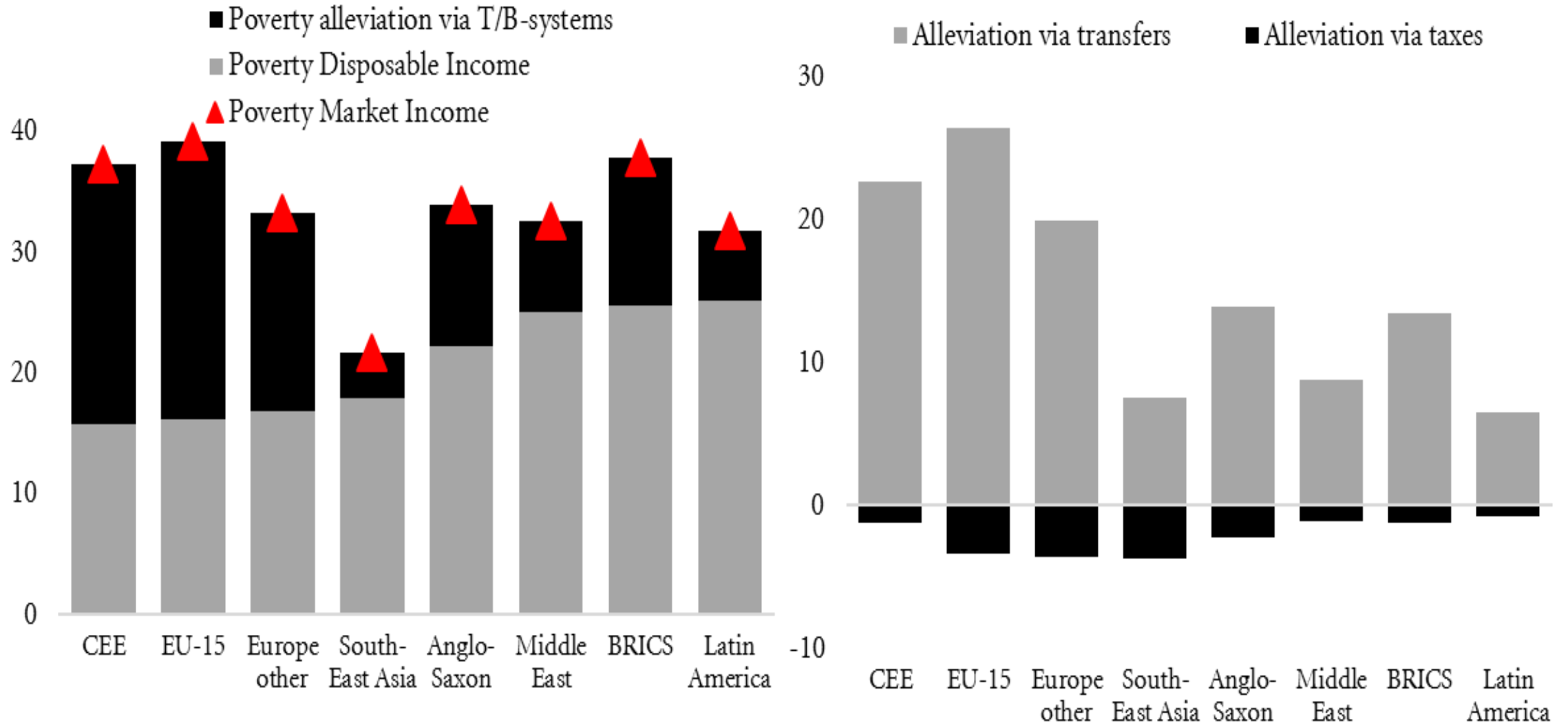
Poverty rates for three poverty lines and for different age-groups across regions (most recent data year)

Source: Caminada, Goudsward, Wang & Wang (2019)
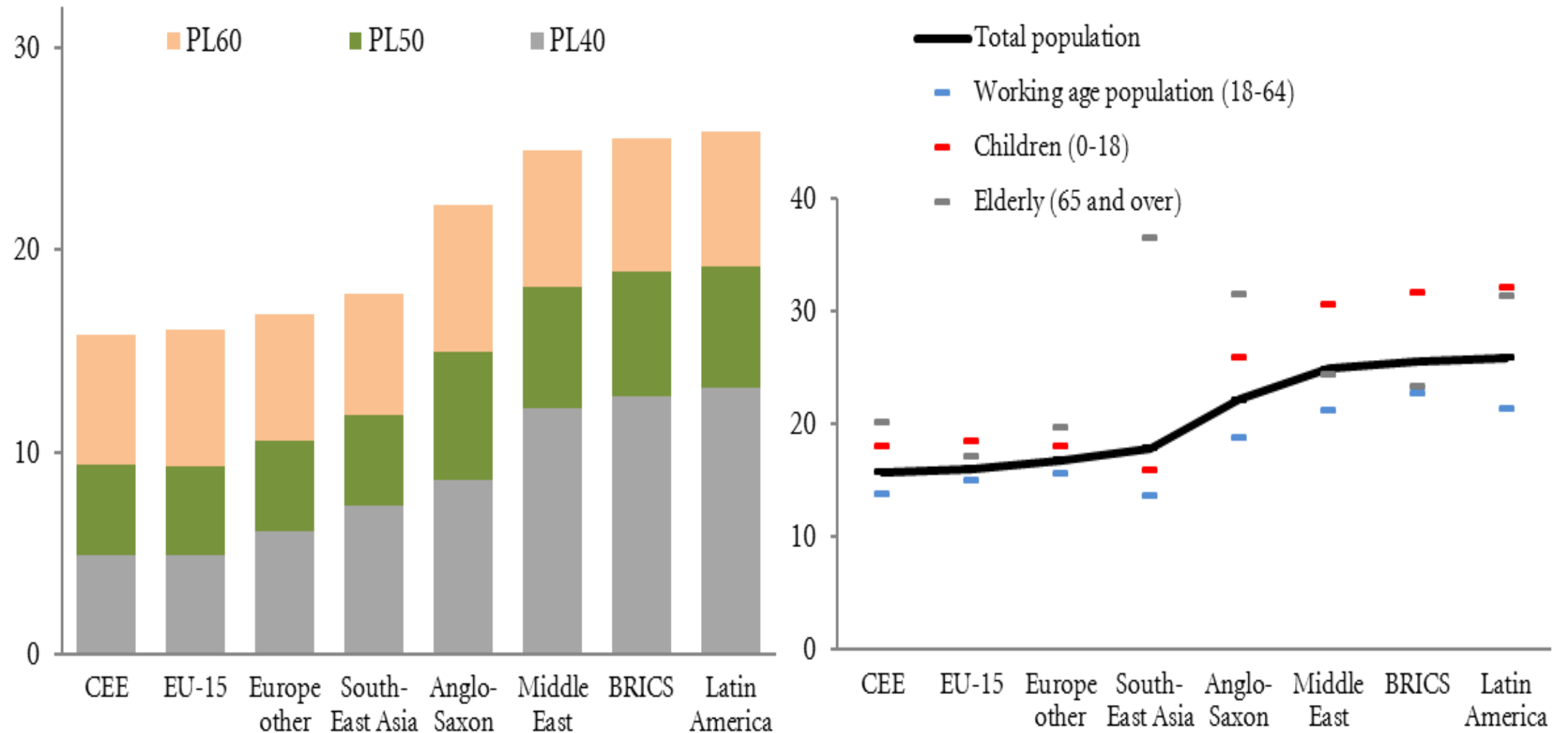
At-risk-of-poverty rate after social transfers 2015 (PL 60)
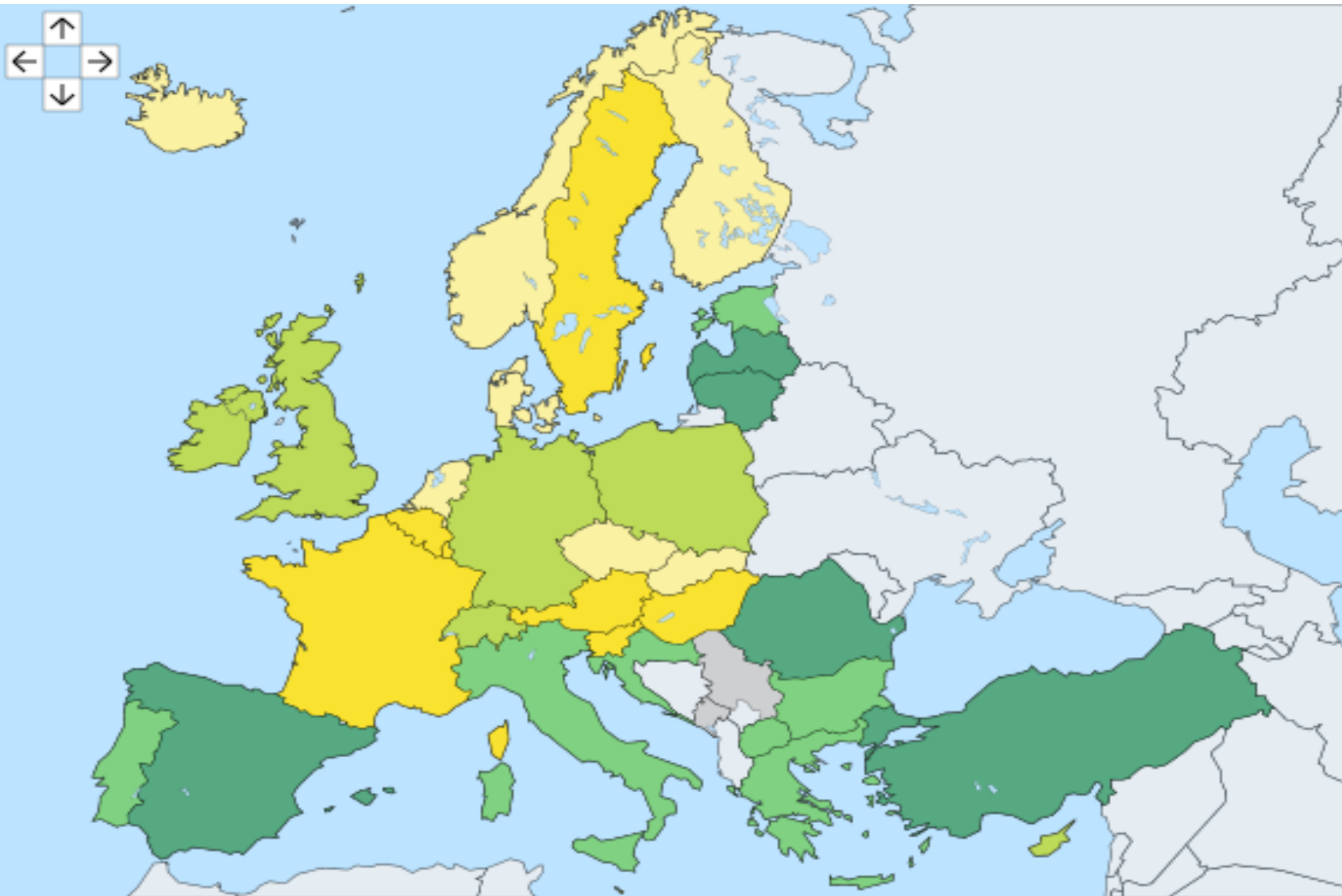
Poverty rate EU28:
PL 40 = 6
PL 50 = 11
PL 60 = 17

PL EU60 = 23

Poverty line:
PL EU = 60
PL USA = 30
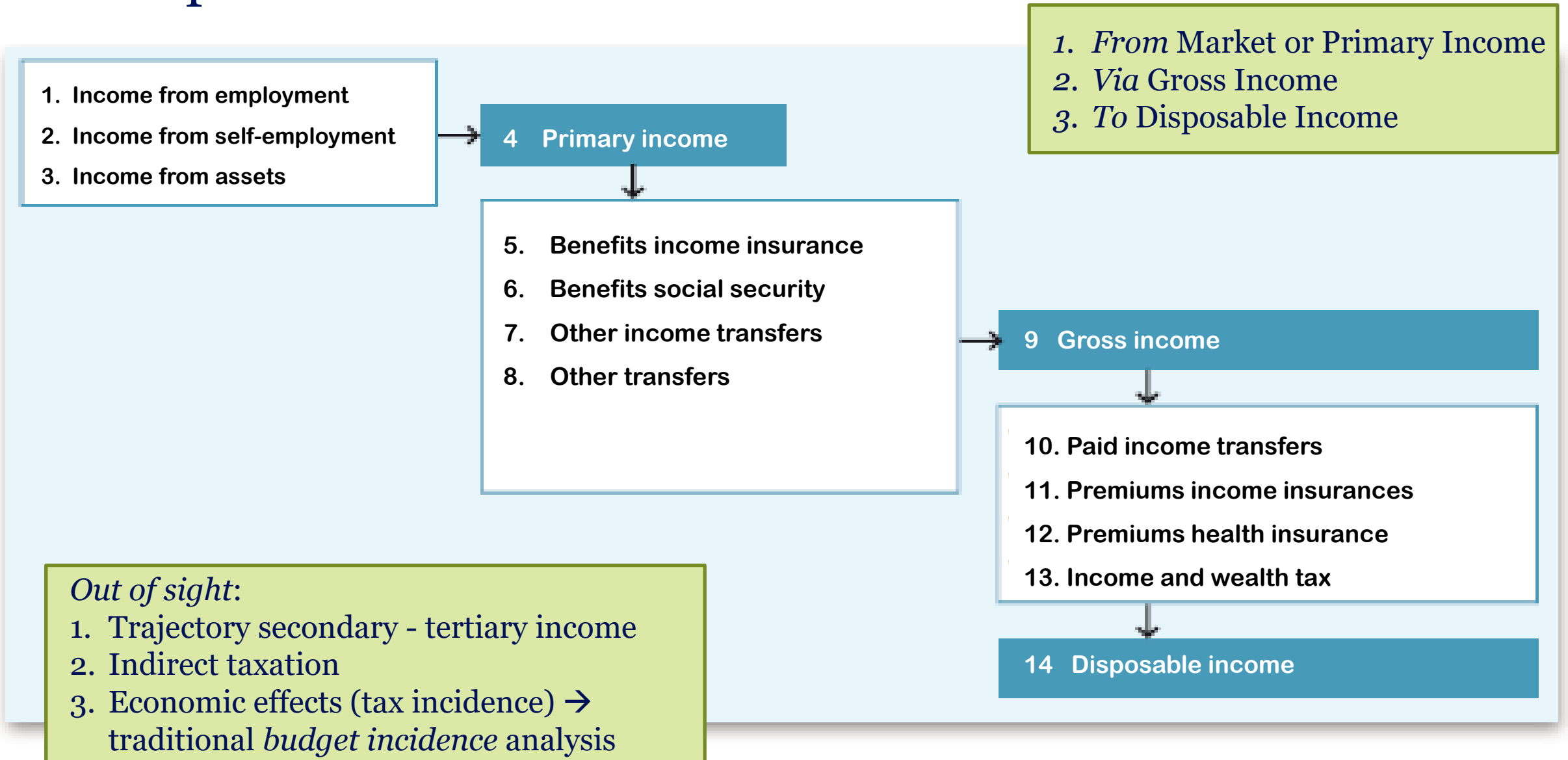PL China = ??

Poverty rate USA 2013 (LIS):
PL 40 = 11
PL 50 = 17
PL 60 = 24

China PL60 = 32

| 9.6-12.4 | 12.4-15.3 | 15.3-17.6 | 17.6-22.0 | 22.0-25.4 |

2c Composition of Dutch household income

1. *From* Market or Primary Income
2. *Via* Gross Income
3. *To* Disposable Income

1. Income from employment
2. Income from self-employment
3. Income from assets

4 Primary income

5. Benefits income insurance
6. Benefits social security
7. Other income transfers
8. Other transfers

9 Gross income

10. Paid income transfers
11. Premiums income insurances
12. Premiums health insurance
13. Income and wealth tax

14 Disposable income

Out of sight:
1. Trajectory secondary - tertiary income
2. Indirect taxation
3. Economic effects (tax incidence) →
   traditional *budget incidence* analysis

Composition of Dutch income households

		Quantity X 1.000	Amount Mln euro
1	**Income from wages**	**5.240**	**244.047**
1.1.1	Wages employee	4.759	156.929
1.1.2	Wages civil servants	873	27.722
1.1.3	Wages major shareholder (DGA)	237	9.330
1.2	Social security contributions employer	5.009	45.886
2	Profit from enterprise	1.062	27.292
3	Property income (3.1-3.2)	6.797	20.947
3.1	Asset income	5.912	37.798
3.2	Interest paid	5.291	16.850
4	**Primary income (1+2+3)**	**7.401**	**292.286**
5	**Benefits from income insurance**	**3.756**	**79.930**
5.1.1	Unemployement benefits	528	2.991
5.1.2	Illness, disability benefits	776	8.661
5.1.3.1	Benefits state pension (AOW)	2.236	29.974
5.1.3.2	Benefits General Survivors (ANW)	30	261
5.1.3.3	Pension benefits	2.751	35.887
6	**Social security benefits**	**2.659**	**10.754**
6.1	Welfare benefits etc.	752	6.447
6.3	Benefits connected to children	716	444
6.4	**Scholarship benefits**	486	765
7	**Received committed transfers**	**1.357**	**3.059**
8	**Received income transfer**	**48**	**434**

		Quantity X 1.000	Amount Mln euro
9	**Gross income (4+5+6+7+8)**	7.818	386.463
10	**Paid income transfer**	67	502
11	Premium income insurance	7.267	62.285
11.1	Premium unemployment	5.164	7.094
11.2	Premium illness	361	726
11.3	Premium disability	5.240	14.204
11.4.1	Premium social insurance pension	4.218	23.510
11.4.2	Premium pension private sector	437	745
11.4.3	Premium social insurance AOW, Anw	7.064	16.471
12	**Premium health insurance**	**7.824**	**39.182**
12.1	Premium social insurance ZFW, Zvw	7.824	28.536
12.2	Premium private health insurance / Zvw	4.007	4.726
12.3	Premium social insurance AWBZ	7.143	10.646
13	**Tax on income and assets**	**7.256**	**43.962**
14	**Disposable income (9-10-11-12-13)**	7.824	240.532

Overestimation or underestimation income inequality?

Theory: Haig-Simon definition of income

versus Dutch law

- Capital gains
- Imputed rent homeowners
- Et cetera

Statistical conventions

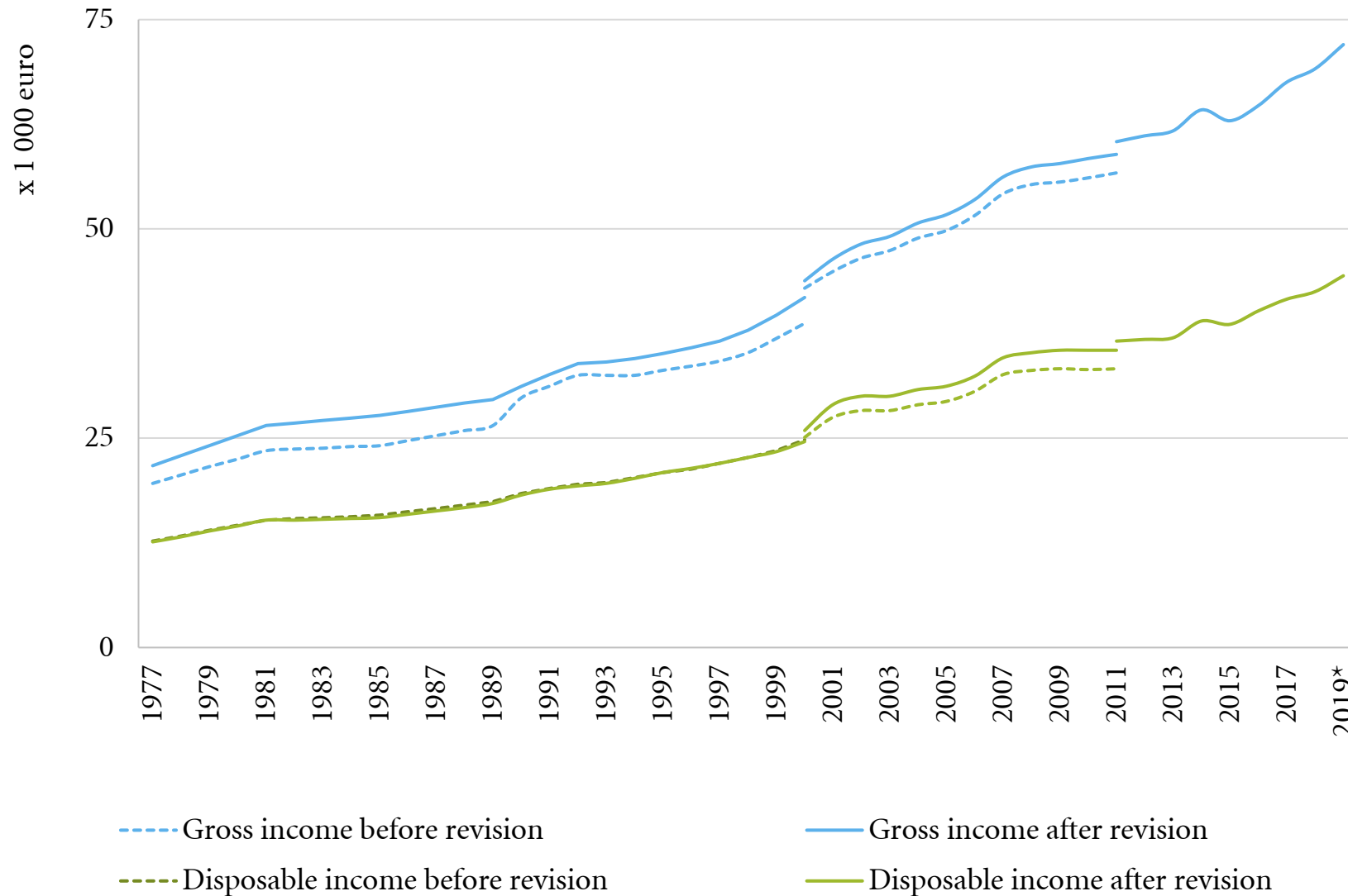- UN, Canberra Group, Handbook on Household Income Statistics → http://www.unece.org/index.php?id=28894.

Remaining break IPO and IIV

- Difference in population (year-end and beginning of year respectively)
- Truncating high amounts in IPO up to and including 2011, e.g. for income from Substantial Interest (Aanmerkelijk Belang)

Things that can not be repaired.

Estimate truncating high amounts in IPO → income inequality in series before 2011 may be slightly higher than we measure now → modest changes in income inequality between 1977 and 2011 may be slightly overestimated.

1.4.3 Average gross and disposable household income, before and after revision

y-axis: x 1 000 euro (0, 25, 50, 75)

x-axis: 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019*

Legend:
- - - - Gross income before revision
—— Gross income after revision
- - - - Disposable income before revision
—— Disposable income after revision

Results

Δ Real equivalized income 1985-2019*:

o Disposable income:
1,38 - 1,65% per year

o Gross income:
1,82 - 2,20% per year

Purchasing power one person household: +58%

2.4.4 Trend composition of groups 1977-2019* (%)

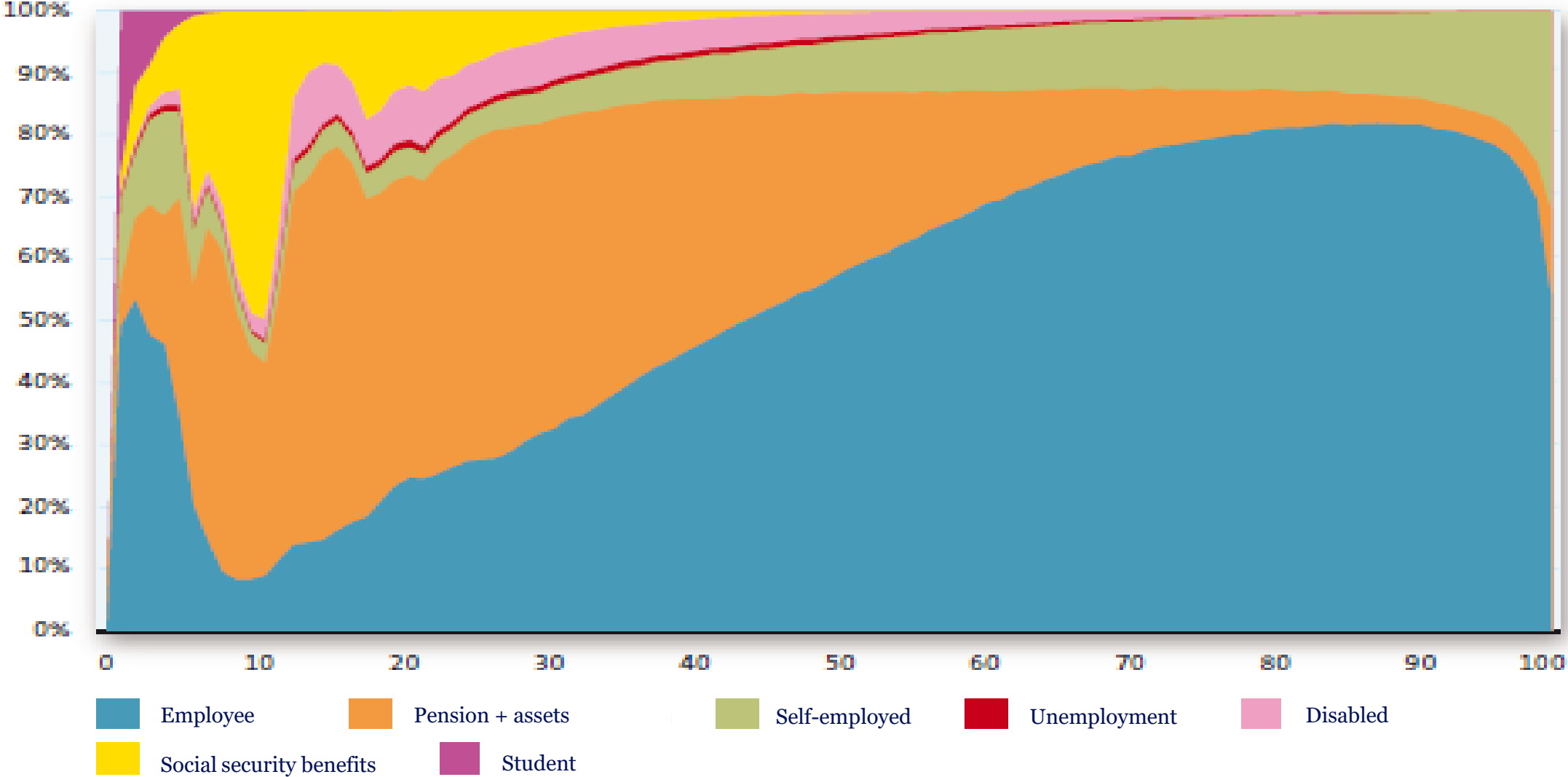|	A-series			B-series		C-series	
	1977	1989	2000	2000	2011	2011	2019
Households sorted by primary soure of income							
Employee	63	54	58	58	55	54	53
Pensions+assets	21	24	24	24	26	27	27
Self-employed	7	6	7	7	8	8	9
Social security benefits	3	7	5	5	5	5	5
Disabled	5	5	4	4	3	4	3
Unemployment	0	1	1	1	1	1	1
Student	0	2	1	1	2	1	1
Households sorted by configuration							
One person household	19	31	35	33	36	36	38
Couple without children	26	25	29	29	29	29	28
Couple, with children	46	36	29	30	27	28	26
One parent household	6	7	7	6	7	7	7
Multiple person household, misc.	3	1	1	2	1	1	1
Persons sorted by migration background							
Netherlands		81	83	83	80	80	77
Non-western country, 1st generation		3	7	7	8	8	9
Misc. western country, 1st generation		3	4	4	5	5	6
Misc. western country, 2nd generation		5	5	5	5	5	5
Non-western country, 2nd generation		0	1	1	2	2	3
Unknown		7	0	0	0	0	0

2.4.7 Sole earners, 1977-2019* (%)
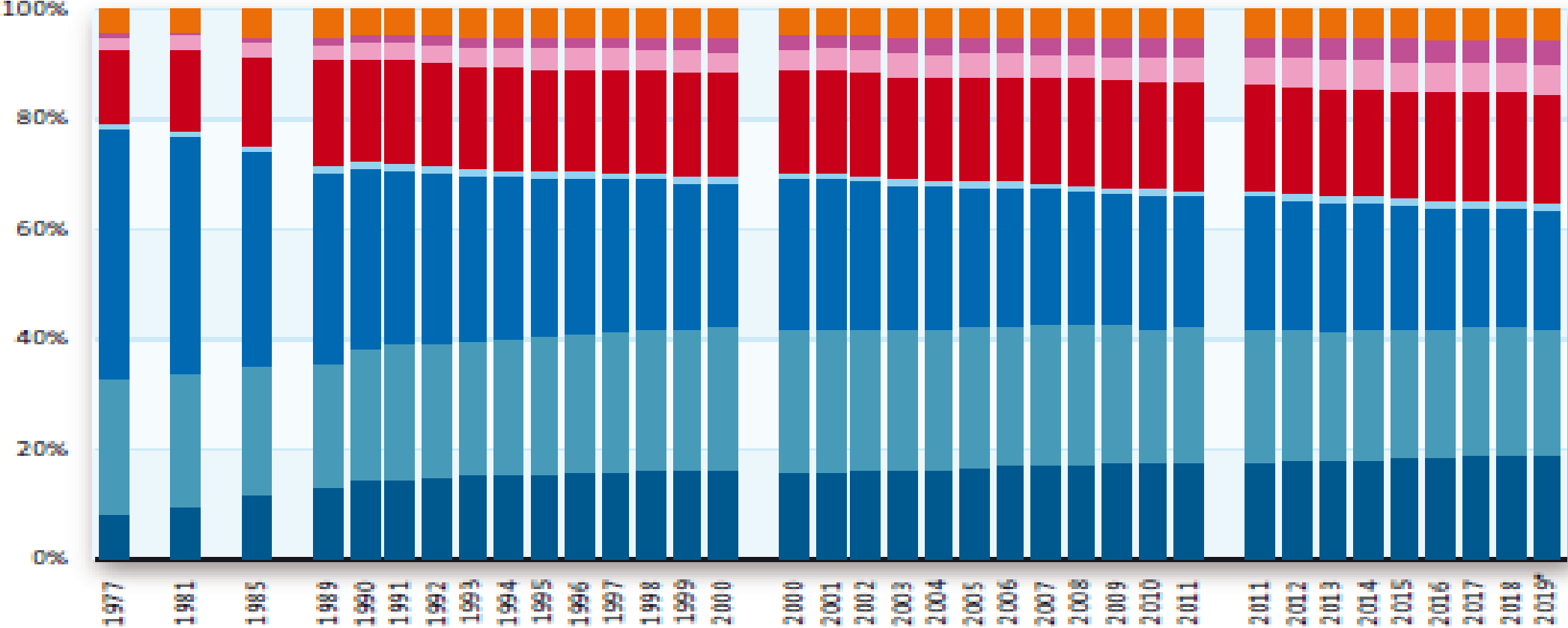
Legend:
- Man no children, no partner
- Man no children, with partner
- Male with child, with partner
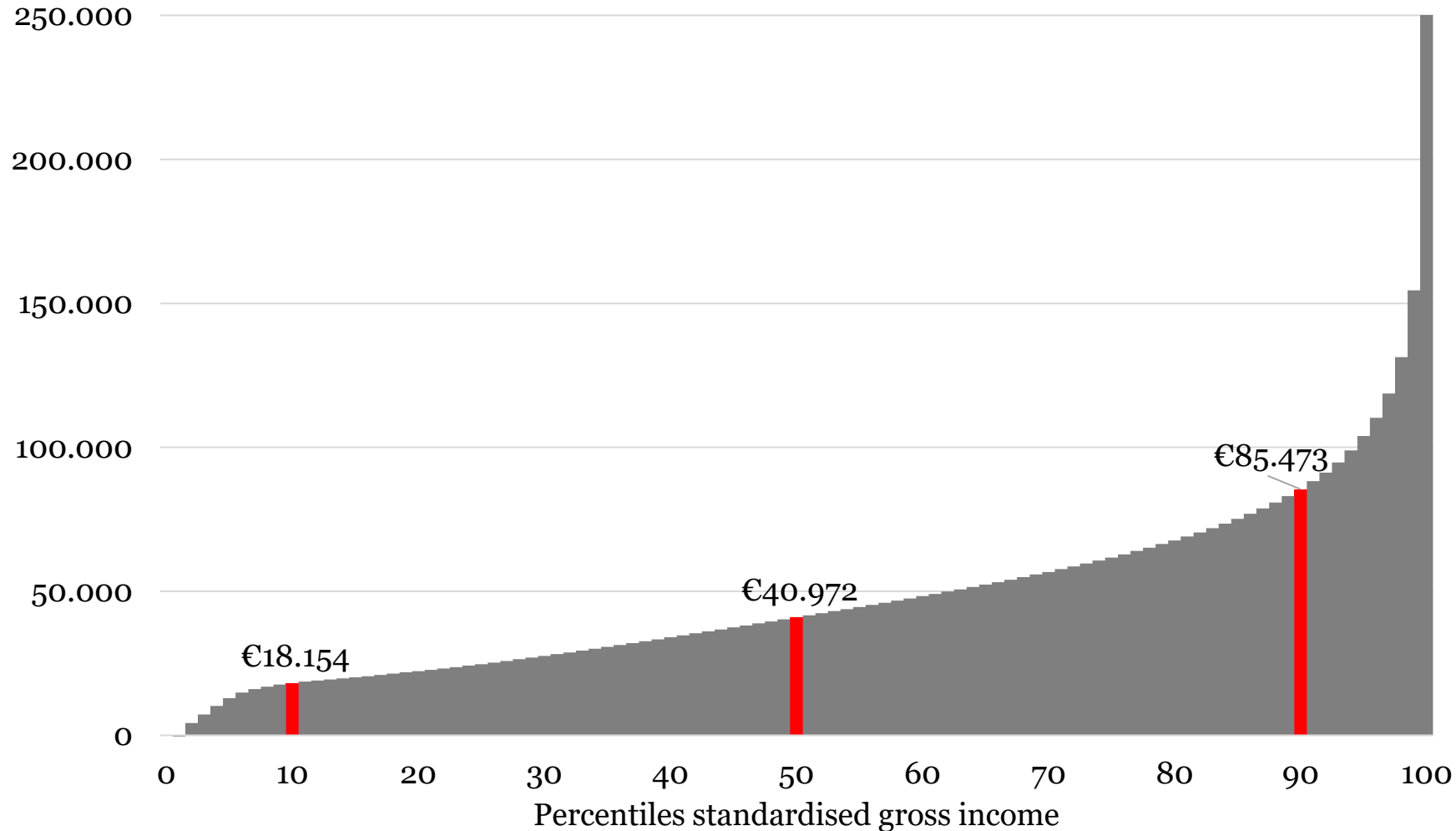- Male with child, without partner
- Woman no children, no partner
- Woman no children, with partner
- Woman with child, with partner
- Woman with children, no partner

2.4.2 Income share gross income, male and female, 1977-2019* (%)
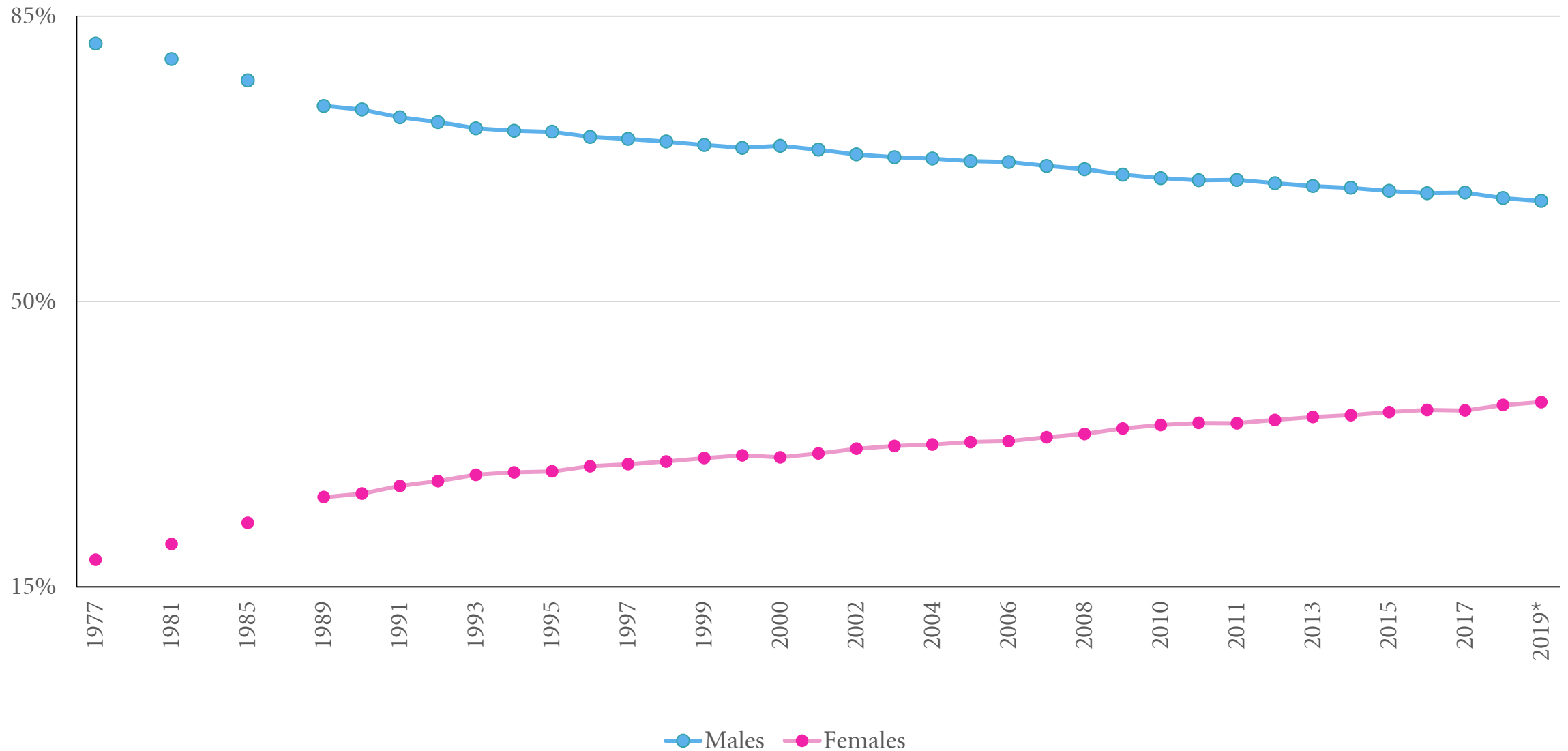
2.3.1 Composition of percentiles 2019* (%)

Legend: Employee · Pension + assets · Self-employed · Unemployment · Disabled · Social security benefits · Student

2.3.2 Level equivalized gross income per percentile, 2019*

Threshholds:
- P10 = 18.154 euro
- P50 = 40.972 euro
- P90 = 85.473 euro
- P99 = 320.191 euro

€85.473

€40.972

€18.154

Percentiles standardised gross income

3.2.1 Lorenz curve equivalized income, 2019*

Share of income (%) — Share of population (%)

Legend:
- Equal income
- Gross income
- Primary income
- Disposable income
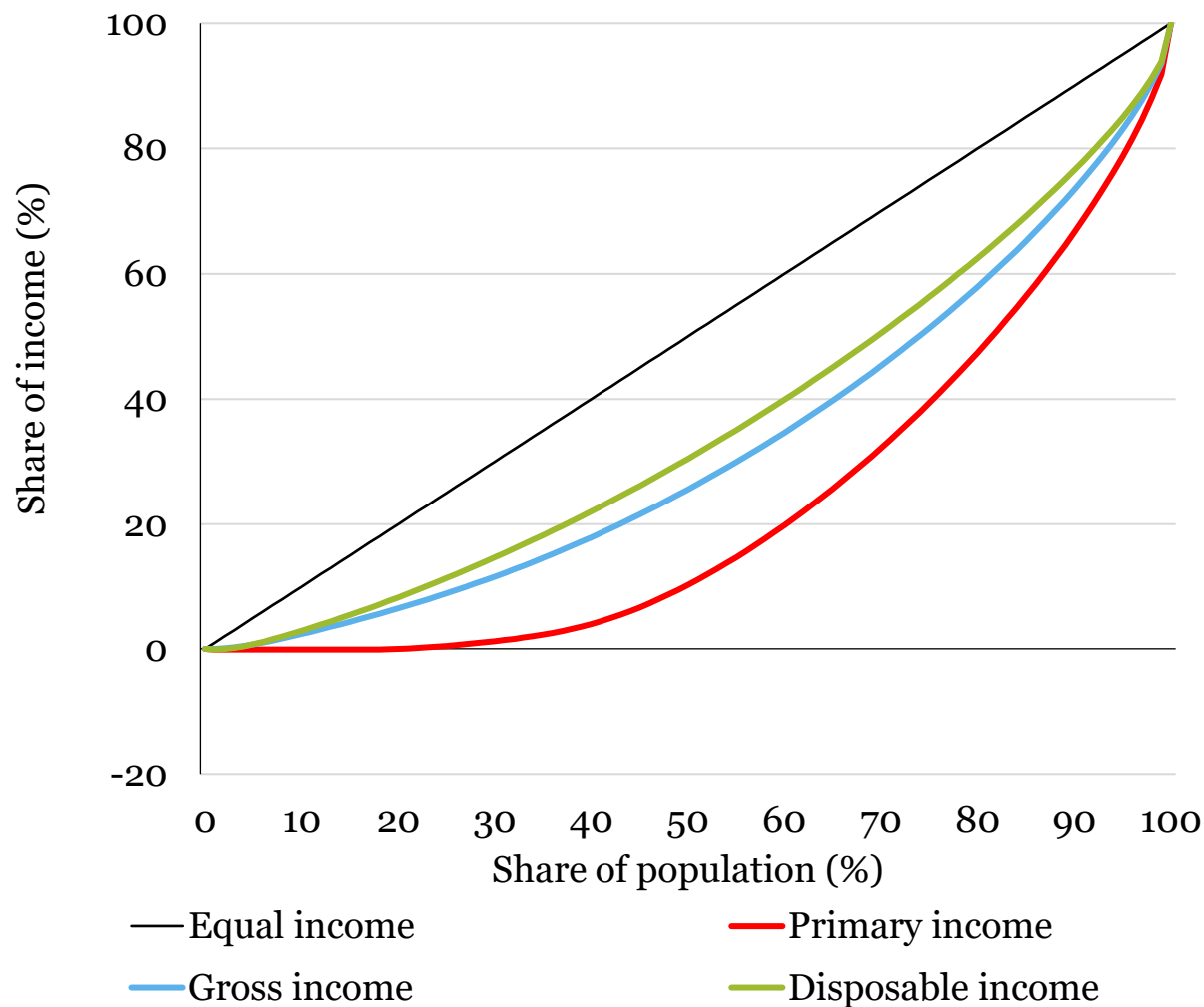
Income inequality and redistribution 2019*

Gini primary income (a)	0,544
-/- redistribution via social benefits (B1)	0,186
-/- redistribution via income tax (b2)	0,067
Gini disposable income (a-b1-b2)	0,291
Gini gross income (a-b1)	0,358
Absolute redistribution (b1+b2)	0,253
Relative distribution (b1+b2/a*100	47%

Components redistribution (share %)

Public Old-Age pension benefits (AOW)	35%
Supplementary pension benefits	26%
Wage tax and income tax	16%
Disability benefits	6%
Welfare benefits	8%
Unemployment benefits	2%
Rent subsidy/benefit/government contribution own home	4%
Scholarship benefits and compensation study costs	1%
Illness benefits (ZW)	1%
Child benefits (kinderbijslag)	1%
AWW/ANW	0%
Other (premiums incl.)	2%

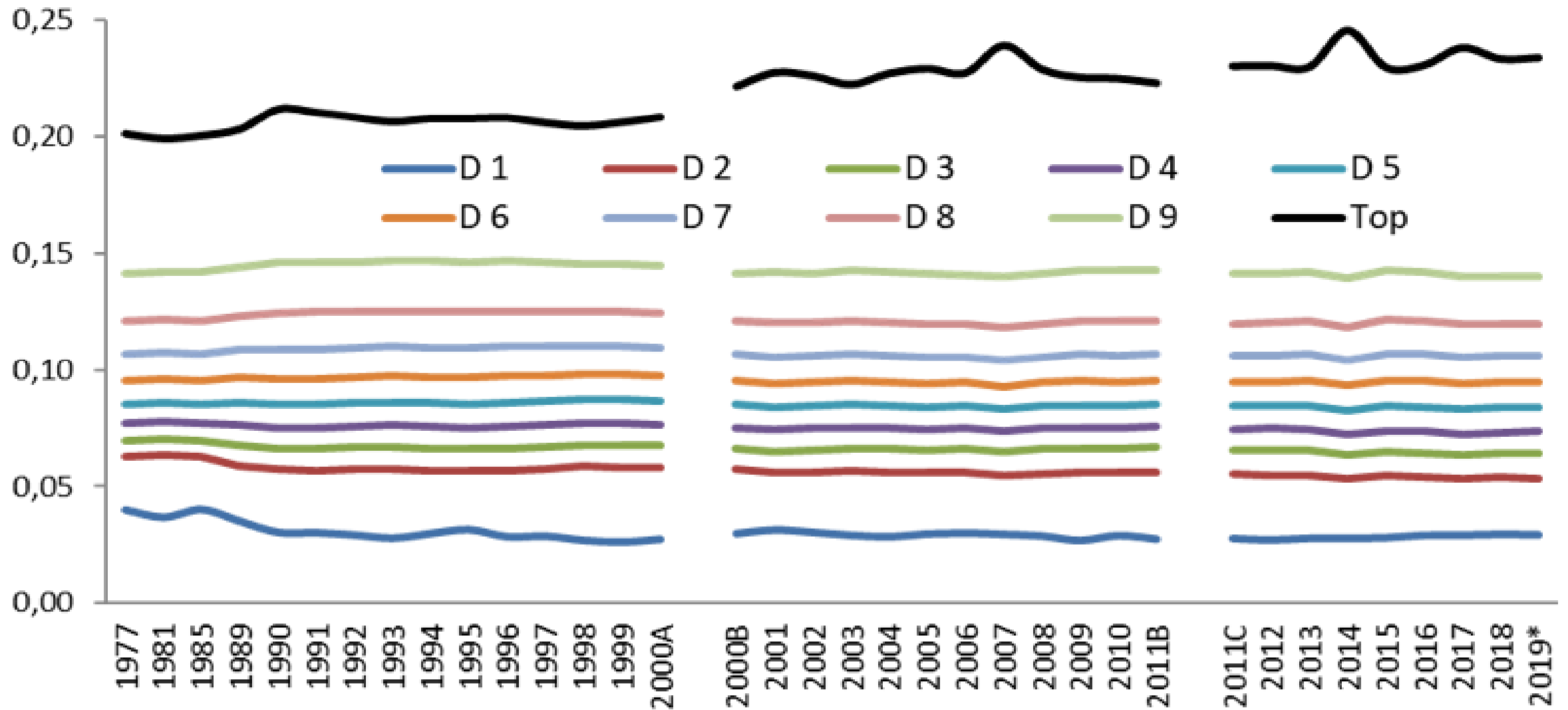# 3.3.1 Income inequality and redistribution in the Netherlands, 1977-2019*

Small increase since 1977;
Rather stable since 1990
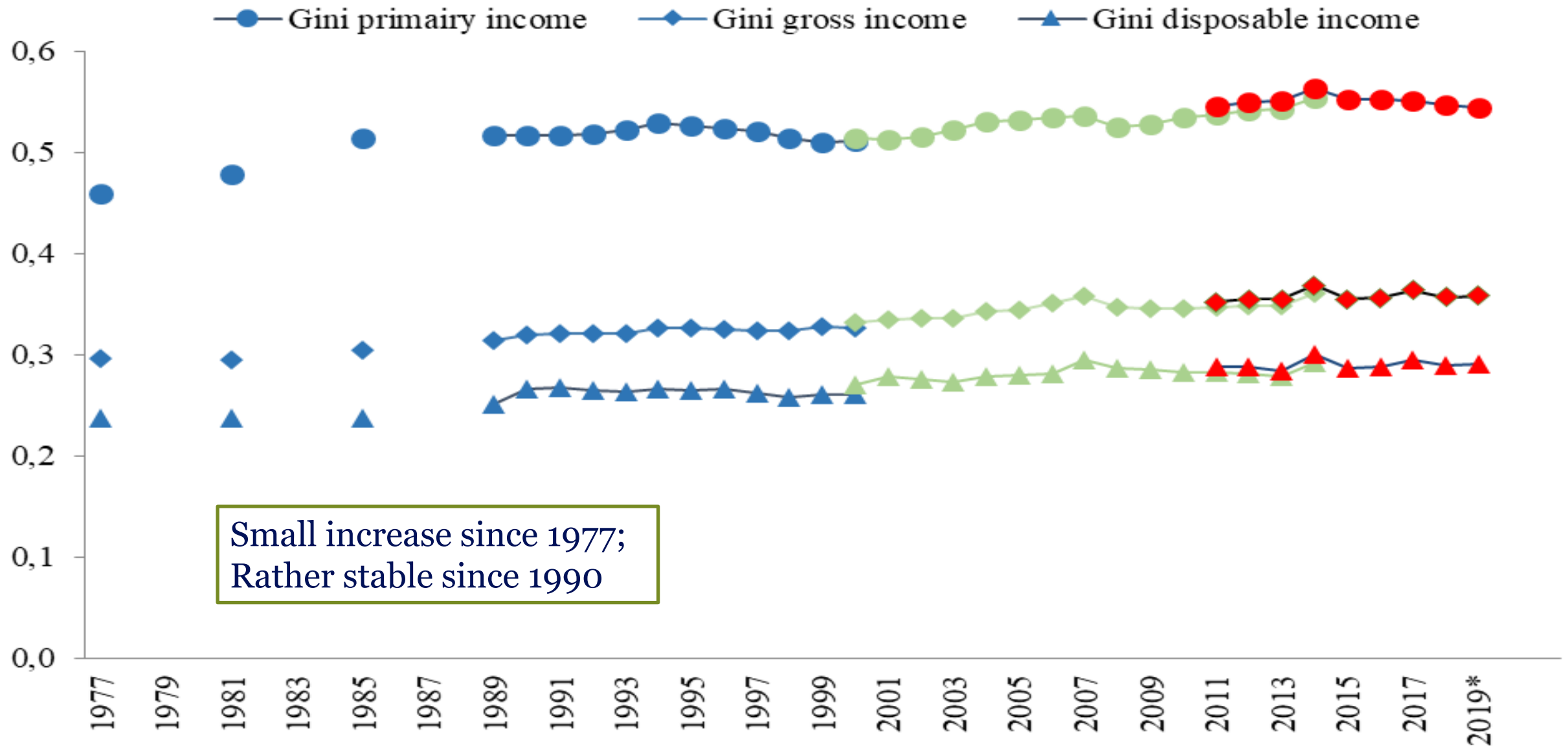
3.3.2 OLS regression trend Gini's and S80/S20, 1977-2019*

	Period 1977-2019				Period 1990-2019			
	Constant	X-var	Adj R2	F test	Constant	X-var	Adj R2	F test
Gini primary income (a)	0,480**	0,0020**	0,781	46,2	0,511**	0,0012**	0,739	33,0
	(0,000)	(0,000)		(0,000)	(0,000)	(0,002)		(0,000)
Gini gross income (b)	0,295**	0,0015**	0,936	187,2	0,316**	0,0012**	0,903	106,2
	(0,000)	(0,000)		(0,000)	(0,000)	(0,000)		(0,000)
Gini disposable income (c)	0,240**	0,0011**	0,852	73,9	0,261**	0,0004	0,813	50,2
	(0,000)	(0,000)		(0,000)	(0,000)	(0,099)		(0,000)
Absolute redistribution (a-c)	0,240**	0,0009**	0,285	6,1	0,250**	0,0008*	0,389	8,2
	(0,000)	(0,004)		(0,000)	(0,000)	(0,012)		(0,000)
Redistribution via social benefits (a-b)	0,185**	0,0005*	0,214	4,5	0,195**	0,0001	0,336	6,7
	(0,000)	(0,045)		(0,000)	(0,000)	(0,843)		(0,000)
Redistribution via income tax (b-c)	0,055**	0,0003**	0,405	9,6	0,056**	0,0007**	0,620	19,5
	(0,000)	(0,006)		(0,000)	(0,000)	(0,000)		(0,000)
S80/S20 gross income	4,7**	0,046**	0,922	150,9	5,4**	0,035**	0,878	82,2
	(0,000)	(0,000)		(0,000)	(0,000)	(0,000)		(0,000)
S80/S20 disposable income	3,4**	0,033**	0,844	69,8	4,0**	0,014**	0,845	62,7
	(0,000)	(0,000)		(0,000)	(0,000)	(0,013)		(0,000)

OLS-regression. P-value between brackets: **p-value <0,01 and *p-value <0,05. Dummies for trend breaks

3.3.3 Share equivalized disposable income per decile group, 1977-2019*

3.3.4 Income inequality and income redistribution in the Netherlands, 1977-2019*

	A-reeks				B-reeks		C-reeks	
	1977	1985	1990	2000	2000	2011	2011	2019*
Gini primary income (a)	0,459	0,514	0,516	0,511	0,514	0,537	0,545	0,544
-/-Redistribution via social benefits (a-b)|	0,163	0,210	0,198	0,184	0,183	0,191	0,193	0,186
Gini gross income (b)	0,296	0,304	0,319	0,326	0,331	0,346	0,352	0,358
-/-redistribution via income taxes (b-c)	0,059	0,067	0,052	0,066	0,062	0,064	0,064	0,067
Gini disposable income (c)	0,238	0,237	0,266	0,260	0,270	0,282	0,288	0,291
Absolute redistribution (a-c)	0,221	0,277	0,250	0,250	0,244	0,255	0,257	0,253
Relative redistribution: (a-c)/a*100	48%	54%	48%	49%	47%	47%	47%	47%
Components redistribution (share%)								
Public Old-Age benefits (AOW)	35%	28%	30%	30%	30%	34%	34%	35%
Supplementary benefits	15%	17%	19%	23%	24%	27%	27%	26%
Wages and income tax	16%	10%	11%	12%	12%	15%	15%	16%
Disability benefits	12%	11%	11%	8%	8%	7%	7%	6%
Welfare benefits	8%	16%	12%	8%	8%	7%	8%	8%
Unemployement benefits	1%	1%	3%	2%	2%	3%	3%	2%
Rent subsidy/benefit/contribution own home	1%	2%	2%	3%	3%	3%	3%	4%
Scholarship benefits and compensation study costs	0%	1%	3%	2%	1%	2%	2%	1%
Child benefits (kinderbijslag)	3%	3%	2%	1%	1%	1%	1%	1%
AWW/ANW	4%	3%	3%	2%	2%	1%	1%	0%
Other (premiums included)	4%	7%	4%	9%	7%	1%	0%	3%

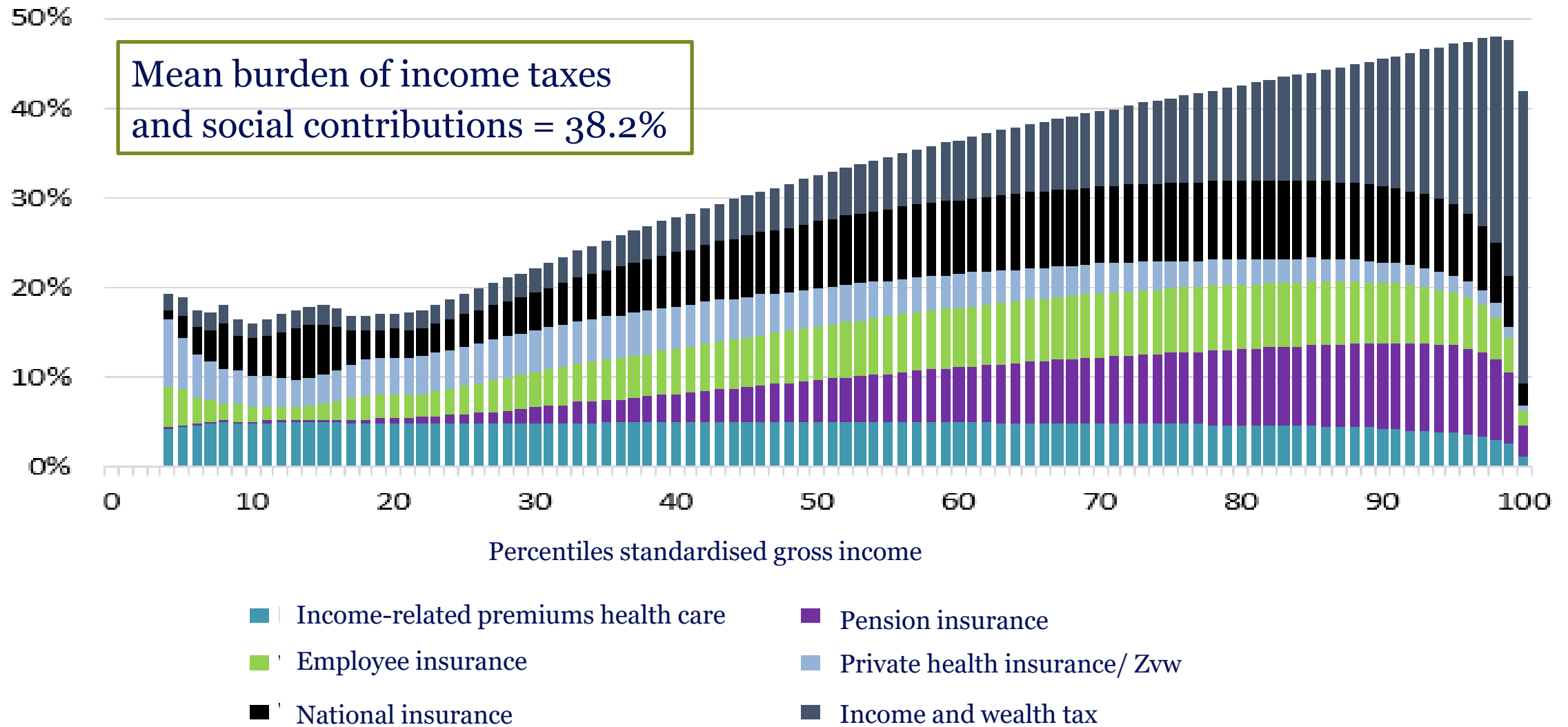Rather stable income distribution and redistribution
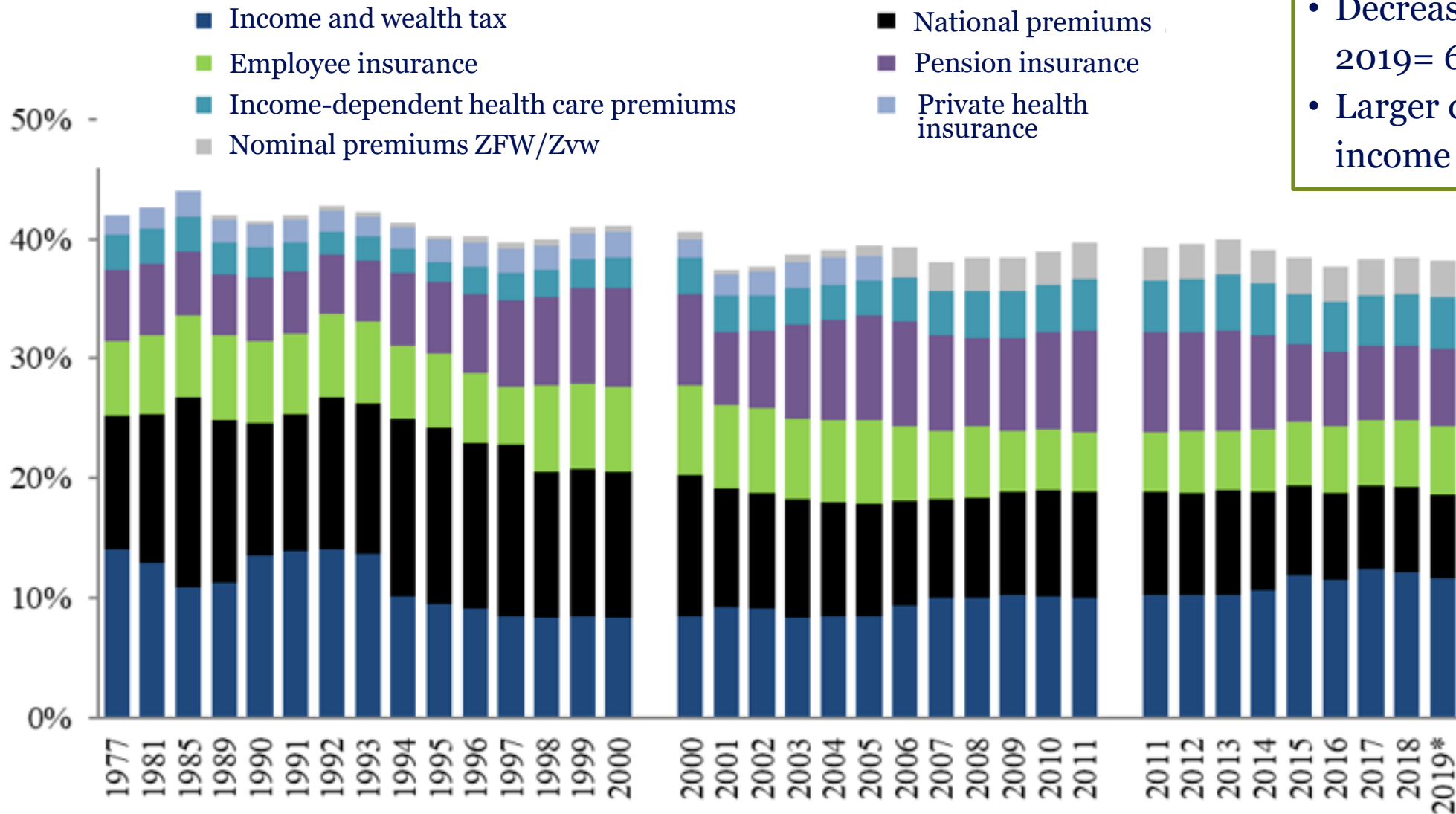
Peak of redistribution: 1985

Onwards:

Increase:
PAYG pensions / supplementary pensions

Decrease:
Unemployment benefits and disability benefits

# 4.2.2 Composition mean tax burden per percentile gross income, 2019*

Mean burden of income taxes and social contributions = 38.2%

Percentiles standardised gross income

Legend:
- Income-related premiums health care
- Employee insurance
- National insurance
- Pension insurance
- Private health insurance/ Zvw
- Income and wealth tax

4.3.1 Trend level and composition of levies on income, 1977-2019*

Legend:
- Income and wealth tax
- Employee insurance
- Income-dependent health care premiums
- Nominal premiums ZFW/Zvw
- National premiums
- Pension insurance
- Private health insurance

- Decrease tax burden 1985-2019= 6%-points
- Larger decrease for lower income groups

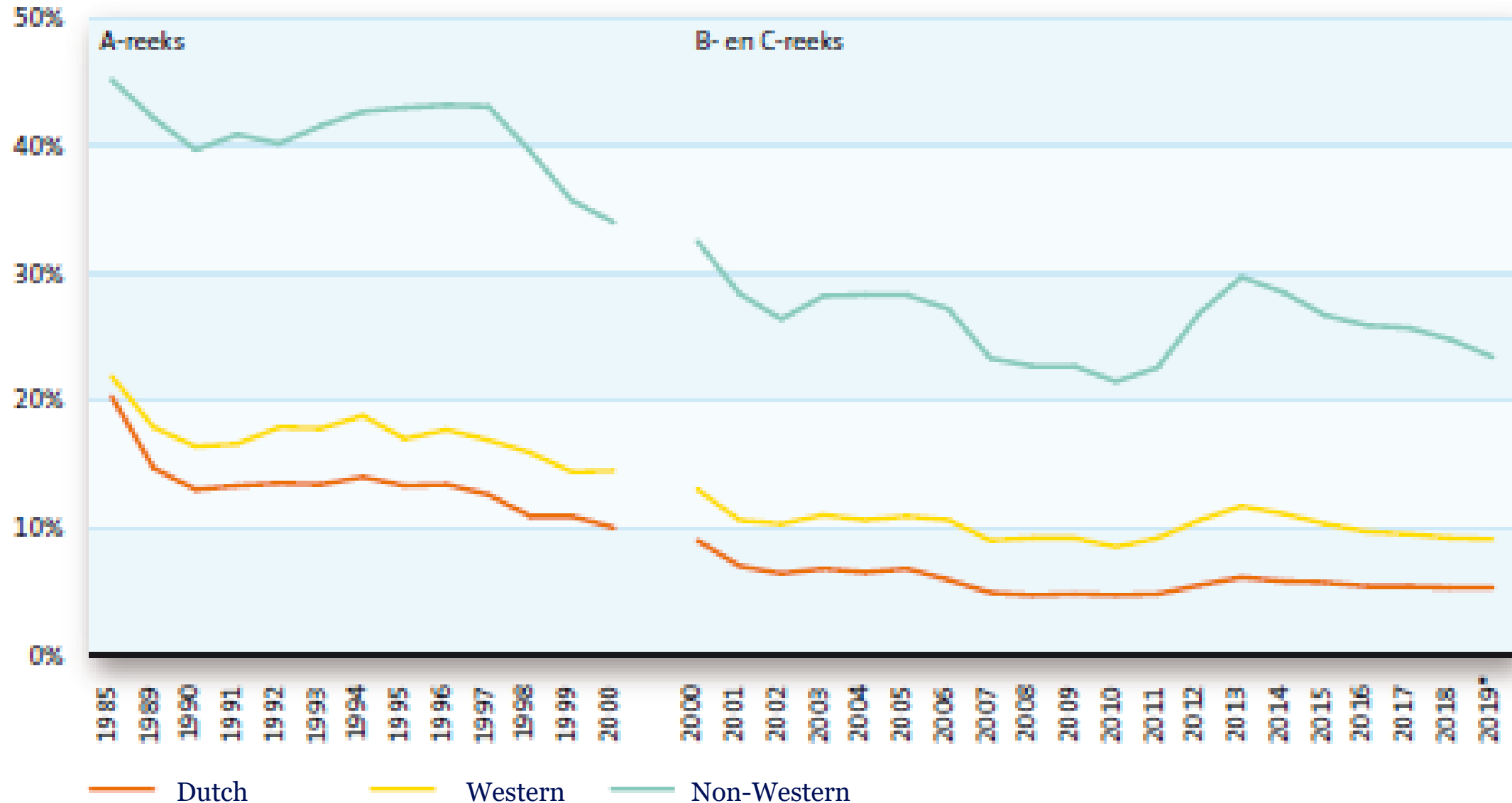# 4.4.1 Heterogeneity tax burden (left) and income level per percentile (right), 2019*

Percentiles standardised gross income
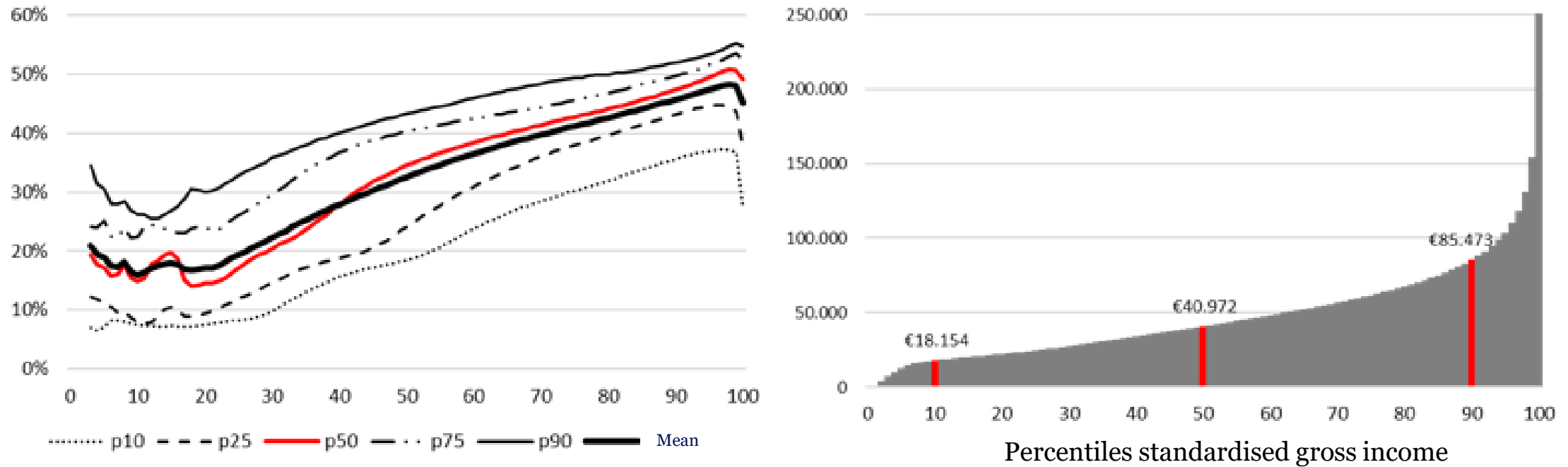
- Median tax burden: 33.7%, much variation around the mean.
- 50th percentile: 10% of households tax < 18.5% (p10)
- 50th percentile: 10% of households tax burden > 43.3% (p90)
- Same level of gross income → variation in income taxes and social premiums of 10.158 euros (43.8% minus 18.5% of 40.972 euros).
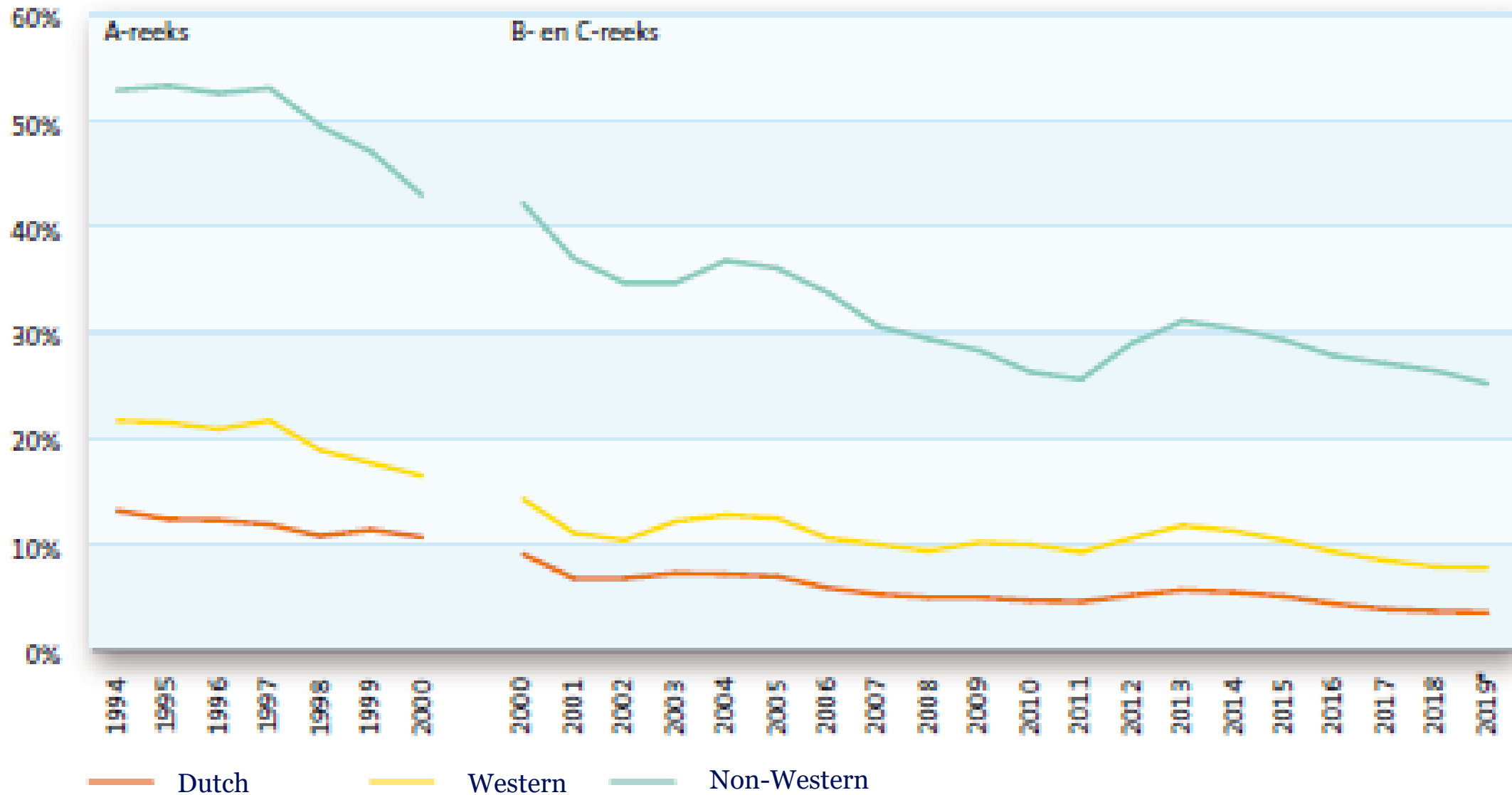
6.2.2. Households with (long term) low income, by age of sole earner, 2019*

Less income due to raising children

Increase labor income (participation)

Increasing dependency on social benefits

Pension age

— Low income, (avg. 7.7%)   — Long term low income, (avg. 3.4%)   → Age
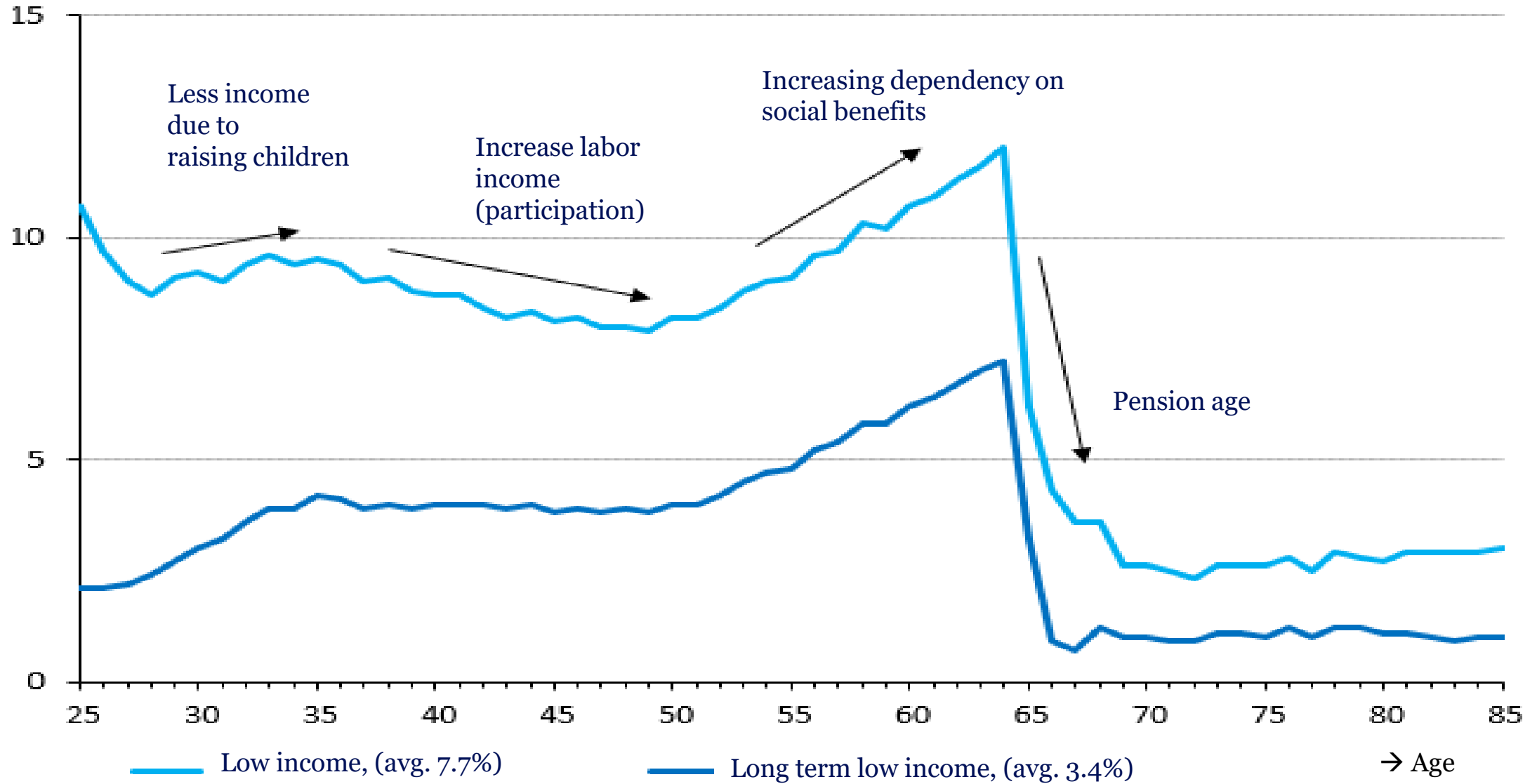
6.4.3 Households with low income by migration background, 1995-2019*

A-reeks

B- en C-reeks

Dutch — Western — Non-Western

6.5.3 Minors < 18 years at risk of poverty by migration background, 1995-2019* (%)

A-reeks   B- en C-reeks

Dutch — Western — Non-Western

6.4.5 Relative risk at poverty households (long term low income), 2019*

	All households (7.5 million)	With minors (3.1 million)
No migration background (= 1)	1,0	1,0
Romania	1,4	1,8
Bulgaria	1,8	2,8
Suriname (2nd generation)	1,3	3,8
Turkey (2nd generation)	1,5	4,5
Netherlands Antilles (2nd gen.)	1,6	5,5
Iran	5,2	7,8
Morocco (2nd generation)	2,7	9,3
Afghanistan	4,8	13,4
Eritrea	5,5	15,8
Iraq	5,8	16,1
Somalia	5,6	17,2
Syria	7,1	24,0

Adjusted for differences in education level and age of main bread winner.

3 Distribution of (top) income

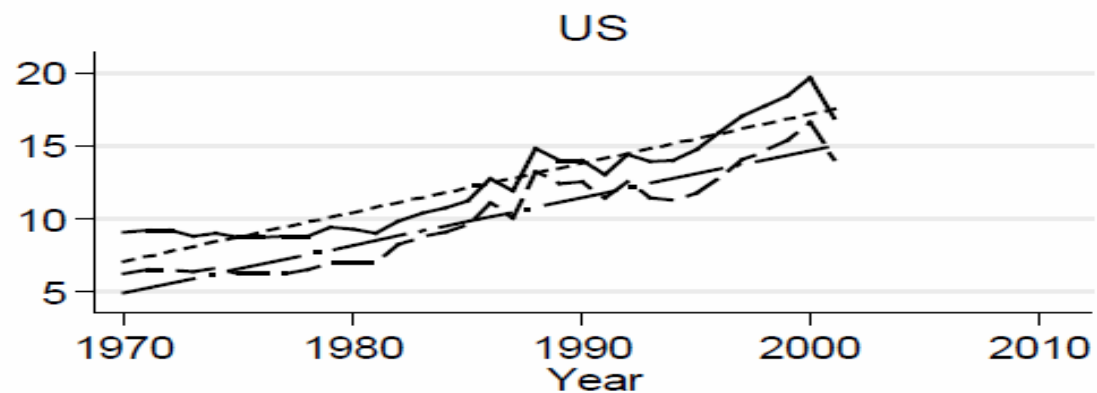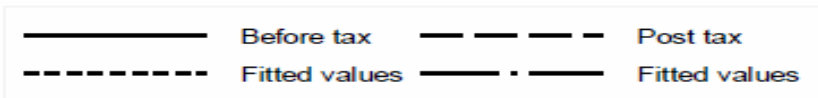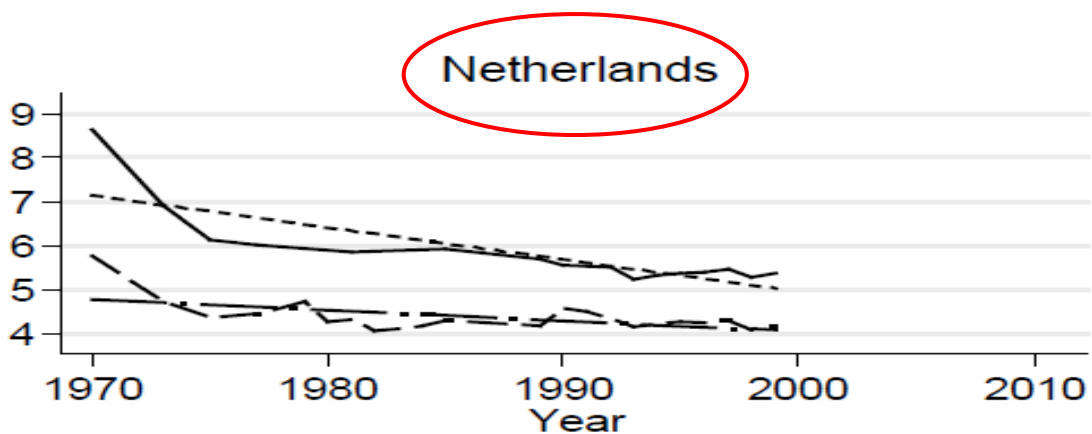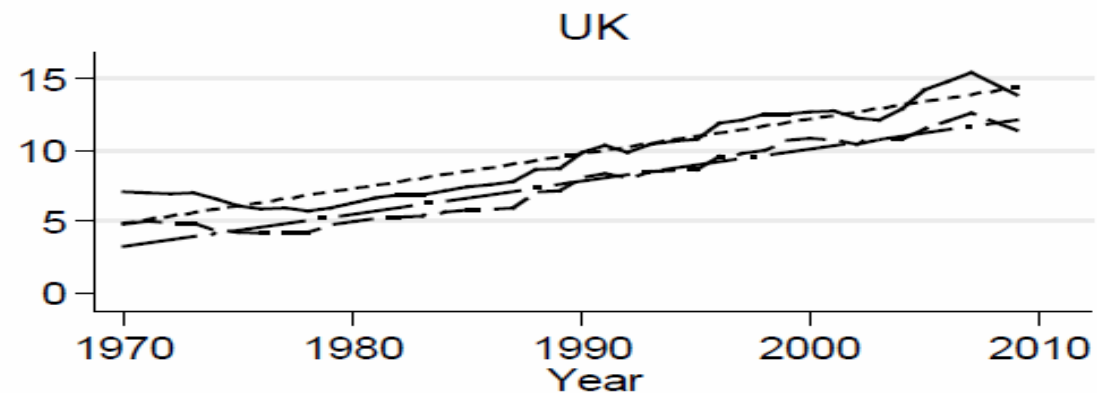# How strong are Piketty's trends?

Income shares top 1%

Legend: Australia, Denmark, France, Japan, Netherlands, New Zealand, Singapore, Sweden, Switzerland, UK, USA, Mean-11
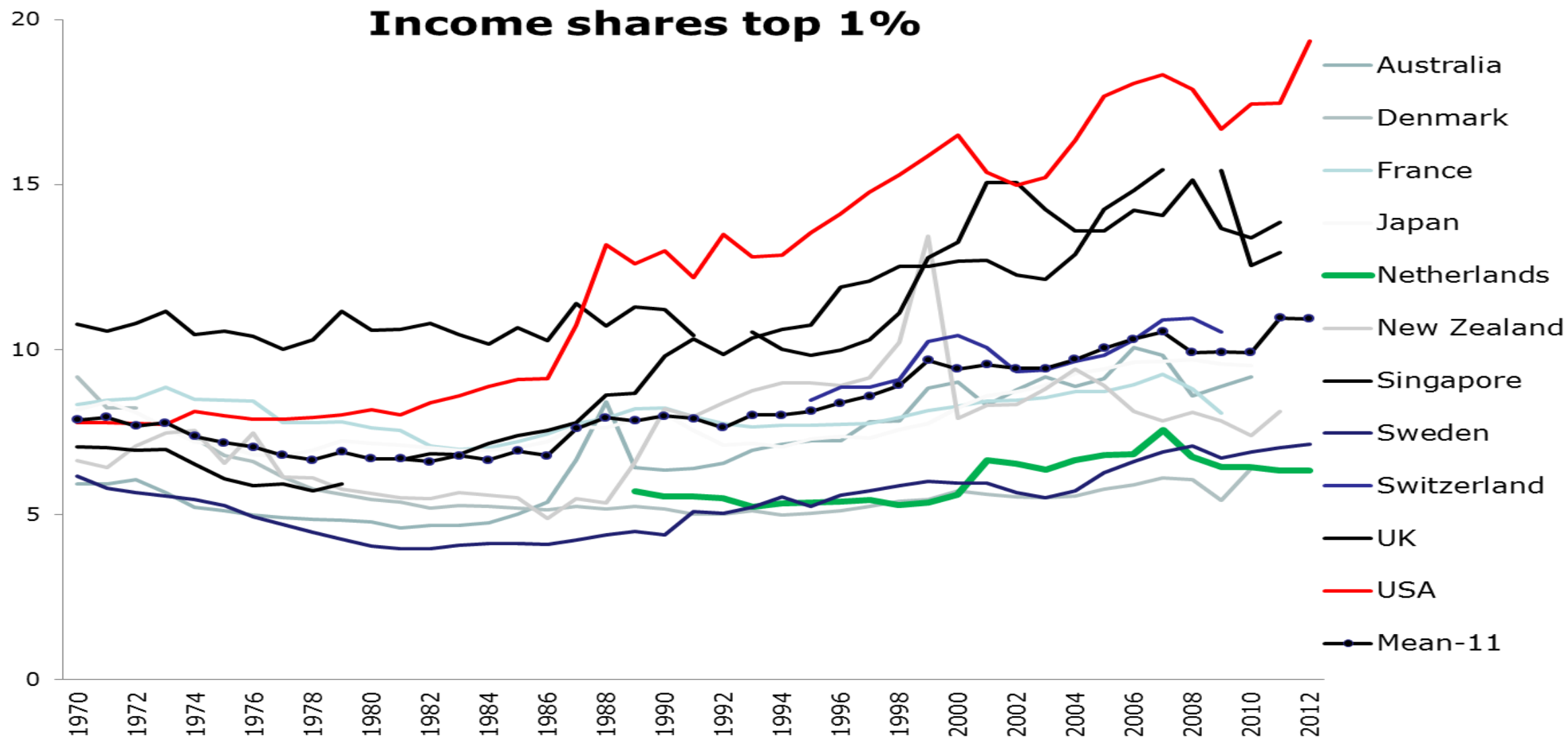
Share of top incomes increased in many countries, but not in the Netherlands

**Pre and Post-Tax Top 1 Percent Shares for Selected Countries**
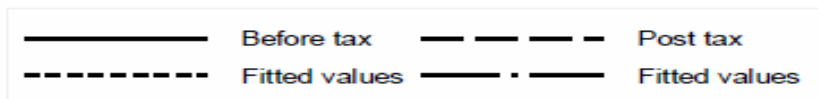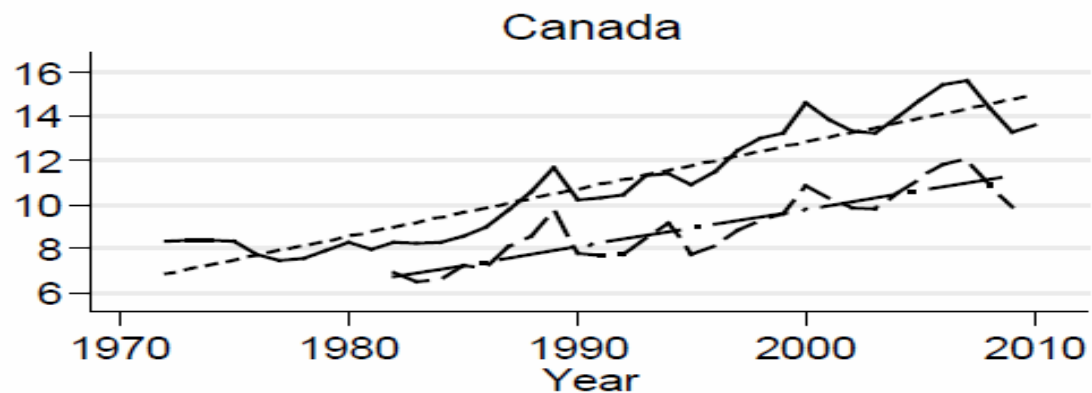
Income shares top 1%

Country	Data availability	Levels			Change		1970-2010's
		1970	1990	2010's	1970-1990	1990-2010's	
Netherlands	1970-2012	8.6	5.6	6.3	-3.1	0.8	-2,3
Denmark	1970-2010	9.2	5.2	6.4	-4.0	1.2	-2,8
Sweden	1970-2012	6.2	4.4	7.1	-1.8	2.8	1,0
France	1970-2009	8.3	8.2	8.1	-0.1	-0.2	-0,3
New Zealand	1970-2011	6.6	8.2	8.1	1.6	-0.1	1,5
Singapore	1970-2012	10.8	8.4	8.2	-2.4	-0.2	-2,6
Australia	1970-2010	5.9	6.3	9.2	0.4	2.8	3,3
Japan	1970-2010	8.2	8.1	9.5	-0.1	1.5	1,3
Switzerland	1971-2009	10.8	8.6	10.5	-2.2	1.9	-0,3
UK	1970-2011	7.1	9.8	12.9	2.8	3.1	5,9
USA	1970-2012	7.8	13.0	19.3	5.2	6.4	11,5
Mean 11 countries		8.1	7.8	9.6	-0.3	1.8	1.5

Trend coefficients 1970-2012 from a simple OLS regression

Rank	Country	Data	# Obs.	Intercept	Coefficient	Adj R²
1	USA	1970-2012	43	-586.3** (0.000)	0.301** (0.000)	0.937
2	UK	1970-2011	40	-457.3** (0.000)	0.235** (0.000)	0.878
3	Australia	1970-2010	41	-245.6** (0.000)	0.127** (0.000)	0.765
4	Singapore	1970-2012	41	-191.7** (0.000)	0.102** (0.000)	0.553
5	New Zealand	1970-2011	42	-143.6** (0.000)	0.076** (0.000)	0.296
6	Japan	1970-2010	41	-98.9** (0.000)	0.054** (0.0000)	0.461
7	Sweden	1970-2012	43	-94.1** (0.000)	0.050** (0.000)	0.406
8	Switzerland	1971-2009	27	-59.8* (0.029)	0.035* (0.013)	0.192
9	France	1970-2009	40	-17.9 (0.226)	0.013 (0.082)	0.053
10	Netherlands	1970-2012	30	6.9 (0.7839)	0.000 (0.977)	-0.036
11	Denmark	1970-2010	40	80.5** (0.0013)	-0.038** (0.003)	0.194
	Mean 11	1970-2012	43	-175.2** (0.000)	0.092** (0.000)	0.753

Share Dutch top incomes in 1977-2019*: personal primary income
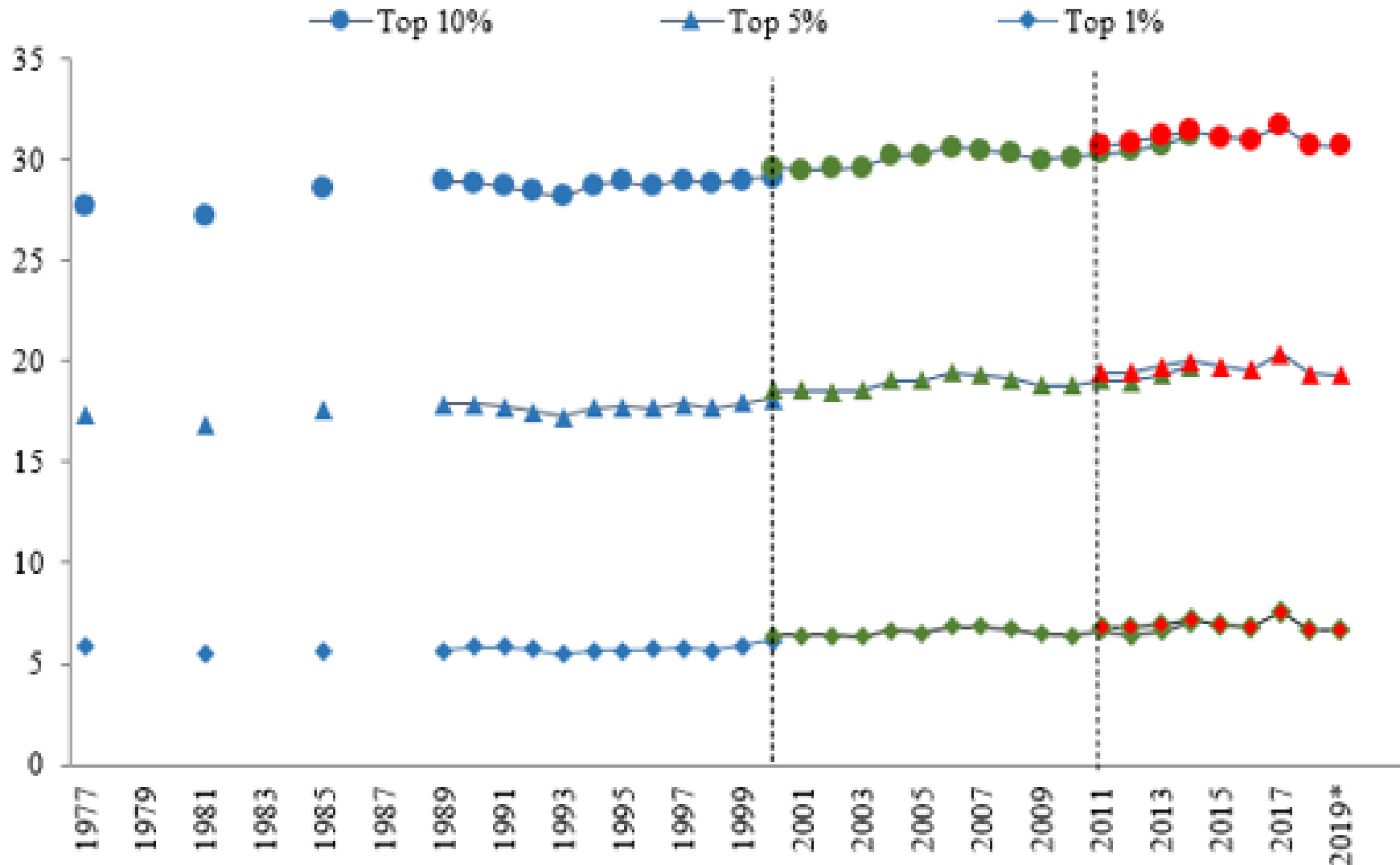
- Share top incomes rather stable over time (top 10%, top 5% & top 1%)

- Independent of definition of income, such as personal gross income and standardized disposable income

- OLS regression: no increased concentration of income in top 1% since 1977

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7.3.4 OLS regression trend share of Dutch top incomes, 1977-2019*

	Periode 1977-2019				Periode 1990-2019			
	Constante	X-var	Adj R2	F test	Constante	X-var	Adj R2	F test
Primary income								
top 10%	27,7**	0,055**	0,853	74,4	28,5**	0,049**	0,798	45,8
	(0,000)	(0,000)		(0,000)	(0,000)	(0,004)		(0,000)
top 5%	17,2**	0,028**	0,849	72,3	17,6**	0,027	0,813	50,3
	(0,000)	(0,004)		(0,000)	(0,000)	(0,050)		(0,000)
top 1%	5,7**	0,004	0,841	68,1	5,7**	0,007	0,826	54,8
	(0,000)	(0,462)		(0,000)	(0,000)	(0,448)		(0,000)
Gross income								
top 10%	27,6**	0,066**	0,908	126,7	28,4**	0,066**	0,898	100,4
	(0,000)	(0,000)		(0,000)	(0,000)	(0,000)		(0,000)
top 5%	17,1**	0,038**	0,895	109,1	17,5**	0,043**	0,881	85,0
	(0,000)	(0,000)		(0,000)	(0,000)	(0,003)		(0,000)
top 1%	5,6**	0,011	0,854	74,9	5,7**	0,018	0,839	60,0
	(0,000)	(0,123)		(0,000)	(0,000)	(0,077)		(0,000)
Equivalized disposable income								
top 10%	19,5**	0,027	0,877	91,3	20,0**	0,015	0,843	62,0
	(0,000)	(0,077)		(0,000)	(0,000)	(0,516)		(0,000)
top 5%	11,3**	0,022	0,883	96,1	11,6**	0,016	0,853	66,6
	(0,000)	(0,137)		(0,000)	(0,000)	(0,491)		(0,000)
top 1%	3,1**	0,012	0,898	112,0	3,4**	0,007	0,875	80,6
	(0,000)	(0,266)		(0,000)	(0,000)	(0,659)		(0,000)

OLS-regression. P-value between brackets: **p-value <0,01 and *p-value <0,05. Dummies for trend breaks

How strong are Piketty's trends?

- USA and UK: top income shares rose sharply → over 0.23 percent each year in the period 1970-2012

- AUS, Singapore and NZ: significant positive trend more concentration at the top (< 0.13)

- Jap, Swe and Suisse: modest rise top income share (0.05)

- France and the Netherlands: neglectable

- Denmark: significant decline top income share!

Mean 11 countries: significant positive trend at rate 0.09 percent per year → At this rate it will take over 980 years before total income will be earned by the top 1% earners!

Gimmick: it might be wrong to think about a worldwide increase in income concentration among the top 1%

Share of Total Income going to the Top 1%, 1900-2010

The evolution of inequality in English speaking countries followed a U-shape

Legend: USA, UK, Canada, Ireland, Australia

The evolution of inequality in continental Europe and Japan followed an L-shape

Legend: Germany, Japan, France, Sweden, Denmark, Netherlands
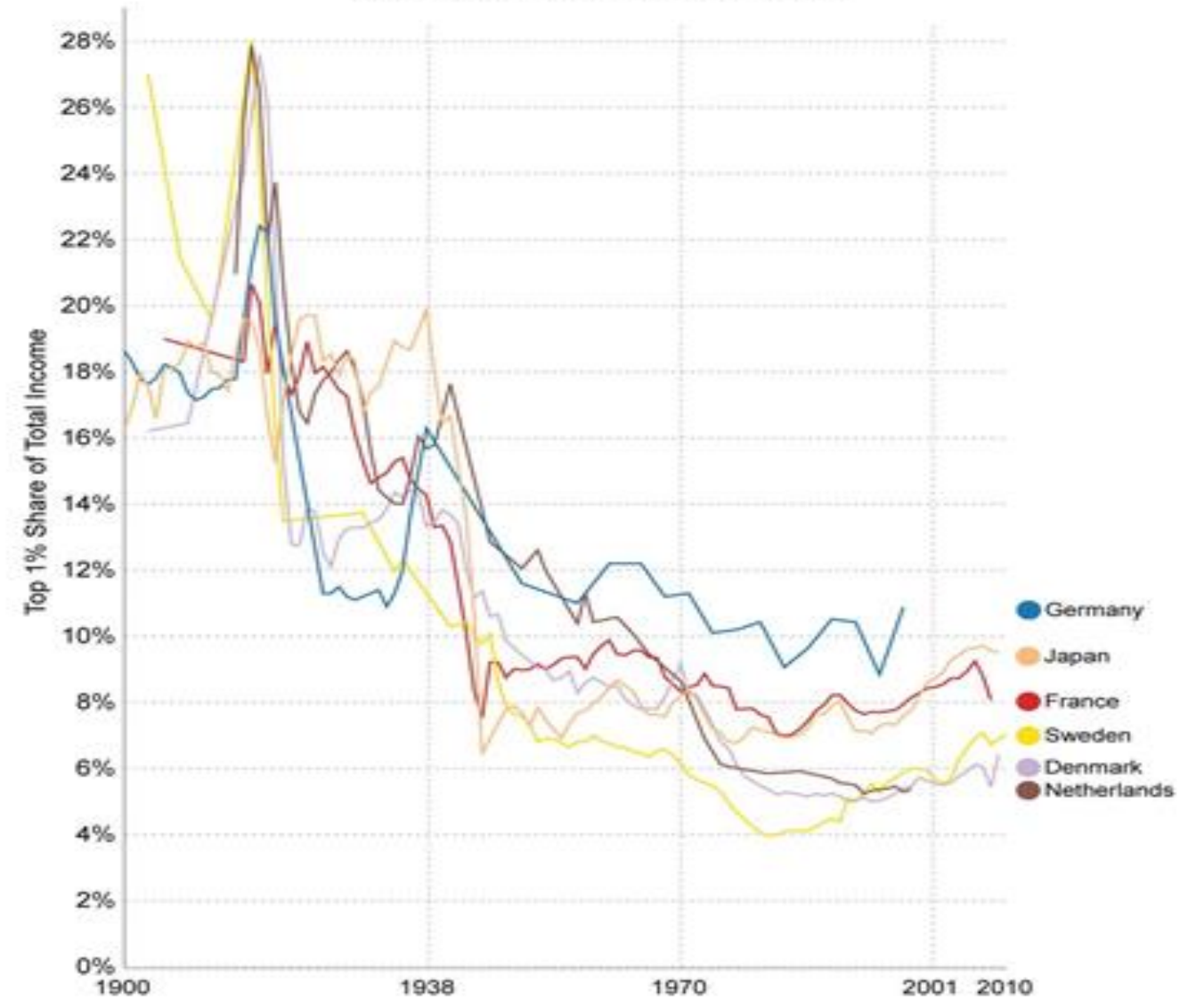
Data source: The World Top Incomes Database.

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 by the author Max Roser.

4 Getting to work

Many issues to be solved

Future research – UN Millennium Goals

❑ The distribution of *what*?

❑ Global inequality – it is all about China (and India), isn't?

❑ The Elephant and the squeezed middle revisited.

❑ Wealth inequality in an international perspective – a lot to be done.

❑ Income distribution: English speaking countries versus Europe.

❑ Reduced redistribution as main driver of widening income gaps?

❑ Key-figures versus micro data sets and Lorenz Dominance.

❑ Why should we care about global inequality? Poverty!

- Measuring
- Explanations (hypotheses)
- Testing - empirics

Some recent work – downloads via   www.economie.leidenuniv.nl

1. Jongen, Been, Caminada & Vethaak (2023) Inequality in the Netherlands: 1973-2022, Inequalities in Europe and North America, IFS Deaton Review.

2. Caminada, Goudswaard, Wang & Wang (2021), Antipoverty effects of various social transfers and income taxes across countries, *Social Indicators Research* 154(3): 1055-1076.

3. Caminada , Goudswaard, Wang & Wang (2019), Has the redistributive effect of social transfers and taxes changed over time across countries?, *Int. Social Security Review* 72(1): 3-31.

4. Caminada, Wang, Goudswaard & Wang (2019), Relative income poverty rates and poverty alleviation via tax/benefit systems in 49 LIS-countries, 1967-2016, *LIS WP Series # 761*.

5. Caminada, Goudswaard, Wang & Wang (2018), Income inequality and fiscal redistribution in 31 countries after the crisis, *Comparative Economic Studies*: 1-30.

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Other related work – downloads via www.economie.leidenuniv.nl

6. Caminada et al (2017), Income inequality and fiscal redistribution in 47 LIS-countries, 1967-2014, *LIS WP Series #724*.

7. Wang et al (2017), Income polarization in 31 European countries and Europe wide, 2004-2012, *Cambridge Journal of Economics*. doi: 10.1093/cje/bex065

8. Caminada & Martin (2016), A cross-Atlantic descriptive policy analysis of differences in anti-poverty approaches in Europe and the United States, in: Skidmore (red.), *Poverty in America,* Westphalia Press.

9. Knoef et al (2016), Measuring retirement savings adequacy: developing a multi-pillar approach in the Netherlands, *Journal of Pension Economics and Finance*.

10. Wang et al (2014), Income redistribution in 20 countries over time, *Int. Journal of Social Welfare* 23(3).

11. Wang et al (2012), The redistributive effect of social transfer programs and taxes, *Int. Social Security Review* 65(3).

12. Caminada et al (2012), Social income transfers and poverty, *Int. Journal of Social Welfare* 21(2).

13. Caminada et al (2010), Patterns of welfare state indicators in the EU, *Journal of Common Market Studies* 48(3).

14. Caminada & Goudswaard (2001), International trends in income inequality and social policy, *Int. Tax and Public Finance* 8(4).

15. Leiden Law Blog
    - Wang & Caminada (2015), Do rising shares in top incomes affect income inequality as a whole?
    - Caminada (2015), How strong are Piketty's trends?
    - Caminada (2014), Facts & Figures: Income inequality and fiscal redistribution in 29 countries.

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Databases & codebooks

1. [Leiden LIS Budget Incidence Fiscal Redistribution Dataset on Income Inequality](#) (2017)

2. [Idem, on Relative Income Poverty Rates](#) (2019)

3. [Social Assistance and Minimum Income Levels and Replacement Rates Dataset](#)

4. [Unemployment Replacement Rates Dataset](#)

5. [Sectoral Income Inequality Dataset](#)

6. [Inequality in the Netherlands: 1973-2022 (IFS Deaton Review)](#)

7. [Dutch Income (Re)Distribution, trends 1977-2019](#)

Website: [Leiden Law School / Economics / Data](#)

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Thesis Thomas Piketty and The Netherlands

TABLE 7.2 Inequality of capital ownership across time and space

Share of different groups in total capital	Low inequality (never observed: ideal society?)	Medium inequality (= Scandinavia, 1970s-1980s)	Medium-high inequality (= Europe 2010)	High inequality (= US 2010)	Very high inequality (= Europe 1910)	Netherlands Caminada et al (2014)	Idem, including pension savings
Top 10% "upper class"	30%	50%	60%	70%	90%	61%	50%
- top 1%	10%	20%	25%	35%	50%	25%	17%
- next 9%	20%	30%	35%	35%	40%	37%	33%
The middle 40%	45%	40%	35%	25%	5%	41%	46%
The bottom 50%	25%	10%	5%	5%	5%	-2%	4%
Corresponding Gini (synthetic inequality index)	0,33	0,58	0,67	0,73	0,85	0,74	0,63