The analysis of poverty and redistribution in a joint income-wealth framework

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Outline

1. Introduction
2. Data & methods
3. Joint income-wealth perspective on poverty
4. Joint income-wealth perspective on inequality and redistribution
5. Conclusion and policy implications

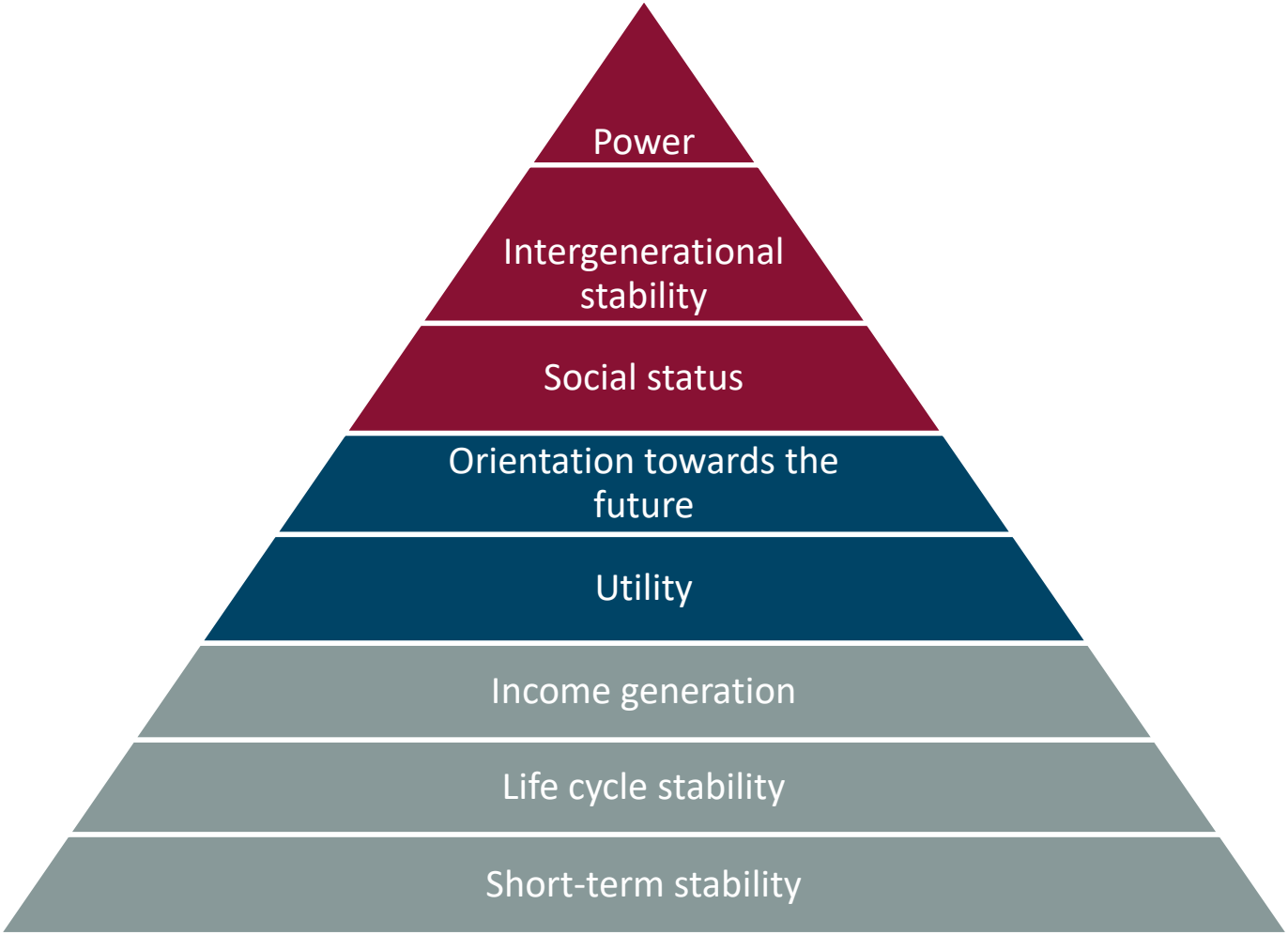
1. Introduction

Introduction

- Abundance of evidence indicates increasing inequality, only partly offset by government redistribution (e.g. OECD, 2015)
- Poverty, inequality and redistribution usually defined in income terms
  - Ranking of individuals
  - Ability-to-pay taxes & benefit eligibility
- Wealth becomes increasingly more important
  - Lower income stability
  - Increasing wealth/income ratios (Piketty, 2014)
  - Ageing population

Why include wealth?

Wealth contributes to well-being in several ways



Source: Own extension to Fessler & Schürz (2017)

Why include wealth?

Minimum pension (IGO):
€12,631

Median net wealth pensioners:
€270,000

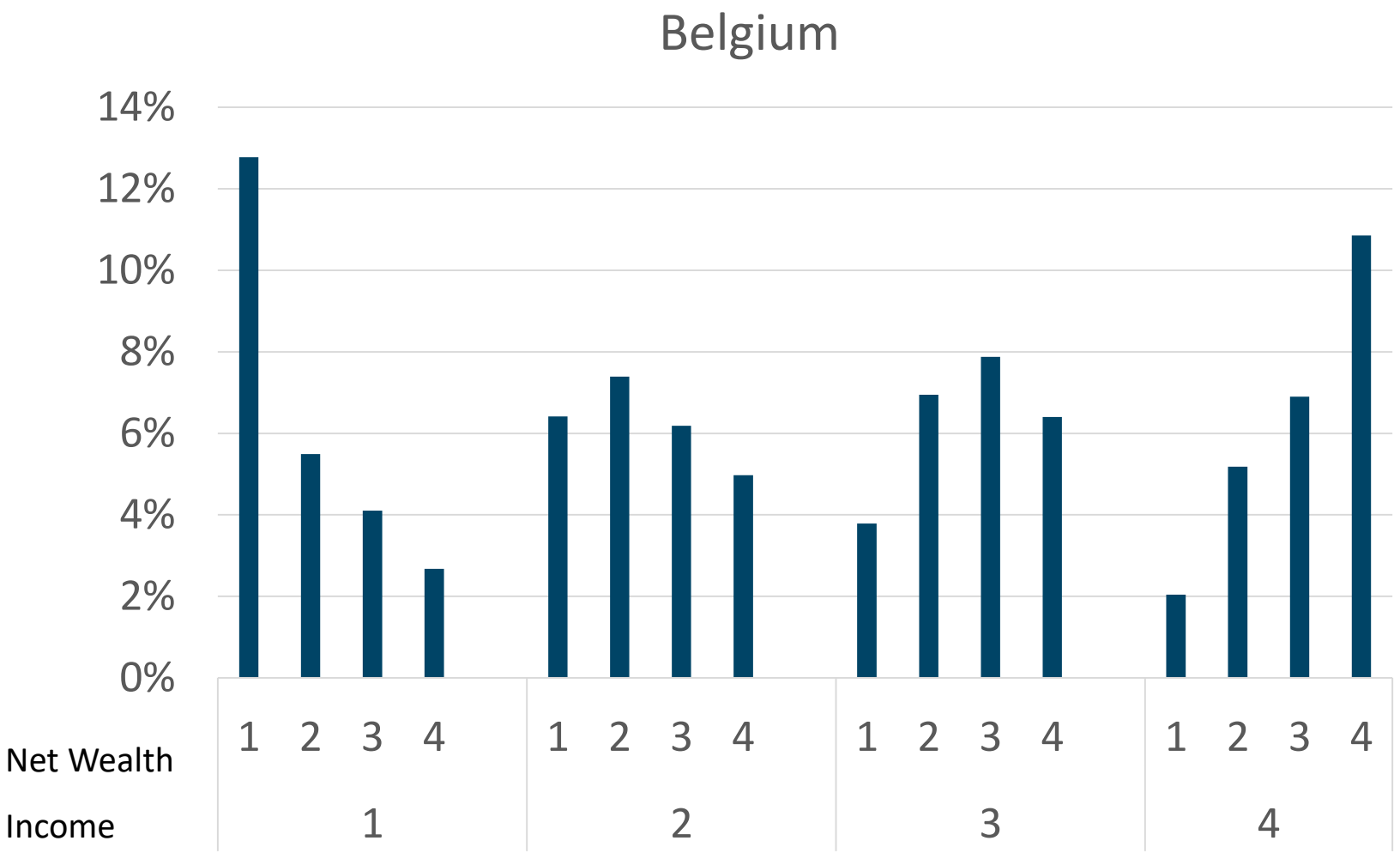
Minimum unemployment benefit:
€11,900

Median net wealth unemployed:
€8,000

Poverty line: €13,670

Note: figures for 2016

Why include wealth?



2. Data & methods

Combining HFCS with EUROMOD

Eurosystem Household Finance and Consumption Survey (HFCS)

- Run by national central banks of Euro Area and coordinated by ECB
- 2 waves (±2010/±2014) conducted in 15/20 Euro Area members
- Includes information on wealth, income, consumption, pensions, employment and demographics
- Net wealth = (real + financial assets) – (mortgage + non-mortgage debt)

EUROMOD

- EU-wide tax-benefit microsimulation model
- Simulates cash benefit entitlements, direct taxes liabilities and social insurance contributions on the basis of input dataset (usually EU-SILC) and tax-benefit rules in place (Sutherland & Figari, 2013)

Combining HFCS with EUROMOD

2 advantages:

- Conversion of original HFCS gross incomes into disposable incomes (Kuypers, Figari & Verbist, 2016)
- Extension of simulation scope (Kuypers et al., 2017)
  - Taxation of wealth and wealth transfers
  - Fiscal incentives for asset accumulation
  - Asset means-testing in benefit eligibility

→ Allows to simulate budgetary and redistributive effects of current and hypothetical wealth related policies

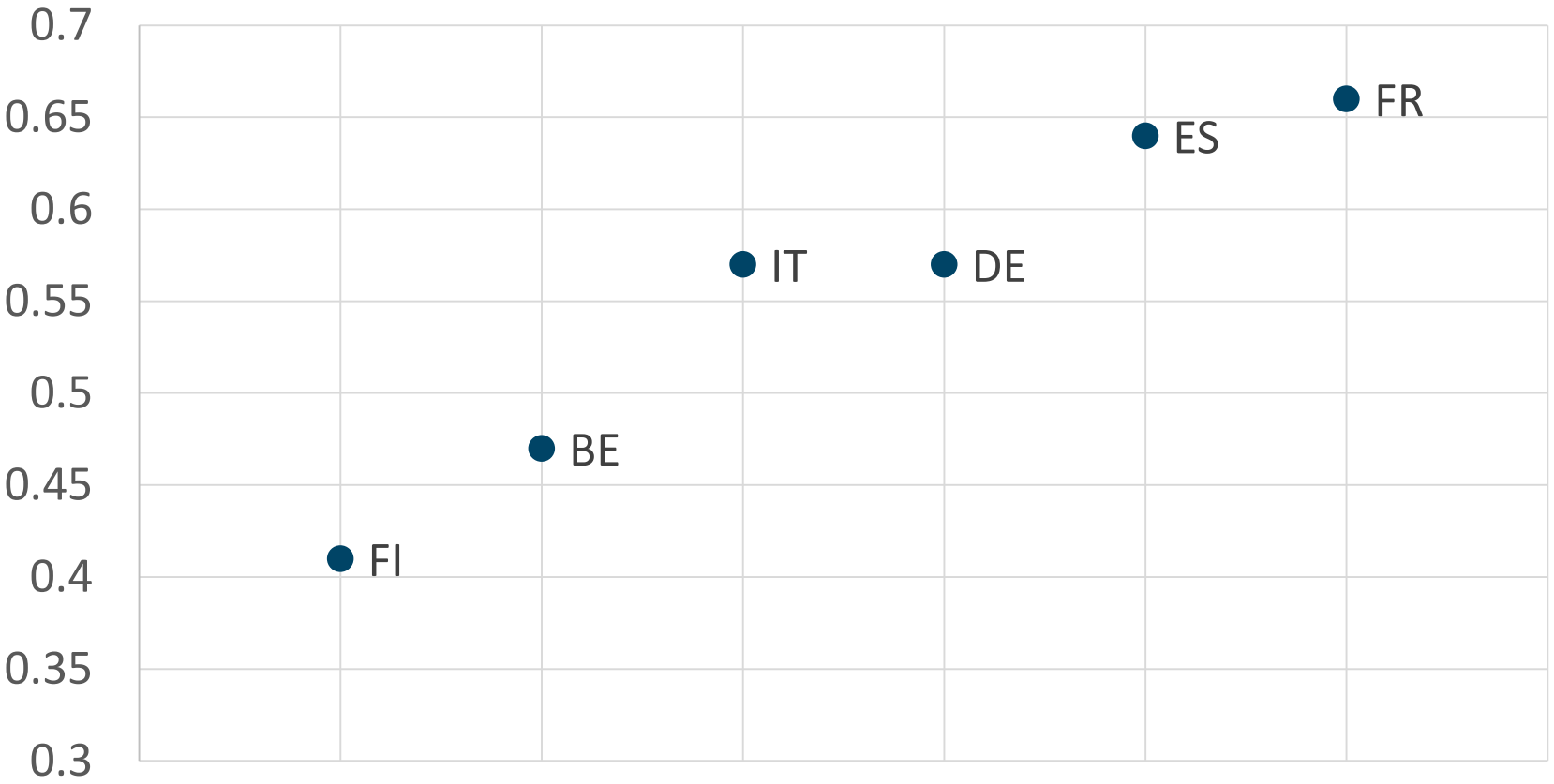
Cross-country comparison

- Focus in CRESUS project on Belgium
- But comparison with 5 other countries (DE, FI, FR, IT, ES)
- Different income & wealth distributions and correlation
- Broad range of tax-benefit systems & wealth taxation
- Largest sample sizes

- Results shown are for 2017
  - Data from second wave are uprated from reference year to 2017, policies of 2017 are simulated

Cross-country comparison

Rank correlation coefficient income and net wealth



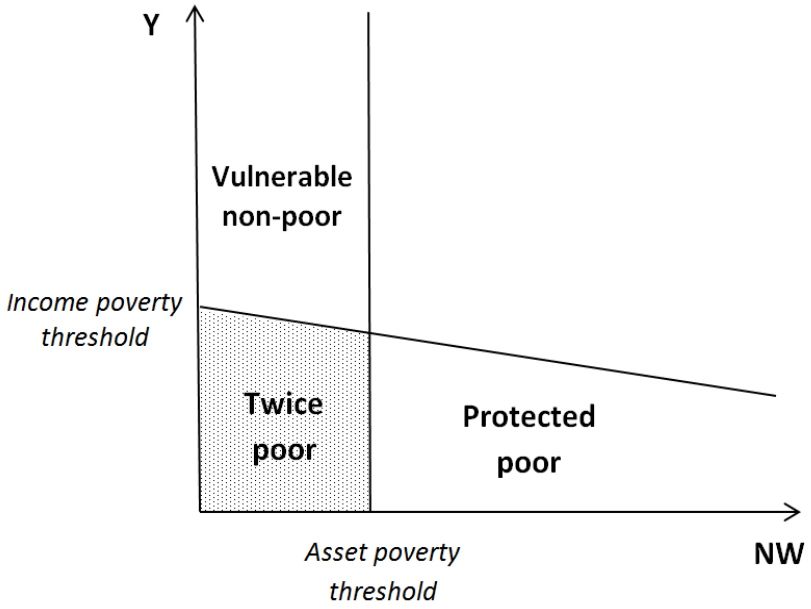
3. Joint income-wealth perspective on poverty

Joint income-wealth poverty

1. Two-dimensional approach

- Developing separate poverty lines for income and wealth
- Allows analysing intermediate positions in income and wealth poverty

$$Asset\ poverty\colon\ NW_{t-1} < \zeta Z_t$$
$$Income\ poverty\colon\ Y_t < Z - r_t NW_{t-1}$$



Joint income-wealth poverty

2. Unidimensional approach

- Sum of income and wealth using annual annuities (Weisbrod & Hansen, 1968)
- Keep poverty line at current level or full relative (e.g. 60% of sum of income and annuitized net wealth)

$$AY_t = Y_t + \left[\frac{\rho}{1-(1+\rho)^{-n}}\right] NW_{t-1}$$

Y: income from labour, pensions & transfers

NW: net wealth (assets – liabilities)

ρ: interest rate

n: length of the annuity (life expectancy)

$n = T \; for \; unmarried,$

$T_1 + (T - T_1)b \; for \; married$

Joint income-wealth poverty

2. Unidimensional approach

Example:

Net wealth: €270,000

Suppose age=70 → life expectation = 15 years

Net wealth annuity: €21,013

Income: €12,631

Total: €33,644

Joint income-wealth poverty: results

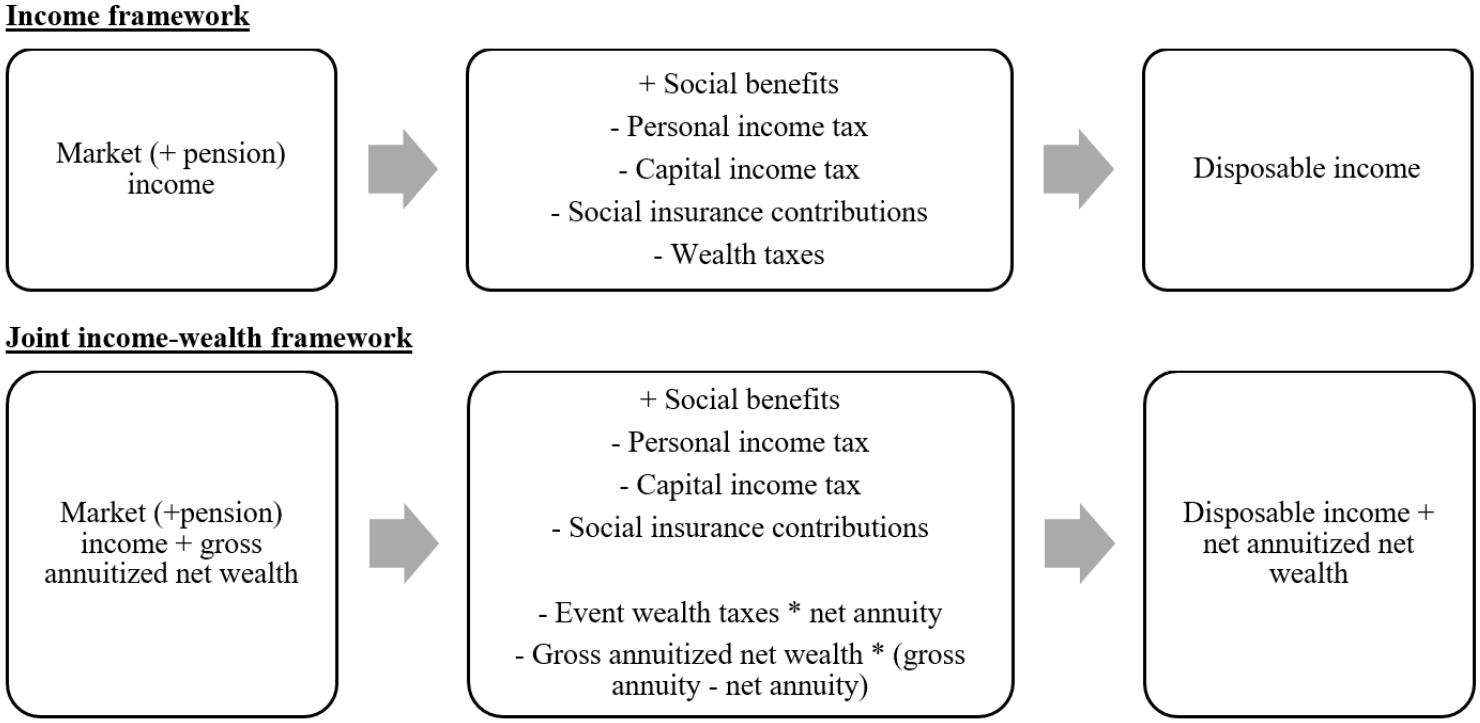
Country	Income poverty	Income + annuitized net wealth poverty (same poverty line)	Income + annuitized net wealth poverty (adapted poverty line)	Multidimensional poverty		
				Only income poor	**Only net wealth poor**	**Twice poor**
Belgium	14.2%	9.9%	16.4%	8.5%	4.6%	5.7%
Finland	7.8%	5.4%	11.8%	4.8%	18.0%	3.0%
France	10.2%	6.8%	12.6%	7.7%	8.9%	2.4%
Germany	13.4%	10.3%	18.2%	8.0%	14.6%	5.4%
Italy	19.5%	13.1%	24.3%	12.7%	4.6%	6.8%
Spain	21.0%	10.5%	24.0%	17.8%	2.4%	3.2%

Joint income-wealth poverty: results

Country	Group	Income poverty	Income + annuitized net wealth poverty (same poverty line)	Income + annuitized net wealth poverty (adapted poverty line)	Multidimensional poverty		
					Only income poor	Only net wealth poor	Twice poor
Belgium	Children	17.6%	13.7%	20.6%	10.0%	4.9%	7.6%
	Active age	14.0%	10.6%	16.7%	7.8%	4.4%	6.1%
	Elderly	10.9%	2.4%	9.3%	9.5%	5.0%	1.5%
Finland	Children	8.0%	5.5%	13.5%	6.2%	19.3%	1.8%
	Active age	8.4%	6.7%	13.3%	4.3%	20.2%	4.1%
	Elderly	5.6%	1.0%	4.6%	5.0%	8.6%	0.6%
France	Children	11.5%	7.9%	17.3%	8.3%	12.4%	3.3%
	Active age	11.1%	7.8%	13.3%	8.4%	8.8%	2.7%
	Elderly	4.9%	1.2%	3.1%	4.6%	4.6%	0.3%
Germany	Children	12.6%	11.7%	22.9%	5.9%	21.5%	6.7%
	Active age	11.7%	9.6%	17.1%	7.3%	15.4%	4.4%
	Elderly	19.9%	11.3%	17.9%	12.3%	5.7%	7.6%
Italy	Children	24.3%	18.0%	32.8%	14.1%	6.4%	10.2%
	Active age	20.5%	14.3%	26.1%	13.5%	4.7%	7.0%
	Elderly	12.3%	5.0%	11.6%	9.1%	2.9%	3.2%
Spain	Children	30.7%	16.7%	36.1%	25.4%	1.9%	5.2%
	Active age	22.0%	10.9%	24.8%	18.7%	2.4%	3.3%
	Elderly	5.4%	1.2%	6.2%	4.8%	3.0%	0.5%

4. Joint income-wealth perspective on inequality and redistribution

Extension annuitization for redistributive analysis



- Event wealth taxes subtracted from wealth that is annuitized
- Recurrent wealth taxes captured by interest rate annuity
  - Gross interest rate annuity: 5% (long-term pre-tax interest rate found in Piketty (2014))
  - Net interest rate annuity: 5% minus recurrent wealth taxes

Extension annuitization: example

- Single-person HH with life expectancy = 40 years
- MI=€25,000, BEN=€5,000, INCTAX=€7,500
- NW=€150,000, RECWTAX=€800, INHERITTAX=€5,000

- Income framework:
  - MI = €25,000
  - DI = €25,000 + €5,000 - €7,500 - €800 - €5,000 = €16,700
  - Wealth taxation = €5,800
  - Life-cycle effect = €37,000

- Joint income-wealth framework:
  - MI + GAW = €25,000 + $\frac{0.05}{1-(1+0.05)^{-40}}$ * €150,000 = €33,742
  - DI + NAW = (€25,000 + €5,000 – €7,500) + $\frac{0.0447}{1-(1+0.0447)^{-40}}$ * (€150,000 – €5,000) = €30,346
  - Wealth taxation = (€5,000 * 0.054) + (€150,000 * ($\frac{0.05}{1-(1+0.05)^{-40}}$ - $\frac{0.0447}{1-(1+0.0447)^{-40}}$)) = €900
  - Life-cycle effect = €36,000

Redistributive effect of tax-benefit system

Income framework							
	Gini MI	Gini MPI	Gini DI	Abs. RE (MI-DI)	Rel. RE (as % of Gini MI)	Abs. RE (MPI-DI)	Rel. RE (as % of Gini MPI)
Belgium	0.476		0.265	0.211	44.37		
Finland	0.371		0.228	0.143	38.53		
France	0.514		0.266	0.248	48.20		
Germany	0.524		0.322	0.202	38.58		
Italy	0.534		0.336	0.198	37.12		
Spain	0.534		0.393	0.141	26.39		
Joint income-wealth framework							
	Gini MI + GAW	Gini MPI + GAW	Gini DI + NAW	Abs. RE (MI+GAW-DI+NAW)	Rel. RE (as % of Gini MI+GAW)	Abs. RE (MPI+GAW – DI+NAW)	Rel. RE (as % of Gini MPI+GAW)
Belgium	0.419		0.341	0.098	22.22		
Finland	0.366		0.262	0.104	28.49		
France	0.474		0.351	0.123	26.02		
Germany	0.512		0.411	0.101	19.71		
Italy	0.467		0.390	0.076	16.33		
Spain	0.470		0.428	0.043	9.04		

Notes: MI=market income, MPI=market & pension income, DI=disposable income, GAW=gross annuitized wealth, NAW=net annuitized wealth

Redistributive effect of tax-benefit system

Income framework							
	Gini MI	Gini MPI	Gini DI	Abs. RE (MI-DI)	Rel. RE (as % of Gini MI)	Abs. RE (MPI-DI)	Rel. RE (as % of Gini MPI)
Belgium	0.476	0.375	0.265	0.211	44.37	0.111	29.49
Finland	0.371	0.363	0.228	0.143	38.53	0.135	37.19
France	0.514	0.402	0.266	0.248	48.20	0.136	33.81
Germany	0.524	0.438	0.322	0.202	38.58	0.116	26.51
Italy	0.534	0.413	0.336	0.198	37.12	0.077	18.68
Spain	0.534	0.452	0.393	0.141	26.39	0.059	12.96
Joint income-wealth framework							
	Gini MI + GAW	Gini MPI + GAW	Gini DI + NAW	Abs. RE (MI+GAW-DI+NAW)	Rel. RE (as % of Gini MI+GAW)	Abs. RE (MPI+GAW – DI+NAW)	Rel. RE (as % of Gini MPI+GAW)
Belgium	0.419	0.393	0.341	0.098	22.22	0.055	13.90
Finland	0.366	0.364	0.262	0.104	28.49	0.102	28.04
France	0.474	0.439	0.351	0.123	26.02	0.088	20.07
Germany	0.512	0.469	0.411	0.101	19.71	0.058	12.35
Italy	0.467	0.430	0.390	0.076	16.33	0.040	9.27
Spain	0.470	0.459	0.428	0.043	9.04	0.031	6.76

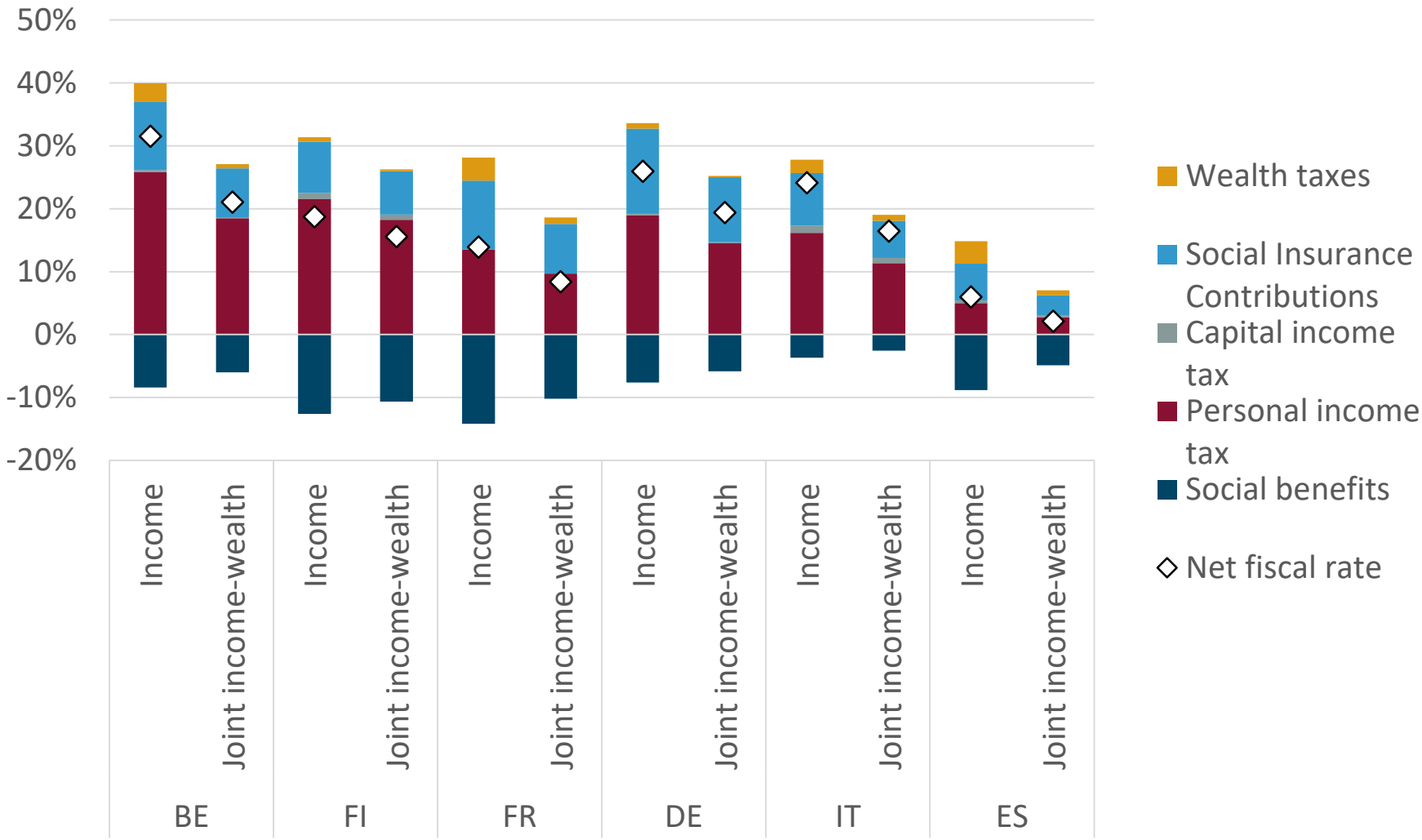
Notes: MI=market income, MPI=market & pension income, DI=disposable income, GAW=gross annuitized wealth, NAW=net annuitized wealth

Decomposition RE: progressivity

Kakwani indices		Income framework	Joint income-wealth framework		Income framework	Joint income-wealth framework
Social benefits	Belgium	0.793	0.822	Germany	0.892	0.933
Personal income tax		0.108	0.040		0.235	0.154
Capital income tax		0.146	0.256		0.290	0.284
SIC		0.032	-0.060		-0.136	-0.211
Wealth taxes		-0.135	0.030		0.075	0.177
Social benefits	Finland	0.766	0.769	Italy	0.793	0.738
Personal income tax		0.069	0.055		0.172	0.140
Capital income tax		0.368	0.335		0.263	0.269
SIC		0.047	-0.009		0.035	-0.040
Wealth taxes		-0.108	0.026		0.100	0.239
Social benefits	France	0.872	0.886	Spain	0.785	0.696
Personal income tax		0.147	0.082		0.295	0.228
Capital income tax		n.a.	n.a.		0.260	0.314
SIC		-0.021	-0.122		-0.129	-0.198
Wealth taxes		0.087	0.256		-0.078	-0.006

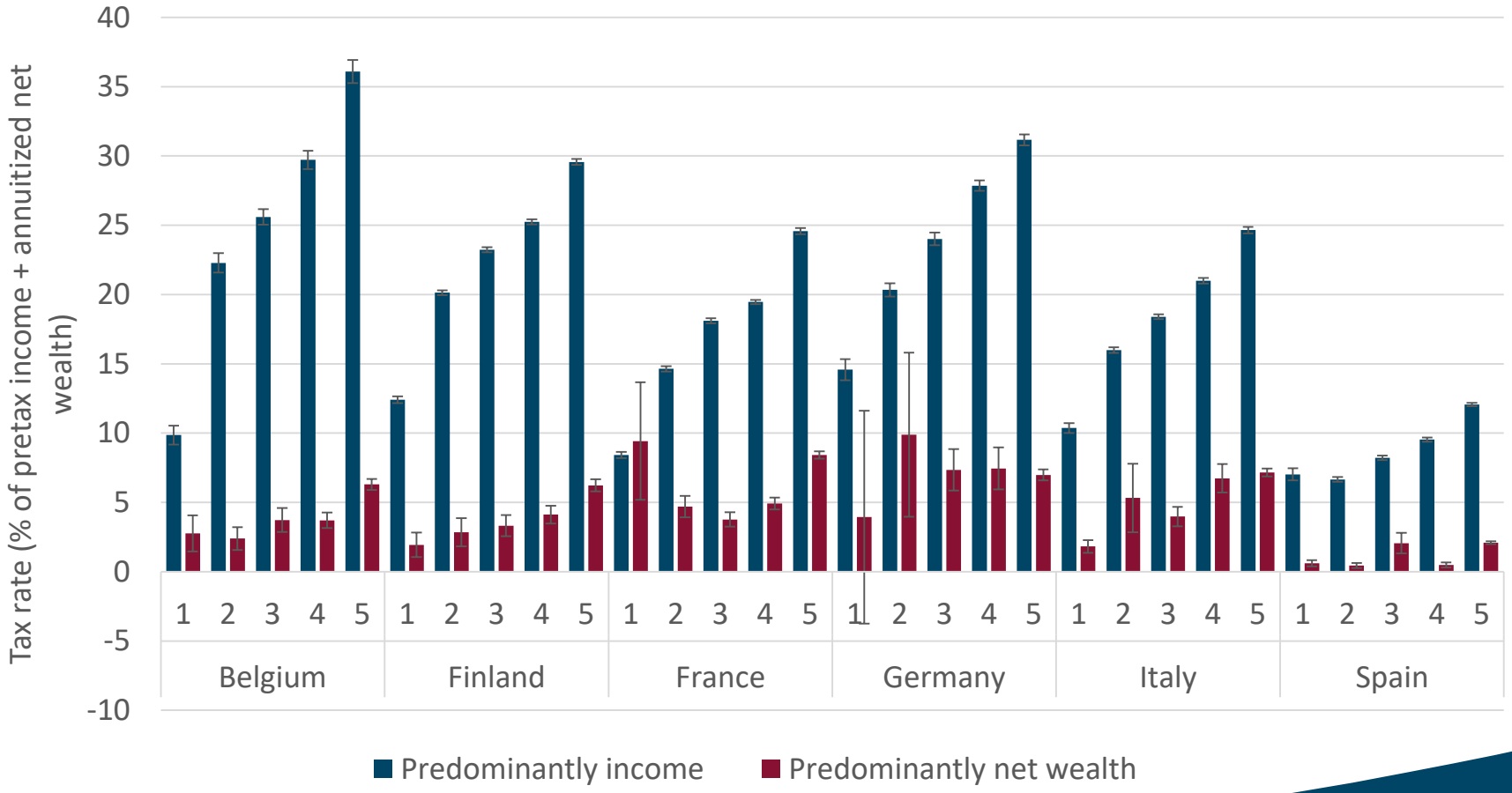
Note: A positive Kakwani index refers to a pro-poor instrument

Decomposition RE: size



Horizontal equity

Total tax rate (income + wealth taxes) by quintile and main source of living standard



Source: Own calculations based on HFCS-EUROMOD simulations

Simulation of alternative tax system

Taxing joint income-wealth in personal income tax: average tax rates

	Baseline (current system)	Taxing everything under PIT		Baseline (current system)	Taxing everything under PIT
Belgium			**Germany**		
1	9.26	12.50	**1**	14.52	20.96
2	18.55	21.47	**2**	19.57	21.68
3	21.35	29.37	**3**	21.63	24.94
4	23.43	37.65	**4**	24.41	28.78
5	22.77	46.33	**5**	23.85	33.46
Total	19.06	29.44	**Total**	20.79	25.96
Finland			**Italy**		
1	12.16	13.01	**1**	9.31	12.26
2	19.02	15.90	**2**	14.26	10.38
3	21.22	20.33	**3**	15.89	12.83
4	22.38	24.51	**4**	17.83	19.15
5	24.47	32.03	**5**	18.14	29.25
Total	19.83	21.12	**Total**	15.08	16.77
France			**Spain**		
1	8.33	18.83	**1**	5.89	5.10
2	13.29	19.87	**2**	5.89	5.54
3	15.26	20.63	**3**	7.10	5.89
4	15.84	21.86	**4**	8.16	7.70
5	17.86	25.92	**5**	9.28	12.40
Total	14.12	21.42	**Total**	7.26	7.32

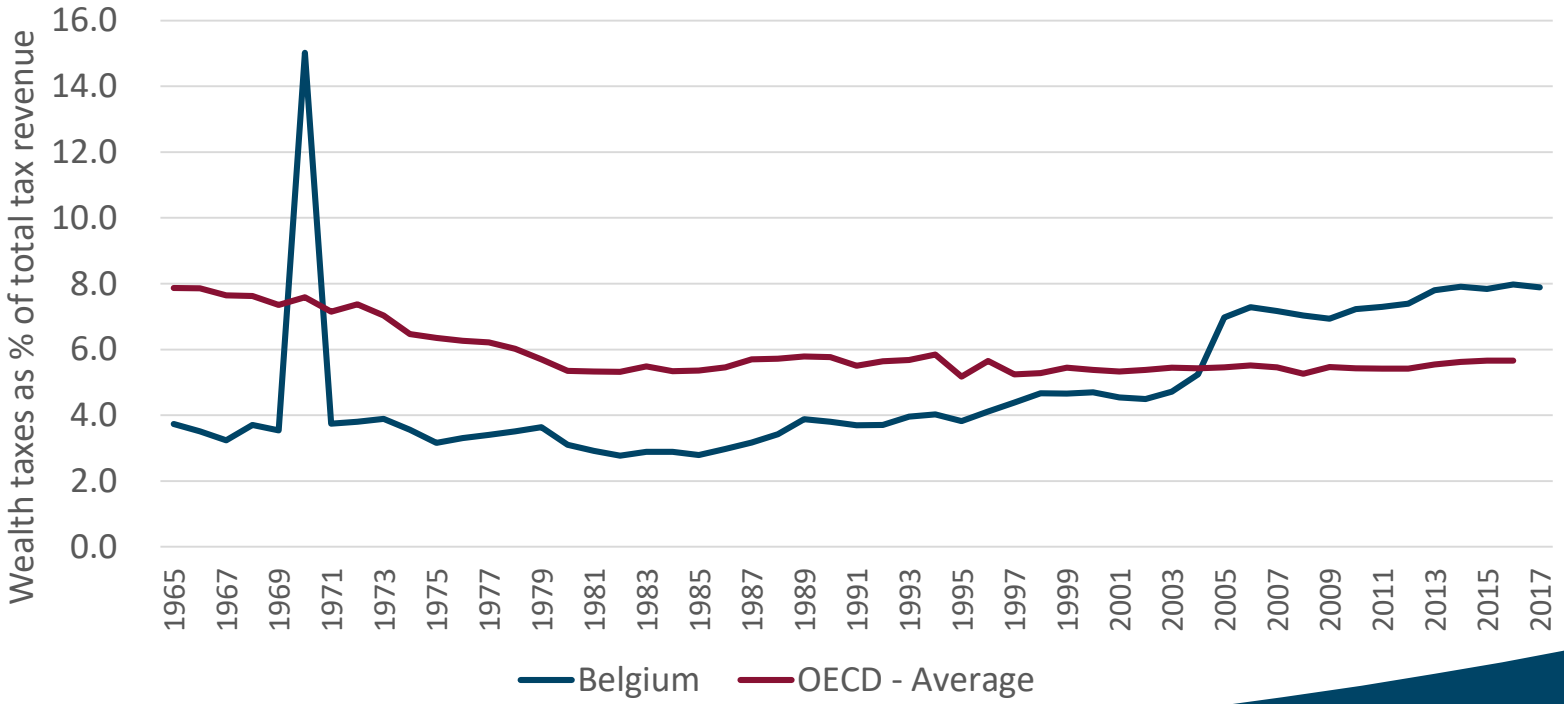
5. Conclusion and policy implications

Conclusion

- Including wealth in measurement of poverty, inequality & redistribution matters!
  - Lower poverty rate when poverty line unadapted, possibly higher when fully relative approach is used
  - In both cases different characteristics of poor population (e.g. less elderly, but also more renters)
  - Less redistribution, so higher inequality
    - Social benefits remain strongly pro-poor (cfr. often asset-testing)
    - Personal income taxes & SIC less redistributive
    - Capital income & wealth taxes too small to have impact
    - Tax reliefs for wealth accumulation pro-rich

Policy implications

- Room for stronger taxation of wealth
- In most countries ongoing decrease in wealth taxation
  - Net wealth taxes abolished and cutbacks in taxation of capital income and intergenerational transfers
- Belgium: above average, but still low and not progressive



Source: OECD Tax revenue database

Policy implications

- Targeting of social policies towards the most needy, i.e. those with both low income & low wealth
  - Cfr. asset-testing (see next presentation)

- Designing new types of policies to help the most needy to build up wealth
  - Pro-poor asset-building policies
  - e.g. minimum inheritance (Atkinson, 2015), Individual Development Accounts (IDA's) (Sherraden)

Thank you!
Questions?

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