

# Redistribution in a joint income-wealth perspective: A cross-country comparison

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# Outline

1. Introduction
2. Data & methods
3. Joint income-wealth living standards
4. Broader assessment of the redistributive effects of tax-benefit instruments
5. (Sensitivity analyses & decomposition by age)
6. Conclusion

# 1. Introduction

# Introduction

- Abundance of evidence indicates increasing inequality, only partly offset by government redistribution (e.g. OECD, 2015)
- Inequality and redistribution usually defined in income terms
  - Ranking of individuals
  - Ability-to-pay taxes & benefit eligibility
- Living standards also depend on wealth (Kuypers & Marx, 2016; Brandolini et al., 2010)
  - Various functions: financial stability, socio-economic development, power
  - Increasing wealth/income ratios (Piketty, 2014)
  - Positive but imperfect correlation

# Introduction

- Wealth taxation often proposed as way to reduce inequality and raise government revenues (Piketty, 2014; Bach et al., 2014)
- Increase in theoretical literature on (optimal) wealth taxation
- But large void in empirical research
  - Due to absence of data and analytical tools

# Purpose of our research

- Evaluate redistributive efforts against joint measure of income and wealth
- Add analysis of wealth taxes
- Using HFCS data and EUROMOD
- Cross-country analysis

## 2. Data & methods

# Eurosystem Household Finance and Consumption Survey (HFCS)

- 2 waves ( $\pm 2010$  /  $\pm 2014$ )
- 15/20 Euro Area member states
- Information on wealth, income, consumption, pensions, employment and demographics
- Net wealth = (real + financial assets) – (mortgage + non-mortgage debt)
- Oversampling of wealthy



# HFCS in EUROMOD

- HFCS only covers gross incomes
- Converted into disposable incomes using EUROMOD (Kuypers, Figari & Verbist, 2016)
- Joint observation of net wealth and disposable income
- Extension of scope of EUROMOD
  - Taxation of capital income, wealth and wealth transfers
  - Fiscal incentives for asset accumulation
  - Asset means-testing in benefit eligibility
- Simulation of budgetary and redistributive effects of current and hypothetical wealth related policies

# Cross-country comparison

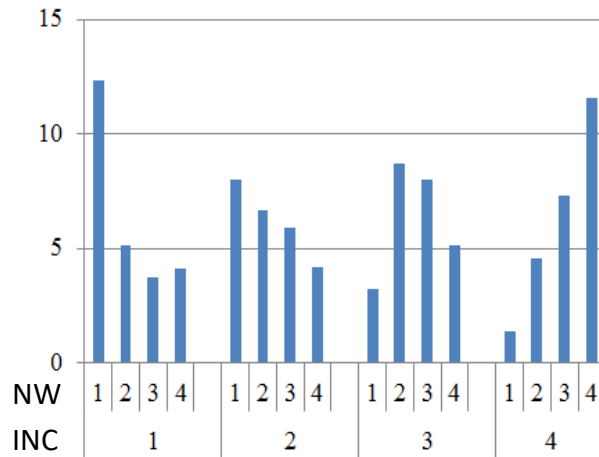
- 6 countries from 1<sup>st</sup> HFCS wave
- Different income & wealth distributions and correlation
- Broad range of tax-benefit systems & wealth taxation
- Largest sample sizes

|         | Reference period  |        | Sample size |             |
|---------|-------------------|--------|-------------|-------------|
| Country | Wealth            | Income | Households  | Individuals |
| Belgium | Time of interview | 2009   | 2,327       | 5,506       |
| Finland | 31/12/2009        | 2009   | 10,989      | 27,009      |
| France  | Time of interview | 2009   | 15,006      | 35,729      |
| Germany | Time of interview | 2009   | 3,565       | 8,134       |
| Italy   | 31/12/2010        | 2010   | 7,951       | 19,836      |
| Spain   | Time of interview | 2007   | 6,197       | 15,850      |

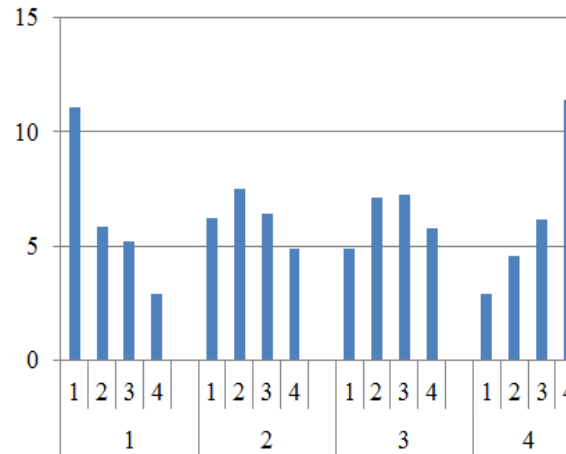
### **3. Joint income-wealth living standards**

# Relationship between income and wealth

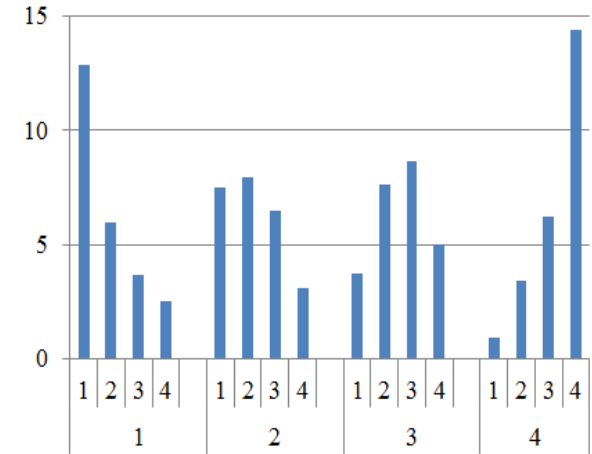
Belgium



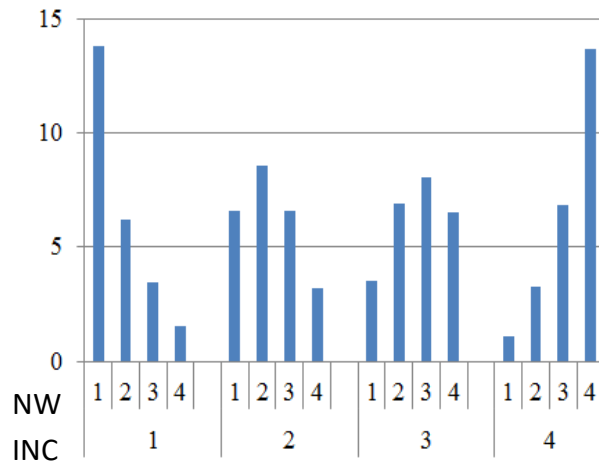
Finland



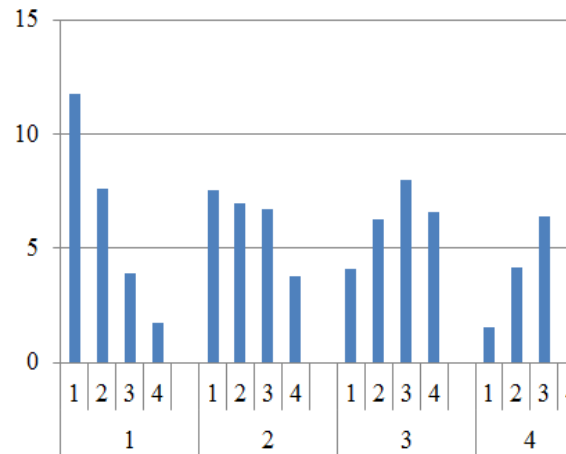
France



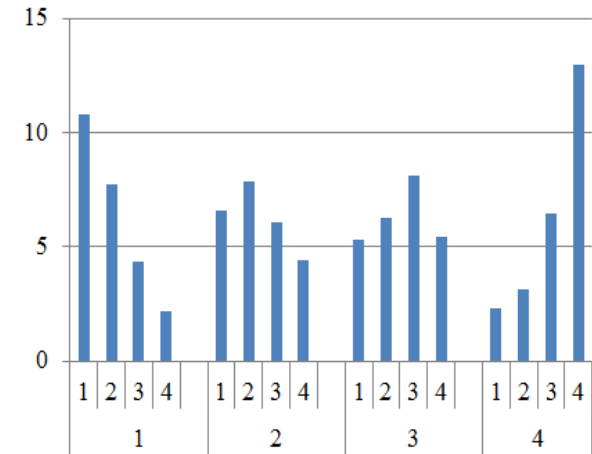
Germany



Italy

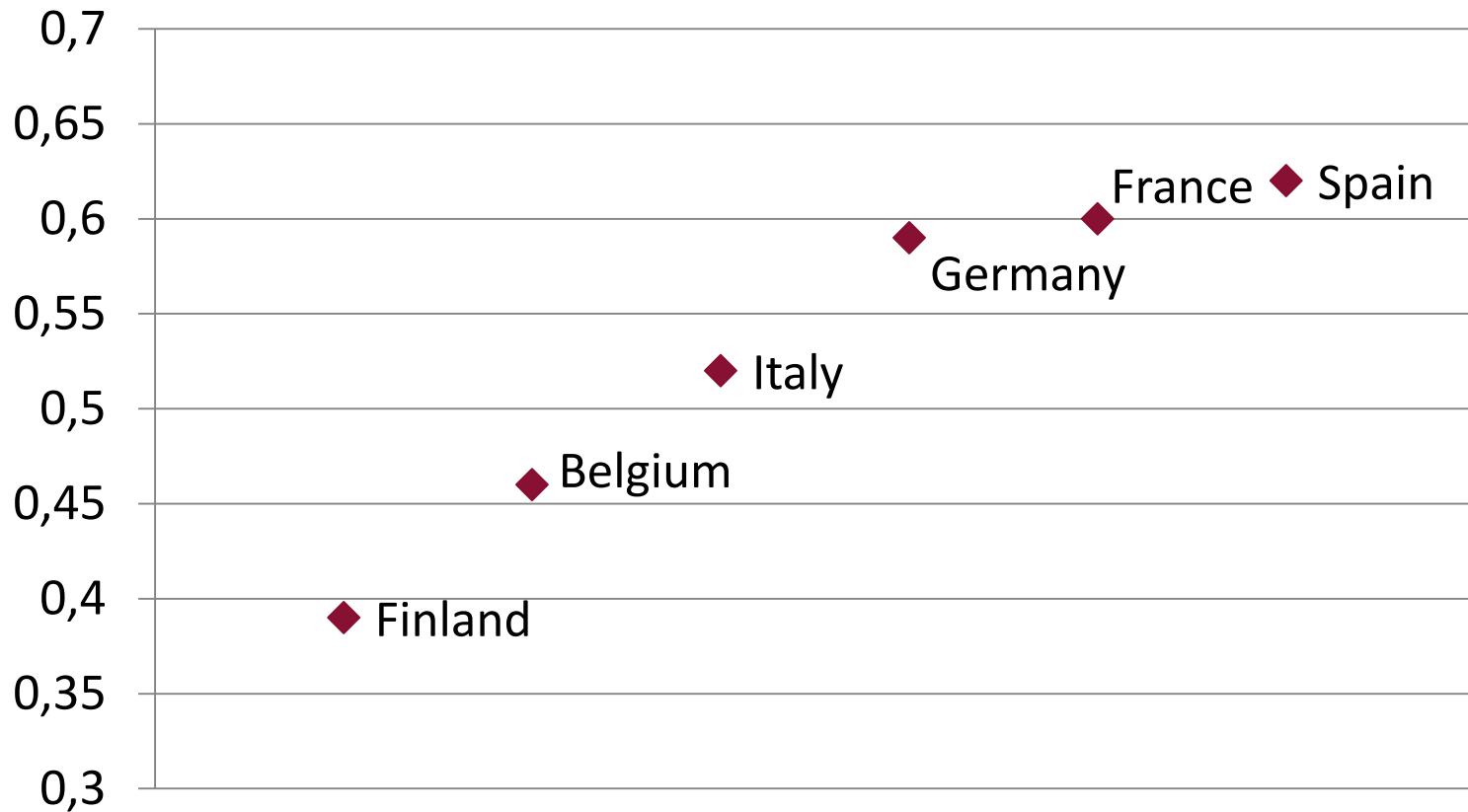


Spain



# Cross-country differences

Rank correlation coefficient income and net wealth



# Joint measure of income and wealth

- Sum of income and wealth using annual annuities (e.g. Weisbrod & Hansen, 1968; Brandolini et al., 2010)

$$AY = Y + \left[ \frac{\rho}{1 - (1 + \rho)^{-n}} \right] * NW$$

$$n = T \text{ for unmarried,} \\ T_1 + (T - T_1)b \text{ for married}$$

$Y$ : income from labour, pensions and transfers

$NW$ : net wealth (assets – liabilities)

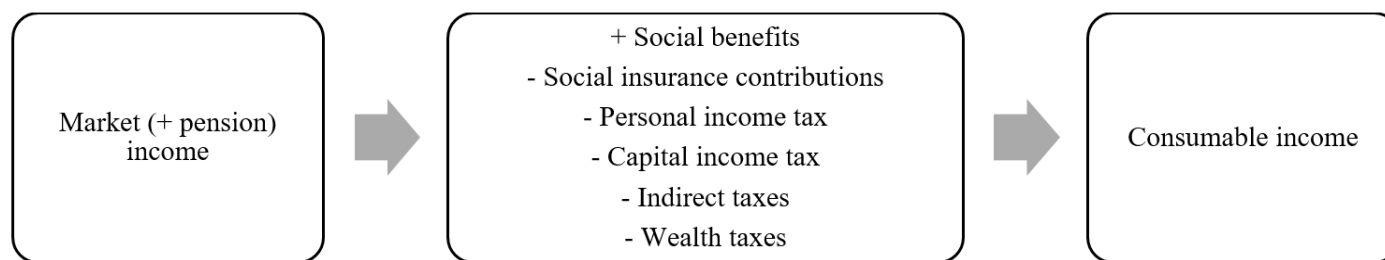
$\rho$ : interest rate

$n$ : length of the annuity (life expectancy)

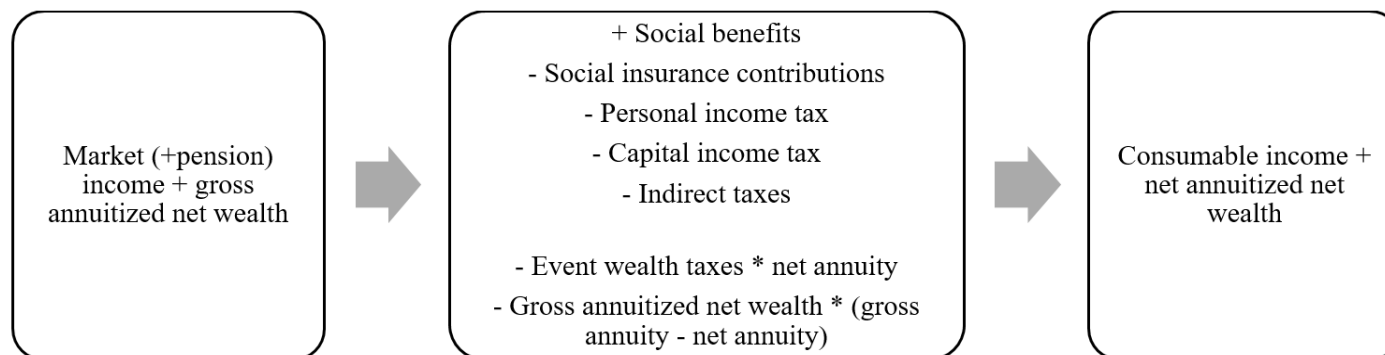
# Extension annuitization for redistributive analysis

- 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

## Income framework



## Joint income-wealth framework



## **4. Broader assessment of the redistributive effects of tax-benefit systems**

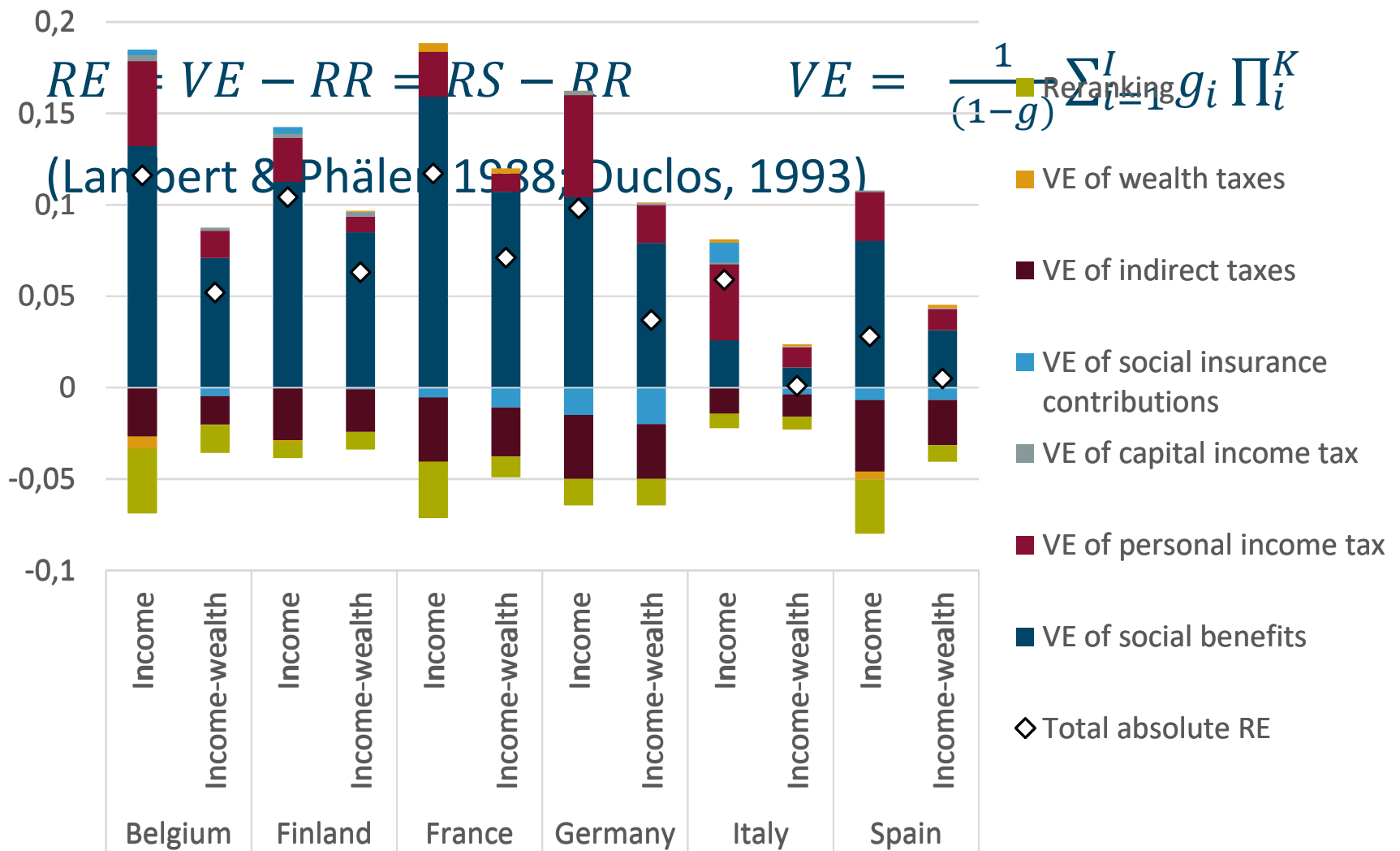


# Redistributive effect of tax-benefit system

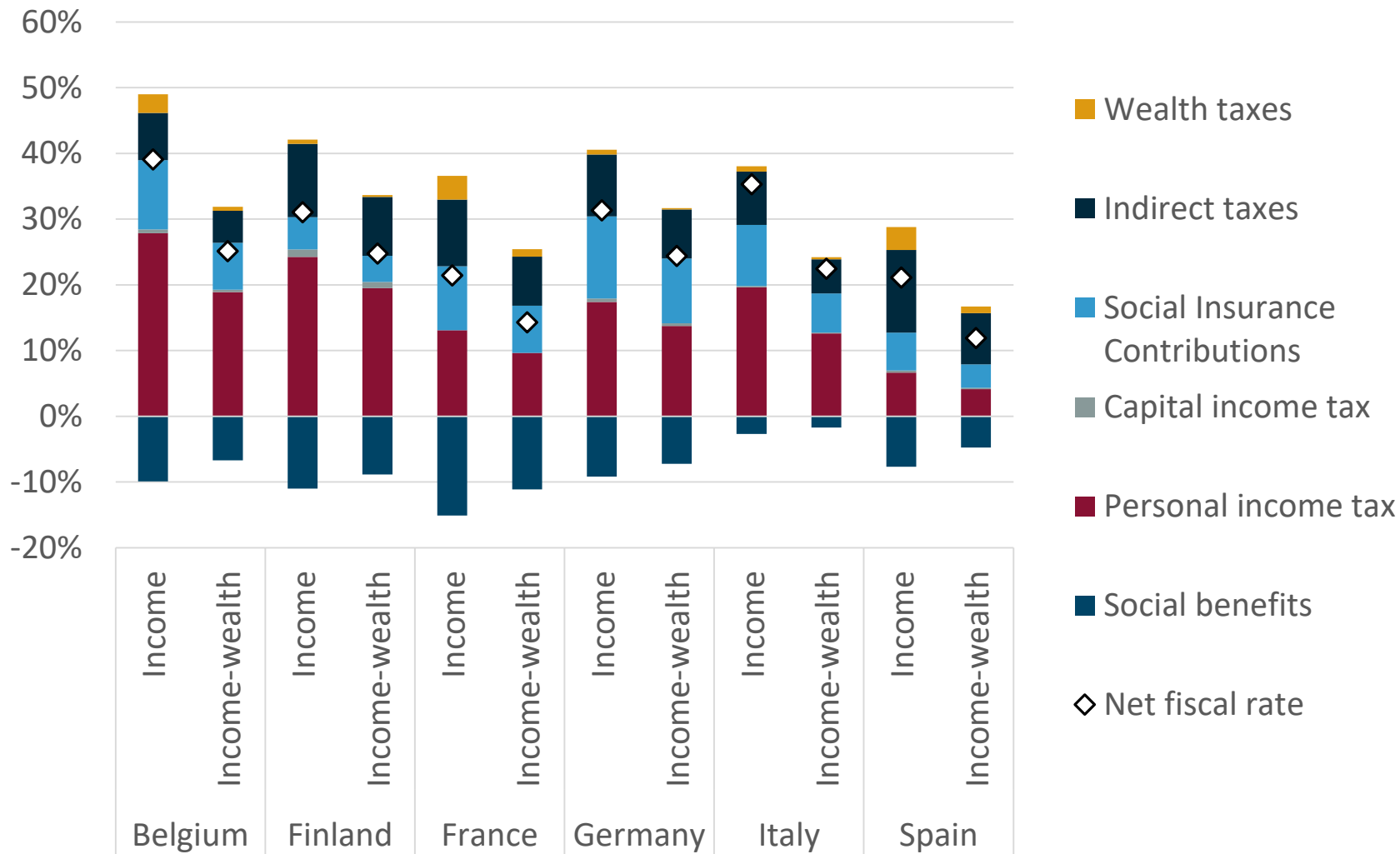
| Income framework              |                |               |               |                                |
|-------------------------------|----------------|---------------|---------------|--------------------------------|
|                               | Gini MPI       | Gini CI       | Abs. RE       | Rel. RE (as % of Gini MPI)     |
| <b>Belgium</b>                | 0.469 (0.012)  | 0.353 (0.011) | 0.116 (0.006) | 24.73                          |
| <b>Finland</b>                | 0.362 (0.003)  | 0.258 (0.002) | 0.104 (0.001) | 28.73                          |
| <b>France</b>                 | 0.421 (0.003)  | 0.304 (0.002) | 0.117 (0.002) | 27.79                          |
| <b>Germany</b>                | 0.417 (0.005)  | 0.319 (0.004) | 0.098 (0.003) | 23.50                          |
| <b>Italy</b>                  | 0.374 (0.003)  | 0.315 (0.003) | 0.059 (0.001) | 15.78                          |
| <b>Spain</b>                  | 0.407 (0.006)  | 0.379 (0.006) | 0.028 (0.003) | 6.88                           |
| Joint income-wealth framework |                |               |               |                                |
|                               | Gini MPI + GAW | Gini CI + NAW | Abs. RE       | Rel. RE (as % of Gini MPI+GAW) |
| <b>Belgium</b>                | 0.458 (0.008)  | 0.406 (0.007) | 0.052 (0.004) | 11.35                          |
| <b>Finland</b>                | 0.363 (0.002)  | 0.300 (0.002) | 0.063 (0.001) | 17.36                          |
| <b>France</b>                 | 0.445 (0.003)  | 0.374 (0.003) | 0.071 (0.001) | 15.96                          |
| <b>Germany</b>                | 0.453 (0.007)  | 0.416 (0.008) | 0.037 (0.004) | 8.17                           |
| <b>Italy</b>                  | 0.418 (0.005)  | 0.417 (0.005) | 0.001 (0.001) | 0.24                           |
| <b>Spain</b>                  | 0.412 (0.005)  | 0.407 (0.005) | 0.005 (0.001) | 1.21                           |

Notes: MPI=market & pension income, CI=consumable income, GAW=gross annuitized wealth, NAW=net annuitized wealth, standard errors are shown between parentheses

# Decomposition redistributive effect



# Decomposition RE: size



# Decomposition RE: progressivity

| Kakwani indices     |         | Income framework | Joint income-wealth framework |         | Income framework | Joint income-wealth framework |
|---------------------|---------|------------------|-------------------------------|---------|------------------|-------------------------------|
| Social benefits     | Belgium | 0.809            | 0.787                         | Germany | 0.779            | 0.824                         |
| Personal income tax |         | 0.102            | 0.059                         |         | 0.219            | 0.114                         |
| Capital income tax  |         | 0.332            | 0.327                         |         | 0.293            | 0.179                         |
| SIC                 |         | 0.017            | -0.047                        |         | -0.081           | -0.152                        |
| Indirect taxes      |         | -0.226           | -0.241                        |         | -0.254           | -0.303                        |
| Wealth taxes        |         | -0.140           | -0.004                        |         | 0.001            | 0.160                         |
| Social benefits     | Finland | 0.703            | 0.719                         | Italy   | 0.620            | 0.499                         |
| Personal income tax |         | 0.068            | 0.033                         |         | 0.137            | 0.067                         |
| Capital income tax  |         | 0.146            | 0.225                         |         | 0.243            | 0.281                         |
| SIC                 |         | 0.050            | -0.014                        |         | 0.077            | -0.045                        |
| Indirect taxes      |         | -0.177           | -0.196                        |         | -0.112           | -0.184                        |
| Wealth taxes        |         | -0.080           | 0.126                         |         | 0.137            | 0.268                         |
| Social benefits     | France  | 0.826            | 0.824                         | Spain   | 0.822            | 0.579                         |
| Personal income tax |         | 0.147            | 0.089                         |         | 0.316            | 0.249                         |
| Capital income tax  |         |                  |                               |         | 0.203            | 0.229                         |
| SIC                 |         | -0.043           | -0.129                        |         | -0.092           | -0.164                        |
| Indirect taxes      |         | -0.271           | -0.306                        |         | -0.245           | -0.279                        |
| Wealth taxes        |         | 0.103            | 0.210                         |         | -0.098           | 0.165                         |

Note: All Kakwani indices are statistically significant at the 1% level with the exception of the wealth taxes of Belgium in the joint income-wealth framework and the wealth taxes of Germany in the income framework.

## 6. Conclusion

# Conclusion

- Considerable reranking between income and wealth distribution, but cross-country differences
- Welfare states are less redistributive against joint income-net wealth
  - Personal income taxes, SIC less redistributive
  - Capital income & wealth taxes too small to have redistributive impact
  - Social benefits remain strongly pro-poor
- Tax-benefit system almost unilaterally focused on reducing income inequality, wealth considerations largely absent
- HFCS-EUROMOD combination enables research opportunities on policy reforms related to wealth

Thank you!



# 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
  - CI = €25,000 + €5,000 - €7,500 - €800 - €5,000 = €16,700
  - Wealth taxation = €5,800
  - Life-cycle effect = €37,000
- Joint income-wealth framework:
  - $MI + GAW = €25,000 + \frac{0.05}{1-(1+0.05)^{-40}} * €150,000 = €33,742$
  - $CI + NAW = (€25,000 + €5,000 - €7,500) + \frac{0.0447}{1-(1+0.0447)^{-40}} * (€150,000 - €5,000) = €30,346$
  - $Wealth\ taxation = (€5,000 * 0.054) + (€150,000 * (\frac{0.05}{1-(1+0.05)^{-40}} - \frac{0.0447}{1-(1+0.0447)^{-40}})) = €870$
  - Life-cycle effect = €36,000