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 (±2010 / ±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 states
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 1st HFCS wave
- Different income & wealth distributions and correlation
- Broad range of tax-benefit systems & wealth taxation
- Largest sample sizes

<table>
<thead>
<tr>
<th>Country</th>
<th>Reference period</th>
<th>Wealth</th>
<th>Income</th>
<th>Households</th>
<th>Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>Time of interview</td>
<td>2009</td>
<td>2,327</td>
<td>5,506</td>
<td></td>
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<tr>
<td>Finland</td>
<td>31/12/2009</td>
<td>2009</td>
<td>10,989</td>
<td>27,009</td>
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<tr>
<td>France</td>
<td>Time of interview</td>
<td>2009</td>
<td>15,006</td>
<td>35,729</td>
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<tr>
<td>Germany</td>
<td>Time of interview</td>
<td>2009</td>
<td>3,565</td>
<td>8,134</td>
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<tr>
<td>Italy</td>
<td>31/12/2010</td>
<td>2010</td>
<td>7,951</td>
<td>19,836</td>
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<tr>
<td>Spain</td>
<td>Time of interview</td>
<td>2007</td>
<td>6,197</td>
<td>15,850</td>
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</tr>
</tbody>
</table>
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

- Finland: 0.3
- Belgium: 0.35
- Italy: 0.4
- Germany: 0.45
- France: 0.5
- Spain: 0.55
- Germany: 0.6
- France: 0.65
- Spain: 0.7
Joint measure of income and wealth

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

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

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

- \( Y \): 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
4. Broader assessment of the redistributive effects of tax-benefit systems
## Redistributive effect of tax-benefit system

### Income framework

<table>
<thead>
<tr>
<th>Country</th>
<th>Gini MPI</th>
<th>Gini CI</th>
<th>Abs. RE</th>
<th>Rel. RE (as % of Gini MPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>0.469 (0.012)</td>
<td>0.353 (0.011)</td>
<td>0.116 (0.006)</td>
<td>24.73</td>
</tr>
<tr>
<td>Finland</td>
<td>0.362 (0.003)</td>
<td>0.258 (0.002)</td>
<td>0.104 (0.001)</td>
<td>28.73</td>
</tr>
<tr>
<td>France</td>
<td>0.421 (0.003)</td>
<td>0.304 (0.002)</td>
<td>0.117 (0.002)</td>
<td>27.79</td>
</tr>
<tr>
<td>Germany</td>
<td>0.417 (0.005)</td>
<td>0.319 (0.004)</td>
<td>0.098 (0.003)</td>
<td>23.50</td>
</tr>
<tr>
<td>Italy</td>
<td>0.374 (0.003)</td>
<td>0.315 (0.003)</td>
<td>0.059 (0.001)</td>
<td>15.78</td>
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<tr>
<td>Spain</td>
<td>0.407 (0.006)</td>
<td>0.379 (0.006)</td>
<td>0.028 (0.003)</td>
<td>6.88</td>
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</table>

### Joint income-wealth framework

<table>
<thead>
<tr>
<th>Country</th>
<th>Gini MPI + GAW</th>
<th>Gini CI + NAW</th>
<th>Abs. RE</th>
<th>Rel. RE (as % of Gini MPI+GAW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>0.458 (0.008)</td>
<td>0.406 (0.007)</td>
<td>0.052 (0.004)</td>
<td>11.35</td>
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<tr>
<td>Finland</td>
<td>0.363 (0.002)</td>
<td>0.300 (0.002)</td>
<td>0.063 (0.001)</td>
<td>17.36</td>
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<tr>
<td>France</td>
<td>0.445 (0.003)</td>
<td>0.374 (0.003)</td>
<td>0.071 (0.001)</td>
<td>15.96</td>
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<tr>
<td>Germany</td>
<td>0.453 (0.007)</td>
<td>0.416 (0.008)</td>
<td>0.037 (0.004)</td>
<td>8.17</td>
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<tr>
<td>Italy</td>
<td>0.418 (0.005)</td>
<td>0.417 (0.005)</td>
<td>0.001 (0.001)</td>
<td>0.24</td>
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<tr>
<td>Spain</td>
<td>0.412 (0.005)</td>
<td>0.407 (0.005)</td>
<td>0.005 (0.001)</td>
<td>1.21</td>
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</table>

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

\[ RE = VE - RR = RS - RR \]

\[ VE = \frac{1}{(1-g)} \sum_{i=1}^{K} g_i \prod_{i} \]

(Lambert & Phäler, 1988; Duclos, 1993)
Decomposition RE: size

Wealth taxes
Indirect taxes
Social Insurance Contributions
Capital income tax
Personal income tax
Social benefits
Net fiscal rate

Belgium
Finland
France
Germany
Italy
Spain
### Decomposition RE: progressivity

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

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}} \times €150,000 = €33,742
  - CI + NAW = (€25,000 + €5,000 - €7,500) + \frac{0.0447}{1-(1+0.0447)^{-40}} \times (€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