# Identifying Income and Wealth-Poor Households in the Euro Area

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Future Well-Being of the Elderly
December 5, 2016

## Motivation

- ▶ Poverty and inequality have become prominent topics in public discussion:

    - ▶ Stiglitz-Sen-Fitoussi commission or Europe 2020 Target No. 5 (Poverty / social exclusion): '...at least 20 million fewer people in or at risk of poverty and social exclusion'
    - ▶ OECD Development Co-operation Report 2013: 'Ending Poverty'

- ▶ Main focus on income poverty, but little evidence on wealth poverty

- ▶ How to integrate wealth into a poverty definition is still an open issue

- ▶ However, number of poor households and 'picture of poverty' may depend on how poverty is defined

## Contribution of the paper

We analyze the incidence and socio-demographic structure, portfolios and consumption expenditure of poor households depending on the specific definition of poverty

## Related literature - poverty measures

- ▶ Classic poverty measures based on income (Atkinson 2002)

  - ▶ Income poverty measures '...ignore the possibility that a consumer unit decreases accumulated savings to meet current needs.'(Brandolini et al., 2010: 269)

- ▶ Joint measures of income and wealth poverty (Brandolini et al., 2010; Aziptarte, 2012; Haveman and Wolff, 2012)

- ▶ Measures of well-being of households beyond income indicators (Stiglitz et al., 2009; OECD, 2011; OECD, 2013)

## Related literature - joint measures of poverty

► Integrated approach: Add annuity value of wealth to income to get one single poverty measure (Weisbrod and Hansen, 1968)

   ► In order to calculate the indicators several assumptions are necessary, e.g. which interest rate to use and how the remaining 'maturity' (which equals the remaining life expectancy of a household/person) is calculated

► Multidimensional approach: Assess poverty independently for each indicator (income and wealth) and then combine the results into an overall assessment of poverty (Bourguignon and Chakravaty, 2003)

   ► How to combine several different/independent dimensions of poverty into an overall assessment of poverty and well-being of a household?

# The Household Finance and Consumption Survey (HFCS)

- ▶ The Household Finance and Consumption Survey (HFCS) of the Euro System delivers comparable data on households finances for all Euro area countries

- ▶ Coverage: All Euro area countries except for Ireland and Estonia

- ▶ Most surveys in 2010: AT, BE, DE, FR, IT, CY, LU, MT, PT, SI, SK

- ▶ Others earlier: GR (2009), ES (2008), NL (2009), FI (2009)

- ▶ Sample size: More than 61,000 households

- ▶ Gross household income

## Poverty definitions and approach

- ▶ Indicator (1) - Classic income only (at risk of) poverty measure:
    - ▶ Gross equivalised annual household income $< 60$ percent of the median gross equivalised household income in a country
    - ▶ Gross income includes labour income, income from pensions, transfer income and other income

- ▶ Indicator (2) - Income and net wealth:
    - ▶ Gross equivalised income+net wealth $< 60$ percent of the median gross equivalised household income in a country
    - ▶ Net wealth: Life expectancy of 'household' (1/3 and 2/3 model of life expectancy), 4 percent interest rate used for calculation

## Formulas for net wealth

Single household / both spouses with same life expectancy:

$$A = \frac{r}{1 - (1+r)^{-n}} \qquad (1)$$

where r is the interest rate and n is the life expectancy.

Different life expectancy:

$$A = \frac{r}{1 - \frac{1}{3}(1+r)^{-n} - \frac{2}{3}(1+r)^{-m}} \qquad (2)$$

where m is the higher life expectancy and n is the lower one.

## Poverty definitions and approach

- ▶ Indicator (3) - Income and net liquid assets:
  - ▶ Net liquid assets are used instead of net wealth
  - ▶ Net liquid assets: Deposits, mutual funds, bonds, stocks, non-self employed business wealth, managed accounts minus non-collateralized debt

- ▶ Indicator (4) and (5) - Multi-dimension poverty:
  - ▶ Indicator (4): Income and wealth
  - ▶ Indicator (5): Income or wealth
  - ▶ Calculated in the paper but not part of this presentation

# Correlation between (1) classic income poverty measure and the first 2 indicators

| | Poverty Indicator | |
|---------|---------------------------------|------------------------------------|
| Country | (2) Income and net wealth | (3) Income and net liquid assets |
| EA | 0.732 | 0.955 |
| AT | 0.731 | 0.953 |
| BE | 0.728 | 0.953 |
| CY | 0.730 | 0.958 |
| DE | 0.729 | 0.954 |
| ES | 0.719 | 0.958 |
| FI | 0.726 | 0.951 |
| FR | 0.727 | 0.949 |
| GR | 0.713 | 0.959 |
| IT | 0.730 | 0.959 |
| LU | 0.701 | 0.947 |
| MT | 0.712 | 0.955 |
| NL | 0.725 | 0.949 |
| PT | 0.757 | 0.967 |
| SI | 0.721 | 0.952 |
| SK | 0.756 | 0.958 |

Results

## Percentage of poor households according to the different poverty definitions

|         | Poverty Indicator | | |
|---------|-------------------|---|---|
| Country | (1)<br>Income only | (2) Income<br>and net wealth | (3) Income and<br>net liquid assets |
| EA | 23 % | 14 % | 21 % |
| AT | 18 % | 12 % | 17 % |
| BE | 26 % | 14 % | 22 % |
| CY | 24 % | 10 % | 22 % |
| DE | 22 % | 17 % | 21 % |
| ES | 22 % | 7 % | 20 % |
| FI | 20 % | 12 % | 18 % |
| FR | 16 % | 11 % | 15 % |
| GR | 21 % | 10 % | 20 % |
| IT | 23 % | 12 % | 21 % |
| LU | 20 % | 13 % | 20 % |
| MT | 19 % | 5 % | 14 % |
| NL | 19 % | 12 % | 17 % |
| PT | 22 % | 10 % | 20 % |
| SI | 29 % | 16 % | 28 % |
| SK | 12 % | 4 % | 11 % |

# Marginal effects of weighted probit regressions for the Euro area on socio demographic variables

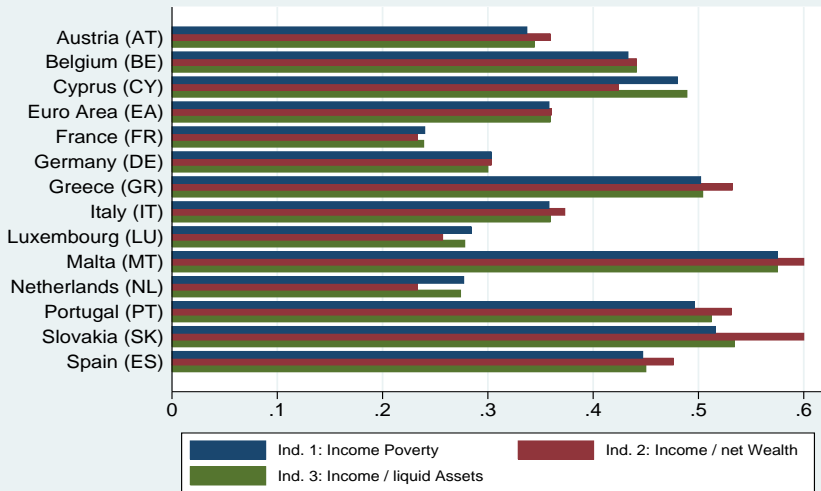|  | Poverty Indicator | | |
|---|---|---|---|
|  | (1) Income only | (2) Income and net wealth | (3) Income and net liquid assets |
| Age of head | -0.015*** | -0.006*** | -0.013*** |
| Age of head$^2$ | 0.000*** | 0.000*** | 0.000*** |
| Female | 0.048*** | 0.026*** | 0.046*** |
| One person hh, $>=$65 | -0.116*** | -0.050*** | -0.103*** |
| Two person hh, $<$65 | -0.082*** | -0.033*** | -0.069*** |
| Two person hh, at least one $>=$65 | -0.119*** | -0.053*** | -0.106*** |
| Couple with children | -0.01 | 0.006 | -0.005 |
| Lone parent with children | 0.093*** | 0.048*** | 0.098*** |
| Three or more person hh | -0.073*** | -0.009 | -0.061*** |
| ISCED 2 | -0.074*** | -0.030*** | -0.075*** |
| ISCED 3+4 | -0.168*** | -0.077*** | -0.159*** |
| ISCED 5 | -0.205*** | -0.087*** | -0.192*** |
| Hh members 16+ in employment | -0.315*** | -0.157*** | -0.293*** |
| Owner of HMR | -0.082*** | -0.150*** | -0.080*** |
| N | 61,232 | 61,232 | 61,232 |
| Log Likelihood | -23,534 | -16,281 | -22,474 |

*** $p <$0.01

# Participation in real assets, financial assets, and debt of wealth-poor households, 'big' and 'crisis' countries

|  | Country and Poverty Indicator | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  | EA | EA | DE | DE | ES | ES | FR | FR |
|  | (1) | (2) | (1) | (2) | (1) | (2) | (1) | (2) |
| Real Assets | 84 % | 74 % | 55 % | 46 % | 90 % | 70 % | n.a. | n.a. |
|  | (-8) | (-17) | (-25) | (-35) | (-5) | (-26) |  |  |
| Fin. Assets | 91 % | 89 % | 98 % | 97 % | 97 % | 94 % | 99 % | 98 % |
|  | (-6) | (-8) | (-1) | (-2) | (-1) | (-4) | (-1) | (-2) |
| Debt | 29 % | 33 % | 36 % | 39 % | 26 % | 37 % | 29 % | 29 % |
|  | (-14) | (-11) | (-12) | (-8) | (-24) | (-13) | (-18) | (-18) |

|  | Country and Poverty Indicator | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  | IT | IT | GR | GR | PT | PT | CY | CY |
|  | (1) | (2) | (1) | (2) | (1) | (2) | (1) | (2) |
| Real Assets | 95 % | 90 % | 81 % | 62 % | 83 % | 66 % | 86 % | 70 % |
|  | (-3) | (-8) | (-11) | (-31) | (-7) | (-24) | (-10) | (-26) |
| Fin. Assets | 75 % | 67 % | 55 % | 49 % | 87 % | 84 % | 75 % | 57 % |
|  | (-17) | (-25) | (-19) | (-26) | (-7) | (-10) | (-13) | (-31) |
| Debt | 19 % | 24 % | 19 % | 22 % | 20 % | 25 % | 41 % | 40 % |
|  | (-6) | (-1) | (-17) | (-14) | (-18) | (-13) | (-24) | (-25) |

# Poverty and food consumption

## Summary and conclusions

- ▶ Adding wealth to the poverty definition - as opposed to using a pure income measure - influences the share of poor households

    - ▶ Some effects on the socio-demographic composition, portfolio structure and food consumption of poor households

    - ▶ Income poverty is a problem for the elderly

    - ▶ Wealth poverty seems not to be problematic

Thank you for your attention!

**Paper:** Philip Müller and Tobias Schmidt, *Identifying Income and Wealth-Poor Households in the Euro Area*, Bundesbank Discussion Paper No 35/2015.

We would like to thank Franziska Bremus, Renate Ohr, Eva Sierminska, Panagiota Tzamourani and the participants of 2 conferences organised by the European Central Bank and the International Association for Research in Income and Wealth (IARIW) for their valuable comments and suggestions. Without Dorothea this paper would not exist.