



# Net or Gross? Assessing the anti-poverty effects of social transfers in the European Union

Chrysa Leventi, Andrea Papini and Holly Sutherland

6<sup>th</sup> European User Conference for EU-Microdata

Mannheim, 7 March 2019



University of Essex





# Outline

- Introduction
- State of play
- Aims of the study
- Methodology
- Main results
- Conclusions



# Introduction (1/2)

Two EU indicators are used to assess the effects of social transfers on financial poverty:

- AROP rate before social transfers, *including* pensions
- AROP rate before social transfers, *excluding* pensions
  - Produced using EU-SILC microdata
  - Measure AROP in hypothetical situations where social transfers are supposed to be absent from a country's welfare system

The difference between the AROP before and the AROP after social transfers measures the anti-poverty effectiveness of transfers



# Introduction (2/2)

- The effectiveness of social transfers to reduce the risk of income poverty varies widely among the EU-28:
  - In SILC 2015 the difference between the AROP before and after social transfers (excluding pensions) varied from a max of 20 ppts to a min of 3.9 ppts
  - Average (unweighted) at the EU-28 level was about 9 ppts (Eurostat, 2018)
- During the period 2010 to 2015, on average:
  - Before-transfers AROP rate remained stable
  - Post-transfer AROP experienced a rise



# State of play (1/3)

- Limitations of current indicators
  - Assessment based on gross transfers
    - The anti-poverty effectiveness of social transfers should be assessed based on transfers *received* not on transfers paid, i.e. net of taxes & social insurance contributions (SIC)
  - No distinctions between types of transfers
    - Their effects may not be uniform
  - No assessment of private pensions
    - Some countries rely more on compulsory private pension schemes which in EU-SILC are classified as part of original income



# State of play (2/3)

- Limitations of net-gross conversion procedures in EU-SILC (source: *Net-SILC3 Survey on Weighting and Imputation*, replies from 21 NSIs)
  - Incomes are recorded in various ways
    - Both net and gross: 10 countries
    - Only net: 5 countries
    - Only gross: 4 countries
    - Depends on the income component: 2 countries
  - The methods used for net-gross conversion by NSIs vary widely
    - No method: 5 countries
    - Empirical factors: 8 countries
    - Country-specific models: 7 countries
    - Siena microsimulation model: 2 countries



# State of play (3/3)

- Limitations of net-gross conversion procedures in EU-SILC (cont'd)
  - Different methods can lead to different outcomes
  - No net income components available for DK, MT, NL, NO, SK, UK (SILC 2015)
  - In several countries net values = gross values
    - Are these income components not subject to tax/SIC or was the tax/SIC deduction omitted in the imputation procedure?



# Aims of the study

We explore the following issues:

1. The treatment of taxes and SIC paid on transfers
  - If transfers are taxable, the contribution of net transfers to poverty reduction may be smaller than if they are considered in gross terms
2. The role of different types of transfers in poverty reduction
  - Means-tested versus non-means-tested benefits
  - Impact of policy interdependencies when constructing hypothetical scenarios where some transfers are set to zero
3. The definition of pensions and their treatment as original income or as transfers
  - Treating private pensions in the same way as public pensions





# Methodology (1/3)

- We use EUROMOD, the tax-benefit microsimulation model for the EU-28
- Based on household microdata (EU-SILC; FRS for UK)
- Computes the effects of actual or hypothetical policy changes on the distribution of target variables:
  - At-risk-of-poverty and income inequality
  - (Net) budgetary cost of policy changes
  - Indicators of work incentives
- Suitable candidate for the gross-to-net imputation of transfers:
  - Ensures cross-country comparability
  - Transparent process



# Methodology (2/3)

- **Baseline scenario:** simulations for 2015 using EUROMOD
  - Standard AROP rates obtained for all countries ( $AROP_0$ )
- **Six hypothetical scenarios:** each considering different types of social transfers. For each scenario i:
  1. We use Eurostat's methodology to construct the AROP before gross social transfers,  $AROP_i$
  2.  $AROP_i - AROP_0$  : contribution of *gross social transfers* to poverty reduction
  3. We use EUROMOD to construct the AROP before net social transfers,  $AROP_{ip}$ 
    - Social transfers are set to zero in the model and then simulations are carried out, producing new values for taxes and SIC
  4.  $AROP_{ip} - AROP_0$  : contribution of *net social transfers* to poverty reduction

# Methodology (3/3)

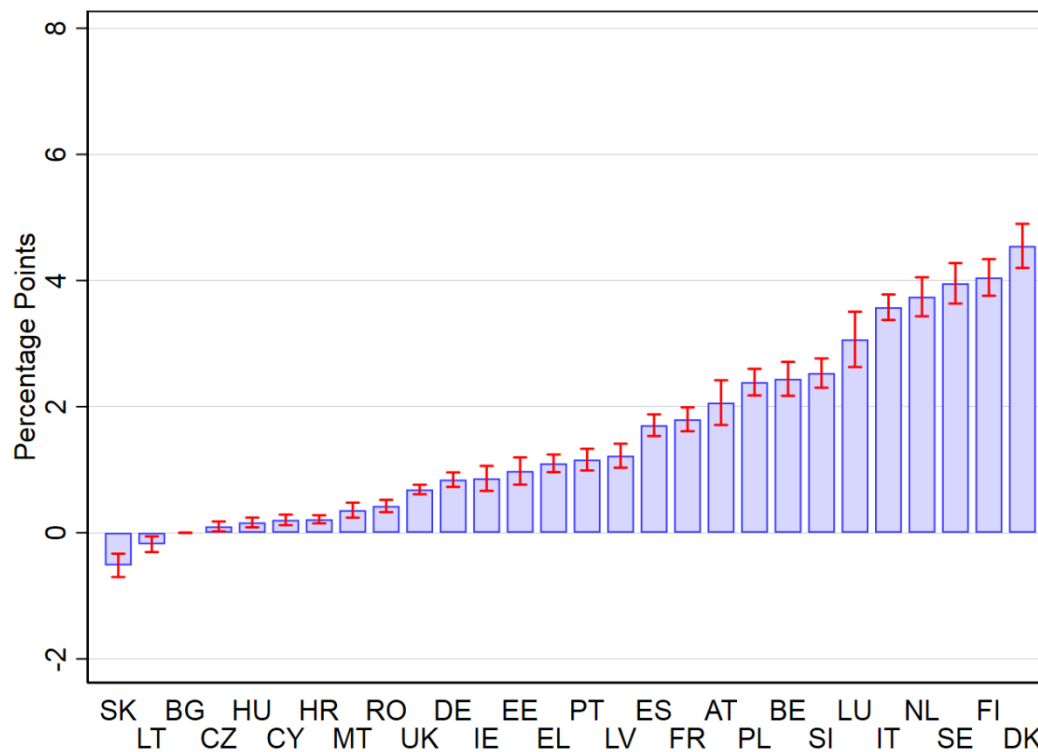
Scenarios	Social transfers set to zero (in gross & net terms)	AROP
Baseline	none	AROP_0
1	public pensions, means-tested benefits & non-means-tested benefits	AROP_1 AROP_1p
2	public pensions	AROP_2 AROP_2p
3	public pensions & private pensions	AROP_3 AROP_3p
4	means-tested benefits & non-means-tested benefits	AROP_4 AROP_4p
5	means-tested benefits	AROP_5 AROP_5p
6	non-means-tested benefits	AROP_6 AROP_6p

Notes: AROP\_*i*: social transfers considered in gross terms  
AROP\_*ip*: social transfers considered in net terms

# Scenario 1: all social transfers set to zero (1/2)

- Gross (*net*) transfers are estimated to reduce the AROP rate by 28.1 (26.6) percentage points on average

## Difference between AROP<sub>1</sub> and AROP<sub>1p</sub> (2015)

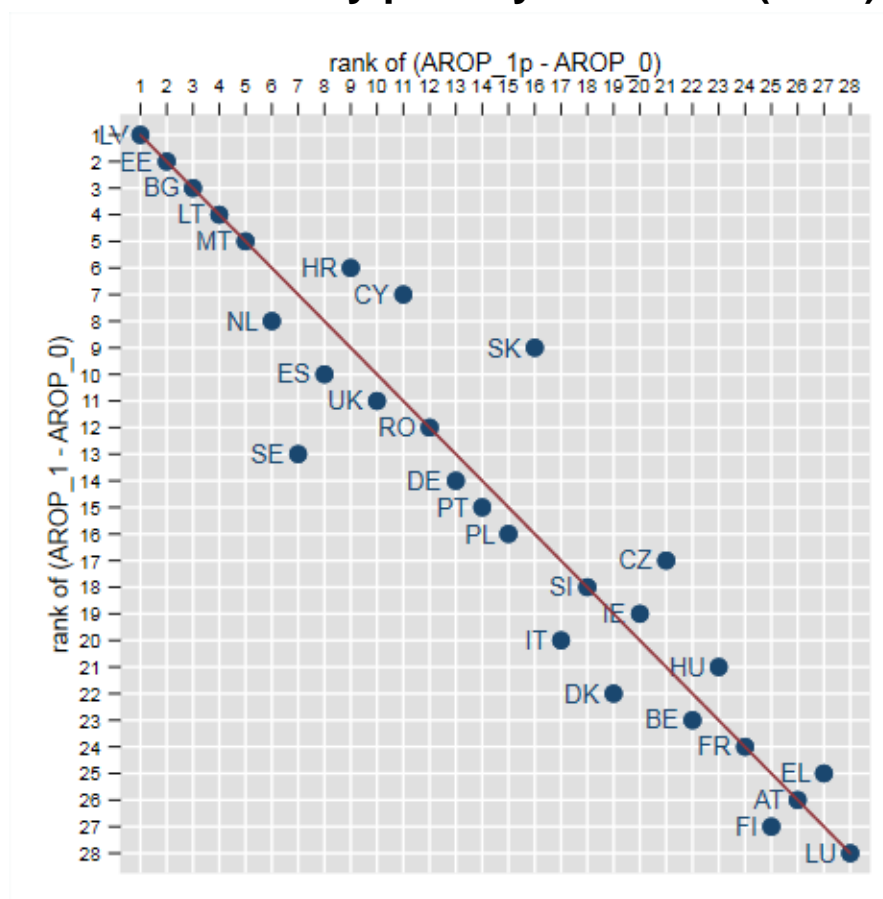


*AROP<sub>1</sub>: AROP before gross social transfers*

*AROP<sub>1p</sub>: AROP before net social transfers*

# Scenario 1: all social transfers set to zero (2/2)

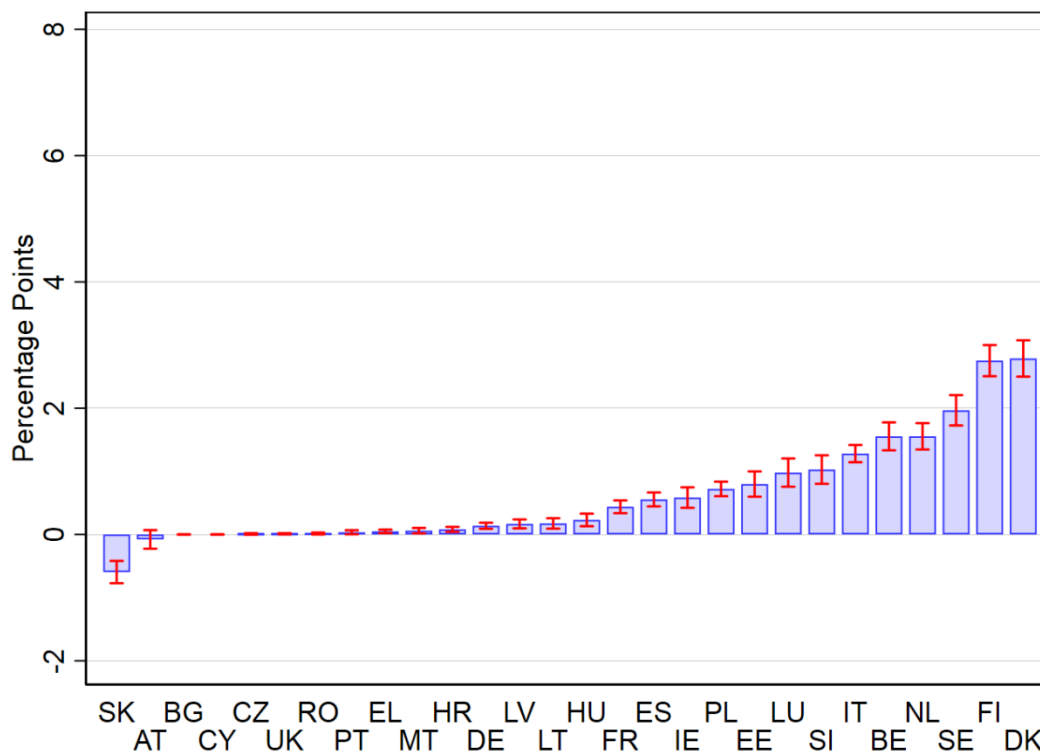
Country ranking by contribution of gross and net social transfers to monetary poverty reduction (2015)



# Scenario 4: non-pension benefits set to zero

- Gross (*net*) benefits are estimated to reduce the AROP rate by 10.8 (10.2) percentage points on average

Difference between AROP\_4 and AROP\_4p (2015)



*AROP\_4: AROP before gross benefits*

*AROP\_4p: AROP before net benefits*



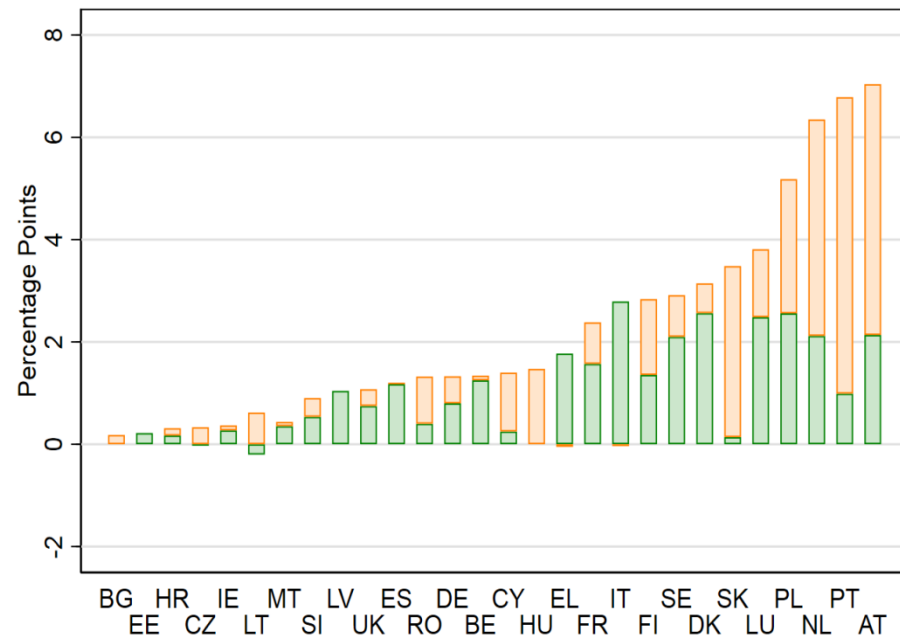
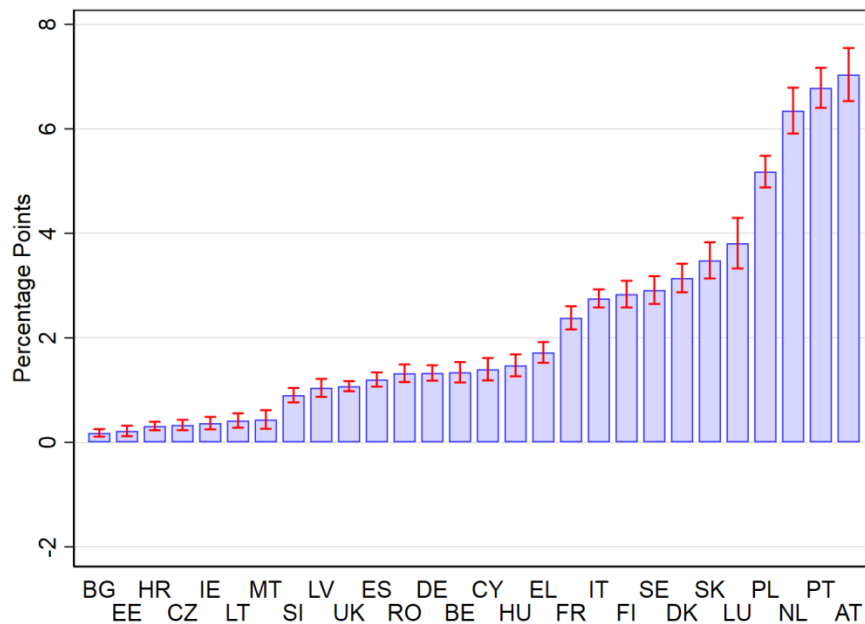
# Policy interdependencies

- A usual assumption when constructing hypothetical scenarios where some social transfers are set to zero is that the loss of a transfer would not be compensated by other kinds of transfers
- In practice, this is usually *not* the case
- Means-tested benefits may partly/fully compensate for the loss of:
  - Public old age and survivors' pensions (**Scenario 2**)
  - Non-means-tested benefits (**Scenario 6**)

# Scenario 2: public pensions set to zero

- Gross public pensions reduce the AROP rate by 18.3 ppts
- Net public pensions combined with increased means-tested benefits reduce the AROP by 16.1 ppts
- Net public pensions alone reduce the AROP by 17.3 ppts

**Difference between AROP\_2 and AROP\_2p (2015)**

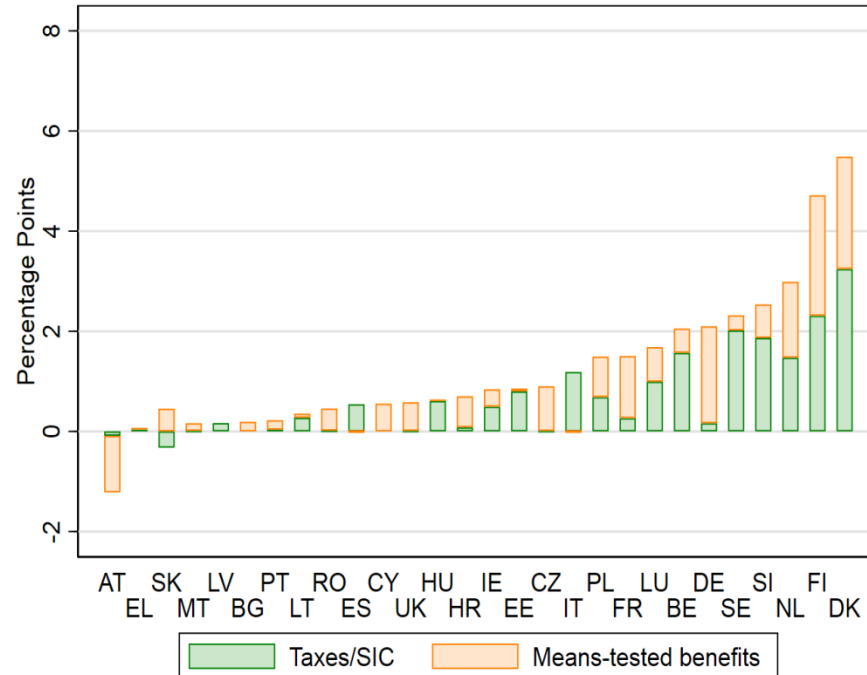
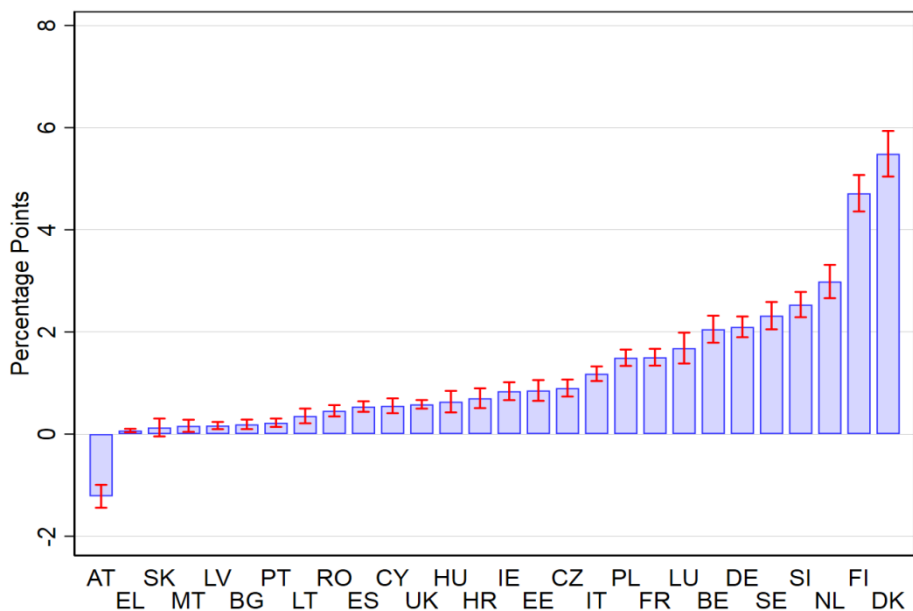




# Scenario 6: non-means-tested benefits set to zero

- Gross non-means-tested benefits reduce the AROP rate by 7.4 ppts on average and net non-means-tested benefits together with policy interactions (*alone*) by 6.2 (6.7) ppts

Difference between AROP\_6 and AROP\_6p (2015)





# Private pensions

- In most countries treating private pensions the same way as public pensions does not significantly change our assessment on the anti-poverty effectiveness of pension income
- Exceptions: the UK and Denmark
  - In the UK (DK), including private pensions in the definition of pension income reinforces the anti-poverty effectiveness of the latter by approximately seven (two) percentage points



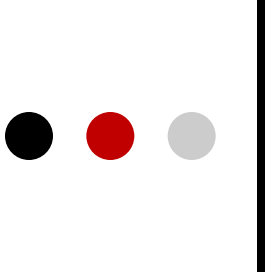
# Conclusions (1/2)

- The treatment of taxes and SIC has an important impact on the indicators used to assess the anti-poverty efficiency of transfers
  - Biggest differences overall due to taxation of public pensions
  - Differences due to taxation of non-pension benefits are generally small except in the Nordic EU countries (DK, FI, SE)
- The anti-poverty impact of non-means-tested benefits seems to be explaining most of the total impact of benefits on monetary poverty reduction



# Conclusions (2/2)

- The ranking of countries by the anti-poverty effectiveness of their transfer systems depends on whether transfers are measured gross or net
- Even small discrepancies in the assumptions used by NSIs to construct the relevant EU indicators might have an important impact on the estimated country rankings
  - These rankings are routinely used for policy recommendations
- The use of microsimulation can significantly improve the transparency and comparability of these indicators



Thank you  
for your attention!

Contact email: [c.leventi@minfin.gr](mailto:c.leventi@minfin.gr)