



Institute of Sociology  
Czech Academy of Sciences

# Beyond Income Poverty: Subjective Poverty based on MIQ

Martina Mysíková

8th EU-User Conference, 16-17 March 2023

## Introduction

- Poverty is a multidimensional phenomenon (AROPE)
- Poverty includes both objective and subjective aspects
- Income poverty:
  - Objective (relative) AROP – based solely on household income
  - Subjective income poverty – HHs consider their overall situation (e.g., housing costs, expenditures, loan payments) → a useful complementary measure to AROP
- EU-SILC:
  - HS120: ABILITY TO MAKE ENDS MEET – categorical variable, 6-point scale
  - **HS130: LOWEST MONTHLY INCOME TO MAKE ENDS MEET** (until 2020) – money-metric question; generally called Minimum Income Question (MIQ)

## Questions to measure SP

- **HS120: ABILITY TO MAKE ENDS MEET**
  - Poverty threshold – usually arbitrarily set based on one or more bottom ladder rungs (Carletto and Zezza, 2006, Mysíková et al., 2019)
  - Advantage: this approach does not require specifying a monetary value of the subjective poverty line (Duvoux and Papuchon, 2019)
  - Attempts to estimate the subjective poverty line based on the categorical questions are less frequent (Piasecki and Bieńkuńska, 2018; Pradhan and Ravallion, 2000; Želinský et al., 2020)
- **HS130: LOWEST MONTHLY INCOME TO MAKE ENDS MEET**
  - These approaches were primarily designed to be used for econometric modelling of subjective poverty lines (Goedhart et al., 1977; Kapteyn et al., 1988)
  - Simplified methods (averaging the responses or contrasting the responses directly to the actual income) – supposed to provide less reliable results
  - Such methods have been criticised for “*heterogeneity, such that people at the same standard of living can give different answers on subjective welfare*” (Ravallion, 2014, pp. 146–147) → control for this heterogeneity by estimating model-based subjective poverty lines

## Data

- EU-SILC 2020
- Version 01-2022: DE, IT (and the UK) were not available yet → 25 EU countries
- Country-level analyses
- Models run at the HH level, but the rates are stated at individual level (→ % of population)

# SUBJECTIVE POVERTY BASED ON THE MIQ

The intersection method:

- The subjective minimum income (HS130) is estimated as a function of actual HH income (HY020/12)

## Figure: Intersection method to derive the subjective poverty line (OLS)

Goedhart et al. (1977, p.514): “respondent's perception of the poverty line is distorted by the fact that his actual income is not equal to his minimum income level”.

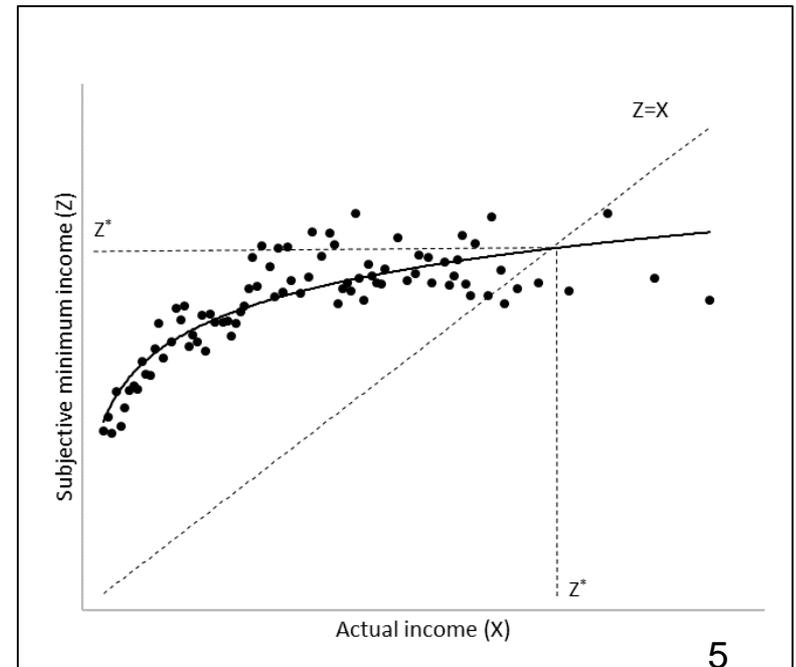
*This misperception does not happen only at the intersection, the income level defining the poverty line.*

SPL is derived as the income level at which  $Z = X = Z^*$  given the function:

$$\ln(\hat{Z}) = \alpha + \beta \ln(X),$$

which yields

$$\ln(Z^*) = \frac{\alpha}{1-\beta}$$



## SUBJECTIVE POVERTY BASED ON THE MIQ

Additional and control variables:

- **household size** – 3 dummies for adults (2, 3, 4+ adults; ref. 1); and 3 dummies for children (1, 2, 3+; ref. childless)
- *HH structure* by economic activity, gender, education, age – in order to avoid assigning individual characteristics of one HH member to the whole HH, we use the share of adult household members with that characteristic (the share of working, female, tertiary educated, and younger (16-30) adults)
- *tenure status* - 2 dummies (outright owners, mortgages; ref. tenants)
- degree of *urbanisation* of the place of residence – 2 dummies for densely and medium populated areas (ref. thinly populated)
- and severe material *deprivation* – one dummy as a proxy of the financial strain of HHs

# SUBJECTIVE POVERTY BASED ON THE MIQ

SPL:

$$\ln(Z^*) = \frac{\alpha + \sum_{j=1}^n \gamma_j C_j}{1 - \beta}$$

(1) A single SPL (or a set of SPLs for sub-populations of interest) holding the values of control variables at their national mean

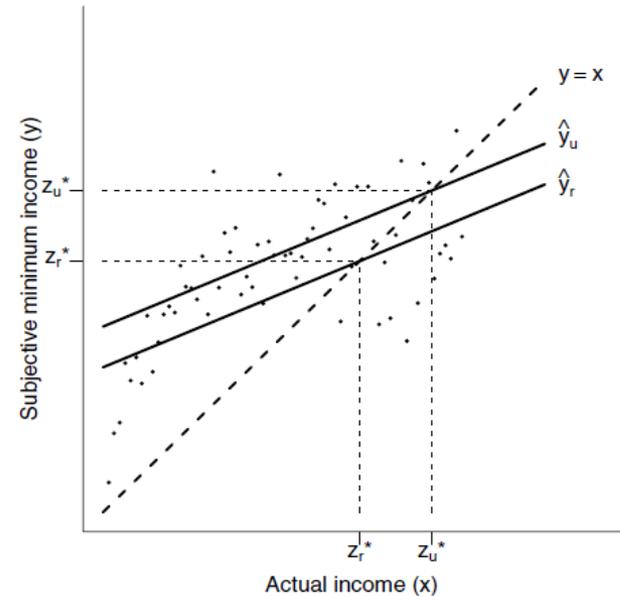
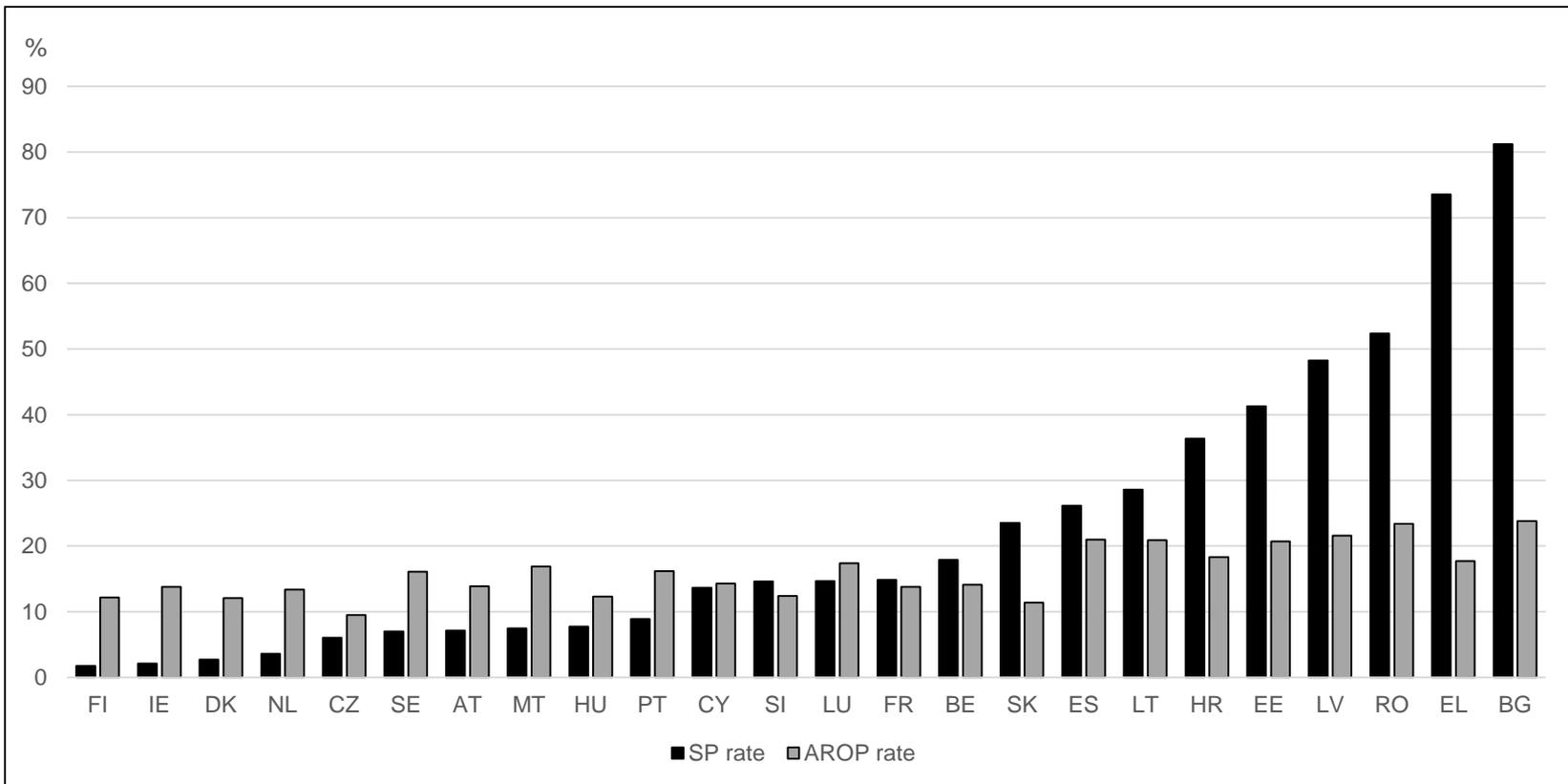


Fig. 2 Estimation of two alternative thresholds (in Log form)

(2) **A specific SPL for each household** – useful if we are not interested in SP lines, but just in identification of the „poor“

# SUBJECTIVE POVERTY BASED ON THE MIQ

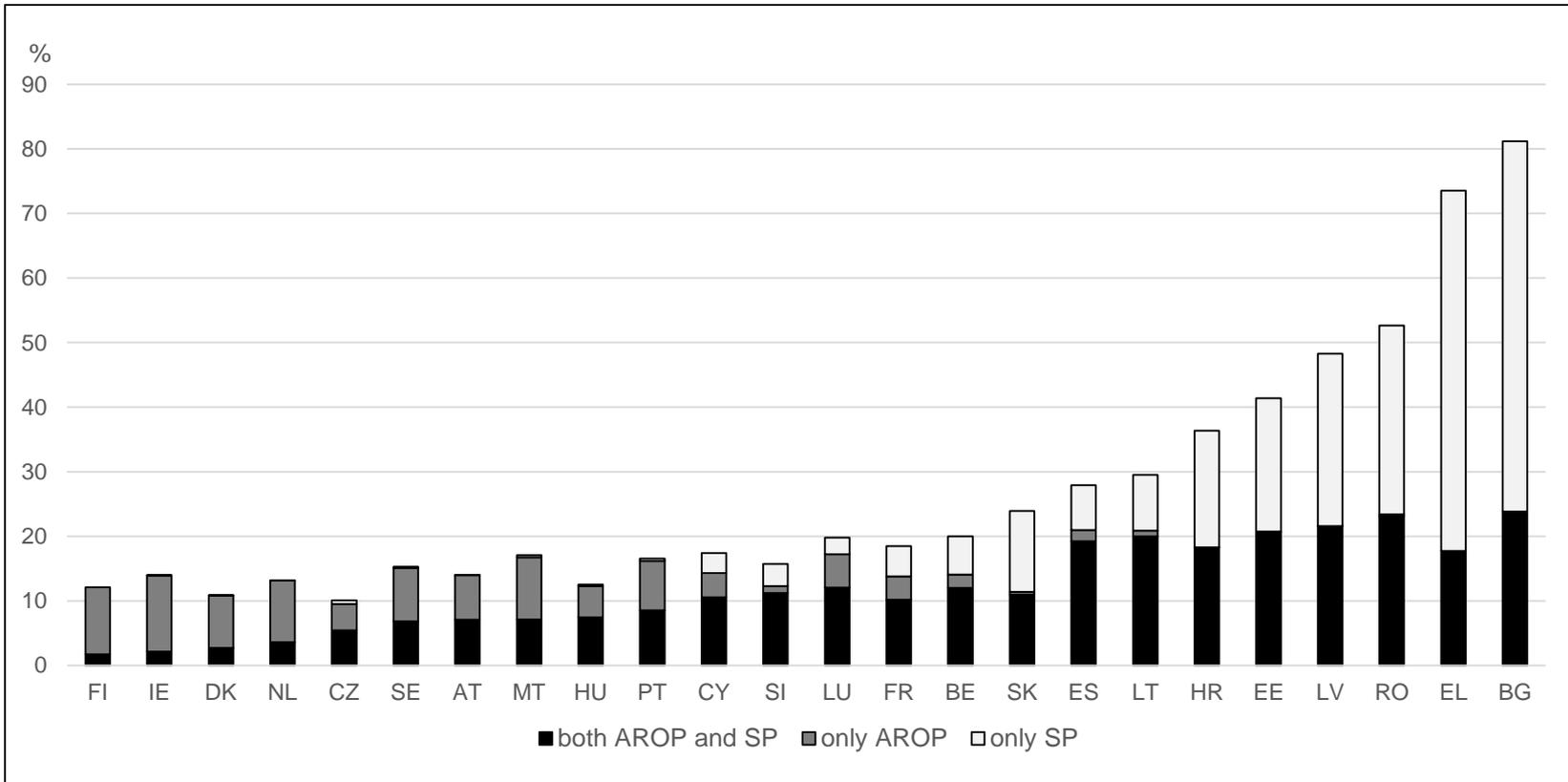
## Subjective Poverty and AROP rates (% of population)



Source: Eurostat database for AROP rates (variable *ilc\_li02*).

# SUBJECTIVE POVERTY BASED ON THE MIQ

## AROP and SP rates: the overlaps (% of population)



Notes: Countries ranked by SP rate (both AROP and SP, and only SP).

## CONCLUDING REMARKS...

- We consider the SP approaches to represent a useful tool to complement the objective income poverty statistics
- We consider MIQ (HS130) to be a useful variable for SPL estimations
- We also analysed trends in SP rates over 2004-2019 based on MIQ (Želinský et al., 2022):
  - We found a robust empirical evidence of decreasing trends in subjective poverty in 17 of 28 EU countries; no trend in 8 countries; an increasing trend only in LU; and inconclusive (linear or U-shaped) trends in HU and HR
  - The paper has an online appendix with more detailed results for each country
    - SP indices: FGT0: head-count index; FGT1: poverty gap index; FGT2: severity of poverty index (and their trends displayed in graphs)
    - SP lines by household type (A+K), tenure status, urbanisation

# Thank you for attention

[martina.mysikova@soc.cas.cz](mailto:martina.mysikova@soc.cas.cz)



## REFERENCES:

- Carletto, G., Zezza, A. (2006). Being poor, feeling poorer: Combining objective and subjective measures of welfare in Albania. *Journal of Development Studies*, 42(5), 739–760.
- Duvoux, N., Papuchon, A. (2019). Subjective Poverty as perceived lasting social insecurity: Lessons from a French survey on poverty, inequality and the welfare state (2015-2018). LSE Working Paper no. 36. London: The London School of Economics and Political Science.
- Goedhart, T., Halberstadr, V., Kapteyn, S., van Praag, B. M. S. (1977). The poverty line: Concept and measurement. *The Journal of Human Resources*, 12(4), 503–520.
- Kapteyn, A., Kooreman, P. and Willemse, R. (1988). Some methodological issues in the implementation of subjective poverty definitions. *The Journal of Human Resources*, 23(2), 222–242.
- Mysíková, M., Želinský, T., Garner, T. I. and Večerník, J. (2019). Subjective perceptions of poverty and objective economic conditions: Czechia and Slovakia a quarter century after the dissolution of Czechoslovakia. *Social Indicators Research*, 145 (2), 523–550.
- Piasecki, T., Bieńkuńska, A. (2018). Subjective poverty lines based on the EU-SILC survey. Presentation at the Expert meeting on measuring poverty and inequality 28-30 November 2018, Vienna, Austria. UNECE Conference of European Statisticians.
- Pradhan, M., Ravallion, M. (2000). Measuring poverty using qualitative perceptions of consumption adequacy. *Review of Economics and Statistics*, 82(3), 462–471.
- Ravallion, M. (2014). Poor, or just feeling poor? On using subjective data in measuring poverty. Pp. 140–178 in Clark, A. E., Senik, C. (Eds.): *Happiness and economic growth: Lessons from developing countries*. Oxford University Press.
- Želinský, T., Ng, J., Mysíková, M. (2020). Estimating subjective poverty lines with discrete information. *Economics Letters*, 196, 109545, 1–4.
- Želinský, T., Mysíková, M. and Garner, T. I. (2022). Trends in subjective income poverty rates in the European Union. *European Journal of Development Research*, 34(5), 2493–2516.