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Subjective poverty lines based on the EU-SILC

Anna Bieńkuńska

Tomasz Piasecki

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The idea of subjective poverty lines

- Poverty thresholds
  - fixed for the whole population or some subpopulations defined by objective criteria (household/family size or composition, main income source, place of living, etc.) – it makes the thresholds „objective"
  - constructed on the basis of the individual subjective assessments (opinions) about households' own or imagined financial situation aggregated („averaged") on the level of population (subpopulation) – this justifies the term „subjective"
  - quite advanced methods of aggregation, including models and regression
- Poverty defined as:
  actual household's income < poverty threshold calculated for the subpopulation, to which the household belongs

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Subjective poverty asessment
– methods and approaches

- Subjective poverty lines („objectivized" approach)
  - Leyden Poverty Line (LPL, *Goedhart*, *Van Praag*)
  - Subjective Poverty Line (SPL, *Goedhart*, *Kapteyn*)
  - The Centre for Social Policy poverty line (CSP, *Deleeck*)

- „Fully subjective" poverty measures (only subjective opinions, without calculating any objective poverty thresholds; examples)
  - actual income < declared minimal income (MINQ question)
  - „making ends meet" (Deleeck question) with difficulty or great difficulty

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Leyden Poverty Line (LPL)

- income evaluation question (IEQ)

- respondent must declare six theoretical (imagined) levels of income corresponding with the six fixed levels of utility

- allow to calculate poverty thresholds and poverty rates on any utility level (selected by researcher) defining the poverty threshold

IEQ question:
Under my/our conditions I would call an household income of:
about .... very bad,
about .... bad,
about .... insufficient,
about .... sufficient,
about .... good,
about .... very good.
Please enter an answer on each line.

Not present in EU-SILC

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SPL method

- minimal income question (MINQ)

- respondent must declare only one theoretical (imagined) level of income corresponding with the very low level of utility (absolutely minimal to „make ends meet")

- calculated poverty refers to the only one level of utility, not expressed numerically (corresponding with unknown level of utility in terms of LPL)

MINQ question:
What do you consider as an absolute minimum income for a houshold such as yours to be able to „make ends meet"?

CSP method

- like SPL, uses MINQ question

- additionally: Deleeck question (to extract the subset of respondents who are on the margin of poverty)

- takes into account only MINQ answers of the quite small subset of respondents (subpopulation)

- poverty thresholds calculated on the basis of MINQ, so interpretation of results and utility level like in case of SPL

Deleeck question:
Can you make ends meet with the actual income of your household:
❑ with great difficulty,
❑ with difficulty,
❑ rather easily,
❑ easily,
❑ very easily?

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Authors' proposal – *quasi LPL*

- Modification of LPL

- Motivation: to calculate „something like" LPL wihout using IEQ (not present in EU-SILC)

- Original LPL
  - individual level: six pairs (income, utility)
  - individual level: estimation of individual WFI (welfare function of income) and individual poverty line
  - aggregated (subpopulation) level: estimation of poverty threshold from individual data (using i.a. regression)

- Quasi LPL
  - What if we had only one pair (income, utility) on individual level?
    - unable to estimate individual WFI and individual poverty lines
    - however: still possible to estimate aggregated poverty thresholds for subpopulations by regression on individual data – this is the only what we finally need
  - How to obtain this one pair (income, utility) on individual level?
    - household's actual income
    - subjective assessment of the utility of the household's actual income expressed by the answer to Deleeck question

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Subjective poverty lines
– comparison of data needs

Survey question	Utilization in the method				Refers to:
	LPL	SPL	CSP	Quasi LPL	
IEQ	X				imagined income level
MINQ		X	X		imagined income level
Deleeck question			X	X	actual household's income
Actual income	X	X	X	X	actual household's income

Present in EU-SILC

No need to assess the utility of imagined income levels

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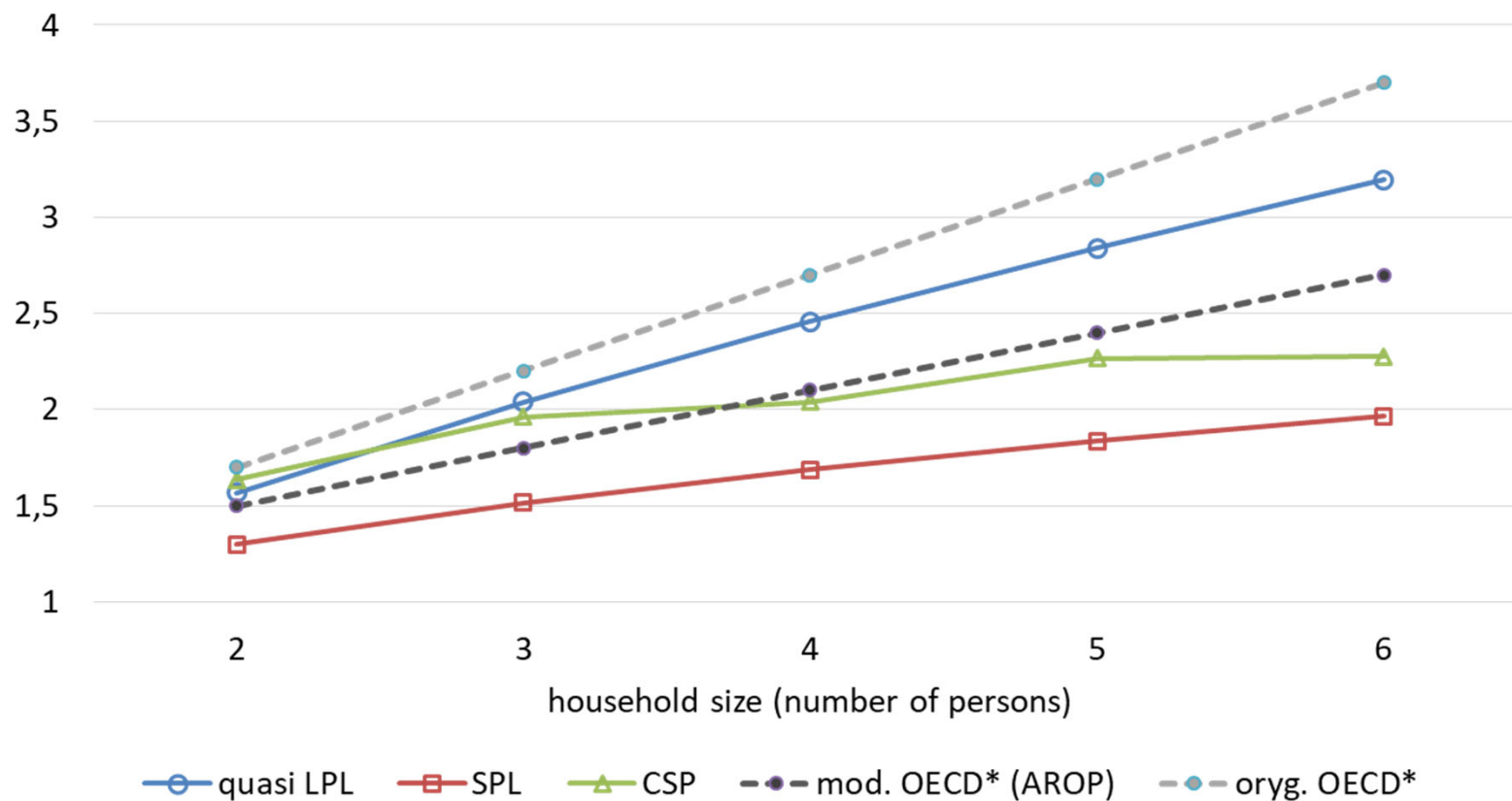# EU-SILC poverty thresholds in Poland
EU-SILC 2015 (2014 incomes)
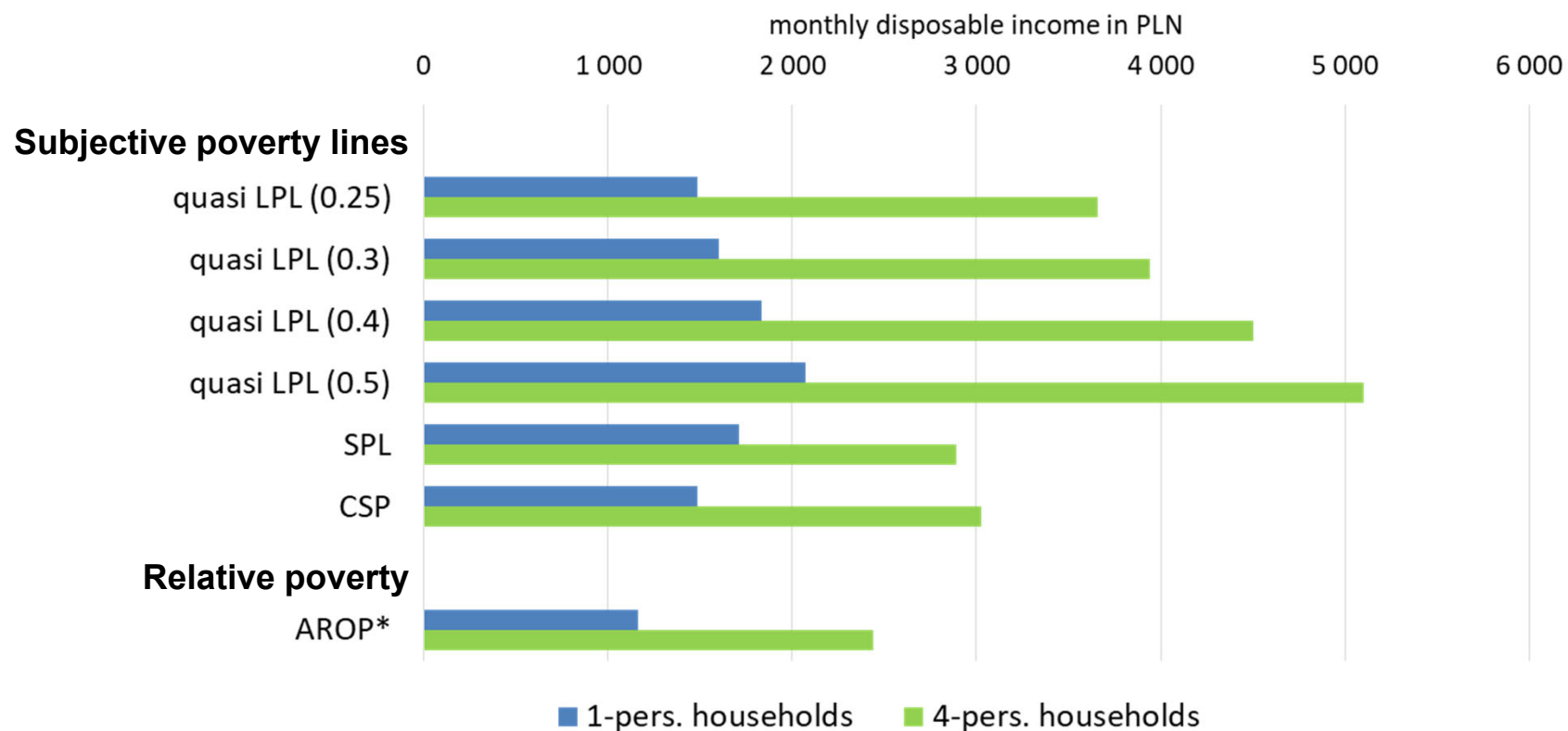
* 60% of median equivalised income; 4-pers households: 2 adults + 2 children

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Empirical eqivalence scales

* for OECD eqiv. scales 2 adults assumed in more than 1-pers. households

Poverty rates in Poland
EU-SILC 2015 (2014 incomes)

	Precent of households	Percent of persons (households' members)
'Objectivised' subjective poverty by method		
Quasi LPL (0.25)	32.2	32.3
Quasi LPL (0.3)	37.5	38.0
Quasi LPL (0.4)	47.6	47.7
Quasi LPL (0.5)	57.9	58.1
SPL	27.6	22.0
CSP	28.0	24.3
'Fully subjective' poverty		
Actual income < declared minimal income (MINQ)	28.8	25.3
Making ends meet with difficulty or great difficulty	30.4	29.7
Relative poverty		
AROP	17.0	17.6

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Conclusions and final remarks

- Quasi LPL may be an alternative for LPL when IEQ answers are not available. It may be also an alternative for SPL and CSP in case of unavailability of MINQ assessments

- Especially, quasi LPL may be used in international comparisons based on EU-SILC, where the original LPL is not applicable

- Quasi LPL is the only method in the family of subjective poverty lines, which does not need respondents to asses utility of imagined income levels and takes into account opinions expressed by the whole population (in contrast to CSP)

- Results of quasi LPL and original LPL are not comparable. Incoherence between IEQ and Deleeck scales seems to be the main reason

- Quasi LPL requires using lower utility levels defining poverty thresholds than original LPL. Values about 0.25-0.3 seem reasonable (0.4-0.5 usually used in original LPL)

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Conclusions and final remarks

- Poverty thresholds for 1-person households obtained by using all approaches to subjective poverty lines are higher than the most popular relative poverty threshold (AROP)

- Quasi LPL gives the empirical equivalence scale which is the closest to OECD scales. Empirical scales derived from the other subjective poverty lines are significantly less progressive.

- The results obtained by different variants of subjective poverty lines differ significantly, what may be difficult to justify without referring to quite complicated models and assumptions defining each method

- Subjective poverty rates are higher than most commonly used relative poverty rate. In case of subjective poverty lines the obtained poverty rates may be dependent to and conditional on models and assumptions, sometimes also on arbitrary set parameters (LPL). However, also „fully subjective" assessments confirm this conclusion.

- Independence on models and assumptions and clear, easy to understand interpretation may be great advantages of the „fully subjective" approach and premises for its wider use. However, we should remember that the „objectivised" and „fully subjective" approaches give the answers to another research questions and they are not the simple substitutes.

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Thank you for your attention

Anna Bieńkuńska

Statistics Poland, Warsaw

a.bienkunska@stat.gov.pl

Tomasz Piasecki

Statistical Office in Łódź

t.piasecki@stat.gov.pl

stat.gov.pl