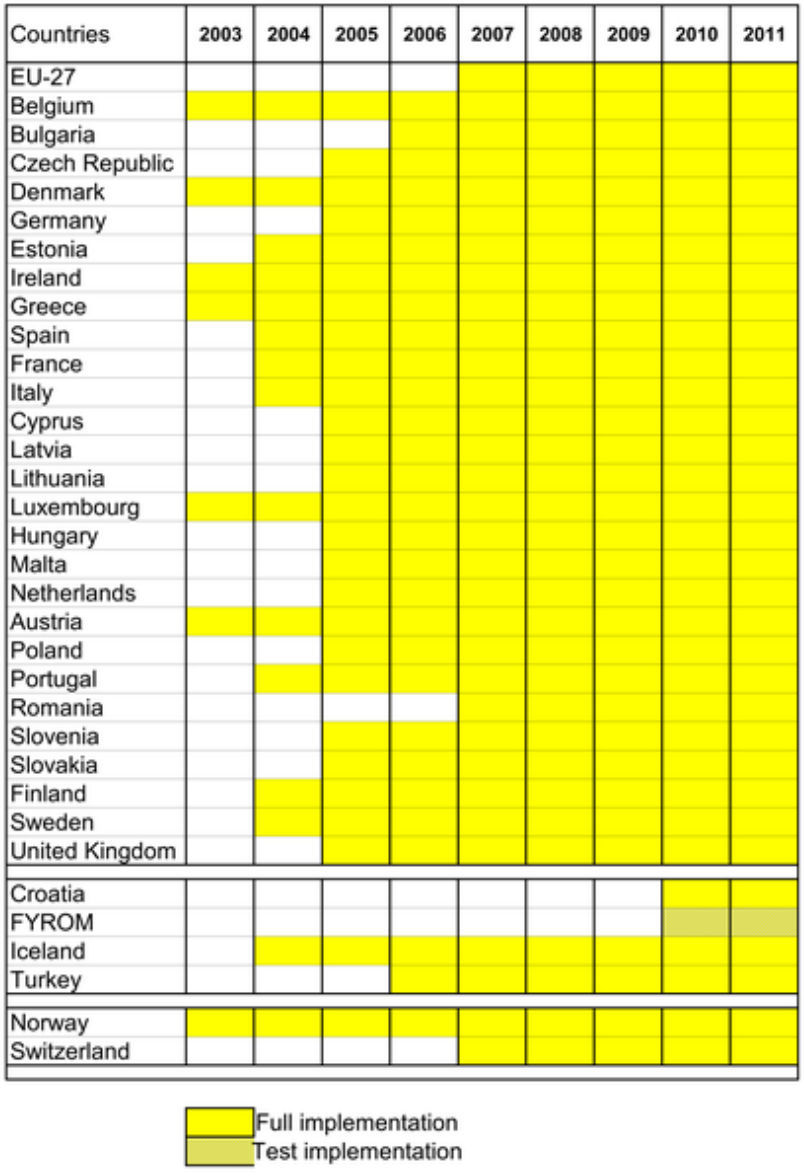
EU-SILC Survey in Poland, Central Statistical Office, Warsaw 2017

Main information about EU-SILC

- The European Union Statistics on Income and Living Conditions (EU-SILC) is an instrument aiming at collecting timely and comparable cross-sectional and longitudinal multidimensional microdata on income, poverty, social exclusion and living conditions. This instrument is anchored in the European Statistical System (ESS).
- The EU-SILC project was launched in 2003 on the basis of a "gentlemen's agreement" in six Member States (Belgium, Denmark, Greece, Ireland, Luxembourg and Austria) and Norway. The start of the EU-SILC instrument was in 2004 for the EU-15 (except Germany, the Netherlands, the United Kingdom) and Estonia, Norway and Iceland.

EU-SILC implementation by country



EU-SILC data

- Cross-sectional data pertaining to a given time or a certain time period with variables on income, poverty, social exclusion and other living conditions
- Longitudinal data pertaining to individual-level changes over time, observed periodically over a four-year period.

Social exclusion and housing condition information is collected mainly at household level while labour, education and health information is obtained for persons aged 16 and over. The core of the instrument, income at very detailed component level, is mainly collected at personal level.

Main social cohesion indicators

- *At-risk-of-poverty rate after social transfers*: Percentage of persons with an equivalised annual disposable income (after social transfers) below the at-risk-of-poverty threshold set at 60% of the national median of equivalised annual disposable income.
- *Severely materially deprived people*: Percentage of persons in households declaring inability to meet at least 4 out of 9 given needs due to financial reasons (e.g. keep home adequately warm, having a car).
- *People living in households with very low work intensity*: Percent of persons aged 0-59 living in households with very low work intensity, where the adults (aged 18-59) work less than 20% of their total work potential during the past year.
- *People at risk of poverty or social exclusion (union of the three sub-indicators)* (AROPE): Percent of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity.

Publication of the results at the national level

The tables present the survey results in the breakdown by:

- socio-economic group and for the total population of households (6 groups),
- class of locality (6 classes),
- household size measured by number of household members (6 groups),
- degree of urbanisation (3 classes) and region (NUTS 1, 6 classes).

Sample design - general information

- Two-stage sampling scheme with different selection probabilities at the first stage
- Primary sampling units (PSU) - enumeration census areas
- At the second stage - dwellings are selected
- Stratification pf PSU: the strata (250) were the voivodships (NUTS 2) and within the voivodships primary sampling units were classified by class of locality. In urban areas census areas were grouped by size of town. Big cities formed independent strata, but in the five largest cities districts were treated as strata. In rural areas strata were represented by rural gminas (NUTS5) of a subregion (NUTS3) or of a few neighbouring powiats (NUTS4).

Sample design - sample allocation

- Proportional allocation of dwellings to particular strata was applied. The number of dwellings selected from a particular stratum was in proportion to the number of dwellings in the stratum.
- The number of the first-stage units selected from the strata was obtained by dividing the number of dwellings in the sample by the number of dwellings determined for a given class of locality to be selected from the first-stage unit.
- In towns with over 100 000 inhabitants 3 dwellings per PSU were selected, in towns with 20-100 thousand inabitants – 4 dwellings per PSU, in towns with less than 20 000 inhabitants – 5 dwellings per PSU, respectively. In rural areas 6 dwellings were selected from each PSU.

Sample design - rotation pattern

Rotation in EU-SILC

Year	Subsamples														
2005	1	2	3	4											
2006		2	3	4	5										
2007			3	4	5	6									
2008				4	5	6	7								
2009					5	6	7	8							
2010						6	7	8	1						
2011							7	8	1	2					
2012								8	1	2	3				
2013									1	2	3	4			
2014										2	3	4	5		
2015											3	4	5	6	
2016												4	5	6	7

Sample design - sample sizes

Year	Sample size			Response			Response rate for new subsample	Response rate for all subsamples
	all	new	old	all	new	old		
	number of households			number of households			in %	
2005	24044	24848	-	16263	16263	-	65.4	67.6
2006	18494	6232	12262	14914	4100	10814	65.8	80.6
2007	18324	6196	12128	14286	3829	10457	61.8	78,0
2008	17443	6219	11224	13984	3821	10163	61.4	80.2
2009	17116	6125	10991	13224	3472	9752	56.7	77.3
2010	16407	6148	10259	12930	3608	9322	58.7	78.8
2011	16253	6141	10112	12871	3662	9209	59.6	79.2
2012	17254	7112	10142	13116	3969	9147	55.8	76,0
2013	17944	7449	10495	12899	3634	9265	48.8	71.9
2014	17563	7269	10294	12978	3698	9280	50.9	73.9
2015	17598	7255	10343	12183	3053	9130	42.1	69.2
2016	17644	8163	9481	11984	3503	8481	42.9	67.9

Sample design - weighting

Cross-sectional weights applied in EU-SILC: On the basis of the adjusted DB080 weight (design weight) the following weights are calculated:

- DB090 – weight for households,
- RB050 – weight for persons - household members,
- PB040 – weight for persons at the age of 16 and over,
- RL070 – weight for children at the age of 0–12 years.

Such weights are calculated separately for four subsamples forming the cross-sectional sample in the year of the survey T.

Longitudinal weights:

- RB040 - weight for persons present in the four waves
- RB062 - weight for persons present in the two waves
- RB063 - weight for persons present in the three waves

Sample design - weighting

Factors used in calculation of corrected design weights:

- adjustment for non-response by class of locality
- adjustment to external demographic data using integrated calibration method (used for cross-sectional weights);

Additional variables comprised the data on the number of households according to 4 size classes (1-person, 2-person, 3-person and 4 and more person household) in correlation with a voivodship (NUTS2) and by urban/rural area. As regards the population the data were presented by sex, age group (the first group – persons under 16 years, the second – 16-19 years, then eleven 5-year age groups and the age group of people at 75 years and over) and by voivodiship. These variables are derived from the current demographic estimates and the 2011 Census, and they are specific for each year of the survey.

EU-SILC - problems

- Old EU regulation sets precision requirements in terms of minimal effective sample size.
- New precision requirements for all data sets are expressed in standard errors and are defined as continuous functions of the actual estimates and of the size of the statistical population in a country or in a NUTS 2 region.
- The estimated standard error of a particular estimate $SE(p)$ shall not be bigger than the following amount:

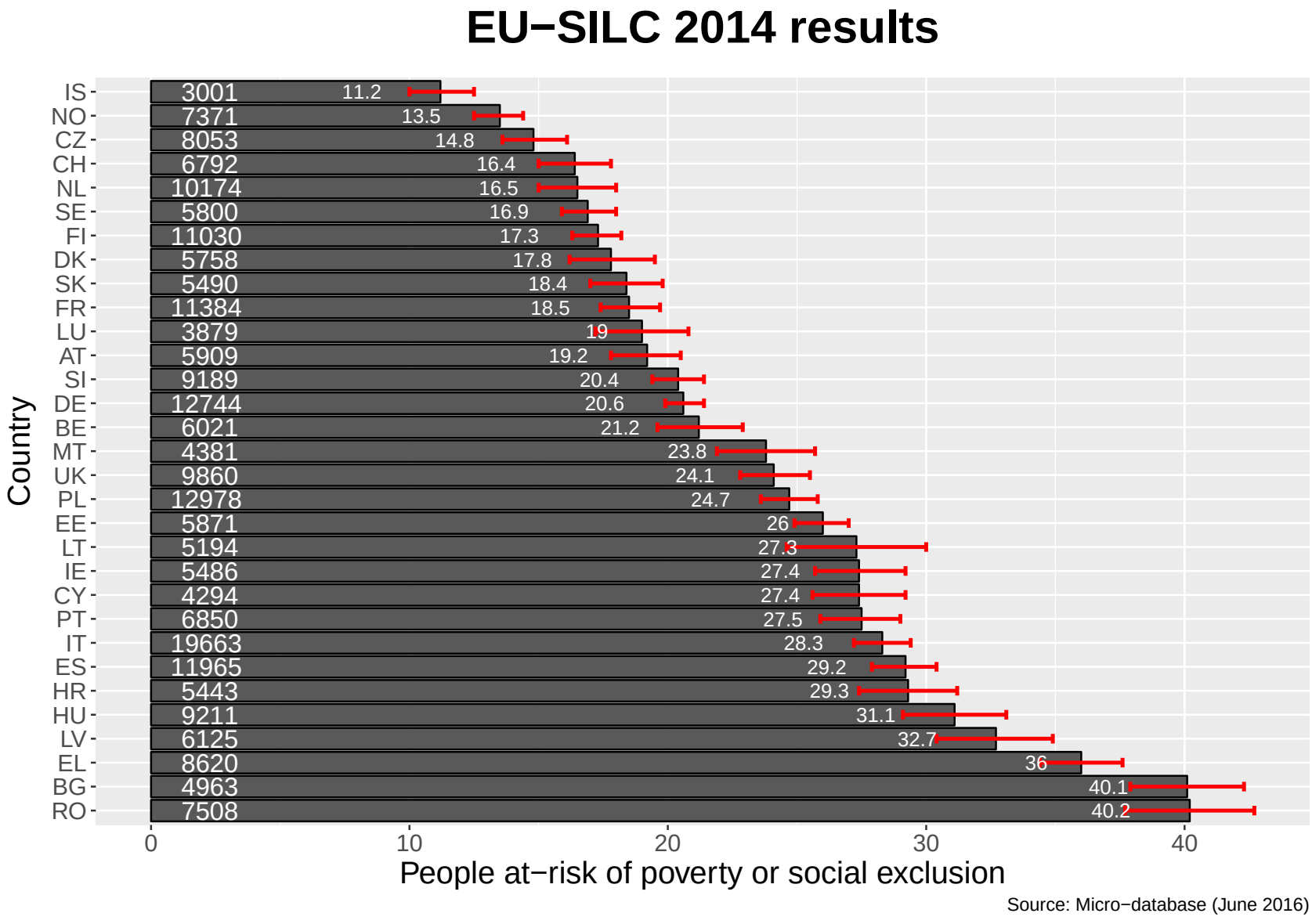
$$SE \leq \sqrt{\frac{p(1-p)}{a\sqrt{N}+b}},$$

where N is the number of private households in the NUTS 2 region in millions and rounded to 3 decimal digits, a and b are parameters.

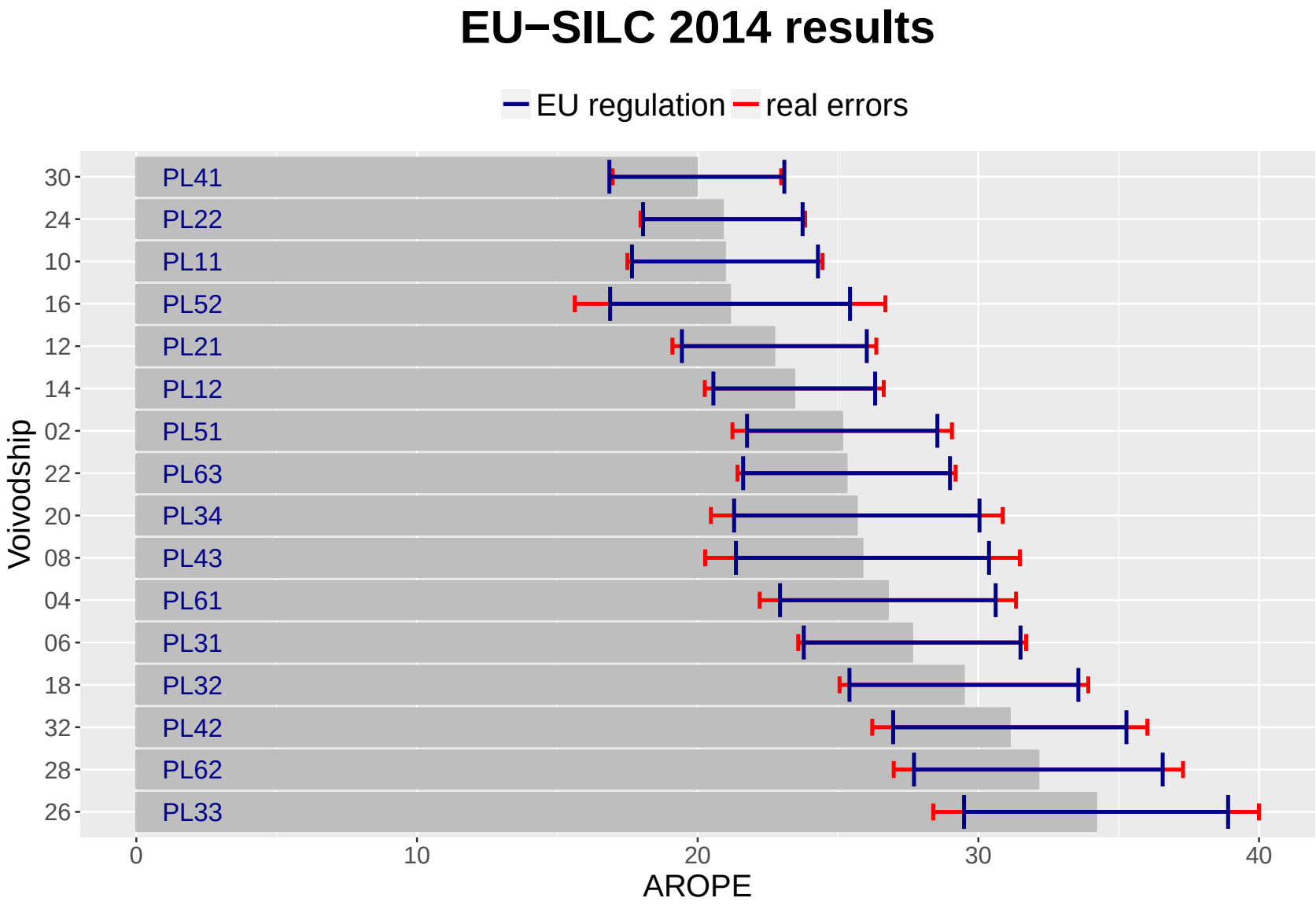
- for AROPE indicator the requirement have the form:

$$SE \leq \sqrt{\frac{p(1-p)}{600\sqrt{N}}},$$

AROPE indicator for EU countries



AROPE indicator for NUTS 2 levels in Poland



Planned changes for EU-SILC survey in Poland

- Sample size have to be increased to meet precision reguirements for NUTS 2 (voivodships)
- Modification of sample allocation between voivodships for new subsamples
- Substitutions i.e. sampling additional adresses to replace households which were not interviewed