Italian and European Experience in Using Household Surveys to Measure Poverty and the Joint Distribution of Income, Consumption and Wealth

Federico Polidoro
polidoro@istat.it
February 18, 2018

INNOVATIONS IN HH SURVEY
BIBLIOTHECA ALEXANDRINA
18-19 FEBRUARY 2018

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Topics of the presentation

1. EUSILC (European Union Statistics on Income and Living Conditions)

2. Measure of absolute poverty using Household Budget Survey (HBS)

3. Use of relative poverty measure (based on income) and absolute poverty indicators (based on consumption) in international strategies and national policies

4. European and Italian studies to provide users with microdata with joint distribution of information on Income, Consumption and Wealth (ICW)

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Topics of the presentation

Key notes

Without active policies the economic recovery is not sufficient to overcome inequalities arising from a long period of crisis that tend to become larger

The use of indicators about economic and living conditions of households not only to measure what happened in the past but to provide policy makers with a sound basis to change the future

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EUSILC - EU's growth strategy

In the framework of **Europe 2020,** the EU's growth strategy for the current decade, the European Council adopted in June 2010 a headline target for social inclusion: **Reduction of poverty by lifting at least 20 million people out of the risk of poverty or social exclusion.**

Several indicators have been defined to monitor progress towards this headline target, and in particular the **At Risk of Poverty or Social Exclusion** (AROPE), that combines the **at-risk-of-poverty rate**, **the severe material deprivation rate**, and the proportion of people living in households with **very low work intensity**.

EU-SILC is the source of this and other indicators.

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EUSILC – what is

The EU statistics on income and living conditions (EU-SILC) is:

-the reference source for comparative statistics on income distribution and social inclusion in the European Union;

- multi-purpose instrument, focusing mainly on income (income components at individual and household level), but providing also information on social exclusion, housing conditions, labour, education and health;

-based on the idea of a common "framework" (not common "survey") which defines the harmonised lists of target variables, common guidelines and procedures, common concepts and classifications aimed at maximising comparability of the information produced.

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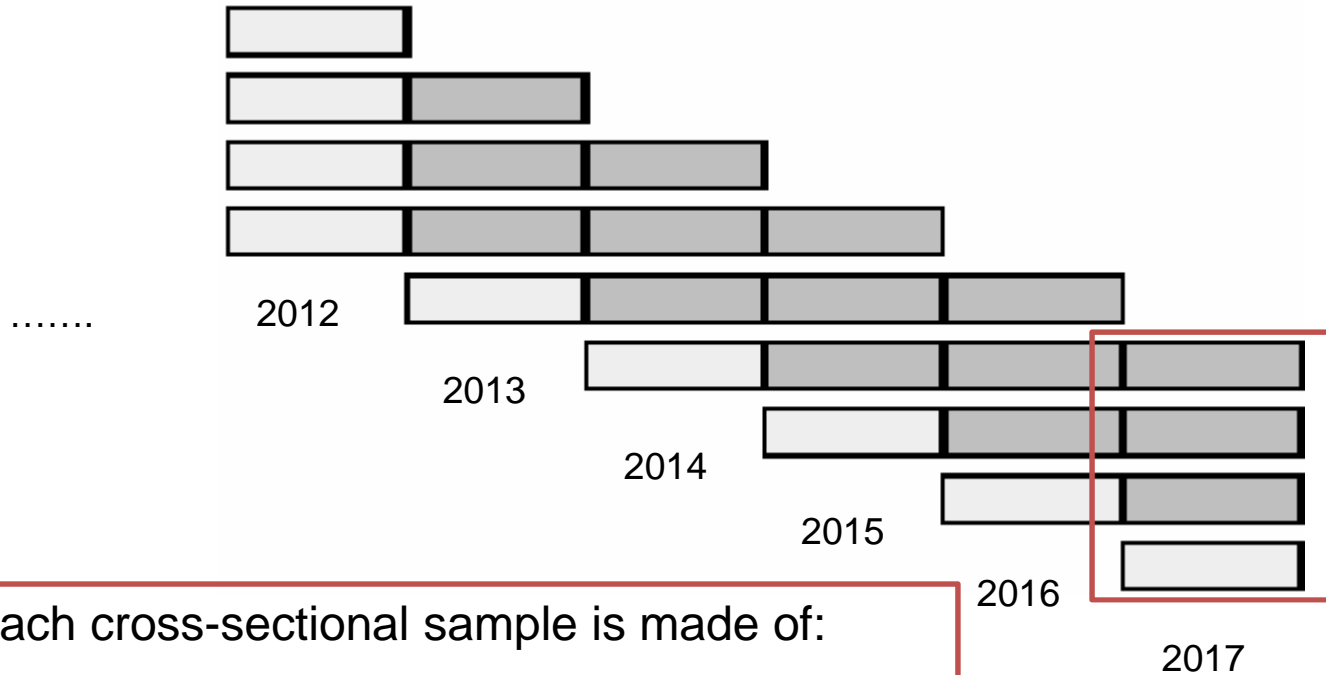# EUSILC – Which household and which data

The reference population includes all private households and their current members residing in the territory of the countries at the time of data collection. All household members are surveyed, but only those aged 16 and more are interviewed

Household definition: cohabitants related through marriage, kinship, affinity, adoption, patronage and affection
(Domestic personnel au pairs not included, but some demographic information are collected -date of birth, sex, marital status, length of stay in the household).

EU-SILC provides two types of annual data:

- cross-sectional data 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.
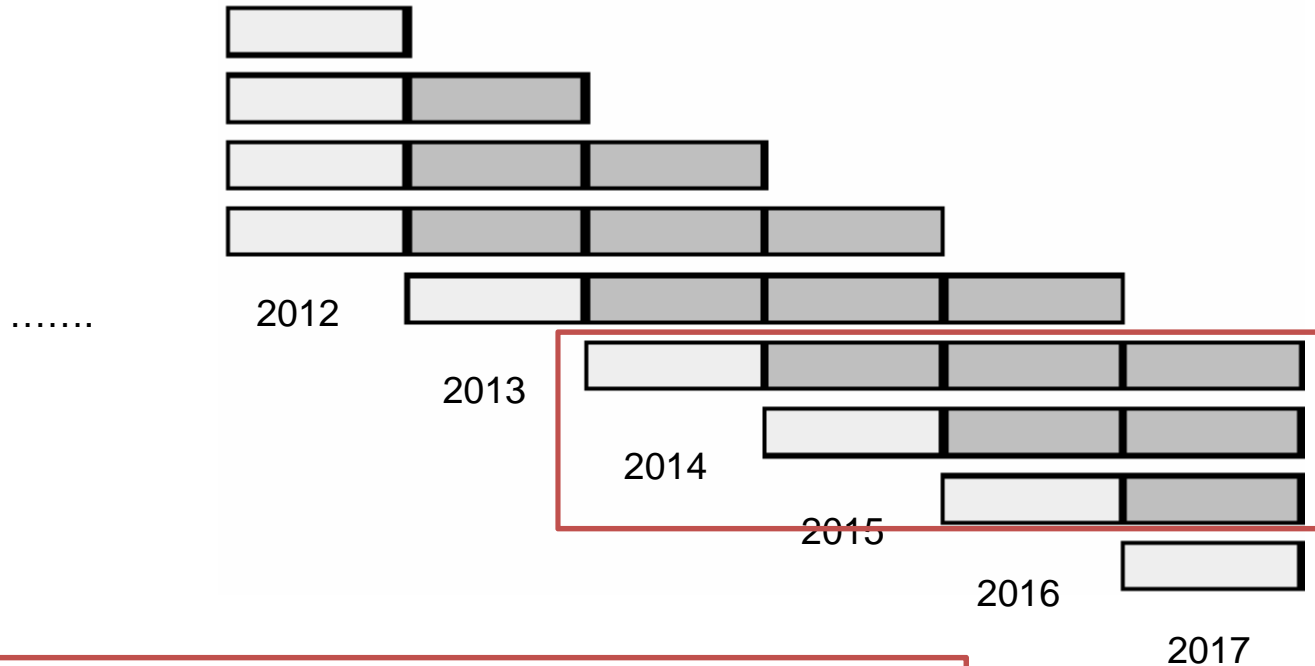
EUSILC - Sample design: 4 rotational groups

.... 2012

2013

2014

2015

2016

2017

Each longitudial release is made of:

-1 sub-sample interviewed during **4 years**

-1 sub-sample interviewed during **3 years**

-1 sub-sample interviewed during **2 years**

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EUSILC – data collection techniques evolution

CAPI-CATI
Mixed mode (since 2015)

....

2010

2011

2012

2013

2014

2015

PAPI 2004-2010

CAPI 2011 onwards

CATI pilot survey (2014)
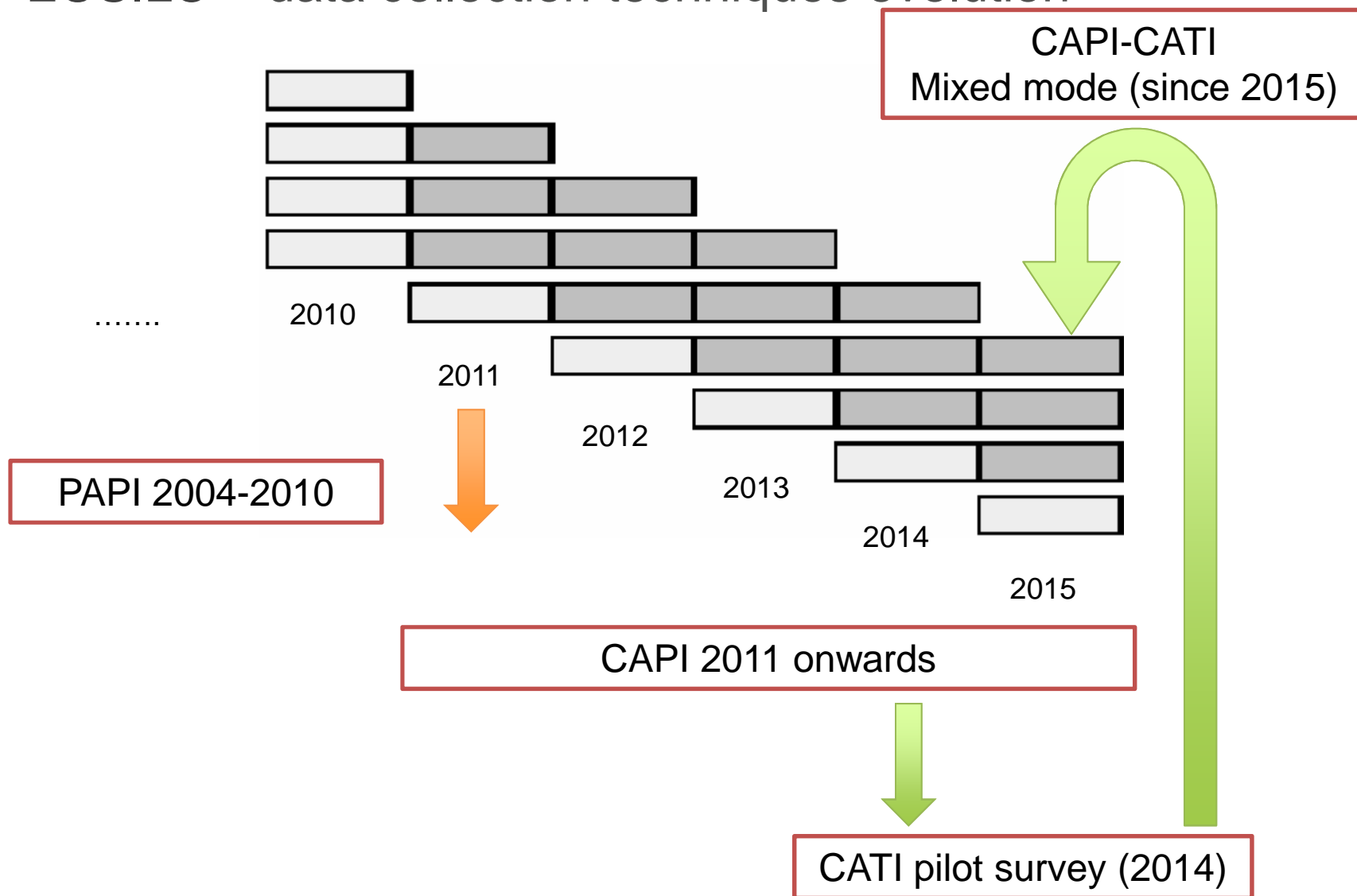
EUSILC – micro data dissemination
User Data Base (4 files)

■ **D** (1 record for each sample household)
- Rotational group
- Degree of urbanization
- HH status (interviewed or not)

■ **R** (1 record each household member)
- Sample/co-resident
- Membership status
- Relationship Father/Mother

■ **H** (1 record for each interviewed household)
- Housing conditions
- Housing costs
- Non-monetary deprivation
- HH income

■ **P** (1 record for each interviewed individual, 16+)
- Demographic characteristics
- Education
- Employment
- Health
- Individual income

EUSILC - Questionnaire structure

■ Household contact register

- ■ Contact attempts
- ■ Interview outcome

■ Individual register

Demographic information about each household member

■ Household questionnaire

Detailed information about household living conditions:

- ■ HH income components
- ■ HH costs
- ■ Dwelling characteristics
- ■ HH deprivation items
- ■ Children deprivation items

■ Individual questionnaire

Detailed information about individuals 16+:

- ■ Education
- ■ Employment
- ■ Income components
- ■ Health
- ■ Individual deprivation items

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EUSILC - Ad hoc modules in questionnaire

- **2005** Intergenerational transmission of poverty
- **2006** Social Participation
- **2007** Housing conditions
- **2008** Over-indebtedness and financial exclusion
- **2009** Material Deprivation
- **2010** Intra-household sharing of resources
- **2011** Intergenerational transmission of disadvantages
- **2012** Housing conditions
- **2013** Well-being
- **2014** Material deprivation
- **2015** Social and cultural participation and Material deprivation
- **2016** Access to Services
- **2017** Consumption & Wealth module

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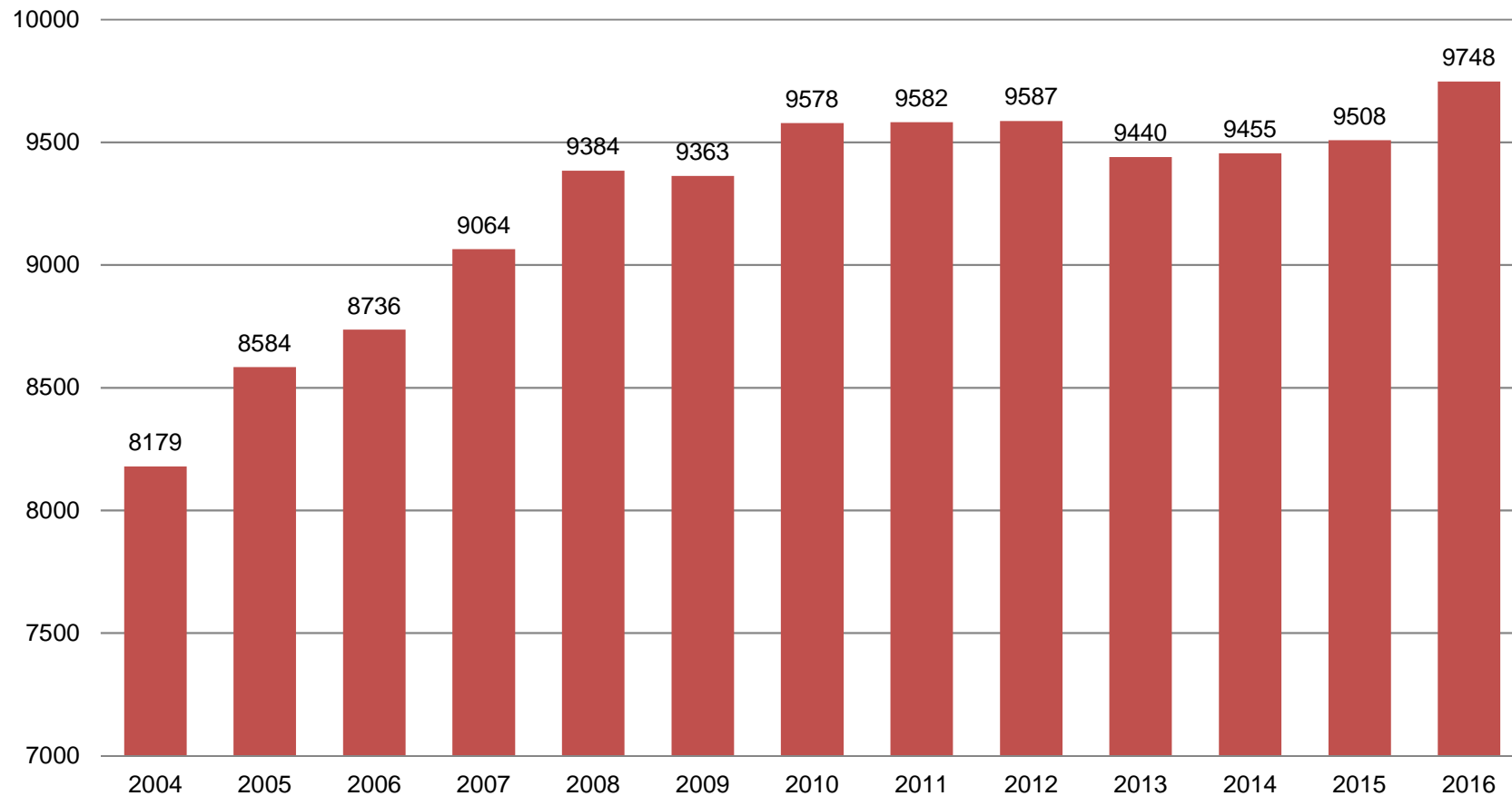# EUSILC indicators: At Risk of Poverty Rate (ARP)

Share of people with an equivalised disposable income below the **at-risk-of-poverty threshold** (i.e. 60% of the national median).

Relative measure of poverty:

❑ Individuals with lower standards of livings than the rest of the population

❑ It relies on an monetary measure of the standards of living

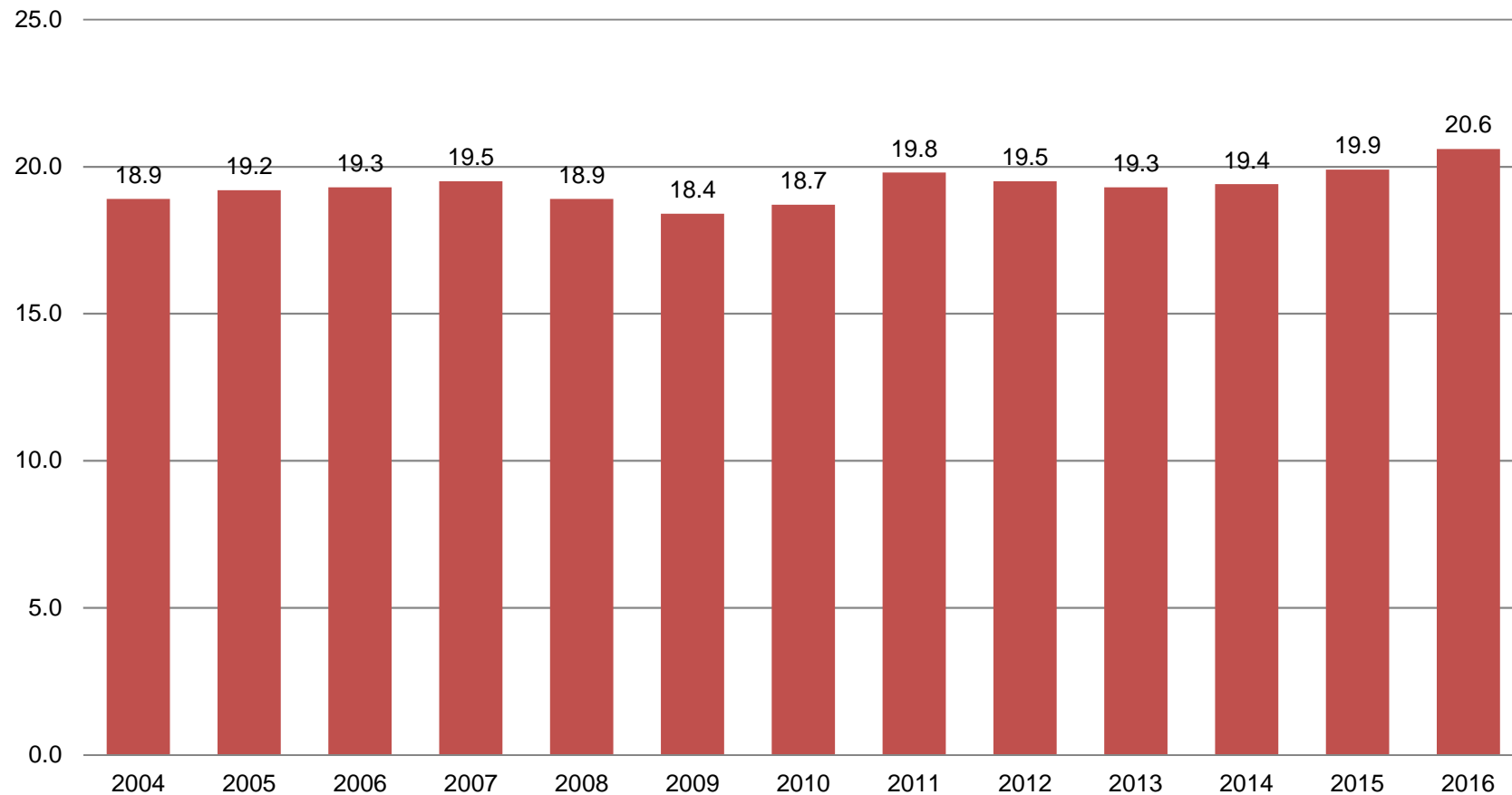❑ It depends on national standards of living

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EUSILC indicators: At Risk of Poverty Rate (ARP)
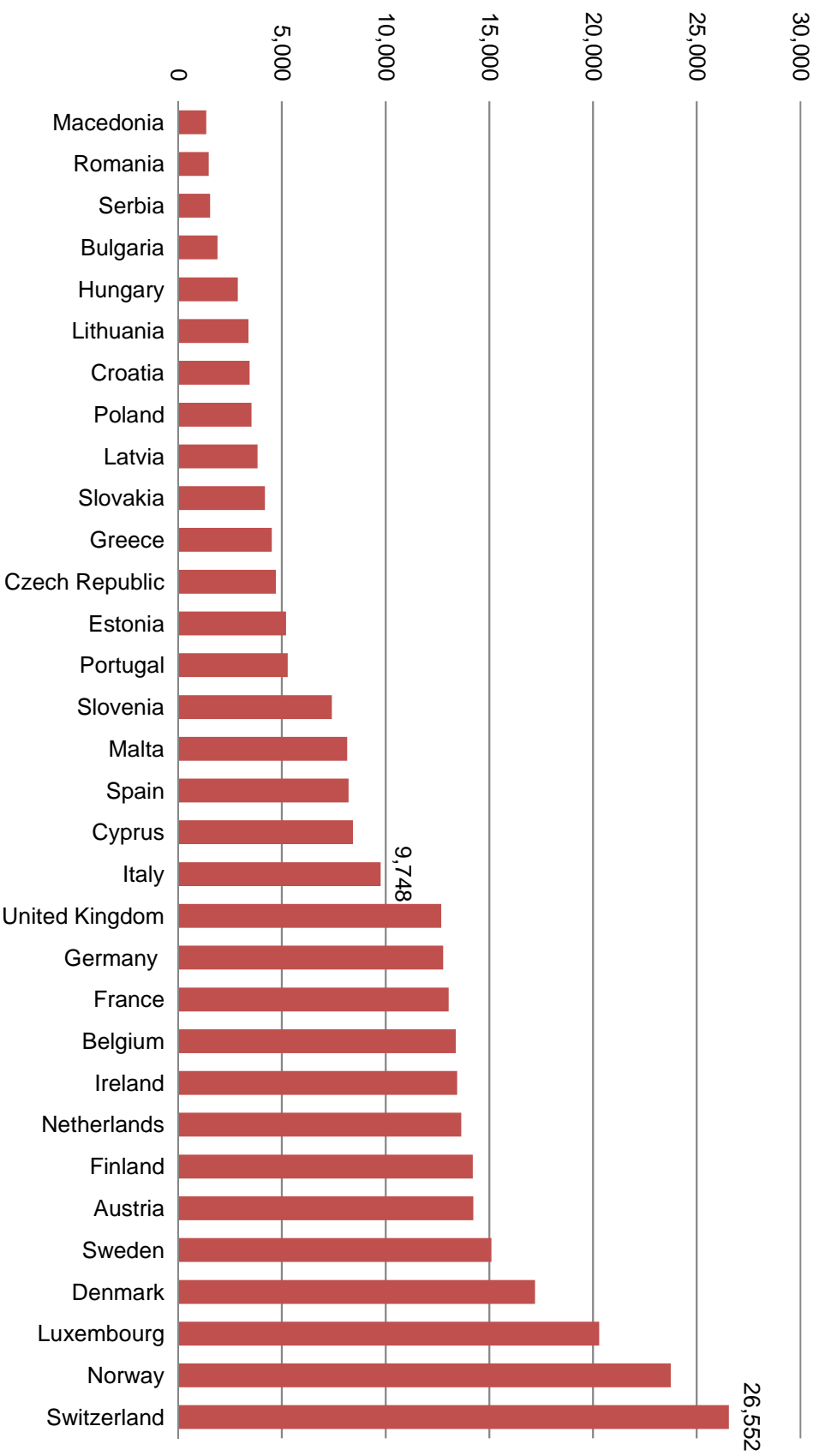
Italy - ARP threshold(60% median) by year

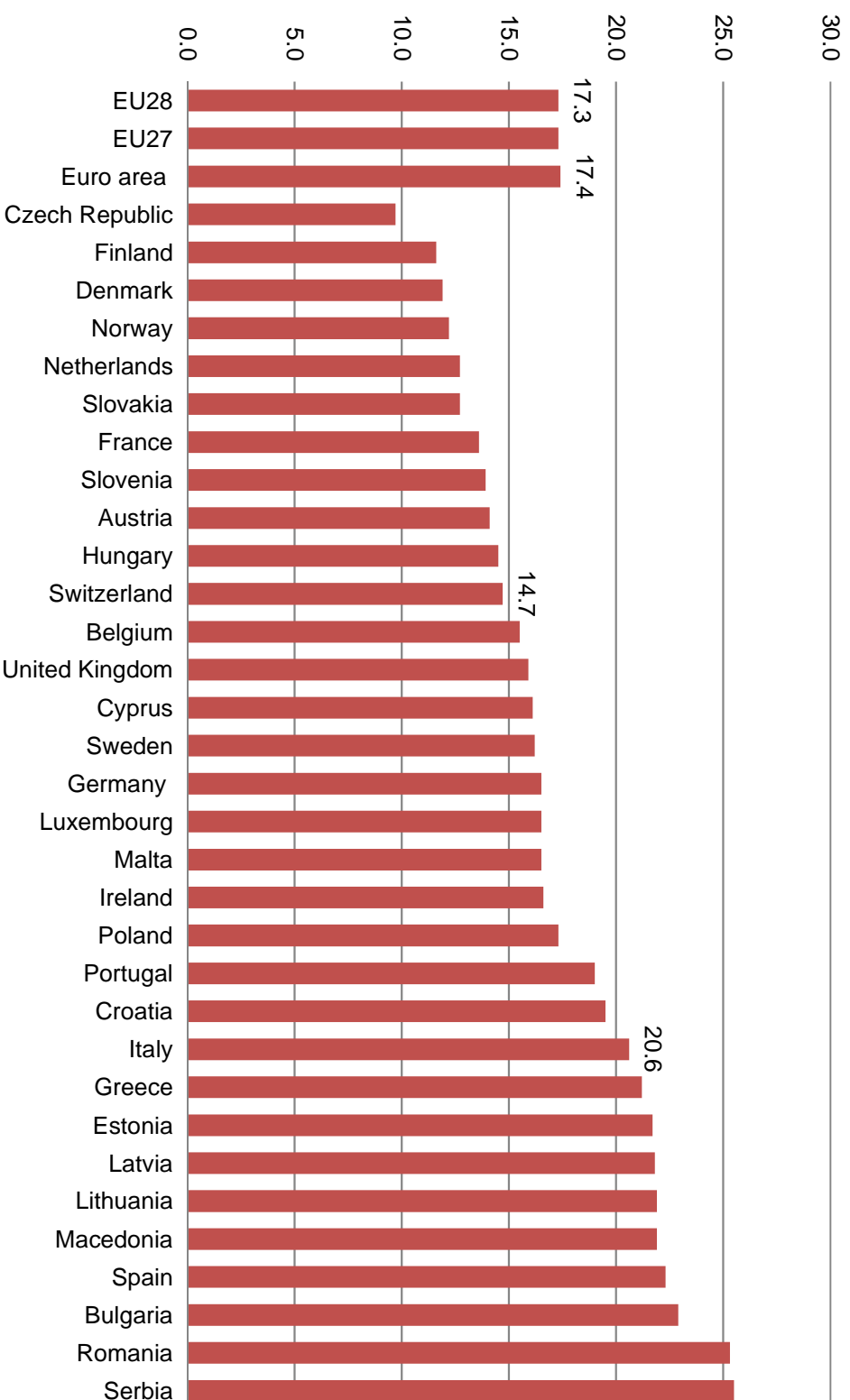# EUSILC indicators: At Risk of Poverty Rate (ARP)

IT - ARP by year

EU - ARP threshold (60% median) by country - 2016

9,748

26,552

EUSILC indicators: At Risk of Poverty Rate (ARP)

EU - ARP by country - 2016

Country	Value
EU28	17.3
EU27	
Euro area	17.4
Czech Republic	
Finland	
Denmark	
Norway	
Netherlands	
Slovakia	
France	
Slovenia	
Austria	
Hungary	
Switzerland	14.7
Belgium	
United Kingdom	
Cyprus	
Sweden	
Germany	
Luxembourg	
Malta	
Ireland	
Poland	
Portugal	
Croatia	
Italy	20.6
Greece	
Estonia	
Latvia	
Lithuania	
Macedonia	
Spain	
Bulgaria	
Romania	
Serbia	

EUSILC indicators
Material Deprivation (MD) and Severe (SMD)

Share of people who **cannot afford** at least three or four of nine items considered desirable or necessary to lead an adequate life (for MD and SMD respectively):

1. pay unexpected expenses
2. afford a one-week annual holiday away from home
3. a meal involving meat, chicken or fish every second day
4. the adequate heating of a dwelling
5. a washing machine
6. colour television
7. telephone
8. car
9. being confronted with payment arrears (mortgage or rent, utility bills, hire purchase instalments or other loan payments)

Non monetary measure of the standards of living

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EUSILC indicators
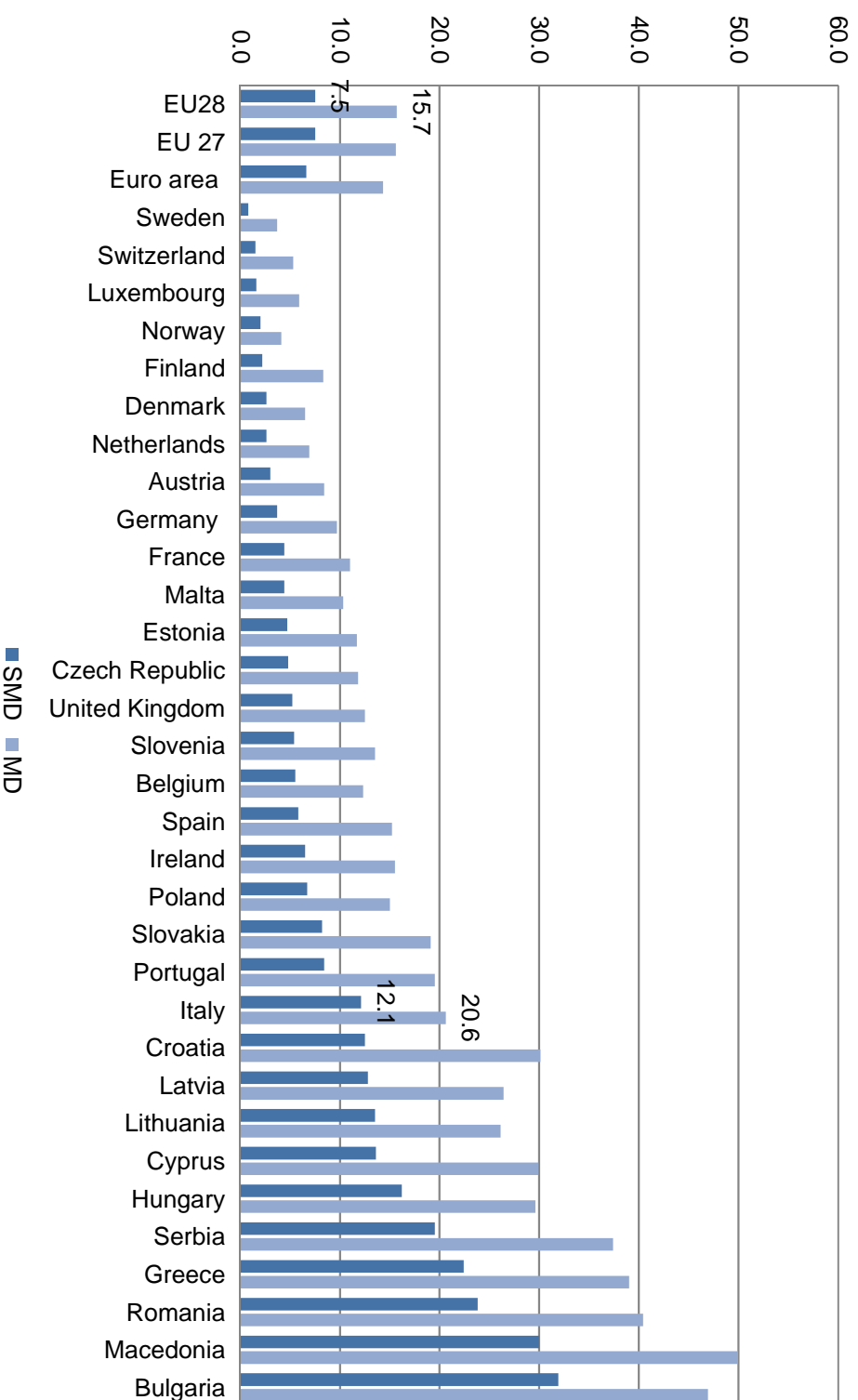# Material Deprivation (MD) and Severe (SMD)

IT - SMD & MD
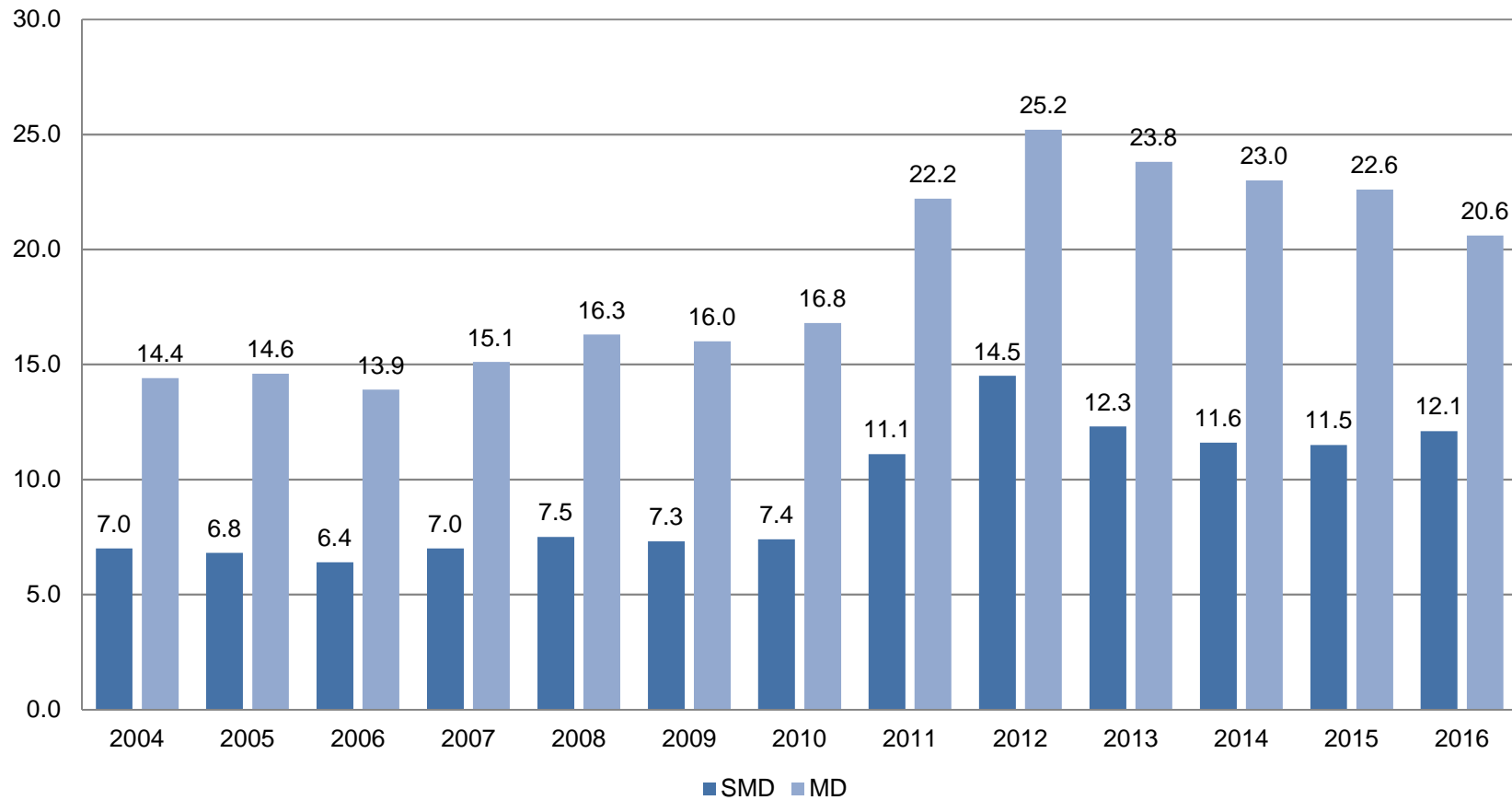
EUSILC indicators

Material Deprivation (MD) and Severe (SMD)

EU - SMD and MD by country - 2016

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EUSILC indicators - Low Work Intensity

Share of people living in households with very low work intensity are defined as people of all ages (0–59) living in households where the members of working age worked less than 20.0 % of their total potential during the previous 12 months (i.e. work intensity below **0.20**).

Work Intensity=ratio of the total number of months that all working-age household members have worked (during the income reference year) and the months they could have worked.

A working-age person is a person aged 18-59 years, with the exclusion of students in the age group between 18 and 24 years.

Households composed only of children, of students aged less then 25 and/or people aged 60 or more are completely excluded from the indicator calculation.
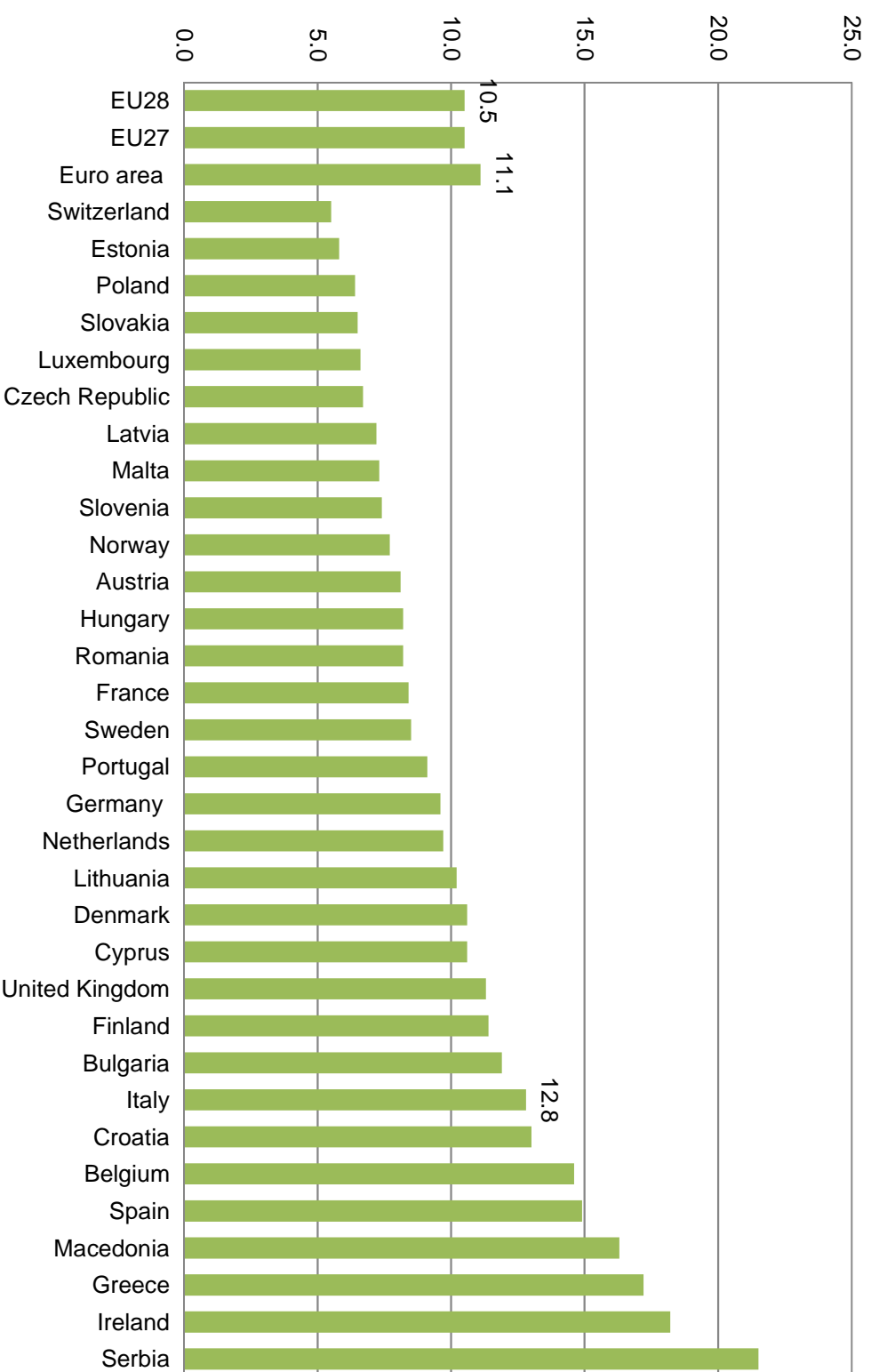
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EUSILC indicators - Low Work Intensity

IT - LWI by year
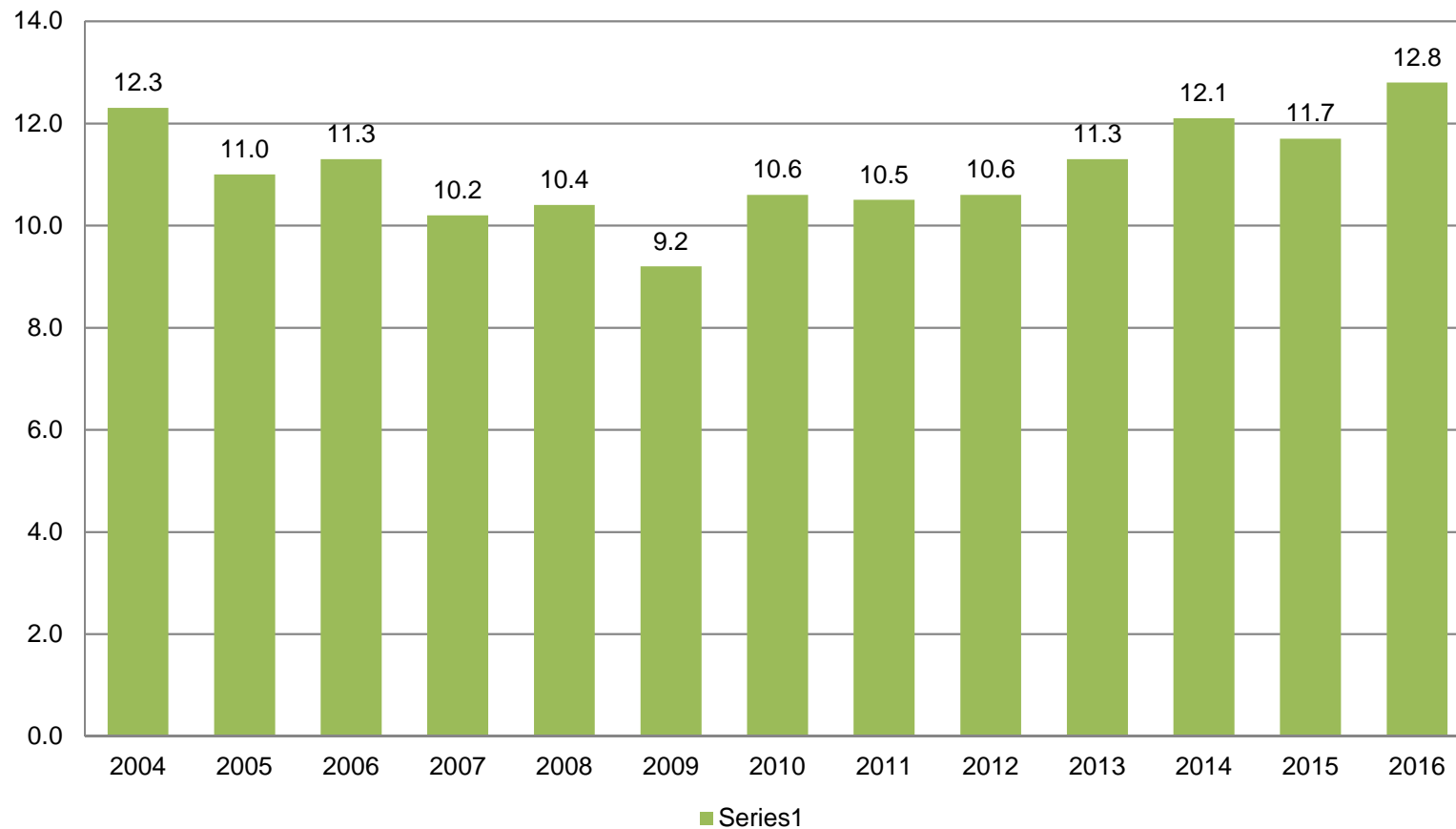
EU - LWI by country - 2016

EUSILC indicators
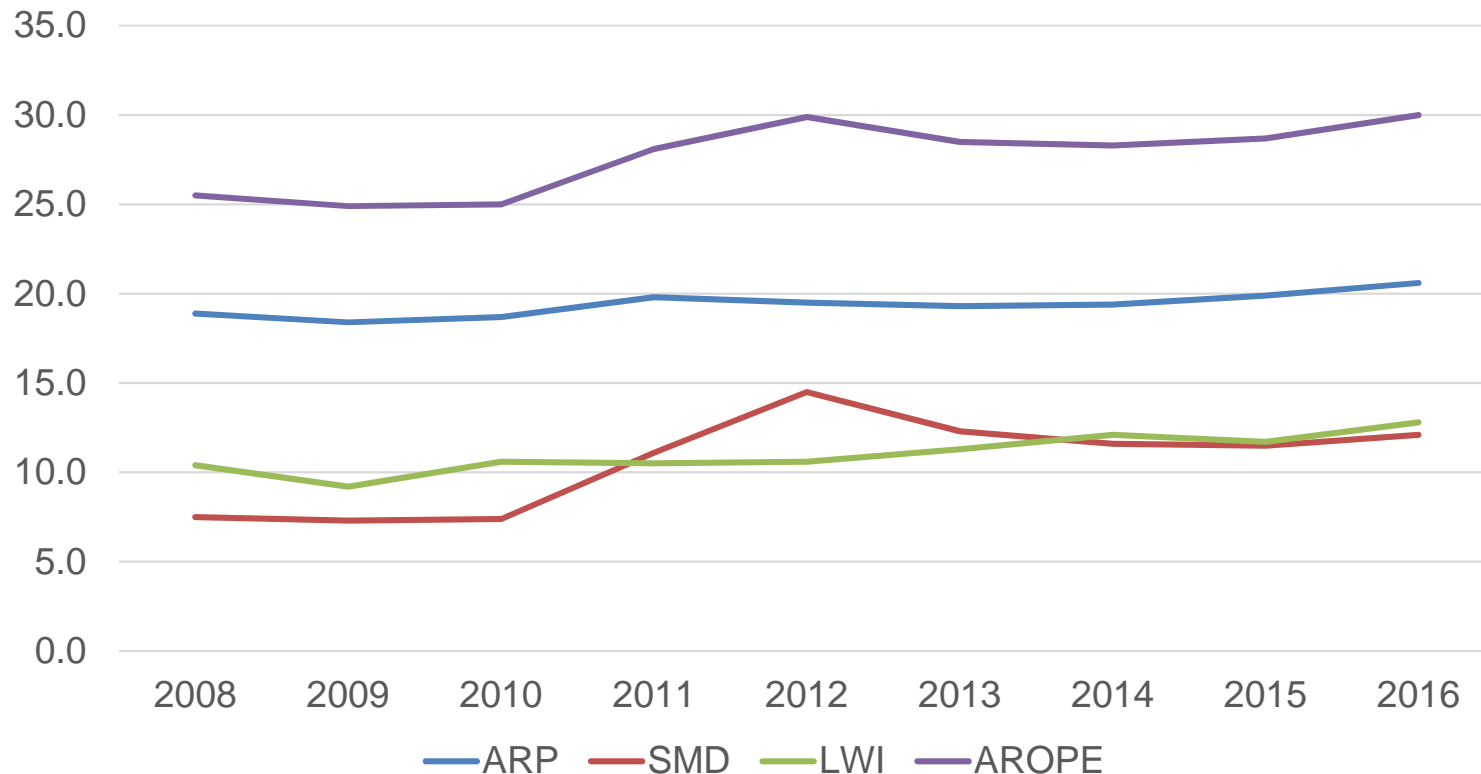## At Risk of Poverty or Social Exclusion (AROPE)

Individuals <u>at-risk-of-poverty</u> (ARP), or <u>severely deprived</u> (SMD), or living in households with <u>very low work intensity</u> (LWI).
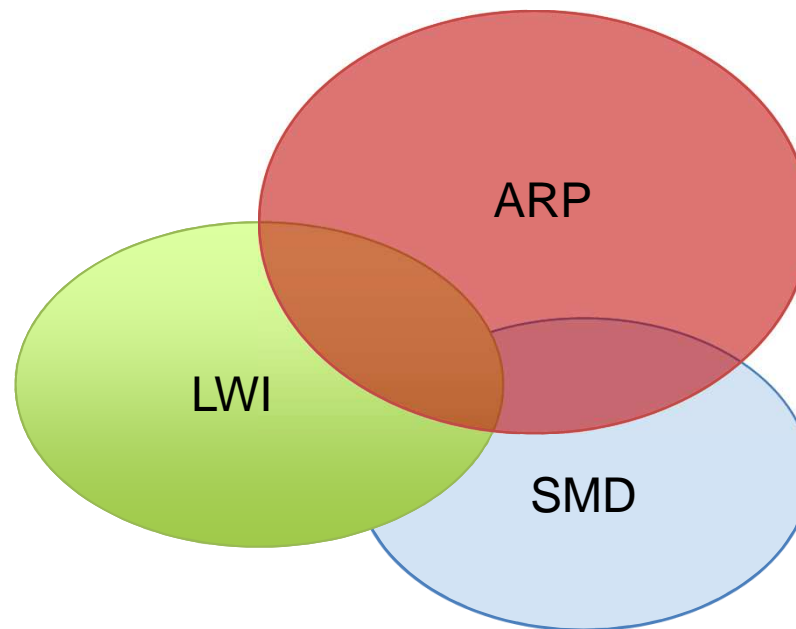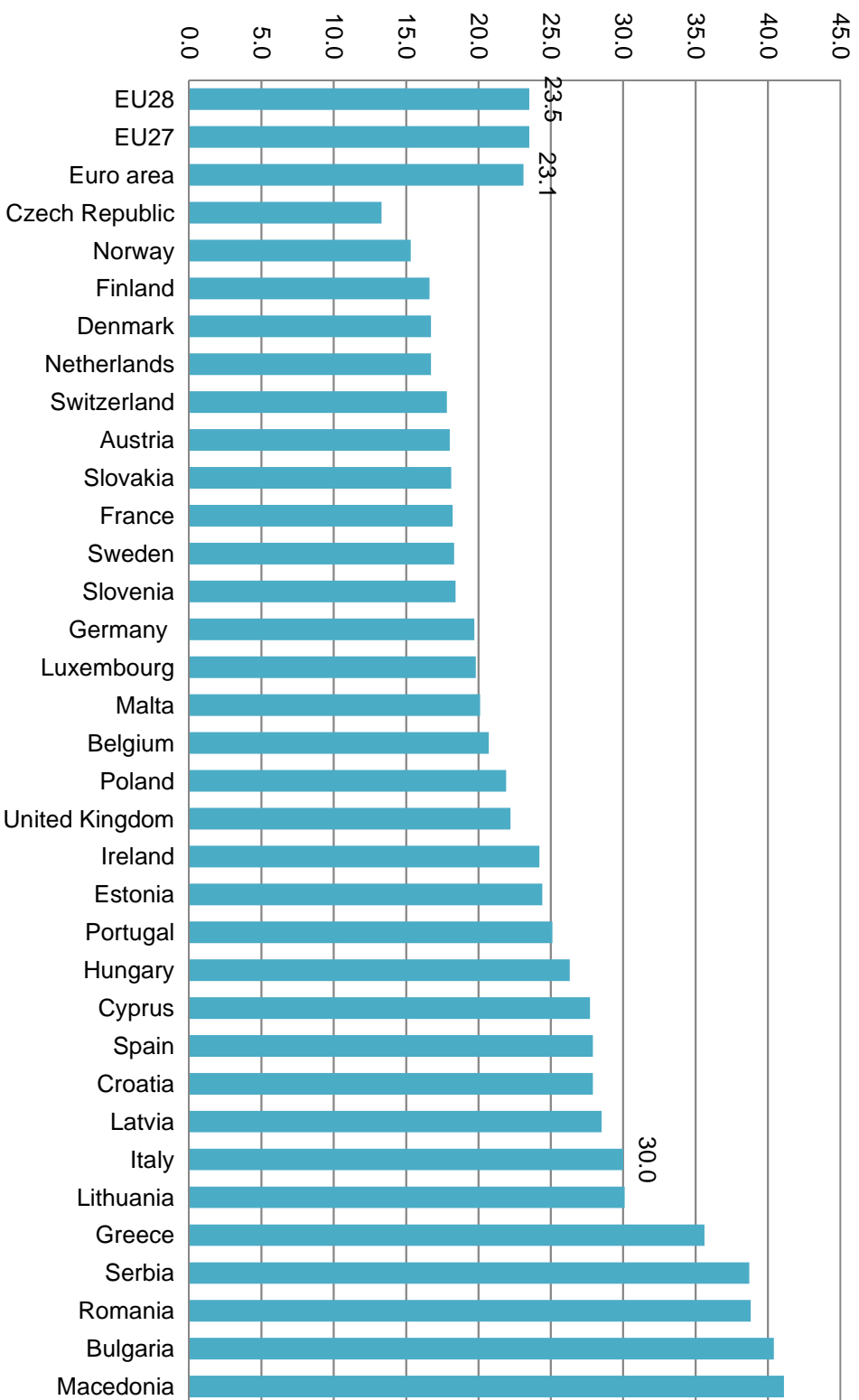
EUSILC indicators - AROPE

Individuals <u>at-risk-of-poverty</u> (ARP), or <u>severely deprived</u> (SMD), or living in households with <u>very low work intensity</u> (LWI). Italian evolution

EUSILC indicators - AROPE

EU - AROPE by country - 2016

Country	Value
EU28	23.5
EU27	
Euro area	23.1
Czech Republic	
Norway	
Finland	
Denmark	
Netherlands	
Switzerland	
Austria	
Slovakia	
France	
Sweden	
Slovenia	
Germany	
Luxembourg	
Malta	
Belgium	
Poland	
United Kingdom	
Ireland	
Estonia	
Portugal	
Hungary	
Cyprus	
Spain	
Croatia	
Latvia	
Italy	30.0
Lithuania	
Greece	
Serbia	
Romania	
Bulgaria	
Macedonia	

Innovations in HH survey - Bibliotheca Alexandrina
18-19 February 2018

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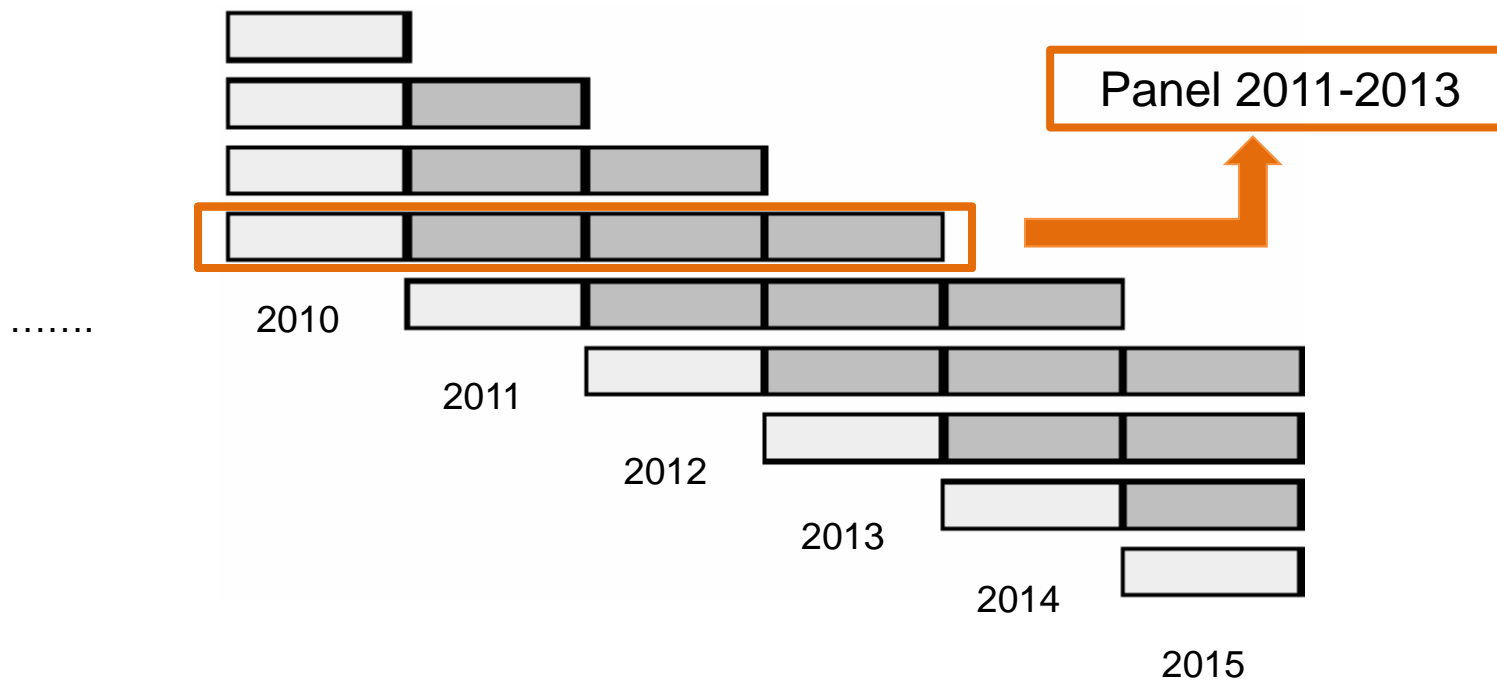# EUSILC indicators - AROPE

AROPE by EU areas and year
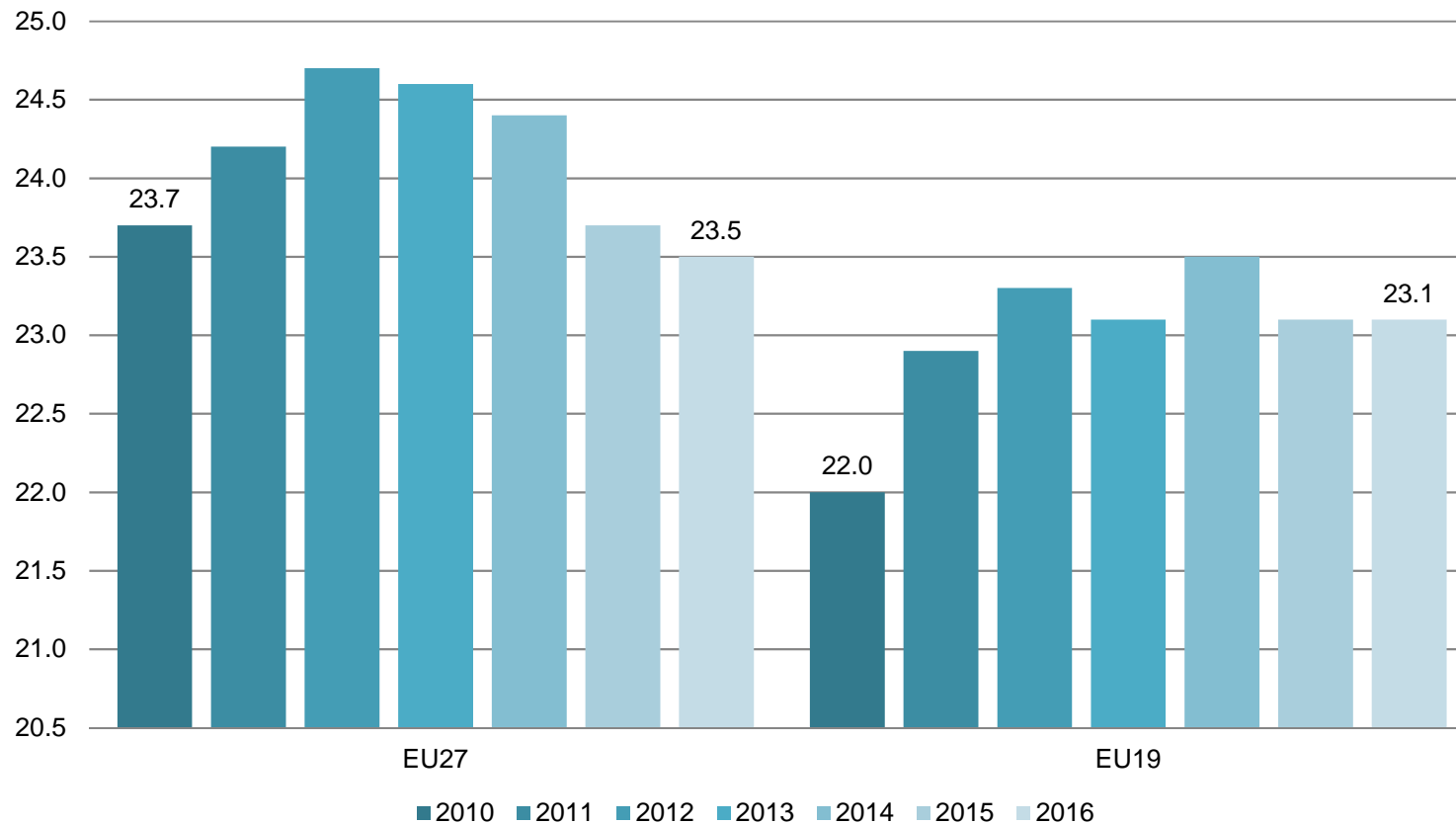
EUSILC indicators - At Persistent Risk of Poverty (APRP)

The persistent at-risk-of-poverty rate shows the percentage of the population at-risk-of-poverty in the current year and at least two out of the preceding three years.

Its calculation requires a longitudinal instrument, through which the individuals are followed over four years.

EUSILC indicators - At Persistent Risk of Poverty (APRP)

IT - APRP by year
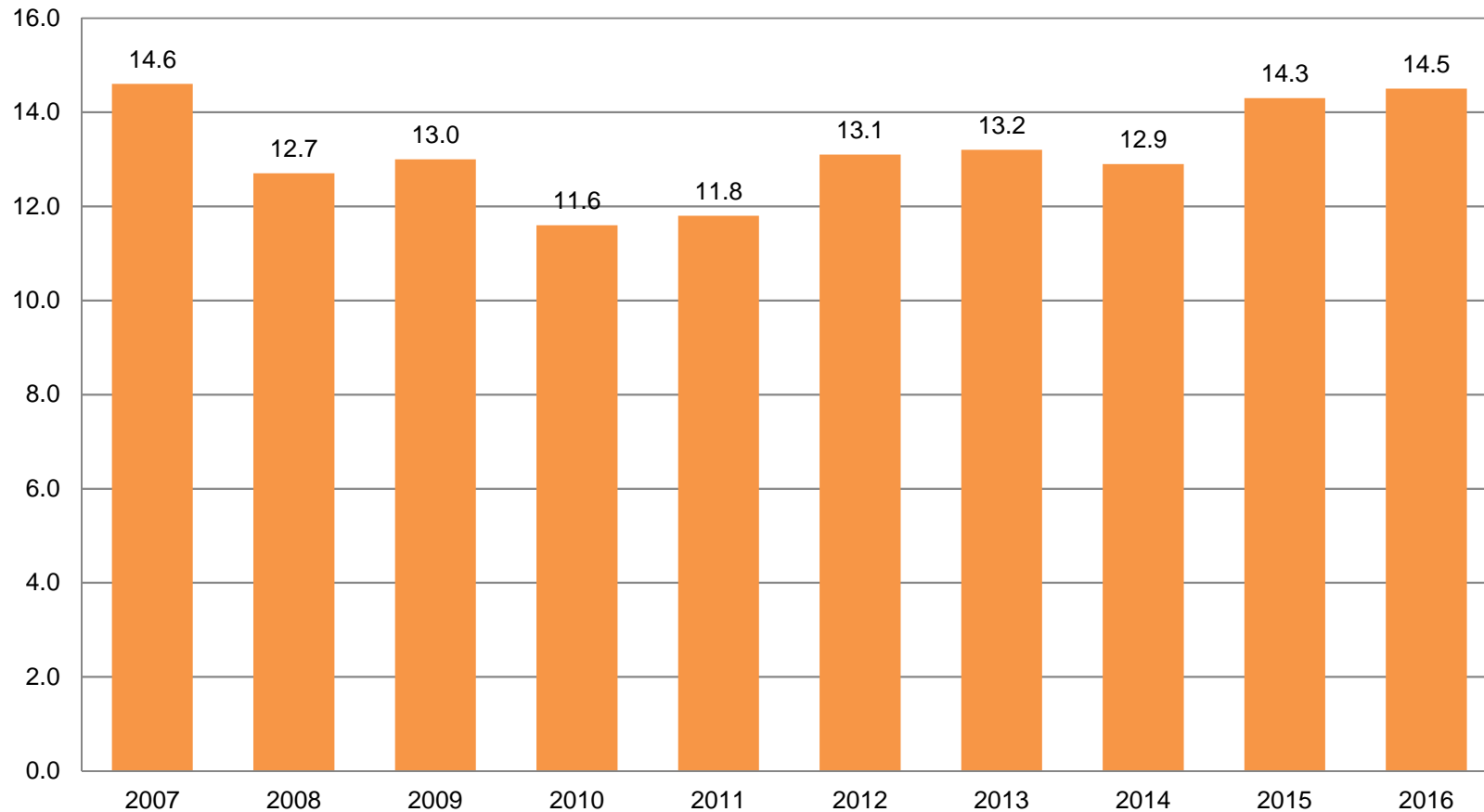
EUSILC indicators - At Persistent Risk of Poverty (APRP)

EU - APRP and ARP by country - 2016

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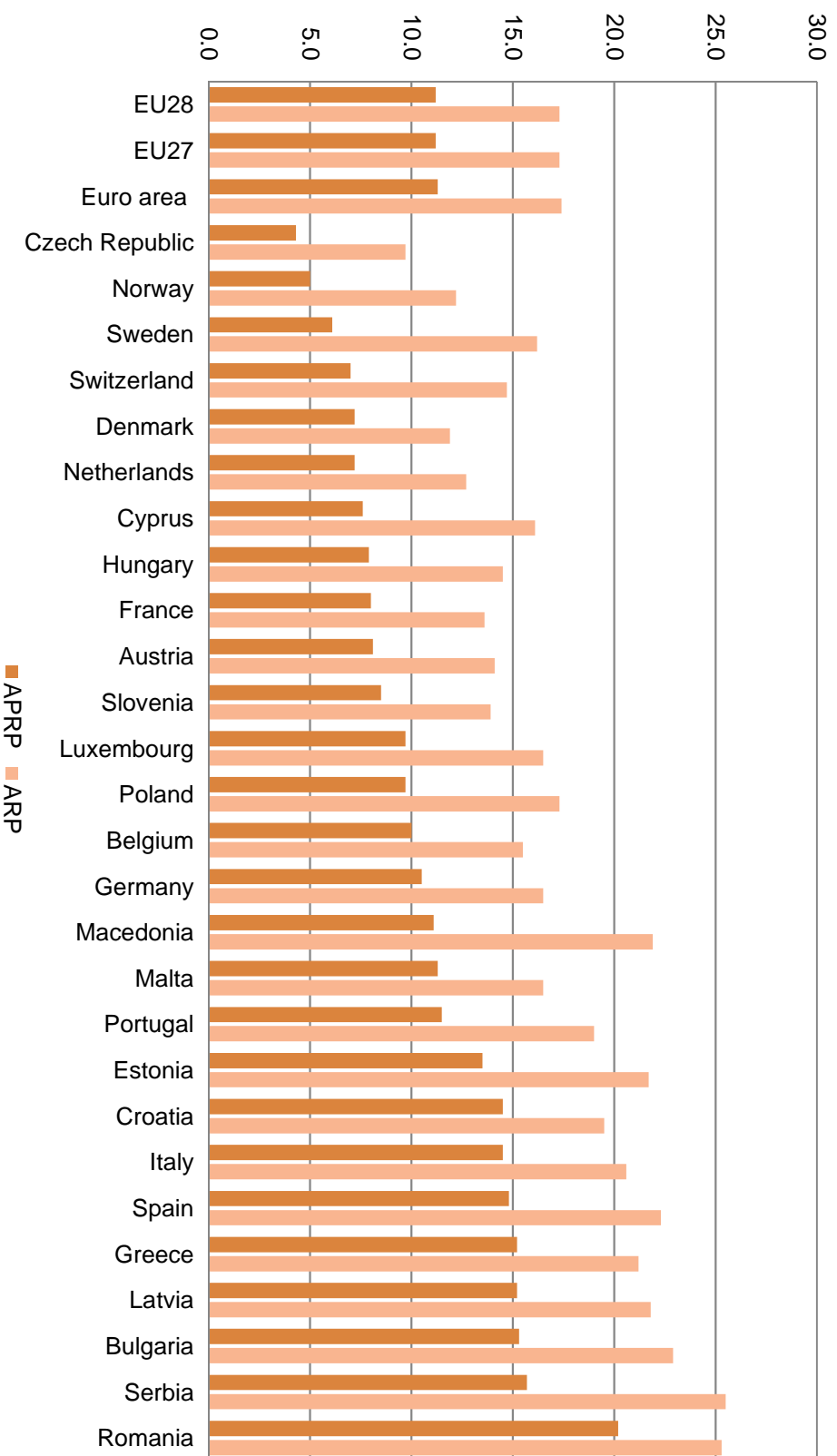
EUSILC – Income evolution in Italy
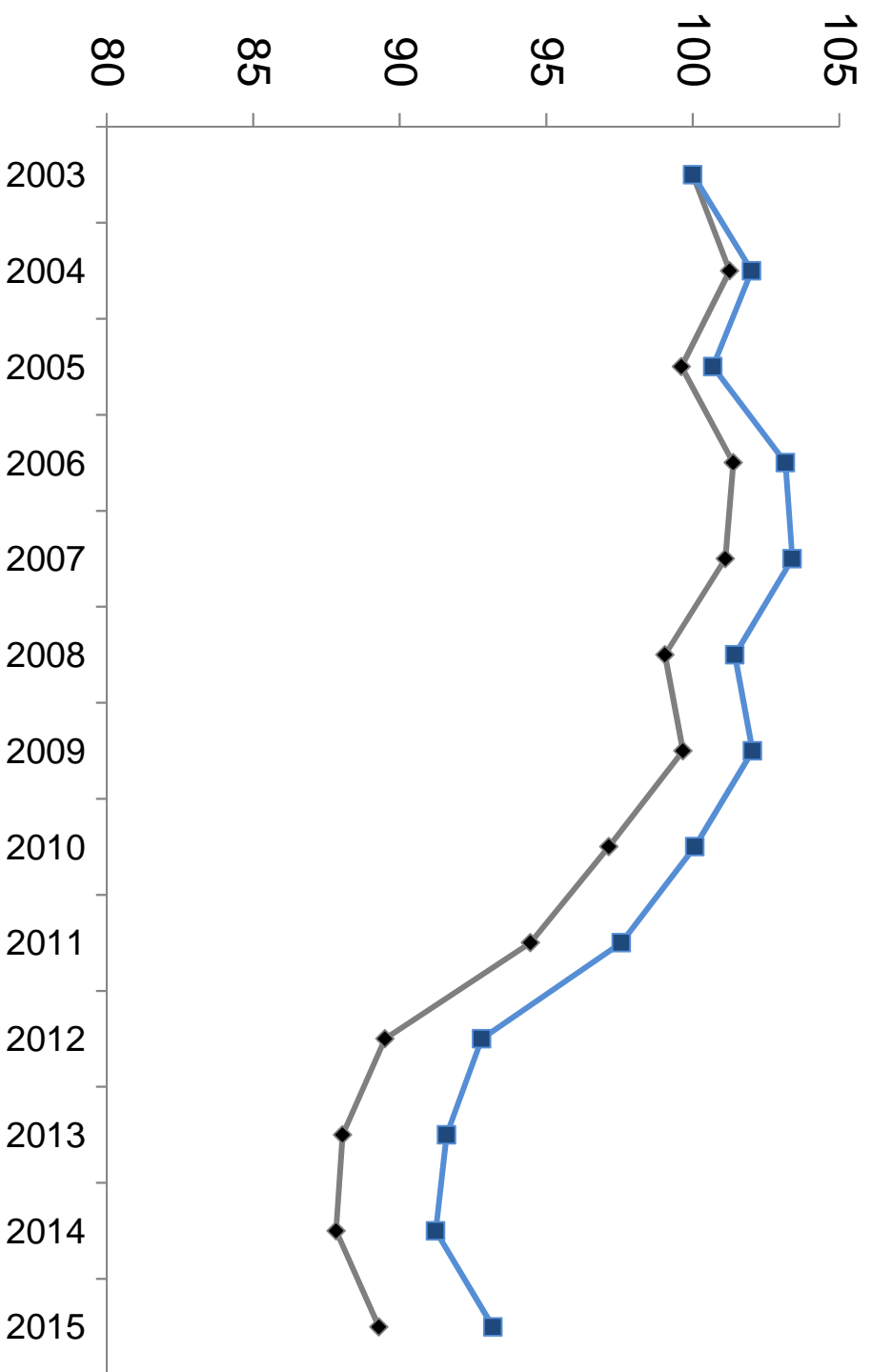
EUSILC indicators – Inequality of Income distribution

IT - Income Quintile share ratio
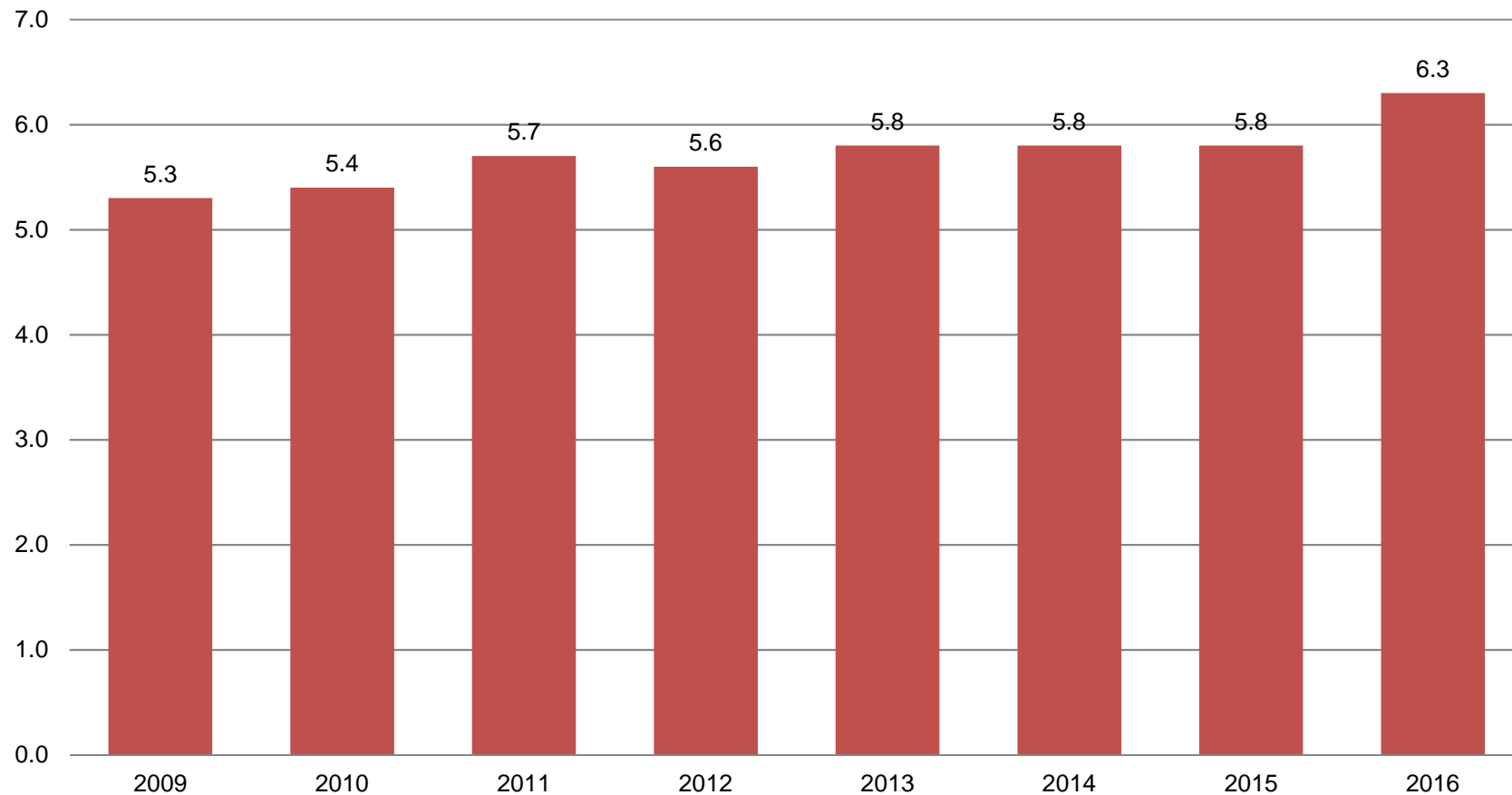
Absolute poverty using HBS: HBS target

The **main target** of the HBS is represented by **all expenditures** incurred by **resident households** to purchase goods and services exclusively devoted to **household consumption**
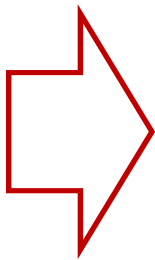
household monthly consumption expenditure estimate

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Absolute poverty using HBS: HBS uses

The HBS represents the **informative base** for:

- the official estimates of relative and absolute poverty in Italy

- the quarterly estimate of household final consumption expenditure (National Accounts)

- the annual weighting of the Consumer Price Index basket

- the measure of inflation by household expenditure classes

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Absolute poverty using HBS: HBS uses

HBS is the informative base for the **official** poverty estimates in Italy:

- **absolute** poverty estimates
- **relative** poverty estimates

both defined at the household level under the implicit hypothesis that resources are equally distributed among household members.

⟶ *This assumption doesn't always correspond to reality but plays an important operational role!*

Absolute poverty using HBS: HBS uses

ISTAT estimates of poverty, based on the HBS, are at the **household level**.
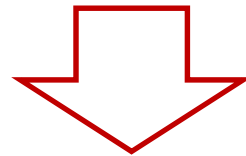
Individuals living in poor households are poor, <u>under the hypothesis that</u> all household members have the same chance of accessing household economic resources.

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Absolute poverty:

It is the economic condition of inability to purchase a given set of goods and services.
It is defined regardless of the average living standard of the reference population.

Absolute poverty using HBS: concepts

Istat calculates

different **absolute poverty thresholds**
defined, in general, as

the **monetary value**, at **current prices**, of a **fixed basket of goods and services** considered **essential** for **each household** *(according to the number and age of its members, geographical area of residence and municipality demographic size*) to **attain** the **minimum acceptable standard of living**

Absolute poverty using HBS: steps to calculate

- **Identification** of individual and household **essential requirements**

- **Identification**, for each essential requirement, of **goods and services** to add to the basket *(that is, goods and services considered as essential to avoid severe forms of social exclusion)*

- **Identification** of **sources for evaluating costs** of goods and services in the basket

- **Definition** of the absolute poverty **threshold**
  (minimum value of economic resources necessary to a household for not being defined as absolute poor)

- **Review** of the threshold **over time**
  (revaluation of its monetary value from year to year in the light of trend in prices)

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Absolute poverty using HBS: essential requirements

Essential requirements refer to the idea of

acceptable minimum standard of living

⇩
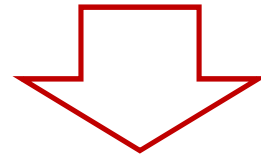
a household that cannot afford to purchase goods and services essential to meet **basic needs** cannot even attain an acceptable standard of living, although modest, in the social context in which it lives. This could imply severe forms of social exclusion.

Absolute poverty using HBS: essential requirements

- **Basic needs are homogeneous across the country** *(except for differences due to external factors, such as weather conditions influencing heating demand)*

- **Costs** to meet basic needs may **differ** in **different geographical areas** of the country, since <u>they reflect local variations of prices of goods and services in the basket</u>

Absolute poverty using HBS: essential requirements

«**need**» **unit**: individual or household

basket unit: household
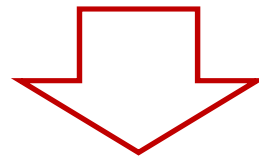
INDIVIDUAL NEEDS

have been however defined at household level

They have been aggregated according to demographic characteristics of individuals (sex, age) and taking into account both potential economies of scale and saving forms that can be realized in different household typologies.

Absolute poverty using HBS: essential requirements

Essential requirements

- **adequate nutrition**

- availability of a **dwelling** of adequate size according to household size and equipped with heating and main services, durable goods and accessories

- **minimum necessary** to **dress**, **communicate**, **be informed, move**, **be educated** and **be in good health**

Basket components

| Food and drink component | Housing component |
| | Residual component |
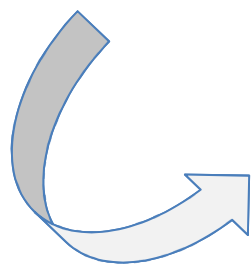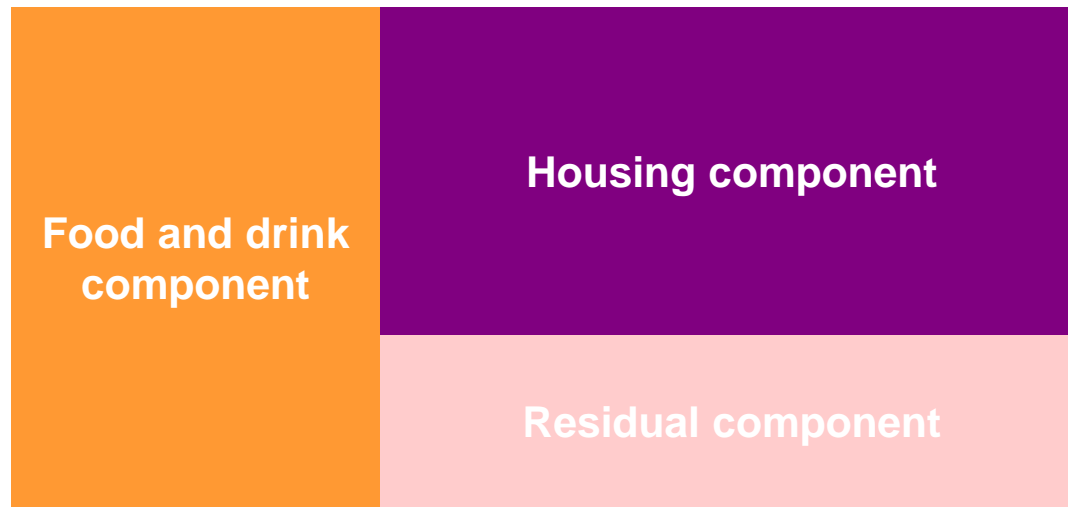
Absolute poverty using HBS: essential requirements

- **Food and drink component**

  according to sex and age of individuals, the minimum requirement is defined as the minimum nutritional and energy intake to protect against nutritional deficiencies **translated into** combinations of average daily food quantities

- **Housing component**

  the minimum requirement is defined as a rented dwelling at market prices:
  - minimum dwelling size: Ministerial Decree 5/7/1975
  - basic durable goods: refrigerator, cooker, washing machine, TV
  - energy minimum consumption: estimated by *Authority for electricity and gas*, by household size and available electrical durable goods
  - heating: --

- **Residual component**

  Goods and services in this component
  - strongly depend on individual characteristics
  - cannot be analytically quantified

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Absolute poverty: monetary evaluation of the basket

- **Food and drink component**

  evaluation and sum of monetary values of individual diets ("average price" of different distribution channels).
  On evaluating the minimum cost of basket, specific "saving coefficients" are applied to take into account the effect of possible **saving actions**: larger/smaller households can save/not save money on purchasing bigger quantities of food or on being forced to buy the minimum packaging.

- **Housing component**

  Rental: estimated through a **model** based **on HBS data**, by geographical area and municipality demographic size.

  - basic durable goods: calculation of depreciation quotas, obtained on the basis of consumer price and average duration
  - energy: evaluation at current prices
  - heating: estimated through a **model** based **on HBS data**, by geographical area, dwelling size and household typology

Absolute poverty: monetary evaluation of the basket

- **Residual component**

Evidences from HBS data show that the **residual expenditure** is **influenced by household typology**, both for level and composition, similarly to what happens to expenditure on food and drink
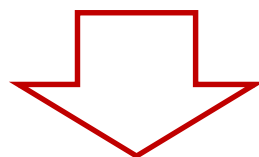
On the basis of the **association observed** between the two expenditures, **specific coefficients** have been **estimated** to be **applied** to the **monetary value** of f**ood and drink component** to **obtain** the monetary value of the **residual component**

Absolute poverty: threshold concept

It is the **monetary value of the basket**, obtained by **direct sum** of the **monetary values** of the different c**omponents**.

The estimate of the absolute poverty defines as **absolute poor** a household with a **consumption expenditure lower or equal** to the **threshold**.

The monetary value of the basket of absolute poverty varies according to:

- number and age of household members
- geographical area of residence
- municipality demographic size

there are many absolute poverty thresholds (more than 300), not a single one!!!

Absolute poverty: threshold update

The **monetary value of the basket**, defined for the year 2005, is revaluated from year to year, **differentiating** the **trend of consumer prices** with respect to **goods and services** (*specific indexes*) and to **territory** (*geographical area*)

Absolute poverty: threshold update

The **monetary value of the basket**, defined for the year 2005, is revaluated from year to year, **differentiating** the **trend of consumer prices** with respect to **goods and services** (*specific indexes*) and to **territory** (*geographical area*)

Absolute poverty: main indicators

To summarize information on different poverty aspects (spread, intensity) **two indices** are calculated:

Head Count ratio (absolute poverty incidence)

$$H = \frac{q}{n}$$

... measuring the proportion of poors

Poverty gap ratio (absolute poverty intensity)

$$I = \frac{\sum\limits_{i=1}^{p} g_i}{(q \times z)}$$

... measuring 'how poors are the poors'

where $g_i = (z - Y_i)$ and z is the poverty line.

Absolute poverty: some results

Year 2016	Households		Individuals	
	Household absolute poverty incidence (per 100 households with the same characteristics)	**Households in absolute poverty** (%)	**Individual absolute poverty incidence** (per 100 individuals with the same characteristics)	**Individuals in absolute poverty** (%)
North	5.0	37.6	6.7	38.6
Centre	5.9	19.2	7.3	18.4
South and islands	8.5	43.2	9.8	43.0
Italy	*6.3*	*100.0*	*7.9*	*100.0*

1,619,000 households   **4,742,000 individuals**

Absolute poverty: some results

Household absolute poverty incidence by household typology - Year 2016	%
single member 18-64 years	5.7
single member 65+ years	4.2
couple without children and r.p. 18-64	5.4
couple without children and r.p. 65+	2.7
couple with one child	5.5
couple with 2 children	8.9
couple with 3 or more children	14.7
single parent	7.9
other typologies	10.9
all resident households	*6.3*

Household absolute poverty incidence by household typology - Year 2016	%
Households by presence of foreign members	
with all national members	4.4
with national and non national members	27.4
with all non national members	25.7
Households by presence of elderly people	
1 elderly	4.2
2 elderly or more	3.5
at least one elderly	*3.9*
Households by presence of minor children	
1 minor child	7.2
2 minor children	10.0
3 or more minor children	26.8
at least one minor child	*9.9*

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Absolute poverty: some results

Individual absolute poverty incidence by age class (per 100 individuals with the same characteristics) - Year 2016	
	%
0-17 years	12.5
18-34 years	10.0
35-64 years	7.3
65+ years	3.8
all resident individuals	*7.9*

1,292,000 individuals 0-17 years (in 2005 was 3.9%)

Individual absolute poverty incidence by sex (per 100 individuals with the same characteristics) - Year 2016	
	%
Male	7.8
Female	7.9
all resident individuals	*7.9*

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Absolute poverty: figures and policy

- The dissemination of the figures on absolute poverty has raised a open debate about its growth

- Starting from January 2018 poor people can access, on the basis of specific criteria, the so called "inclusion income" established by Italian government and approved by the Parliament in 2017

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Relative and absolute poverty measures for policies – UN

- In September 2015 the General Assembly of the United Nations adopted the 2030 Agenda for sustainable development in which the main lines of activity for the next 15 years were outlined at the global level

- The 17 Sustainable Development Goals (SDGs) of the 2030 Agenda refer to different areas of social, economic and environmental development, which need to be considered in an integrated approach, as well as the processes that may accompany and foster them in a sustainable way, including international cooperation and the political and institutional context.

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Relative and absolute poverty measures for policies – UN

- As essential components, the indicators' set includes several references to people's well-being and to an equitable distribution of the benefits of development.

- The 17 goals are declined in 169 targets

- In order to identify a common statistical framework as a tool for monitoring and assessing progress towards the objectives of the Agenda, an Inter Agency Expert Group on SDGs (IAEG-SDGs) was set up by UN Statistical Commission. In March 2016, on the occasion the 47th session of the UN Statistical Commission, the IAEG-SDGs proposed a first list of more than 200 indicators.

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Relative and absolute poverty measures for policies – UN

- This list has been updated in March 2017 and submitted for approval of the 48th Session of the United Nations Statistical Commission (UNSC)1

- The current, revised set includes 244 indicators: some of them are considered relevant to more than one goal

- The indicators are classified by three "Tiers" (I, II and III).

a) To the Tier I belong 83 indicators that are based on a standard methodology and are being regularly produced at the national level (34% of the total)

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Relative and absolute poverty measures for policies – UN

b) 67 indicators equally based on standard methodology, but not being regularly produced belong to the Tier II (27%)

c) 88 indicators not based on standard methodology belong to the Tier III (36%)

d) Lastly, 3% of indicators has not been yet classified by tier, or belong to more tiers due to the heterogeneity of their components

- The UNSD entrusted Istat with the task of coordinating the production of indicators for measuring sustainable development and monitoring its objectives

- Periodically, Istat presents an update and an extension of the set of indicators for measuring sustainable development and monitoring its objectives

Relative and absolute poverty measures for policies – Italy

- The reform of the Italian State budget (Law No. 163/2016) introduced a reference to indicators of equitable and sustainable well-being in economic and budgetary planning documents

- It is an important innovation. The government has thus undertaken to integrate, in evaluating public policies, <u>the most strictly economic dimensions with those referring to the quality of life</u>

- The Committee for indicators of equitable and sustainable well-being, established at Istat with the task of selecting the indicators to be considered in the DEF, concluded its work in June 2017 with a final report identifying 12 indicators taken from the context of the BES.

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Relative and absolute poverty measures for policies – Italy

- The V Commission of the Chamber of Deputies (Budget, Treasury and Programming) discussed the ministerial decree scheme for the selected indicators (see also the hearing of President Alleva) to conclude with unanimous positive opinion on 2 August

- <u>Starting from 2018, therefore, the 12 selected indicators, adopted by decree of the Minister of Economy and Finance, will be included in the exercise of simulation of the impact of policies</u> (explanatory report)

- Among these 12 indicators there are "Income Quintile share ratio" and "Head Count ratio (absolute poverty incidence)"

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Income, Consumption and Wealth (ICW)

Vienna Memorandum adopted by the ESSC (28 September 2016) on Statistics on income, consumption and wealth

- ICW are three key dimensions that determine the economic well-being of people and material inequalities: the situation with regard to ICW for the individual describes the level and realisation of socio-economic opportunities;

- the distribution of ICW is a key element in understanding the drivers of growth and macroeconomic developments, dynamics of inequalities, social effects of economic reforms as well as in the measurement of progress in the achievement of the Sustainable Development Goals. It is also important in monitoring financial and economic fragilities

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Income, Consumption and Wealth (ICW)

- information on the joint distribution of ICW is not fully available in the existing EU micro data: the three dimensions are traditionally collected separately by three different household data sources: EU-SILC (ESS), HBS (ESS) and HFCS (Household Finance and Consumption Survey implemented by the European System of Central Banks (ESCB)). In each of these sources, information is collected extensively on only one dimension of ICW, with limited coverage of the other two dimensions;

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Income, Consumption and Wealth (ICW)

- Other data sources exist within each country. This calls for an effort to utilise these data sources in a manner that ensures international comparability, thus encouraging a fruitful multisource approach that brings together surveys, registers, administrative sources, Big Data etc. and their complementarities, as well as new model-based techniques, in line with the recommendations in the ESS Vision 2020

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Income, Consumption and Wealth (ICW)

The best use of the available data sources

- Multi-sources strategy by combining survey and administrative registers to obtain data on income or wealth (first best)

- Statistical matching for producing statistics on variables not collected in a single survey (second best)

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Income, Consumption and Wealth (ICW)

The work done at ISTAT

- The strategic project of building an integrated system of surveys and registers, namely The Census and Social Surveys Integrated System (CSSIS)**. Starting point: Registry of income**

- Official statistics on ICW through the statistical matching of EU Statistics on Income and Living Conditions (EU-SILC) and Household Budget Survey (HBS), and also using the Survey on Household Income and Wealth (SHIW) of the Bank of Italy

- *Ex-ante* harmonization of the social surveys in order to fulfil those pre-conditions essential for micro-integration and data matching purposes

Income, Consumption and Wealth (ICW)

Some lessons learnt and goals about ICW

- Multi-sources strategy and e*x-ante* harmonization of social surveys to fill the gaps in terms of data requirements needed for micro integration techniques

- For the consumption and income dimension the results are encouraging; for the wealth dimension we are both working for the SM with the SHIW and for collecting new information on SILC

- Eurostat has disseminated and it is going to disseminate indicators base on ICW through experimental statistics web site

- Our next goal is to work on the quality assessment to finally produce ICW joint Italian micro data and derived experimental statistics (2019) within a common project with Bank of Italy

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THANK YOU FOR YOUR ATTENTION!!