

# Italian Official Poverty Estimates based on Household Budget Survey

**Designing Household Surveys to Measure Poverty**

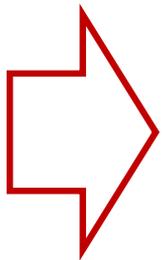
Perugia, Italy  
November 2017

# Main contents of the presentation

- Official poverty estimates based on HBS
- Relative poverty analysis
- Absolute poverty analysis

# Household Budget Survey: main objective

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**

# Household Budget Survey: main 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

# Household Budget Survey: survey unit

As the largest part of consumption expenditure (food, housing) is done at household level, **household** is the survey unit and household questionnaires are used.

**A household consists** of people:

- living together in the same dwelling;
- having legal relationship (by blood, marriage, adoption or guardianship) or affective ties;
- sharing (in part or entirely) incomes and expenditures.

People living in the same dwelling **exclusively for economic reasons** (e.g. domestic help, baby-sitter, tenant) are not considered members of the household.

# Household Budget Survey: **official poverty estimates**

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

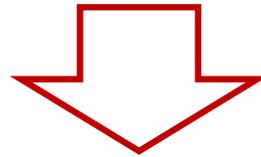
- **relative** poverty estimates
- **absolute** poverty estimates

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!*

# Official poverty estimates: households vs individuals

ISTAT estimates of poverty, based on the HBS, are at the **household level**.



**Individuals** living in poor households are poor, under the hypothesis that all household members have the same chance of accessing household economic resources.

# Official poverty estimates: relative and absolute poverty

## Relative poverty

is the situation of relative disadvantage that affects a certain share of households in the reference population.

*It is defined **with respect to** the **average living standard of the reference population**, and it therefore measures **inequality** in the population.*

## Absolute poverty:

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.*

# Relative poverty analysis: poverty line

HBS is the informative base for the official estimate of relative poverty in Italy.

The ISTAT estimate of the relative poverty is based on a national **poverty line** known as

## **International Standard of Poverty Line - ISPL**

defining as **poor** a household of **two components** with a consumption expenditure level **lower or equal to** the average per-capita consumption expenditure.

# Relative poverty analysis: poverty line

Household consumption expenditure used for measuring poverty **does not include** expenditures on:

- major maintenance and repair of the dwelling
- premiums of life insurance policies or annuity

# Relative poverty analysis: equivalence scale

To define the relative poverty line for different household sizes an **equivalence scale** (**Carbonaro equivalence scale**) is used to take into account different needs and scale economies that occur as the number of household members increases

Household size	Coefficient
1 member	0.60
<b>2 members</b>	<b>1.00</b>
3 members	1.33
4 members	1.63
5 members	1.90
6 members	2.16
7+ members	2.40

**Carbonaro  
equivalence  
scale  
coefficients**

# Relative poverty analysis: main indicators

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

**Head Count ratio**  
(relative poverty incidence)

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

*... measuring the proportion of poors*

**Poverty gap ratio**  
(relative poverty intensity)

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

*... measuring 'how much poor are the poors'*

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

# Relative poverty analysis: poverty line variations/1

The relative poverty line **strictly depends on** variations of the distribution of household consumption expenditure.

As a consequence, the relative poverty incidence could:



***increase** in periods of economic **growth***

***decrease** in periods of economic **recession** or **stagnation***



# Relative poverty analysis: poverty line variations/2

**Economic growth**

Consumption expenditure **increases more** among households with **higher levels of consumption expenditure** than among households with lower levels

**Inequality increase**

Households with lower levels of consumption expenditure worsen their relative condition **compared to** the other households

**Poverty line value increase**

**Growth of the number of poor households**

Despite even poor households have improved their living conditions

# Relative poverty analysis: some results

Relative poverty thresholds (euros) - Year 2016	
Number of components	€
1	636.81
<b>2</b>	<b>1,061.35</b>
3	1,411.60
4	1,730.00
5	2,016.57
6	2,292.52
7 and over	2,547.24

← **ISPL 2016**

Year 2016	Households			Individuals	
	Household relative poverty incidence (per 100 households with the same characteristics)	Households in relative poverty (%)	Household relative poverty intensity (per hundred values)	Individual relative poverty incidence (per 100 individuals with the same characteristics)	Individuals in relative poverty (%)
North	5.7	25.6	24.7	8.4	27.2
Centre	7.8	15.2	23.7	10.7	15.1
South and islands	19.7	59.2	24.3	23.5	57.7
<b>Italy</b>	<b>10.6</b>	<b>100</b>	<b>24.3</b>	<b>14.0</b>	<b>100</b>

**2,734,000 households**

**8,465,000 individuals**

# Relative poverty analysis: some results - households

## Household relative poverty incidence by household typology - Year 2016

	%
single member 18-64 years	5.3
single member 65+ years	5.2
couple without children and r.p. 18-64	7.5
couple without children and r.p. 65+	7.9
couple with one child	10.9
couple with 2 children	16.8
couple with 3 or more children	28.1
single parent	13.9
other typologies	19.9
<b>all resident households</b>	<b>10.6</b>

## Household relative poverty incidence by household typology - Year 2016

	%
<b>Households by presence of foreign members</b>	
with all national members	8.5
with national and non national members	36.1
with all non national members	31.5
<b>Households by presence of elderly people</b>	
1 elderly	7.1
2 elderly or more	9.2
<b>at least one elderly</b>	<b>7.8</b>
<b>Households by presence of minor children</b>	
1 minor child	13.2
2 minor children	20.1
3 or more minor children	42.0
<b>at least one minor child</b>	<b>18.2</b>

# Relative poverty analysis: some results - individuals

## Individual relative poverty incidence by age class (per 100 individuals with the same characteristics) - Year 2016

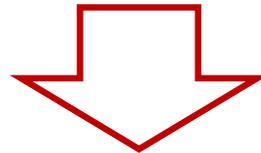
	%
0-17 years	22.3
18-34 years	16.8
35-64 years	12.7
65+ years	8.2
<b><i>all resident individuals</i></b>	<b>14.0</b>

## Individual relative poverty incidence by sex (per 100 individuals with the same characteristics) - Year 2016

	%
Male	14.1
Female	14.0
<b><i>all resident individuals</i></b>	<b>14.0</b>

# **Absolute** poverty analysis: threshold definition

Relative poverty indicators are **influenced** by increasing/decreasing of **social differences**



Istat calculates also different

## **absolute poverty threshold**

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**

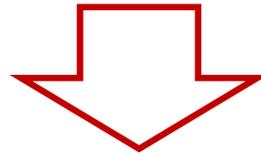
# Absolute poverty measure: steps

- **Identification** of individual and household **essential requirements**
- **Identification**, for each essential requirement, of **goods and services** to add to the basket *(that are, 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**  
*(reevaluation of its monetary value from year to year in the light of trend in prices)*

# 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.

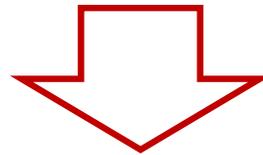
## Essential requirements: assumptions

- **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 they reflect local variations of prices of goods and services in the basket

# Essential requirements: definition

«need» unit: individual or household

basket unit: household



## INDIVIDUAL NEEDS

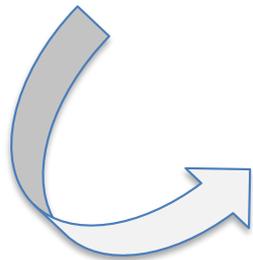
**have been however defined at household level**

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.

# Essential requirements and basket components

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

## «Minimum» requirements (in terms of goods and services)

### ▪ 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

# Monetary evaluation of minimum requirements

The evaluation of the **monetary value (cost)** of each **basket component** has been obtained considering for single goods and services

**the minimum price  
accessible to all households**

***not simply  
the absolute  
minimum  
price!!!***

taking into account that prices may differ according to different distribution canals and geographical areas

# Monetary evaluation of basket components/1

## ■ Food and drink component

evaluation and sum of monetary values of individual diets (“average price” of different distribution canals).

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

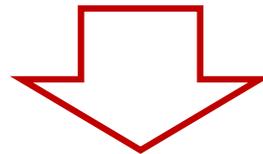
Rental: estimated through a **model based on HBS data**, by geographical area and municipality demographic size.

- 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

## Monetary evaluation of basket components/2

- 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 food and drink component to obtain** the monetary value of the **residual component**

# The absolute poverty threshold: definition

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

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!!!*

# The absolute poverty threshold: review over time

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*)

Table 8. Monthly absolute poverty thresholds for selected household typologies, geographical area and municipality type. Year 2016 (euros)

Household typology	North			Centre			South and Islands		
	Metropolitan area - centre	Metropolitan area suburbs and municipalities with 50,001 inhab. and over	Other municipalities until 50,000 inhab. (different from metropolitan area suburbs)	Metropolitan area - centre	Metropolitan area suburbs and municipalities with 50,001 inhab. and over	Other municipalities until 50,000 inhab. (different from metropolitan area suburbs)	Metropolitan area - centre	Metropolitan area suburbs and municipalities with 50,001 inhab. and over	Other municipalities until 50,000 inhab. (different from metropolitan area suburbs)
1 comp. 18-59	817.56	778.36	733.09	786.73	746.92	698.78	611.24	590.37	554.03
1 comp. 60-74	786.24	747.04	701.77	760.20	719.39	672.26	584.97	564.10	527.76
1 comp. 75+	745.39	706.19	660.92	723.58	682.77	635.63	548.73	527.86	491.52
2 comp. 18-59	1,129.57	1,082.27	1,028.63	1,073.39	1,024.14	968.29	870.68	846.28	804.28
2 comp. 60-74	1,067.50	1,020.20	966.56	1,020.41	971.16	915.31	818.28	793.88	751.88
2 comp. 75+	995.29	947.99	894.35	955.62	906.37	850.52	754.11	729.71	687.71
1 comp. 60-74 and 1 comp. 75+	1,031.12	983.82	930.18	987.76	938.51	882.66	785.94	761.54	719.54
1 comp. 18-59 and 1 comp. 75+	1,060.56	1,013.26	959.62	1,012.85	963.60	907.76	810.74	786.34	744.34
1 comp. 18-59 and 1 comp. 60-74	1,097.88	1,050.58	996.94	1,046.32	997.07	941.22	843.90	819.50	777.50
1 comp. 11-17 and 1 comp. 18-59	1,144.31	1,097.01	1,043.37	1,086.48	1,037.23	981.38	884.09	859.69	817.69
1 comp. 4-10 and 1 comp. 18-59	1,087.85	1,040.55	986.91	1,037.73	988.48	932.63	835.63	811.23	769.23
1 comp. 18-59 and 2 comp. 75+	1,272.28	1,217.69	1,156.66	1,209.95	1,153.11	1,089.56	984.37	956.93	910.15
1 comp. 18-59 and 1 comp. 60-74 and 1 comp. 75+	1,307.22	1,252.63	1,191.60	1,241.29	1,184.45	1,120.90	1,015.44	988.00	941.22
1 comp. 18-59 and 2 comp. 60-74	1,342.70	1,288.11	1,227.08	1,273.16	1,216.32	1,152.77	1,047.02	1,019.58	972.80
2 comp. 18-59 and 1 comp. 75+	1,338.60	1,284.01	1,222.98	1,268.22	1,211.38	1,147.83	1,042.07	1,014.63	967.85
2 comp. 18-59 and 1 comp. 60-74	1,375.06	1,320.47	1,259.44	1,300.94	1,244.10	1,180.55	1,074.51	1,047.07	1,000.29
3 comp. 18-59	1,408.88	1,354.29	1,293.26	1,330.01	1,273.17	1,209.62	1,103.27	1,075.83	1,029.05
1 comp. 11-17 and 2 comp. 18-59	1,422.32	1,367.73	1,306.70	1,341.93	1,285.09	1,221.54	1,115.46	1,088.02	1,041.24
1 comp. 4-10 and 2 comp. 18-59	1,372.21	1,317.62	1,256.59	1,298.70	1,241.86	1,178.31	1,072.50	1,045.06	998.28
1 comp. 0-3 and 2 comp. 18-59	1,272.78	1,218.19	1,157.16	1,208.41	1,151.57	1,088.02	982.46	955.01	908.23
2 comp. 18-59 and 2 comp. 60-74	1,625.46	1,567.98	1,484.11	1,536.29	1,466.02	1,389.12	1,269.91	1,237.38	1,182.73
3 comp. 18-59 and 1 comp. 60-74	1,660.38	1,592.90	1,519.03	1,566.43	1,496.16	1,419.26	1,299.73	1,267.20	1,212.55
4 comp. 18-59	1,696.91	1,629.43	1,555.56	1,597.99	1,527.72	1,450.82	1,330.99	1,296.46	1,243.81
1 comp. 11-17 and 3 comp. 18-59	1,709.58	1,642.10	1,568.23	1,609.21	1,538.94	1,462.04	1,342.45	1,309.92	1,255.27
2 comp. 11-17 and 2 comp. 18-59	1,722.27	1,654.79	1,580.92	1,620.46	1,550.19	1,473.29	1,353.94	1,321.41	1,266.76
1 comp. 4-10 and 1 comp. 11-17 and 1 comp. 18-59	1,676.54	1,609.06	1,535.19	1,581.05	1,510.78	1,433.88	1,314.78	1,282.25	1,227.60
2 comp. 4-10 and 2 comp. 18-59	1,630.37	1,562.89	1,489.02	1,541.25	1,470.98	1,394.08	1,275.22	1,242.69	1,188.04
1 comp. 0-3 and 1 comp. 4-10 and 2 comp. 18-59	1,533.00	1,465.52	1,391.65	1,452.84	1,382.57	1,305.67	1,187.00	1,154.47	1,099.82
1 comp. 4-10 and 3 comp. 18-59	1,663.80	1,596.32	1,522.45	1,569.77	1,499.50	1,422.60	1,303.23	1,270.70	1,216.05
2 comp. 0-3 and 2 comp. 18-59	1,438.09	1,370.61	1,296.74	1,366.63	1,296.36	1,219.46	1,101.01	1,068.48	1,013.83
3 comp. 18-59 and 1 comp. 75+	1,623.83	1,556.35	1,482.48	1,533.62	1,463.35	1,386.45	1,267.19	1,234.66	1,180.01
1 comp. 0-3 and 1 comp. 11-17 and 1 comp. 18-59	1,579.08	1,511.60	1,437.73	1,492.56	1,422.29	1,345.39	1,226.49	1,193.96	1,139.31
5 comp. 18-59	1,957.30	1,879.58	1,795.74	1,838.67	1,757.75	1,670.46	1,540.00	1,503.66	1,443.26
1 comp. 11-17 and 4 comp. 18-59	1,969.47	1,891.75	1,807.91	1,849.43	1,768.51	1,681.22	1,551.01	1,514.67	1,454.27
1 comp. 4-10 and 2 comp. 11-17 and 1 comp. 18-59	1,951.50	1,873.78	1,789.94	1,834.57	1,753.65	1,666.36	1,536.82	1,500.48	1,440.08
2 comp. 11-17 and 3 comp. 18-59	1,981.66	1,903.94	1,820.10	1,860.23	1,779.31	1,692.02	1,562.03	1,525.69	1,465.29
1 comp. 4-10 and 1 comp. 11-17 and 3 comp. 18-59	1,939.26	1,861.54	1,777.70	1,823.72	1,742.80	1,655.51	1,525.73	1,489.39	1,428.99
2 comp. 4-10 and 1 comp. 11-17 and 2 comp. 18-59	1,908.76	1,831.03	1,747.19	1,797.75	1,716.83	1,629.54	1,500.22	1,463.88	1,403.48

# Main indices

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)

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

*... measuring 'how poors are the poors'*

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

# Absolute poverty analysis: 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
<b>Italy</b>	<b>6.3</b>	<b>100.0</b>	<b>7.9</b>	<b>100.0</b>

**1,619,000 households**

**4,742,000 individuals**

# Absolute poverty analysis: some results - households

## 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
<b>all resident households</b>	<b>6.3</b>

## Household absolute poverty incidence by household typology - Year 2016

	%
<b>Households by presence of foreign members</b>	
with all national members	4.4
with national and non national members	27.4
with all non national members	25.7
<b>Households by presence of elderly people</b>	
1 elderly	4.2
2 elderly or more	3.5
<b>at least one elderly</b>	<b>3.9</b>
<b>Households by presence of minor children</b>	
1 minor child	7.2
2 minor children	10.0
3 or more minor children	26.8
<b>at least one minor child</b>	<b>9.9</b>

# Absolute poverty analysis: some results - individuals

## 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
<i>all resident individuals</i>	<b>7.9</b>



**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
<i>all resident individuals</i>	<b>7.9</b>

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