HELLENIC REPUBLIC

HELLENIC STATISTICAL AUTHORITY

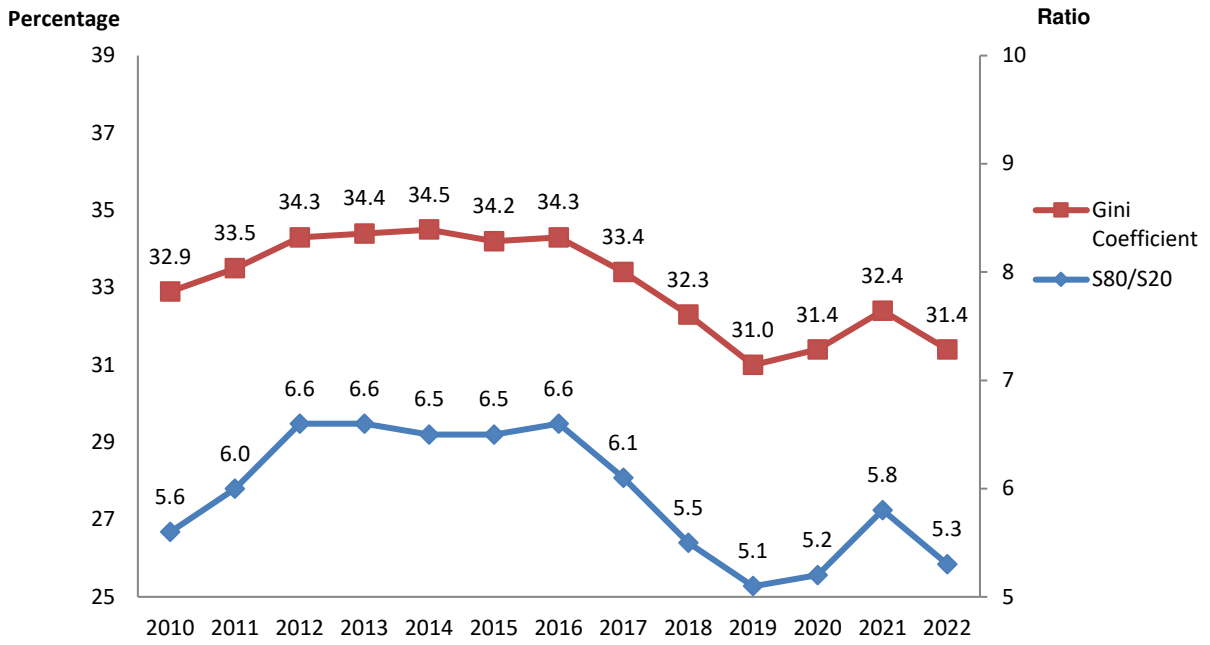
Piraeus, 8 May 2023

INCOME INEQUALITY

2022 Survey on Income and Living Conditions
(Income reference period: 2021)

The Hellenic Statistical Authority (ELSTAT) announces data on inequality in income distribution, based on the available results of the 2022 Survey on Income and Living Conditions of Households (SILC), with **reference income period the year 2021**. EU-SILC is the main source for comparable statistics on income distribution and social exclusion, at European level.

Graph 1. Income inequality indicators: 2010 – 2022



**It is noted that the reference period as regards income is the year prior to the year the survey is conducted, that is, the data on income refer to the period 2009 - 2021.*

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A.Income Inequality Indicators

Income quintiles share ratio (S80/S20 ratio)

The income quintiles share ratio, or S80/S20, measures relative inequality in income distribution, compares the total of equivalised disposable income received by the 20% of the country's population with the highest equivalised disposable income (top inter-quintile interval) to that received by the 20% of the country's population with the lowest equivalised disposable income (lowest inter-quintile interval) and is affected by the extreme values of income distribution.

- In 2022 the S80/S20 ratio, with reference income period the year 2021, recorded a decrease of 0.5 units compared with 2021 (with reference income period the year 2020) amounting to 5.3, i.e., the share of the income of the wealthiest 20% of the population is 5.3 times higher than the share of the income of the poorest 20% of the population (Graph 1, Table 1).
- Income inequality for persons aged 65 years and over is 4.3, recording an increase of 0.1 units compared with 2021 (4.2). The income inequality for persons under 65 years old is 5.6, recording an increase of 0.8 percentage units compared to the previous year (6.4) (Table 1).
- Table 4 presents the income quintile ratio (S80/S20) for the years 2015-2022, for the European countries of which the results of 2021 EU-SILC are available at the moment.

Gini coefficient

In order to depict income inequality more accurately, the Gini coefficient is complementarily used. Gini coefficient – in contrast to the S80/S20 ratio – is not affected by the extreme values of income distribution.

The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them. If there was perfect income equality (i.e., if all persons received the same income), the Gini coefficient would be 0 (or 0%). A Gini coefficient of 1 (or 100%) indicates that there is total income inequality, and the entire national income is in the hands of one person. For example, a Gini coefficient of 30.0% means that, choosing randomly 2 persons, the difference between their incomes is at 30.0% of the mean equivalized disposable income.

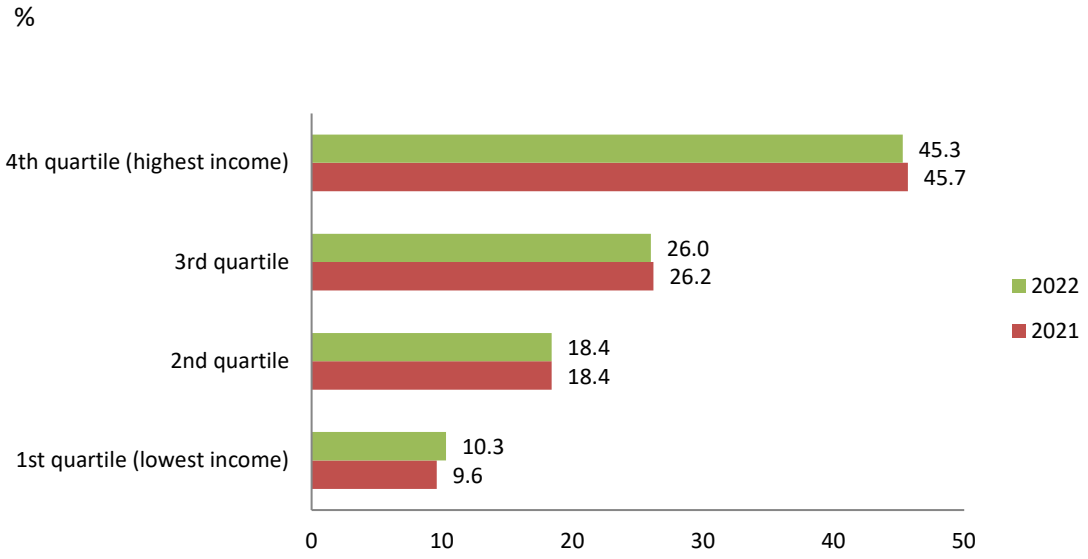
- In 2022, the Gini coefficient was estimated at 31.4%, recording an increase of 1.0 percentage point compared with 2021 (Graph 1, Table 3). This means that, choosing randomly 2 persons in the population, we expect that their income will differ by 31.4% of the mean equivalized disposable income.
- Since 1994, first year of the survey, the overall inequality decreased by 6.0 percentage points (37.4% in 1994).
- Table 5 presents the Gini coefficient for the years 2015-2022, for the European countries of which the results of 2021 EU-SILC are available at the moment.

B. Distribution of income by quartiles

The data on the distribution of income by quartiles represent the share of the national income held by each of the four (equal) parts of the population. In other words, by sorting the population in ascending order according to their equivalised disposable income (lower to higher income) and then by dividing the population in four equal parts (based on the total number of persons) we get the following results (Graph 2, Table 2):

- 25% of the population in the 1st quartile, with the lowest income, holds 10.3% of the total national disposable income, recording an increase of 0.7 percentage units compared with 2021.
- 25% of the population in the 4th quartile, with the highest income, holds 45.3% of the total national disposable income, recording a decrease of 0.4 percentage units compared with 2021.
- 50% of the middle-income population in the 2nd and 3rd quartiles holds 44.4% of the total national disposable income, recording a decrease of 0.2 percentage units compared with 2021.
- The highest yearly income for the 1st quartile amounts to 6,533 euros.
- The lowest yearly income for the 4th quartile amounts to 13,375 euros.

Graph 2. Distribution of income (%) by quartiles: 2021- 2022



TABLES

Table 1

Inequality of equivalised income distribution (S80/S20 ratio) by age group: 2010 – 2022

Age groups	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total	5.3	5.8	5.2	5.1	5.5	6.1	6.6	6.5	6.5	6.6	6.6	6.0	5.6
65+	4.3	4.2	4.0	3.8	3.9	4.2	3.9	4.1	4.1	3.9	4.5	4.5	4.1
0 - 64	5.6	6.4	5.7	5.6	6.1	6.7	7.4	7.4	7.3	7.5	7.4	6.4	6.0

Table 2

Distribution of equivalized income by quartiles: 2010 – 2022

%

Year of Survey	Quartiles	Quartile 1 (lowest income)	Quartile 2	Quartile 3	Quartile 4 (highest income)
2022	% of national disposable income	10.3	18.4	26.0	45.3
	Highest equivalized disposable income by quartile	6,533	9,520	13,375	-
2021	% of national disposable income	9.6	18.4	26.2	45.7
	Highest equivalised disposable income by quartile	5,947	8,752	12,308	-
2020	% of national disposable income	10.3	18.4	26.0	45.2
	Highest equivalised disposable income by quartile	6,080	8,781	12,367	-
2019	% of national disposable income	10.4	18.5	26.2	44.9
	Highest equivalised disposable income by quartile	5,700	8,195	11,625	-
2018	% of national disposable income	10.0	18.2	25.8	45.9
	Highest equivalised disposable income by quartile	5,373	7,863	11,200	-
2017	% of national disposable income	9.3	18.0	26.1	46.5
	Highest equivalised disposable income by quartile	5,187	7,600	10,933	-
2016	% of national disposable income	8.9	17.9	26.0	47.2
	Highest equivalised disposable income by quartile	4,930	7,500	11,000	-
2015	% of national disposable income	8.9	17.9	26.0	47.2
	Highest equivalised disposable income by quartile	4,924	7,520	10,860	-
2014	% of national disposable income	9.0	17.6	25.8	47.6
	Highest equivalised disposable income by quartile	4,988	7,680	11,000	-

Table 2 (continuing)

Distribution of equivalised income by quartiles: 2010 – 2022

Year of survey	Quartiles	Quartile 1 (lowest income)	Quartile 2	Quartile 3	Quartile 4 (highest income)
2013	% of national disposable income	8.9	17.8	26.3	47.1
	Highest equivalised disposable income by quartile	5,250	8,371	11,692	-
2012	% of national disposable income	8.7	17.9	26.4	47.0
	Highest equivalised disposable income by quartile	5,944	9,513	13,489	-
2011	% of national disposable income	9.4	17.7	26.2	46.7
	Highest equivalised disposable income by quartile	7,176	10,985	15,809	-
2010	% of national disposable income	9.9	17.9	25.7	46.5
	Highest equivalised disposable income by quartile	7,976	11,963	17,000	-

Table 3

Gini coefficient: 2010-2022

Year	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
%	31.4	32.4	31.4	31.0	32.3	33.4	34.3	34.2	34.5	34.4	34.3	33.5	32.9

Table 4

Inequality of equivalised income distribution (S80/S20 ratio) in European countries with available data at the moment (years 2015 – 2022)

Countries	2022	2021	2020	2019	2018	2017	2016	2015
Bulgaria	7.3	7.5	8.0	8.1	7.7	8.2	7.7	7.1
Latvia	6.3	6.6	6.3	6.5	6.8	6.3	6.2	6.5
Spain	5.6	6.2	5.8	5.9	6.0	6.6	6.6	6.9
Estonia	5.4	5.0	5.0	5.1	5.1	5.4	5.6	6.2
Greece	5.3	5.8	5.2	5.1	5.5	6.1	6.6	6.5
Austria	4.3	4.1	4.1	4.2	4.0	4.3	4.1	4.1
Netherlands	3.9	3.9	4.2	3.9	4.1	4.0	3.9	3.8
Finland	3.8	3.6	3.7	3.7	3.7	3.5	3.6	3.6
Belgium	3.6	3.4	3.7	3.6	3.8	3.8	3.9	3.8

Table 5

Gini coefficient in European countries with available data at the moment (2015–2022)

%

Countries	2022	2021	2020	2019	2018	2017	2016	2015
Bulgaria	38.4	39.7	40.0	40.8	39.6	40.2	37.7	37.0
Latvia	34.3	35.7	34.5	35.2	35.6	34.5	34.5	35.4
Spain	32.0	33.0	32.1	33.0	33.2	34.1	34.5	34.6
Estonia	31.9	30.6	30.5	30.5	30.6	31.6	32.7	34.8
Greece	31.4	32.4	31.4	31.0	32.3	33.4	34.3	34.2
Austria	26.6	26.7	26.5	26.2	25.9	25.3	25.4	27.2
Netherlands	26.6	25.7	26.5	26.2	25.9	25.3	25.4	25.2
Finland	26.3	26.4	28.2	26.8	27.4	27.1	26.9	26.7
Belgium	24.9	24.1	25.4	25.1	25.7	26.1	26.3	26.2

EXPLANATORY NOTES

European Union - Statistics on Income and Living Conditions - EU-SILC

The Survey on Income and Living Conditions (EU-SILC) is part of a European Statistical Programme in which all Member States participate, and which replaced, in 2003, the European Household Panel Survey with a view to improving the quality of statistical data concerning poverty and social exclusion. The basic aim of the survey is to study, both at national and European level, the households' living conditions mainly in relation to their income. This survey is the basic source for comparable statistics on income distribution and social exclusion at European level. The use of commonly accepted questionnaires, primary target variables and concepts – definitions ensure data comparability.

Legal basis

The survey is in compliance with the Regulation (EU) No 2019/1700 of the European Parliament and of the Council concerning Social Statistics and is conducted upon Decision of the President of ELSTAT.

Income reference period used

The income reference period is a fixed twelve-month period, namely the previous calendar year.

Coverage

The survey covers all private households throughout the Country, irrespective of their size or socio-economic characteristics. The following are excluded from the survey:

- Institutional households of all types (boarding houses, elderly homes, hospitals, prisons, rehabilitation centres, camps, etc.). More generally, households with more than five lodgers are considered institutional households.
- Households with foreigners serving in diplomatic missions.

Methodology

The survey is a *simple rotational design* survey, which was selected as the most suitable for single cross-sectional and longitudinal survey. The final sampling unit is the household. The sampling units are the households and their members.

The sample for any year consists of 4 replications, which have been in the survey for 1-4 years. Except for the first three years of survey, any replication remains in the survey for 4 years. Each year, one of the 4 replications from the previous year is dropped and a new one is added. In order to have a complete sample the first year of survey, the four panels began simultaneously. For the EU-SILC longitudinal component, the people who were selected initially are interviewed for a period of four years, equal to the duration of each panel.

EU-SILC survey is based on a two-stage stratified sampling of households from a frame of sampling which has been created on the basis of the results of the 2011 population census and covers completely the reference population.

There are two levels of area stratification in the sampling design.

The first level is the geographical stratification based on the division of the total country area into thirteen (13) standard administrative regions corresponding to the European NUTS II level. The two major city agglomerations of Greater Athens area and Greater Thessaloniki area constitute two separate major geographical strata.

The second level of stratification entails grouping municipalities and communes within each NUTS II Regions by degree of urbanization, i.e., according to their population size. The scaling of urbanization was finally designed in four groups:

- >= 30,000 inhabitants
- 5,000-29,999 inhabitants
- 1,000-4,999 inhabitants
- 0-999 inhabitants

Sample selection schemes

i) In this stage, from any ultimate stratum (crossing of region with the degree of urbanization), -say stratum h, n_h primary units were drawn; where the number n_h of draws was approximately proportional to the population size X_h of the stratum (number of households according to the 2011 population census).

ii) In this stage from each primary sampling unit (selected area) the sample of ultimate units (households) is selected. In the second stage a sample of dwellings is drawn. In most cases, there is one to one relation between household and dwelling. If the selected dwelling consists of one or more households, then all of them are interviewed.

The survey was designed in 2003 to provide reliable estimates of interest at the national level. The original design was gradually modified from 2015 in order to achieve the main objectives of the European strategy "Europe 2020" as well as national needs. In 2019, the sample design based on the results of the "Study of the current sampling design of the Survey of Income and Living Conditions (SILC) with the objective to increase/adjust the sample at regional (NUTSII) level" in order to improve the estimates of regional EU-SILC indicators.

Sample size In 2022, the survey was conducted on a final sample of 10,202 households and on 22,317 members of those households - 19,481 of them aged 16 years and over. The average household size was calculated at 2.2 members per household.

Weightings For the estimation of the characteristics of the survey the data of each person and household of the sample were multiplied by a reductive factor. The reductive factor results as product of the following three factors (weights):
a. The reverse probability of selection of an individual, that coincides with the reverse probability of selection of a household.
b. Reverse of the response rate of households inside the strata.
c. A corrective factor which is determined in a way that:
i) The estimation of persons by gender and age group that will result by geographic region coincides with the corresponding number, which was calculated with projection for the survey reference period and was based on vital statistics (2011 population census, births, deaths, migration).
ii) The estimation of households by size order (1, 2, 3, or 4+ members) and by tenure status coincides with the reference year that was calculated with projection that was based on the longitudinal tendency of the 2011 and 2021 population censuses.

Equivalised income Total disposable income of the household is considered the total net income (that is. income after deducting taxes and social contributions) received by all household members.
More specifically the income components included in the survey are:

- Income from work
- Income from property
- Social transfers and pensions
- Monetary transfers from other households
- Imputed income from the use of a company car.

Equivalent available individual income is considered the total available income of household after being divided by the equivalent size of household. The equivalent size of household is calculated according to the modified scale of OECD.
It is pointed out that in the distribution per person it is suggested that each member of the household possesses the same income that corresponds to the equivalised disposable income. This means that each member of the household enjoys the same level of living. Consequently, in the distribution per person, the income that is attributed to each person does not represent wages, but an indicator of level of living. The total available income of the household is calculated as the sum of income of the household's members (income from salaried services, from self-employment, pensions, benefits of unemployment income from property, familial benefits, regular pecuniary transfers etc.), that is to say, the total of net earnings coming from all the sources of income after the abstraction of any benefits to other households. To this sum, the tax should also be added pertaining to the tax that potentially was returned and concerned the income declaration of the previous year.

Equivalence scale Equivalent size refers to the OECD modified scale which gives a weight of 1.0 to the first adult, 0.5 to other persons aged 14 or over who are living in the household and 0.3 to each child aged under 14. Example: The income of household with two adults and two children under 14 years of age is divided by 1+0.5+2X0.3=2.1. Accordingly, the income of the household with 2 adults is divided by 1+0.5=1.5 and the income of a household with 2 adults and 2 children aged 14 and over is divided by 1+0.5 +(2X0.5) =2.5. etc.

Indicators 1. Income quintile share ratio (S80/S20) - Inequality of income distribution
2. Gini coefficient (inequality of income distribution)

Definition of Indicators 1. Income quintile share ratio (S80/S20)
The 'S80/S20 income quintile share ratio' is the ratio of the total of equivalised disposable income received by the 20% of the country's population with the highest equivalised disposable income (top inter-quintile interval) to that received by the 20% of the country's population with the lowest equivalised disposable income (lowest inter-quintile interval).

2. Gini coefficient (inequality of income distribution)
The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income to the cumulative share of the equivalised total

disposable income received by them. If there was perfect income equality (i.e., all persons received the same income) the Gini coefficient would be 0%. A Gini coefficient of 100% indicates that there is total income inequality, and the entire national income is in the hands of one person. For example, a Gini coefficient of 30% means that choosing randomly 2 persons, the difference between their incomes is at 30% of the mean equivalized disposable income.

References For further information on the survey please visit ELSTAT's webpage
Survey on Income and Living Conditions