GENERAL EXPLANATION ON THE METHODOLOGY OF THE SURVEY OF INCOME AND LIVING CONDITIONS

Income distribution indicators are needed for not only the economic reasons but also to enable to make a good evaluation (according to the social justice and equivalance) of the various social systems. Inequity and poverty on income distribution are one of the most serious problems of the world and the income distribution problems are started to appear not only just the economic but also the political and social problems anymore. With the studies on monitoring the income inequality variation, it has needed to produce data for new notions like “poverty of social opportunity” by reducing the income distribution problem to the poverty problem (income poverty).

TURKSTAT has produced income distribution statistics by using Household Budget Survey (HBS) from 1987 to 2005. After the second survey application in 1994 the survey has been carried out yearly starting from 2002. Last income distribution news bulletin which includes HBS results was in 2005.

“Income and Living Conditions Survey” has been started to carried out yearly by using panel survey method for displaying the income distribution between individuals and households, measuring the living conditions of the people, social exclusion and poverty with the income dimension, and determining the profile for 2006. The aim of the survey which is started to apply in the frame of European Union Compliance Programme is to produce data on income distribution comparable with the EU Countries, relative poverty by income, living conditions and social exclusion. Also module questions on living conditions subjects, determined by Eurostat, are added into questionnaire every year. In 2020, module survey on “Over-indebtedness, consumption and wealth” had been applied.

Respondents in the sample are monitored during four years in this survey where the panel survey technic is used and field application is carried out regularly in every year. It is aimed to get two kinds of data sets from the survey namely cross-section and panel.

COVERAGE OF THE SURVEY:

Geographical coverage: The entire of the settlements within the borders of the Republic of Turkey were included within the scope.

Covered population: The entire members of the households that live within the borders of the Republic of Turkey were included within the scope. However the institutional population in the dormitories, guesthouses, child care centers, orphanages, nursing homes, private hospitals, prisons, military barracks was excluded out of the scope.

Covered Subjects: The following issues are covered to calculate indicators like income, poverty, social exclusion and other living conditions indicators:

- Housing
- Economical situation
- Social exclusion
- Real estate ownership
- Education
- Demography
- Health status
- Labour status
- İncome status

SAMPLING DESIGN:

Sampling methodology: Stratified, two-staggered, clustered sampling

Sampling unit: *Household* is described as the final sampling unit

Estimation level: Until 2014, estimations are produced on the level of Turkey, urban, rural and SR Level-1 from the annual cross-sectional data as well as estimations on the level of Turkey from results of panel data. Since 2014, the estimations are produced on the level of Turkey, SR Level-1 and SR Level-2 from the annual cross-sectional data. *(The list of SR Level-1 and Level-2 regions are given at the end of explanation document)*

Sample size and non-response rate: At the beginning the sample size of the survey was around 12 800 household considering the estimation level, aim of the survey, target variables produced and the attritions in the sampling. Nevertheless, it is aimed to produce information on SR Level 2 in 2014 and for this purpose the sample size was started to increase by increasing the sample size of new supsample which was added to sample since 2011. Therefore, the number of total sample households was **27 437** in 2020 Income and Living Conditions Survey. 25 706 of the households were interviewed and the interview couldn't be implemented with the rest 1 731 households due to various reasons and non-response questionnaire was filled. Consequently in 2020, the non-response rate is 6,3% in overall Turkey.

In the survey, **65 516** individuals 15 aged and over from the sample households were interviewed. 85 of which didn't respond the survey due to various reasons. So, the individual non-response rate is 0,13% in the survey.

Population Weights: Weights used for producing population estimations from survey data are calculated based on 2020 population projections which is revised by Address Based Population Registration System.

Panel Survey Application: The rotational design is used in this survey. According to the survey methodology, one part of the households stays in the sample frame from one year to another, and instead of the other households in the sample frame, the new households enter the sampling frame. It is anticipated that 25% of the sampling size has been foreseen to get out of the frame of panel from one year to another. Thus, panel application starts with the selection of the basic sampling which represents target population. 13 years and older individuals in the selected basic sampling household are monitored for 4 years with direction of the rules of monitoring-execution. The aim of this followup rules are to reflect the changes in the target population to the basic sampling and to follow the individuals in a specified time.

REFERENCE PERIODS:

Reference period; it is described as the time period where the data belongs, but in this survey, different reference period has been used for different information.

- The reference period for incomes is the previous calendar year. So, field study of 2020 refers to 2019 incomes.
- The reference periods for employment information are both the previous week from the survey and current date.
- The reference period for the living conditions indicators is current situation.

DATA COMPILATION METHODOLOGY:

Income and Living Conditions Survey is carried out regularly in each year. Data compilation study is performed between March-July.

Survey applications are carried out with face to face interview technique by means of HARZEMLİ Program developed by TURKSTAT. Staffs who are called as interviewer, supervisor, organizer and technical officer implement the survey. During the field application, field organization units work coordinately with the central organization units. Compilation of data collection and data analyze phases are performed successfully by these units.

Letters and brochures giving information about the survey and its purpose and how and when the application will be done are sent to households before survey implementation.

Following the data entry studies, some informations are requested from the administration record of the related institutions by using the National Identification Number obtained from the survey like salary/entrepreneurial income, retirement/survivor pension, unemployment payments, disability/old age/veteran income, received social benefits, income/asset taxes and contributions for the insurance paid and so on. The data obtained by the survey are compared and edited by these administrative data.

CONCEPT AND DEFINITIONS

Definitions relating to household

Household: The community which is comprised by one or more than one members living together in the same housing or part of the housing unit, either with blood relationship or not, meeting the basic needs together, participating the services and management of the household.

Institutional population: It is defined as population whose complete or part of the daily life needs are provided by private or public institutions established through legal arrangements, whose individual decisions and behaviors are also totally or partially depend on the responsible authority and who can only organize their own expenditures. In this context, the population in the dormitories, guesthouses, child care centers, orphanages, nursing homes, private qualified hospitals, prisons, military barracks is considered as institutional population.

Household member: Members whose permanent residence is address of the sample household are accepted as household member even though they are not temporarily in the household at the time of the interview. Additionally, those living in institutional units (soldiers and ranks doing compulsory military service, persons in prison, elderly people in nursing homes, students in dormitories, etc.) are not regarded as the household members.

Permanent residence is the address that has been being resided or is intended to be resided for 12 or more months.

Household respondent: He/she is an adult household member, who is responsible for managing and providing sustenance, of the household and who knows better knowledge about socio-economic status of the household and the characteristics of other members of the household.

Definitions relating to income

Income: It is the total values of services and goods re-created in the national economy in a specific period of time usually in a year.

In the context of households or individual income, it can be defined as the total of values provided in a specific time period as a result of contributing production. Household income may include wage and salary, rental of land, interest or profit.

Incomes of activities: Incomes obtained from activities:

i.Salary, wage, per diem incomes: In the reference period of the income, it is the income in cash or in kind that is obtained by working as an employee. Incomes related to premium, risk of business, extra for job-hazards, over time working, capital bonus, extra work are also included in salary, wage or per diem.

ii. **Entrepreneur incomes:** In the reference period of income, it is the gross national product obtained with working as entrepreneur (status in employment is an employer or own-account workers) subtracting all expenditures (such as expenditures of the workplace, taxes, social insurance deduction) in the same period of income. If there is a partnership, the income share of member is accepted as the entrepreneurial income. Entrepreneurials' incomes are compiled as agriculture and non-agriculture basis in the study. Agricultural income which is included in entrepreneurial income has been calculated by modeling since 2016.

Incomes for out of activities: Incomes obtained from out of activities

i. Rental income: It is the incomes gained by renting the real property like apartment, shop, store and the properties like field, garden, land in the reference period subtracting all expenditures (such as insurance, tax, renewal, maintenance) which are incurred to provide this income.

ii. Property income: It is the incomes gained by the interest of the bank account, share of profits from financial institutions or company and etc. Taxes for property incomes are deducted before gaining incomes. However, the net income which is determined by subtracting expenditures which are made by the household members to protect the values of property like insurance, deposit box, debenture and taxes from the income, is considered as property income.

iii. Transfer incomes: It is unrequited transfers which are taken from the government, private sectors or other persons/households in the reference period of income. It is divided into two groups;

a. **Social transfers:** It is defined as unreturned benefits in cash or in kind given by the government or other institutions/organizations to the households to provide their needs or solving the problems due to the financial pressure in the reference period of income. (Social benefits suh as family/children-related allowances, housing allowances (rent etc.) and other social benefits for poor households and regular in-kind or in-cash benefits (such as pension, old age, unemployment, disability, occupational disability and veteran salary, unrequited grant and scholarship for education, etc.) received by individuals aged 15 and over.

b. **Inter-household transfers:** It is the benefits that households receive from other persons or households as unreturned benefits in cash or kind.

Imputed rent: It is the imputed rent of the dwellings which are occupied by the owners or provided by public organizations or employee or other type of dwellings occupied by the households without paying a rent (such as the household lives in a dwelling which is owner of father, relatives and not paying a rent). In addition; if the accommodation rented at a lower price than the market price, this difference is assessed as imputed rent income of the household.

Value of imputed rent is calculated as two ways;

i. It is collected from households through surveys by considering the rent of other dwellings located in the same area and same locality as an example.
ii. It is estimated by explanatory variables using regression model.

Second method is used to calculate the disposable household income.

Income in cash: Money in cash is considered as money which is ready to use. It is defined as cash money gained as a result of activities or factors out of activities.

Income in-kind: Kind is the payments as goods. Kind income is the defined as income in kind as result of labor or capital. It is very important that kind income has to be spent in the household. If income in kind is sold and transferred to cash, this is considered as cash income not kind income.

Gross income: It is the income that includes the deduction of retirement and social insurance and taxes.

Net income: It is the net income that does not cover taxes, deduction of retirement and social insurance which are paid by the persons.

Household net annual disposable income: It is calculated as the total of individual usable income of all members of the household (total of the activity and out of activity incomes in the form of in-cash or in-kind such as salary-wage, per diem, enterprises income, pension, survivors' salary, old age salary, unrequited grants, etc.), adding the total of yearly income for the household (such as real estate income, unreturned benefits, incomes gained by household members less than age 15, etc.) and subtracting taxes paid during the reference period of income and regular transfers to the other households or persons.

CALCULATION OF THE HOUSEHOLDS ANNUAL DISPOSSIBLE NET INCOME

(1)	Net income in cash in the form of wage, salary, payment or per diem
(2)	Net income in kind in the form of wage, salary, payment or per diem
(3)	**Net total income in the form of salary, payment or per diem (1)+(2)**
(4)	Net income in cash of entrepreneur (Agriculture / Out of Agriculture)
(5)	Net income in-kind of entrepreneur (Agriculture / Out of Agriculture)
(6)	**Net total income of entrepreneur** (Agriculture / Out of Agriculture) **(4)+(5)**
(7)	Net income in cash from real estates (rental income)
(8)	Net income in-kind from real estates (rental income)
(9)	**Net total income from real estates (rental income) (7)+(8)**
(10)	**Property income**
(11)	Unemployment benefit
(12)	Pension
(13)	Old age benefit
(14)	Voluntary pension
(15)	Survivors' benefits
(16)	Death benefit
(17)	Sickness benefit
(18)	Disability benefit
(19)	Occupational disability benefit
(20)	Veteran salary
(21)	Unrequited grant and scholarship for education
(22)	Family/children benefit
(23)	Housing benefit
(24)	Other social benefits
(25)	**Social transfers (11+12+13+14+15+16+17+ 18+19+20+21+22+23+24)**
(26)	**Incomes of the individuals less than 15 years old**
(27)	**Inter-household transfers (received)** (including alimony)
(28)	**Value of the products household produced for their consumption**
(29)	**Imputed rent income (Yearly)**
(30)	**Inter-household transfers (paid)** (including alimony)
(31)	**Paid taxes (assets, rent, motor vehicle etc.) and optional social security premiums**
(32)	**Household net annual disposable income *(3+6+9+10+25+26+27+28+29)-(30+31)***

Equivalence scale / equivalence household income:

Today, income disparities are measured by taking into account the differences between individual incomes. Therefore, total income of the household should be transferred to the individual income. It is not correct way to calculate the individual income as total income divided by number of household members. In this calculation, it is necessary to take into account the adult-child structure of the households, because the consumption of the children is scientifically less than the consumption of the adults. In this context, number of adults for each household size is calculated by using the constants which are called as equivalence scale. Equivalised individual income to the specific household in other words, equivalised household disposable income, can be calculated total of household income divided by equivalised household size.

In this survey, OECD measure which is 1 for the reference person of the household, 0.5 for household members aged 14 and over, 0.3 for household members less than age 14 is used.

Equivalence measure allows comparing to the households with different size and structure. It can be possible to make comparison by using the equivalence household income in order to identify the indicators for income disparities (such as gini coefficient, analysis of percentage groups, etc.) and poverty line.

Income distribution: is to allocate the created income (income which is created in a country and in a specific time period) between the individuals, households and production factors.

Individual income distribution: The distribution of the income between individuals or households is in the foreground. Income inequalities in the individual income distributions are determined according to the amount of income of individuals or households. Moreover, it is also possible to classify the income by socio-economic groups, occupations, sectors, regions and education status. Individual income distribution is a good indicator not only for economic but also for social inequalitiy.

Mean income: This is the value that is obtained by dividing total of incomes to sample size. It means, it refers to an arithmetic means which belongs to a specific group.

Median income: When the income values listed in the form of ascending order, then the value at the middle is called median income.

Income distribution inequality criterias:

Gini coefficient: To measure personnel income distribution, widely used distribution criteria is gini coefficient which is calculated by the following formula below.

$$G = \left[\frac{1}{N^2} \sum_{i=1}^{N} \sum_{j=1}^{N} \left| Y_i - Y_j \right| f(Y_i) f(Y_j) \right] \Big/ 2\bar{Y}$$

Y_i : *i. total income of the group,*

Y_j *: j. total income of the group,*

$f\ (Y_i)$*: i. multitude of the group*

$f\ (Y_j)$*: j. multitude of the group*

N *: number of unit*

$\bar{Y}$ *: Arithmetic means of the income*

Gini coefficient depends on Lorenz curve and equival to the proportion of the area between the curve and diagonal to the area under the diagonal. If the value is getting close to 1, then the inequality in the distribution is getting bigger. The gini coefficient varies between “0” and “1”. If the income is distributed fairly in a society, then the gini coefficient is equal to “0”. If the income is received by only one person, then the gini coefficient is equal to “1”.

Lorenz Curve: It's a graphic used to indicate the inequality in distribution of the income or assets among population. The curve intersects the endpoints of a square's diagonal. Cumulative shares of income are indicated by per cent on the vertical side of the square and cumulative shares of income are indicated by per cent on the horizontal side of the square. Diagonal line indicates the equal distribution of income (absolute equality) among population. Inequality in the income distribution grows bigger as the Lorenz curve gets farther from the diagonal.

Percentage household/individual groups: The households are listed from the least amount to the most amount by disposable household income and individuals in the households is listed by equivalised household disposable income in the same way. Percentage quintile groups is formed by dividing the number of the households in 5 equal parts and deciles is formed by dividing the number of the households in 10 equal parts and 5 % groups is formed by dividing the households in 20 equal parts. Share from total incomes of these groups informs about income distribution inequality.

Share ratio (S80/S20): This is a criteria to measure individual income distribution and it is the ratio of total equivalised income received by the 20% of persons with the highest income (top quintile) to that received by the 20% of persons with the lowest income (lowest quintile).

S90/S10 ratio: This is another criteria to measure individual income distribution. It is defined as the ratio of total equivalised income received by the 10% of persons with the highest income (top quintile) to that received by the 10% of persons with the lowest income (lowest quintile).

Definitions relating to poverty

Relative poverty: The households having incomes and expenditures below a specified line compared to the general population shall be defined to be the poor in a relative meaning. As a welfare measure, *consumption or income* level may be selected according to the situation. Relative poverty indicator based on income is calculated in this survey.

Poverty threshold: Four different relative poverty thresholds are calculated by equivalised household disposable median income:

- 40 % of median income,
- 50 % of median income,
- 60 % of median income,
- 70 % of median income.

Population at-risk-of-poverty: Households having equivalised household disposable income below these specified thresholds are defined as population at-risk-of-poverty.

Poverty rate: It is defined as the proportion of population at-risk-of-poverty within the total population.

Poverty gap ratio: This index measure reflects the depth of poverty as well as its incidence. Poverty gap is the mean shortfall of the total population from the poverty line (counting the nonpoor as having zero shortfall), expressed as a percentage of the poverty line.

The index informs about poverty level. It represents the degree of poverty (poverty level) is too much if it approaches to "100" and it represents the poverty risk degree (poverty risk level) is lower if it reduces.

Poverty gap ratio is calculated by this formula:

Poverty gap ratio = *((Poverty threshold -Equivalised median income per individuals of poors)/Poverty threshold)*100*

Population at-persistent-risk-of-poverty: It is defined as the population living in households where the equivalised disposable income was below the "at-risk-of-poverty threshold" for the current year and at least 2 out of the preceding 3 years. 60% of equivalised household disposable median income is taken into account in calculating at-persistent-risk-of-poverty-rate.

In the following table, the situations of 1, 2, 3 and 4 refer to population at-persistent-risk of poverty.

	T	T-1	T-2	T-3
1.	At risk of poverty	At risk of poverty	At risk of poverty	At risk of poverty
2.	At risk of poverty	At risk of poverty	**Not** at risk of poverty	At risk of poverty
3.	At risk of poverty	At risk of poverty	At risk of poverty	**Not** at risk of poverty
4.	At risk of poverty	**Not** at risk of poverty	At risk of poverty	At risk of poverty

Material deprivation: Material deprivation rate is defined as the percentage of population with an enforced lack of at least four out of nine material deprivation items in the “economic strain and durables” dimension.

The nine items considered are:

1) Unexpected financial expenses
2) One week’s annual holiday away from home (for all household members)
3) Arrears (on mortgage or rent payments, utility bills, hire purchase installments or other loan payments)
4) Meal with meat, chicken, fish (or vegetarian equivalent) every second day
5) Keeping home adequately warm
6) Washing machine
7) Colour TV
8) Telephone (including fixed and mobile phone)
9) Car

Classification of Statistical Region Units (SRE)

Level 1	Level 2	Level 3
TR - Turkey		
TR1 İstanbul	**TR10** (İstanbul)	TR100 İstanbul
TR2 West Marmara	**TR21** (Tekirdağ, Edirne, Kırklareli)	TR211 Tekirdağ TR212 Edirne TR213 Kırklareli
	TR22 (Balıkesir, Çanakkale)	TR221 Balıkesir TR222 Çanakkale
TR3 Aegean	**TR31** (İzmir)	TR310 İzmir
	TR32 (Aydın, Denizli, Muğla)	TR321 Aydın TR322 Denizli TR323 Muğla
	TR33 (Manisa, Afyonkarahisar, Kütahya, Uşak)	TR331 Manisa TR332 Afyonkarahisar TR333 Kütahya TR334 Uşak
TR4 East Marmara	**TR41** (Bursa,Eskişehir, Bilecik)	TR411 Bursa TR412 Eskişehir TR413 Bilecik
	TR42 (Kocaeli, Sakarya, Düzce, Bolu, Yalova)	TR421 Kocaeli TR422 Sakarya TR423 Düzce TR424 Bolu TR425 Yalova
TR5 West Anatolia	**TR51** (Ankara)	TR510 Ankara
	TR52 (Konya, Karaman)	TR521 Konya TR522 Karaman
TR6 Mediterranean	**TR61** (Antalya, Isparta, Burdur)	TR611 Antalya TR612 Isparta TR613 Burdur
	TR62 (Adana, Mersin)	TR621 Adana TR622 Mersin
	TR63 (Hatay, Kahramanmaraş Osmaniye)	TR631 Hatay TR632 Kahramanmaraş TR633 Osmaniye
TR7 Central Anatolia	**TR71** (Kırıkkale, Aksaray, Niğde,Nevşehir, Kırşehir)	TR711 Kırıkkale TR712 Aksaray TR713 Niğde TR714 Nevşehir TR715 Kırşehir
	TR72 (Kayseri, Sivas, Yozgat)	TR721 Kayseri TR722 Sivas TR723 Yozgat
TR8 Weast Black Sea	**TR81** (Zonguldak, Karabük, Bartın)	TR811 Zonguldak TR812 Karabük TR813 Bartın
	TR82 (Kastamonu, Çankırı, Sinop)	TR821 Kastamonu TR822 Çankırı TR823 Sinop
	TR83 (Samsun, Tokat, Çorum, Amasya)	TR831 Samsun TR832 Tokat TR833 Çorum TR834 Amasya
TR9 East Black Sea	**TR90** (Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane)	TR901 Trabzon TR902 Ordu TR903 Giresun TR904 Rize TR905 Artvin TR906 Gümüşhane
TRA Northeast Anatolia	**TRA1** (Erzurum, Erzincan, Bayburt)	TRA11 Erzurum TRA12 Erzincan TRA13 Bayburt
	TRA2 (Ağrı, Kars, Iğdır, Ardahan)	TRA21 Ağrı TRA22 Kars TRA23 Iğdır TRA24 Ardahan
TRB Centraleast Anatolia	**TRB1** (Malatya, Elazığ, Bingöl, Tunceli)	TRB11 Malatya TRB12 Elazığ TRB13 Bingöl TRB14 Tunceli
	TRB2 (Van, Muş, Bitlis, Hakkari)	TRB21 Van TRB22 Muş TRB23 Bitlis TRB24 Hakkari
TRC Southeast Anatolia	**TRC1** (Gaziantep, Adıyaman, Kilis)	TRC11 Gaziantep TRC12 Adıyaman TRC13 Kilis
	TRC2 (Şanlıurfa, Diyarbakır)	TRC21 Şanlıurfa TRC22 Diyarbakır
	TRC3 (Mardin, Batman, Şırnak, Siirt)	TRC31 Mardin TRC32 Batman TRC33 Şırnak TRC34 Siirt
Total 12	26	81