TERMS OF REFERENCE

OECD PROJECT ON THE DISTRIBUTION OF HOUSEHOLD INCOMES

2014/15 COLLECTION

October 2014

The OECD income distribution questionnaire aims at collecting each year a basic set of indicators on inequality and poverty to support its comparative analysis. With respect the version of the Terms of Reference used in 2012 (wave 6), the present one introduces a number of changes, while retaining the reduced and simplified structure based on **three tables** used last year. While these changes are detailed in the main body of this document, they are summarised below for ease of reference. The main changes pertain to:

- A more detailed breakdown of *current transfers received and paid* by households, to better reflect the importance of compulsory employment-related social benefit schemes in some countries. This also allows constructing a measure of "primary income" for which transfers from the above schemes are considered jointly with public social insurance transfers rather than, as in the previous waves, being included in capital income.

- A revised definition of household income, more closely aligned to the 2011 Canberra *conceptual definition*, which includes items that (based on replies to the Canberra tables circulated earlier this year) are measured in most countries. This revised definition of household income also includes the value of goods produced for own consumption as an element of self-employed income. This change in the income definition will allow the progressive integration of middle income countries into the OECD database.

- The addition of a simplified classification of household types for *elderly households*, to reflect their income conditions.

- The addition of a breakdown by *gender* for the indicator of poverty rates by age of the individuals.

- Two additional measures for the Gini coefficient based on alternative income concepts.

- Age- and household type specific poverty rates based on the "anchored" poverty threshold, in addition to the overall anchored poverty rate.

- A more detailed sheet for metadata, in particular reporting the value of the poverty line and of mean per capita (non-equivalised) household disposable income.

Relative to last year's Terms of Reference, a number of variables requested has been dropped. The present questionnaire does not request indicators of "anchored poverty" based on a (real) threshold based on median income in the mid-1995, while retaining the "anchored poverty" indicators based on a median income threshold in 2005 (or closest available year). Further, the present questionnaire does no longer request information on the median poverty gap, while retaining information on the mean gap.

Because of the potential significance of these changes for the temporal consistency of our series, we would be most grateful if experts could provide estimates for the most recent year available based on both the present specification and the specifications used for their last submission (providing the estimates as two separate output files).

1. Main Definitions

Reference units, equivalence scale and adjusted income

Observation Unit	The unit of observation of the survey is the **household.**
	A household is either an individual person or a group of persons who live together under the same housing arrangement and who combine to provide themselves with food and possibly other essentials of living. [This is the definition recommended in the 2011 *Canberra Handbook:* countries departing from this definition are asked to indicate so in the metadata sheet].
Reference unit for income distribution indicators	All income distribution indicators refer to **persons**.
	In the distribution, each household is weighted by the number of individuals who belong to this household. For instance, a household of four people has a weight equal to four; this is equivalent to considering a distribution in which this household is represented by four individuals with the same level of income.
Equivalence scale	All the tables specified in this document should be calculated using an ***equivalence elasticity* of 0.5**.
	This means that the all income components of each household are adjusted by the square root of the household size. For instance, the income of a household with four persons should be divided by two and then attributed to the four members of the household (see http://www.oecd.org/els/soc/OECD-Note-EquivalenceScales.pdf).
	The equivalence elasticity (ε) characterises the amount of scale economies that households can achieve. An equivalence elasticity lower than unity implies the existence of economies of scale in household needs, i.e. any additional household member needs a less than proportionate increase of the household income in order to maintain a given level of welfare. Under this assumption, the sum (across the j members of the same household i) of individual "adjusted" incomes DI_{ij} will exceed the total household disposable income by the amount of scale economies.
Adjusted disposable income	Individuals are ranked according with the value of *the "adjusted" disposable income per equivalent household member* of the household to which they belong.
	For instance, if Y_i denotes the total disposable income of household i, the "adjusted" income of each member j of household i (DI_{ij}) is calculated as following:
	$DI_{ij} = Y_i / S_i^{\varepsilon}$, where S_i is the number of members in household i and ε is the equivalence elasticity.

Income components, disposable, market and primary income

Income distributions refer to a particular year, which should be indicated in the Excel spreadsheet "Metadata". All income components should be reported on an *annual basis and in nominal prices*. Five main components of household disposable income are identified in the OECD questionnaire:

1. **E:** employee income, including wages and salaries, cash bonuses and gratuities, commissions and tips, directors' fees, profit sharing bonuses and other forms of profit-related pay, shares offered as part of employee remuneration, free and subsidised goods and services from an employer, severance and termination pay.[1] Sick pay paid by social security should also be included.

2. **KI[2]:** capital and property income, including income from financial assets (net of expenses), income from non-financial assets (net of expenses) and royalties. Regular receipts from voluntary individual private pension plans and life insurance schemes should also be included in this income component.

3. **SEI[3]:** income from self-employment, including profits and losses from unincorporated enterprises, as well as goods produced for own consumption (net of the costs of inputs). [The inclusion of this latter variable aims to adjust the OECD income concept to the realities of middle-income countries (such as Brazil, South Africa and others), where subsistence agriculture represents a significant income source for people at the bottom of the distribution. Countries that do not collect information on this income item should indicate so in the metadata sheet of the OECD questionnaire].

4. **TRR:** current transfers received, including transfers from social security (including accident and disability benefits, old-age cash benefits, unemployment benefits, maternity allowances, child and/or family allowances, all income-tested and means-tested benefits that are part of social assistance), transfers from employment related social insurance, as well as cash transfers from both non-profit institutions and other households

5. **TRP:** current transfers paid, including direct taxes on income and wealth, social security contributions paid by households, contributions to employment-related social insurance, current transfers paid to both other households and non-profit institutions. [Values for transfers paid should be reported in the OECD questionnaire with a <u>negative</u> sign].

For four of these components, a more detailed breakdown is also requested:

- In the case of employee income (**E**):

1. **EH:** the wage and salary income of the household head, excluding employers' contributions to social security, but including sick pay paid by social security.

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[1]   The elements detailed (for each of the five income variables) are those included in the conceptual definition of household disposable income of the *2011 Canberra Handbook* and that most OECD countries appear to collect in their micro-sources. See http://www.unece.org/stats/groups/cgh.html Countries that do not cover some of these detailed components in their source should indicate so in the metadata sheet of the OECD questionnaire.

[2]   Please note that this definition of capital and property income differs from the definition used in former ToR ("K") insofar as it does no longer include transfers received from compulsory employment-related occupational pension schemes.

[3]   Please note that this definition of self-employment income differs from the definition used in former ToR("SE") insofar as it adds the value of goods produced for own consumption.

2. **ES:** the wage and salary income of the household head spouse or partner, excluding employers' contributions to social security, but including sick pay paid by social security.

3. **EO:** the wage and salary income from other household members, excluding employers' contributions to social security, but including sick pay paid by social security.

- In the case of self-employment income (**SEI**):

1. **SE**: income from self-employment, including profits and losses from unincorporated enterprises

2. **OC**: income from goods produced for own consumption

- In the case of current transfers received (**TRR**):

1. **TRRSS**: current transfers received from public social security.

2. **TRRER**: current transfers received from employment-related social insurance schemes (e.g. occupational pensions), where such schemes meet at least one of the following conditions: i) participation is obligatory; ii) the scheme is collective; and ii) the employer makes a contribution on behalf of an employee.

3. **TRROT**: current transfers received from non-profit institutions and other private households, e.g. alimonies.

- In the case of current transfers paid (**TRP**):

1. **TA**: direct taxes on income and wealth paid by households (net of refunds), as well as contributions paid by households to public social security schemes.

2. **TRPER**: contributions paid by households to employment-related social insurance schemes (as defined above).

3. **TRPOT**: current transfers paid by households to non-profit institutions and other households, e.g. alimonies.

While relevance and data availability for the sub-components of current transfers will vary across countries (depending on the structure of their social protection system and on the features of their micro-data), this more detailed breakdown will allow to better reflect the situation of countries with an important employment-related pension pillar.

All household income components are expressed in terms of equivalent household member, dividing the component by S_i^{ε}, the number of household members to the power of the equivalence elasticity ε.

The income components defined above can be aggregated to various concepts of equivalised household income. The two most important ones used in the questionnaire are those of "equivalised **disposable** income" and "equivalised **market** income". These two concepts are used to compute Gini coefficients and various income-poverty measures. A third concept, that of "equivalised **primary** income", subtracts employment-related transfers (compulsory schemes) from market income.

Individual **disposable** income per equivalent household member, individual **market** income per equivalent household member, and individual **primary** income per equivalent household member for each member *j* of household *i*, can then be expressed as follows:

In equation [2], **market income** includes transfers received from employment related social insurance schemes as well as the balance between the transfers *received* by each household from non-profit institutions and other households (TRROTij) and the transfers *paid* by each households to non-profit institutions and other households (TRPOTij). In equation [3], **primary income** excludes employment-related social insurance transfers paid or received.

The main income concept used in tables 1 through 3 is [1], disposable income (DI). Tables 1 and 3 also ask for Gini coefficients and poverty rates according to concept [2], market income (MI), or "before taxes and transfers". In addition to these two main income concepts, table 1 also asks for Gini coefficients according to concept [3], primary income (PI) <u>and</u> according to gross income (GI), i.e. disposable income "before tax" (($DI_{ij} - TA_{ij}$).

The income concepts described above provide the basis for computing the Gini coefficients to be reported in Table 1: in each case, individuals should be ranked in increasing order of the relevant income concept before computing Gini coefficients. Individuals should thus be ranked by DI in row 9, by *MI* in row 11, by (*DI – TA*) in row 12 and by *PI* in row 13.

Treatment of negative income

Once the equivalent household member adjustments are done, using the equivalence elasticity under consideration, the individual components of market income EH, ES, EO, KI, SEI, TRRSS, TRRER, TRROT showing negative values should be set to zero. For instance, any negative value of self-employment income should be set equal to zero before computing the income of each household. Conversely, transfers paid to non-profit institutions and other households should be retained even in the case of negative values.

Then, market and disposable incomes are calculated using formulas [1] and [2]. The ranking of individuals is done on the basis of these new values of disposable income.

Finally, mean of market income and disposable income are then computed (over all incomes e.g. zero and positive incomes).

Top and bottom coding

OECD indicators should be computed based on micro-data that are not top or bottom coded. However, any obvious data-entry error should be eliminated.

Income poverty

Poverty is defined using both relative thresholds and a more "absolute" threshold (computed from a relative threshold anchored in time):

- *Relative poverty*: the relative poverty threshold is expressed as a given percentage of the median disposable income, expressed in nominal terms (current prices). Therefore, this threshold changes over time, as the median income changes over time. Two relative poverty thresholds are used: the first one is set at 50% of the median equivalised disposable income of the entire population, the second one is set at 60% of that income.

- *"Absolute" poverty*: the "absolute" poverty threshold is set at 50% of the median income observed in a given reference year in the past. Only one reference year is used for this "absolute" threshold: 2005 (or the closest available year). This threshold should be inflation-adjusted each year so as to remain constant, in real terms, over time. The value of the poverty line and the consumer price index used to adjust it for inflation should be reported in the sheet "meta data" (see below)

Two types of indicators are used to characterise poverty:

- The *headcount ratio*, calculated as the number of individuals in the group considered with disposable household income per equivalent member lower or equal to the poverty threshold, as a percentage of the total number of individuals in the group considered.

- The mean *poverty gap ratio* (income gap expressed as % of the poverty threshold). This is calculated as the difference between the poverty threshold and the mean disposable income of the poor, expressed as a percentage of the poverty threshold.

Note: the poverty threshold is calculated based on the entire population. In other words, poverty rates for the working-age and the retirement-age population are computed based on the median income for the entire population.

2. Inequality and poverty indicators (Table 1)

Table 1 provides a set of aggregate indicators on disposable income, income inequalities and poverty for three different population groups: the entire population, the population of working age (individuals aged 18-65) and the population of retirement age (individuals aged 66 and over). Children (persons aged below 18) should be included only in the entire population.

Individuals are ranked according with their *household disposable income per equivalent household member* as described in equation [1], except for the indicators:

- "Gini market income" (i.e. before taxes and public transfers), where individuals are ranked according with their market income per equivalent household member, including cases with zero market incomes;

- "Gini before taxes", where individuals are ranked according to their pre-tax income, including cases with zero income; and

- "Gini primary income" (i.e. income before taxes, public transfers and flows associated to employment-related social insurance schemes), where individuals are ranked according to their primary income, including cases with zero income.

Indicators formula

Indicator	Formula	Comments
Gini index	$$Gini = \left(\frac{2}{\mu.n^2} \cdot \sum_{k=1}^{n} k.W_k\right) - \frac{n+1}{n} = \frac{2\operatorname{cov}\left(W_k, \frac{k}{n}\right)}{\mu}$$ $$= \frac{\frac{2}{n}\sum_{k=1}^{n}(W_k - \mu).\left(\frac{k}{n} - \frac{1}{n^2}\sum_{k=1}^{n}k\right)}{\mu}$$	Household incomes per equivalent household members (W_k) are ranked in ascending order (such as k = 1, 2, …, n). Individuals falling in each of the three population groups (entire population, population of working age and population of retirement age) should be ranked separately. n is the total number of individuals; μ is the arithmetic mean of disposable incomes: $\mu = \frac{\sum_k W_k}{n}$.
Mean poverty gap	$$\frac{(z - \mu_p)}{z} = \frac{\left(\frac{1}{p}\sum_{i=1}^{p}\sum_{j}(z - W_{ij})\right)}{z}$$	z is the poverty threshold; p is the number of poor; μ_p is the mean income of the poor.

Poverty indicators "before taxes and transfers"

While poverty indicators "after taxes and transfers" are based on the equivalised disposable income of each person, poverty indicators "**before** taxes and social security transfers" are based on the equivalised **market** income of the individual. However, both types of poverty indicators are based on a poverty threshold set in terms of equivalised **disposable** income. In other terms, people are counted as poor "before taxes and social security transfers" when their **market** income is lower or equal to 50% (or 60%) of the **median disposable** income (i.e. the poverty thresholds are the *same* as those used for poverty indicators "after taxes and social security transfers").

3. Disposable income per deciles (Table 2)

Table 2 describes the structure and composition of household disposable incomes across deciles. The income sources considered are those specified in identity [1] above. This table indicates the distribution across deciles of the different income sources, for three population groups: the entire population; the population of working-age (individuals aged 18-65) and the population of retirement-age (individuals aged 66 and above). Children (persons aged below 18) should be included among the entire population.

Individual observations are ranked by *ascending values of household disposable income per equivalent household member* (DI_{ij}). For each of the two panels, income estimates are ranked separately; i.e. upper bound values should be specific to the two population groups, and each decile should contain 10% of the respective reference population.

The upper bound value is the income value at the upper breaking point of the corresponding decile. Therefore, the upper bound value of decile 1 corresponds to the income of the 10% up from the bottom

individual; that of decile 9, to the income of the 90% up from the bottom individual and that of decile 10, to the highest (possibly top coded) income value.

For each income decile, the sum of all income components should be equal to the mean (equivalised) disposable income value reported for that decile in the second column of Table 2. Therefore, taxes should be entered with a negative sign.

4. Disposable income per household groups (Table 3)

Table 3 provides information on which types of households are at risk of low incomes, and how some particular sub-groups contribute to shape the overall pattern of inequality and income poverty. It shows, for various population sub-groups, the following variables:

- the percentage share of people in the *total population[4]*;

- the mean disposable income (in nominal prices);

- the poverty rate, before and after accounting for net transfers (taxes and public transfers), expressed in terms of the headcount ratio. The poverty threshold is equal to the first relative threshold used to calculate poverty indicators reported in Table 1, i.e. 50% of the current median equivalised disposable income of the *entire* population.

Definition of household types, by household structure and work attachment

Individuals should be classified by household type according to the characteristics of the household reference person (or household head). In line with the *2011 Canberra Handbook*, it is recommended that the household reference person be identified by going through (sequentially) the criteria listed below, until a person is identified:

- one of the partners in a registered or de facto marriage, with dependent children;

- one of the partners in a registered or de facto marriage, without dependent children;

- a lone parent with dependent children;

- the person with the highest income; and

- the oldest person.

These criteria imply that, in the case of households composed by two or more adults, the household reference person (or head) is the one with the highest income or (in the unlikely case where two adults have identical income) the oldest person.

The basic criteria to be used to classify people by household type is the age of the household reference person (non-retirement-age head, i.e. under 66 years old ; and retirement age head, i.e. aged 66 and over), leading to two major groups. This version of the OECD questionnaire includes breakdowns for both households with a non-retirement-age head and for household with a retirement age head.

The first group corresponds to individuals belonging to a household with a head of non-retirement-age (under 66). Therefore, all individuals belonging to a household with a head above 66 years old are

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[4]   This implies that the sum of all shares by household type (no matter the age of the household head) should equal 100%.

excluded from the sample for the purposes of filling the upper section of Table 3.For the purposes of completing Table 3, household heads below 18 years old should be considered as "non-retirement age head"; this will ensure that the populations shares reported in Table 3 add up to 100%. Then, within this reference population, individuals are cross-classified according to each of the following criteria:

- the number of adults in the household they belong to: single adult vs. two adults or more. An adult is any individual aged 18 and above;

- the number of children in the household they belong to: with children vs. without children. A child is defined as any individual aged 17 or less;

- the number of household members in employment: no worker, one worker, two workers. A worker is an adult with non-zero annual earnings or self-employment income.

This classification for households with a head of non-retirement age results in ten household types:

1) single adult, no children, working;

2), single adult, no children, non working;

3) single adult, with children, working;

4) single adult, with children, non working;

5) two or more adults, no children, two or more working;

6) two or more adults, no children, one working;

7) two or more adults, no children, non working;

8) two or more adults, children, two or more working;

9) two or more adults, children, one worker;

10) two or more adults, children, no workers.

In the (rare) case of households headed by a person aged less than 17, it is recommended that, for the purposes of completing Table 3, these household reference persons should be also considered as "adult".

The second group corresponds to individuals belonging to a household with a head of retirement age (i.e. 66 and over). Therefore, all individuals belonging to a household with a head below 18 years old or between 18 and 65 years old are excluded from the sample for the purposes of filling the lower section of Table 3. Within this reference population, individuals are cross-classified according to a more simplified set of criteria than the one used for households with a working age head and the one used in past TORs.

- First, as very few members of these households are likely to be aged less than 18, no distinction is made according to the presence or absence of children (i.e. household types are based on the number of person in the households, rather than distinguishing between adults and children).

- Second, the classification only distinguishes between household with <u>at least</u> one working member and those where no member has a paid job.

The classification of household types for households with a head of retirement age hence results in 4 categories:

11) single person, working;

12) single person, not working;

13) two or more persons, at least one working; and

14) two or more persons, none working.

Definition of age and gender groups

The reference population is the entire population, and individuals are grouped according to their age into seven age ranges: 1) 0 to 17 years old; 2) 18 to 25 years old; 3) 26 to 40 years old; 4) 41 to 50 years old; 5) 51 to 65 years old; 6) 66 to 75 years old; 7) over 75.

Differently from previous version of this Terms of Reference, Table 3 also asks for information on the share of the population, mean income and the poverty headcount by <u>gender</u> of each individual, across the seven age groups detailed above.

5. Metadata

The sheet "meta data" of this questionnaire is intended to report the definitions used and the assumption made to calculate the various indicators, notably in cases where the raw data used did not make it possible to follow strictly the recommendations made in this Terms of Reference. In such case, the questionnaire has been designed so as to enable consultants to provide the alternative definitions or assumptions that have been adopted. Relative to the questionnaire used for wave 6, the present metadata sheet includes four additional rows referring to: i) the value of 2005 anchored poverty line (in annual national currency and current prices); ii) the CPI used for deflating incomes; iii) the per capita mean disposable income (non-equivalised, in nominal current prices); and iv) information on standard errors for Gini coefficients (methods used, features of sampling design considered).

The questionnaire is formulated as mainly closed-loop questions in order to make it easier to respond and collect homogeneous information across member countries. However, blank cells are available to add important information that the questionnaire may miss, as well as to deviate from the template **whenever necessary**.