# Discussion of the income measure in the European Social Survey: a proposal of revised survey questions about the "total net household income"

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# DISCUSSION OF THE INCOME MEASURE IN THE EUROPEAN SOCIAL SURVEY

## A Proposal of Revised Survey Questions About the "Total Net Household Income"

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## 1 Introduction

Different types of surveys use different measurement instruments to assess "total net household income". Depending on research questions and scientific purposes of the collected data, we distinguish three basic strategies to obtain income information about the surveyed household and its individual members:

- *Market research* is interested in categorizing the purchasing power of a household and classifies the households into consumer groups. The data producers focus on classes of income size and therefore they do not give a precise definition of income and they make no distinction between several surveyed population groups. They ask for the monthly amount of income and they give a general instruction in the question wording. The predetermined answer categories are income brackets. In case the interviewed person refuses to answer, the interviewer often takes the freedom to estimate the household's income. An alternative used as economic status scale, formulated by ESOMAR (2003: 103), asks for "the penetration of ownership of ten key consumer durable items at household level".

- *Social research* uses income as a socio-economic indicator on social stratification and inequality. In this approach the knowledge of size classes of the household net income is sufficient. In contrast to market research, social research surveys define the various income (main-) sources and formulate separate questions for different population groups. E.g. the wording of the income question differs for the self-employed and for employees. In Germany, the monthly net income is surveyed by an open question. To reduce non response a second question with income brackets is given to the interviewee in case of refusing the open question (Statistisches Bundesamt, 2004).

- *Economic and socio-economic research* is studying income distribution and the dynamics of changes in the economic situation of respondents and their households. The research question on the total income composition by various sources and the changes of the income types and amounts are of interest. Therefore a precise measurement of income is needed as well as for the entire household and its individual members. The several types of income are defined in detailed instructions to the interviewers and the interviewees and separated by their sources and types. Specific population groups and/or income recipients are interviewed according their socio-economic characteristics. For a defined income reference period (e.g. monthly) queries about gross and net income are asked through open questions; all possible monetary resources of all persons living in the household, as well as payments to the household per se are surveyed. In general the answer is given in gross and/or net amount (European Commission, 1996). In the European Community Household Panel (ECHP) income is measured by using a sixteen page long section in the person's questionnaire. Every member (fifteen years and over) of an eligible household answers the person questionnaire. The first step towards income information is a calendar on the respondent's labor force status in which month by month the employment situation is registered. The second step forward to income is a sequence of questions on having or not various income sources. After this the respondent is asked to give net and/or gross amounts of his/her income details during the income reference year. In addition one reference person is also surveyed by a household questionnaire. In this questionnaire five pages deal with incomes dedicated to and received by the household per se.

In this contribution we focus on social research. We are looking for an easy way to measure "total net household income" during social survey interviews in comparative perspective. "Easy" in this sense means a very limited number of questions, reasonable and practicable interview instructions, and a minimum interview burden for interviewee and interviewer. By decreasing the interview burden, we hope the increase the quality of the obtained income measure. "Comparable" here means that our target measurement quantifies in different countries and/or cultural contexts the same and comparable social fact. So far, as a "best practice" for cross-national/cross-cultural income questions we consider the European Social Survey.

We discuss the income measure in the European Social Survey and we propose revised questions to obtain the "total net household income" which will overcome the presented disadvantages of the used instrument.

## 2    Income Questions in the European Social Survey

In 2002, the first round of the European Social Survey (ESS) was carried out in 22 European countries (www.europeansocialsurvey.org).

One randomly selected household member was asked about the household income by the questions:

"Please consider the income of all household members and any income which may be received by the household as a whole. What is the **main** source of income in your household? Please use this card" (ESS 01/08/2002: F29). The show card 55 presented to the interviewee lists following main income sources:

- – wages or salaries
- – income from self-employment or farming
- – pensions
- – unemployment/redundancy benefit
- – any other social benefits or grants
- – income from investment, savings, insurance or property
- – income from other sources

The question about the income amount is:

"… if you add up the income from *all sources*, which letter describes your *household's total net income?* If you don't know the exact figure, please give an estimate. Use the part of the card that you know best: weekly, monthly or annual income." (ESS 01/08/2002: F30). The interviewee was confronted with show card 56 and should answer giving the corresponding letter.

<div align="center">

**CARD 56**

YOUR <u>HOUSEHOLD</u>   INCOME

</div>

|   | Approximate **WEEKLY** | Approximate **MONTHLY** | Approximate **ANNUAL** |   |
|---|---|---|---|---|
| **J** | Less than €40 | Less than € 150 | Less than €1800 | **J** |
| **R** | €40 to under €70 | €150 to under €300 | €1800 to under €3600 | **R** |
| **C** | €70 to under €120 | €300 to under €500 | €3600 to under €6000 | **C** |
| **M** | €120 to under €230 | €500 to under €1000 | €6000 to under €12000 | **M** |
| **F** | €230 to under €350 | €1000 to under €1500 | €12000 to under €18000 | **F** |
| **S** | €350 to under €460 | €1500 to under €2000 | €18000 to under €24000 | **S** |
| **K** | €460 to under €580 | €2000 to under €2500 | €24000 to under €30000 | **K** |
| **P** | €580 to under €690 | €2500 to under €3000 | €30000 to under €36000 | **P** |
| **D** | €690 to under €1150 | €3000 to under €5000 | €36000 to under €60000 | **D** |
| **H** | €1150 to under €1730 | €5000 to under €7500 | €60000 to under €90000 | **H** |
| **U** | €1730 to under €2310 | €7500 to under €10000 | €90000 to under €120000 | **U** |
| **N** | €2310 or more | €10000 or more | €120000 or more | **N** |

(Source: ESS 01/08/2002: Card56)

# 3    Factors Having an Impact on the Measurement Quality

In previous research we analyzed which five factors having an impact on the measurement quality by ESS questions. These are:

*1.    The impact of household definitions:*
Nearly all European countries use different definitions of household and different household definitions have effects on the household size – more precise: who is counted as household member. The blue print of ESS questionnaire is using the definition of households applicable in England: "One person living alone or a group of people living at the same address (and have that address as their only or main residence), who either share at least one main meal a day or share the living accommodation (or both)." (ESS 15/07/2002: 11). This statement is made in the Project Instructions meant for the interviewers; no definition is given to the respondent during the interview. So each respondent has the freedom to apply commonly used definitions of household. For illustration, only a small number of household definitions are listed:

- In Germany, the household definition focuses on the common kitchen. Therefore an apartment sharing community is defined as one household if the occupants are cooking, preparing meals together. If each of the people of this community will cook for his or her own, then in the same apartment splits into each person's own household.

- In Italy, the household is defined by the common atrium. By this definition one household may occupy more than one dwelling.
  In addition, the Italian part of ESS uses "family" in the question wording during the interviews: "totali nette della sua famiglia". (ESS 2002, VERSIONE ITALIANA: 19-12-02: F30) It is obvious that "family" constitutes a different membership then household definition does.

- In Luxembourg, the shared living room identifies the household unit.

*2.    The impact of the main income source:*
If main income source is related to income from work or former labor market activities, like wages and salaries or pensions, then main source covers a big amount of the total net household income. This (one) amount can be calculated and remembered by the interviewee. An increasing number of income sources, others than income from work, increases the complexity of adding up the household income sum. In this case of income composition by sometimes small monetary quantities instead of one main

source respondent can be disoriented. For households with arrangements of social transfers as the main source, often the total household income is underreported (Warner & Hoffmeyer-Zlotnik, 2005: 213-215).

3.  *The impact of income composition:*
    "Total net household income" is a composition of many different gains per household. In the ECHP questionnaire where income is asked source by source for each individual, there person's income consists of up to ten different sources. Across the countries involved in ECHP the mode is between 5 and 7 different sources per person (Warner & Hoffmeyer-Zlotnik, 2005: 215-216).

4.  *The impact of the respondent's family relation to the main income earner:*
    The ESS sample design selects randomly one household member as interview partner. A responding person can have a close family relationship to the main income earner. These are main income earner him- or herself and his or her partner. The other cases like the children and/or the parents and/or other relatives we interpret as interviewees, having a distant relation to the main bread winner of the household. A comparison of the interview outcomes of ESS and ECHP shows that the closer the relation to the main income earner the better the information about the monetary situation of the household is (Warner & Hoffmeyer-Zlotnik, 2005: 212-213).

5.  *The impact of remembering income:*
    Having in mind the income composition of a household with mostly five or seven different sources and the respondent's position inside the observed household, it is obvious that the interviewee can be good informed and also can be less informed about the socio economic situation of the entire household. Analyzing the ESS income answers by the grade of information, we noticed that in most countries less informed persons dominate the low income categories (Warner & Hoffmeyer-Zlotnik, 2005: 216-218).

## 4    Categorizing Income for Comparative Social Research

In all national surveys, the European Social Survey uses the same twelve income brackets as answer categories. Are these income brackets optimal answer categories for poor as well for rich populations? By cutting the "total net household income" variable of ECHP wave 8 into 5% groups of the population and sorting the ESS categories into this attained distribution, we illustrate the need to adjust the income brackets to national financial circumstances and the national income distributions (see Table 1 for selected countries).

**Table 1    The distribution of the nineteen 5% percentiles from ECHP8 by the 12 income categories of ESS in selected countries**

| ESS categories | Germany | United Kingdom | Italy | Luxem-bourg | Portugal | Finland |
|---|---|---|---|---|---|---|
| | | | No. of the ECHP (wave 8) 5%-percentile | | | |
| up to   1,800 | --- | --- | --- | --- | --- | --- |
| 1,800 –   3,600 | --- | --- | --- | --- | 1-2 | --- |
| 3,600 –   6,000 | --- | --- | 1 | --- | 3-5 | --- |
| 6,000 –  12,000 | 1-2 | 1-2 | 2-5 | --- | 6-11 | 1-3 |
| 12,000 –  18,000 | 3-5 | 3-5 | 6-10 | 1 | 12-15 | 4-7 |
| 18,000 –  24,000 | 6-8 | 6-7 | 11-13 | 2-3 | 16-17 | 8-10 |
| 24,000 –  30,000 | 9-12 | 8-10 | 14-16 | 4-6 | 18 | 11-12 |
| 30,000 –  36,000 | 13-14 | 11-12 | 17 | 7-8 | 19 | 13-15 |
| 36,000 –  60,000 | 15-19 | 13-17 | 18-19 | 9-15 | --- | 16-19 |
| 60,000 –  90,000 | --- | 18-19 | --- | 16-18 | --- | --- |
| 90,000 –120,000 | --- | --- | --- | 19 | --- | --- |
| 120,000 and more | --- | --- | --- | --- | --- | --- |

Source: ECHP UDB version April 2004, own calculations

The ESS category "36,000 € to 60,000 €" covers the $9^{th}$ to the $15^{th}$ 5% percentiles of the income distribution in Luxembourg. In Germany, the same income category covers the $15^{th}$ to $19^{th}$ 5% percentiles. In Portugal, the richest 5% of the population have a total net household income of "36,000 € to 60,000 €". Also, the poorest 5% of the Luxembourg people have a higher household income than 75% of the Portuguese population and 50% of the Italians.

Respondents from all countries need about six ESS categories to answer the income question. But they use different six categories in different types of countries.

## 5    Proposal for Revised Questions and Answer Categories

With respect to the factors having an impact on the measurement quality of our target variable, we reformulate and specify the income questions of the ESS. The income questions in ESS started by asking about the main income source of the household. But in a household there are several persons with an average of 5 to 6 different income sources each. Therefore the starting question should generate a feeling about the whole range of possible income sources. A list of income sources should help respondent remembering the sources and later on summing-up the amounts.

*Income question 1:*
"Please consider the income of every member of the household and any income which may be received by the household as a whole. What are the sources of income in your household? Please tick all applicable."

The show card 1 facilitates the respondent's task during the interview and the listed income types cover the whole range of income sources. The categories are described by keywords and groups of explaining terms (see Table 2). Only superordinate monetary concepts are used because income sources are determined by national tax- and welfare-system. Therefore in each country different numbers of income components are in effect for each income title (see: Canberra Group, 2001: 170-177).

**Table 2 Categories on show card 1, for income question 1**

| **ALL INCOME SOURCES OF YOUR HOUSEHOLD** |
| --- |
| Employee income, <br>    including bonuses (e.g. vacation or Christmas), tips, extra payments <br>    (from e.g. overtime and shift work), profit sharing |
| Income from self-employment or farming, also free-lance work |
| Pensions, <br>    including old age and widow's pensions, retirement |
| Unemployment / redundancy benefits, <br>    including benefits related to training and sickness allowances |
| Rentals and Property income |
| Current public transfers received, social benefits and grants <br>    including child and family allowances, universal and/or means-tested social assistance <br>    and orphan's pensions, educational grants |
| Regular private transfers from persons outside your own household <br>    including alimony |
| Income from other sources <br>    including reimbursements from taxes and insurances, lottery winnings |

Question 2 is the core income question. The respondent is asked to add-up the amount from all sources for all household members to get the "total net household income". A specific problem of income measurement is the definition of net income. Therefore the instruction to the respondent comprise in the question not only in the project instructions for the interviewer the definition and calculation of net income.[1]

*Question 2:*
"If you add up the income from all sources and all household members (from the target population), which letter describes your household's total net income? Net is after

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1 The definition of household should be the same for all parts where information about household were asked. Therefore the definition of household is not a specific problem of income measurement.

deduction of national taxes and after deduction of compulsory contributions to the national social security. If you don't know the exact figure, please give an estimate. Use the part of the card that you know best: weekly, monthly or annual income."

We also allow an estimation if the interview partner can not reconstruct the exact figure. In the interviewer's instructions we demand for the information whether respondent has calculated or estimated the amount. This allows us to flag the answer quality.

**Table 3    Show card 2.1, question 2: Proposed categories for low income countries; tested for Portugal and Italy**

**YOUR NET HOUSEHOLD INCOME**

|   | Approximate WEEKLY | Approximate MONTHLY | Approximate ANNUAL |   |
|---|---|---|---|---|
| M |  |  | Less than 2,500€ | M |
| B |  |  | 2,500 to under 5,000€ | B |
| F |  |  | 5,000 to under 7,500€ | F |
| G |  |  | 7,500 to under 10,000€ | G |
| Q |  |  | 10,000 to under 12,500€ | Q |
| N |  |  | 12,500 to under 15,000€ | N |
| T |  |  | 15,000 to under 20,000€ | T |
| D |  |  | 20,000 to under 25,000€ | D |
| K |  |  | 25,000 to under 30,000€ | K |
| W |  |  | 30,000 to under 35,000€ | W |
| H |  |  | 35,000 to under 40,000€ | H |
| C |  |  | 40,000 to under 45,000€ | C |
| J |  |  | 45,000 to under 50,000€ | J |
| U |  |  | 50,000 to under 55,000€ | U |
| I |  |  | 55,000 to under 60,000€ | I |
| Z |  |  | 60,000€ and more | Z |

For illustrative purpose we filled the annual amount only

The show card presenting the income categories to the respondent varies across the countries and the empirically found income distribution in the observed societies. For the EU-15 countries, we propose at least three different show cards with income brackets necessary: one show card for nations with a low average income like in Portugal or Italy, one show card for nations with middle average income like in United Kingdom, in Germany, or in Finland, and one show card for nations with high average income like in Luxembourg (see Tables 3 to 5). Because of data availability we have not tested countries like Bulgaria. We assume, a fourth show card becomes indispensable for nations with very low income distributions.

For countries with low average income the categories about "annual" income start at "less than 2,500 Euros". In this type of countries slow steps upwards the income distributions are needed. Therefore the next five categories increase by steps of 2,500 Euros. At category seven we continue in 5,000 Euro steps. The highest income group is the 16th category of about "60,000 Euros and more". For the column "monthly", the categorical scheme starts in steps of 200 Euros, continuing with the double amount (400 Euros) at the 7th category.

**Table 4**    **Show card 2.2, question 2: Proposed categories for middle income countries; tested for United Kingdom, Germany and Finland**

| | YOUR NET HOUSEHOLD INCOME | | | |
|---|---|---|---|---|
| | Approximate **WEEKLY** | Approximate **MONTHLY** | Approximate **ANNUAL** | |
| O | | | Less than 5,000€ | O |
| V | | | 5,000 to under 10,000€ | V |
| L | | | 10,000 to under 15,000€ | L |
| T | | | 15,000 to under 20,000€ | T |
| D | | | 20,000 to under 25,000€ | D |
| K | | | 25,000 to under 30,000€ | K |
| W | | | 30,000 to under 35,000€ | W |
| H | | | 35,000 to under 40,000€ | H |
| C | | | 40,000 to under 45,000€ | C |
| J | | | 45,000 to under 50,000€ | J |
| U | | | 50,000 to under 55,000€ | U |
| I | | | 55,000 to under 60,000€ | I |
| S | | | 60,000 to under 70,000€ | S |
| E | | | 70,000€ and more | E |

The categories for countries with middle average income we start at "less than 5,000 Euros annually". In this type of countries steps of 5,000 Euros are adequate. Therefore nearly all of the 14 categories are increasing in steps of 5,000 Euros. Only the second last step is about 10.000 Euros. The last, the 14th category is about "70,000 Euros and more". If the "monthly" amount is preferred by the interviewee the categorical scheme proceeds in steps of 400 Euros.

**Table 5     Show card 2.3, question 2: Proposed categories for high income countries; tested for Luxembourg**

**YOUR NET HOUSEHOLD INCOME**

|   | Approximate WEEKLY | Approximate MONTHLY | Approximate ANNUAL |   |
|---|---|---|---|---|
| O | | | Less than 10,000€ | O |
| L | | | 10,000 to under 15,000€ | L |
| T | | | 15,000 to under 20,000€ | T |
| D | | | 20,000 to under 25,000€ | D |
| K | | | 25,000 to under 30,000€ | K |
| W | | | 30,000 to under 35,000€ | W |
| H | | | 35,000 to under 40,000€ | H |
| C | | | 40,000 to under 45,000€ | C |
| J | | | 45,000 to under 50,000€ | J |
| U | | | 50,000 to under 55,000€ | U |
| I | | | 55,000 to under 60,000€ | I |
| S | | | 60,000 to under 70,000€ | S |
| Y | | | 70,000 to under 80,000€ | Y |
| X | | | 80,000 to under 90,000€ | X |
| A | | | 90,000 to under 100,000€ | A |
| R | | | 100,000 to under 110,000€ | R |
| P | | | 110,000 € and more | P |

In countries with a high average income, like Luxembourg, the average income of the poorest 5 % of the population is higher then the average income of the poorest 50 % of Portugal's population. In countries with a relatively high average income we begin the "annual" categories at 10,000 Euros. The following steps increase by 5,000 Euros. Reaching the benchmark of 60,000 Euros the categorical ladder continues with ranges of 10,000 Euros. The highest (the 17th) income category is "110,000 Euros and more". If the "monthly" amount is preferred by the respondent the given income scheme starts in steps of 800 Euros.

A common cross country coding is possible for our income schemes: The starting step for low average income is 2,500 Euros, for middle average income distributions it is 5,000 Euros, and for high average income countries we begin at 10,000 Euros. From the category 15,000 Euros on all three schemes are in the same rhythm. All three categorical schemes end at different top income brackets, but staring at 60,000 Euros the increment is 10,000 Euros, in each country as often as needed to reach the higher end of the income distribution.

Question 3 offers the possibility to put household income in relation to the total number of income earner. We propose to ask for the number of household members contributing to the household's total net income:

*Question 3:*
"How many household members contribute to the household's total net income?"

In question 4 we follow the original ESS questionnaire and survey the main source of household income. Differing from ESS questionnaire we are use again show card number 1 a second time (as show card 3). Show card 1 contains the categories covering the whole range of income sources and is comparable to those categories the respondent used short time ago in question 1. But this time only one answer is possible, the main source of income.

*Question 4:*
"Please consider the income of every member of the household (from the target population) and any income which may be received by the household as a whole. What is the main source of income in your household? Only one answer possible."

In our last question we evaluate the validity of the answers, so far obtained. One of our hypotheses was: the closer the relation to the main income earner the better the information about the monetary situation of the household. For evaluate the answer quality the data user needs information about the closeness of respondents, selected for the interview inside the sampled household, to the main bread winner. Therefore we ask:

*Question 5:*
"Who is the main income earner of your household?"

The categories on show card 4 to become aware of the main income earner are:

- myself
- my partner/spouse
- myself and my partner/spouse
- my father and/or my mother
- my child
- other member of the household

# 6    Conclusion

We have shown that the used measurement instrument of the European Social Survey can
be optimized. Income measurement in social surveys is a complex task for all actors in
interview situations. On the one hand, a lot of impact to the answers quality is provoked
by the respondent. On the other hand, the categories of show cards concerning the income
amounts and types are influenced by the national tax regulation and the national income
inequality. In the case of ESS, we assume an impact on the income information by the fact
that the predetermined income brackets are dominated by the country where the blue print
of the harmonized questionnaire is originated. We recommend strongly testing the income
questions across countries and for various income distributions to make sure that the
surveys measures in all participating countries the actual monetary inequality of house-
holds.

With less interview burden we obtain information appropriate for sociological research.
Our revised instrument offers the requirements to measure income detailed enough. The
major characteristics having an impact on the answer quality are controlled during the
interview situation. Our offered system of answer categories consists of three different
types of categorical systems and reflects the national income distribution and is at the
same time coordinated across countries. By using 5 questions, the results from compara-
tive surveys become meaningful and significant for the interpretation in social sciences.

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