

## Chapter 17

### How to Measure Income

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#### 1. INTRODUCTION

Research considers income as a multi-dimensional concept. Financial and economic aspects are involved when lifestyle and consumption or income distribution are analysed. Social science research uses income and other socio-economic variables as explanatory variables in studies on stratification and inequality. In economics and related fields income is considered as being a major resource in decision making processes. The measurement of income differs in many surveys, depending on the questionnaires, on the definitions of income, and on the reduction of non-response. This depends, on the one hand, on the interest of researchers in income topics, and on the other hand, on the answering behaviour of the surveyed individuals, because income is a sensitive topic. This chapter looks at various strategies for measuring income on the basis of three main types of surveys: polls for market research, for social studies, and for socio-economic statistics.

First we present various definitions of income and their components, then we consider the operationalisation of the income questions. Problems arising with using income variables in comparative, cross-cultural research are discussed at the end of our chapter.

The aim of our article is not to establish the one and only true instrument to measure income in international comparative research. We are not able to present the 'best' survey instrument, which is universally valid in all nations and which can be applied in countries all over the world. We want to show how the main income measures work in reality and what has to be considered when undertaking international comparative research.

## 2. A TYPOLOGY OF SURVEY DATA AND THE USE OF INCOME VARIABLES

Looking at various surveys dealing with income questions, Hoffmeyer-Zlotnik and Warner (1998) grouped the polls according to their use of the income information and found three types:

Market research is interested in the purchasing power of a household and the potential consumption of that household. They survey income using most of the time one classification scheme, asking for income ranges. By using detailed background-information on income and consumption over defined population groups in specific regions (countries), market research classifies consumer groups. Applying this classification to market polls, the capacity of consumption can be surveyed easily.

For social research, income is, among others, a principal indicator of social inequality, because a person's or household's position in society is defined by the socio-economic status. In order to analyse social stratification the detailed measured income is not needed; often a brief idea of the income range is enough.

Economic research, socio-economic studies and administrative statistics require precisely measured information about income, because they are interested in the economic situation of the surveyed units. Income distribution, income dynamics and well-being are topics, for which income data are used. The composition of household income and the different income sources can also be analysed.

## 3. THE DEFINITION OF INCOME AND THE COMPONENTS OF INCOME

Receipts of an economically active unit (person, community, co-operative) during a specific period (day, week, month, year) are defined as 'income'. Income comprises regular and irregular, temporary and seasonal revenues. Wages from employment and business returns from property and capital as well as public or private transfers are also included.

In general, these are referred to as monetary income. But for some of the units, non-monetary income can be important. The agricultural sector knows income in kind, but non monetary income can also take the form of rent free or reduced housing, the official car, the gratuitous transportation, and the free use of information and communication technology, or using work tools and infrastructure for private purposes free of charge.

Household income is the sum of all income of persons who live in the same household. Transfers from several sources (official and private) pro-

vided to the household can be added. The income of a private household is one of the most important income variables in market research and social surveys. In questionnaires questions concern:

- a) *Gross income*: This means, receipts from employment, from the own business, from property, from loan and rent and transfers from public or private sources *before* taxes and obligatory social security contributions have been deducted.
- b) *Net income*: This means, (gross) income *after* taxes and obligatory contributions to the social security system have been deducted.
- c) *Disposable income*: This means, net income deducted of contributions and costs for education and vocational training, housing and regular costs for transportation, communication, and working materials and contributions and costs for health care and old age pensions the voluntary social security contributions. Disposable income gives information about the opportunities of households to consume the receipts.

Four main types of income can be distinguished:

- Income from earnings: wages, salaries from paid employment and profits from self-employment.
- Income from transfers from various sources: benefits from social security schemes, from social assistance and insurance, and from private sources.
- Income from property and capital: including interests and rent from land and building.
- Income in kind: the non-cash goods and services.

Each of these types has a whole range of different income components. An early system of detailed income components was established by the Luxembourg Income Study (LIS) at the beginning of the 1980s (Warner 1994). Based on the experience of the LIS, the Canberra working group proposed a system of income categories. One of its main focuses was to create a minimum set of income variables that allows comparative studies on income situations.

The main criteria for the Canberra classification (Expert Group on Household Income Statistics 2001) is the source of the transfers: First, the state or employer or the insurance scheme; and second, whether the payments are means-tested or universal.

The second most common classification of income variables is used by Eurostat. The ESSPROS Manual (1996) gives more details for the current social transfers received (Eurostat 2001). The EU classification criteria for social transfers are: Either coverage is compulsory (under law, regulation, or a collective bargaining agreement) for the group in question or it is based on the principle of social solidarity (*i.e.* if it is an insurance-based pension, the premium and entitlements are not purely market based).

Table A1 in the appendix compares the EU definition to the Canberra recommendations and illustrates the above mentioned different principles. The main difference is given in the income category "current transfers received": The EU proposition is much more detailed than the Canberra proposal. The second important difference can be seen in the way in which returns from voluntary contributions to pension or life insurance schemes are categorised.

#### 4. SURVEY INSTRUMENTS AND THE OPERATIONALISATION OF INCOME QUESTIONS

##### 4.1 Different Types of Questions for Different Types of Research

Different research traditions that are running surveys use different ways to arrange the questionnaires and different accuracy to construct the income questions. The degree of precision depends on the research interest and the aims of the study.

Market research is interested in categorising the purchasing power of a household and classifies the households into consumer groups. It focuses on classes of income and does not give a precise definition of income and they make no distinction between several surveyed population groups. In Germany, they ask for the monthly net income in the country currency and they give a general instruction in the question wording. The answers are income brackets in the country currency. In case the interviewed person refuses to answer, the interviewer often takes the liberty to estimate the household's income.

Social research uses income as a socio-economic indicator on social stratification and inequality. From this point of view the knowledge of size classes of the personal and/or the household income is sufficient. But social research defines the various income types and formulates separate questions for different population groups, for example, 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 and/or with income brackets and the amount is given in the national currency.

The main topics of economic and socio-economic research are studies on income distribution and the dynamics of changes in the economic situation of the respondent. The research question on how the total income is composed by its components and changes of the income types are of interest.

Therefore a precise measurement of income is needed. The several types of income are defined in detail and separated by their sources and types. Specific population groups and/or income recipients are interviewed according to their characteristics. For a well-defined time period (e.g. monthly) gross and net income are asked through open questions and all other monetary resources of all persons living in the household, as well as payments to the household per se are asked for. In general the answer is given as an amount in the national currency. For this type of socio-economic research the item non-response is a big issue and sophisticated strategies to reduce refusals are used. The main approach is to increase the respondent's motivation to answer the sensitive questions.

##### 4.2 Elements for the Operationalisation and International Differences and Similarities in this Operationalisation

For the measurement of income in survey research, the observation unit is the person answering the questionnaire or the person who is treated as an expert and, hence, answers the income questions for all household members and/or gives the total household income. In socio-economic surveys, each person of a household is asked and all individual income is summed up to the total household income.

The unit of analysis is either the respondent as a person (living in a household) or the household as a unit.

The unit of accounting is either gross income before the deduction of taxes and contributions to the social security schemes or the net income after deduction of duties and donations. Sometimes disposable income is calculated and this shows the possibilities of consumption of a person or household.

It is necessary to distinguish self-employed persons and employees. The units of accounting are different for those groups of income earners and so are the rules for counting the receipts. Furthermore the reference time periods for the accounting differ for self-employed and employed persons in most European countries.

Five different groups of income types can be identified:

1. *Income from employment and work*: All sorts of wages and salaries from employment as well as all bonuses for additional particular duties or extra pays, based on common work agreements and contracts.
2. *Income from enterprise profits*: Income from enterprise profits, defined as the operational profit deducted by the operational costs. Added are remuneration's, royalties and premiums.

Table 1: Operationalisation of Income in Different Research Fields

Characteristic	Market Research <sup>a</sup>	Social Research <sup>b</sup>	Socio-Economic Research <sup>c</sup>
Gross income <sup>d</sup>	no reference	realised as 'earnings' from self-employment	according to income-tax declaration defined by: 'business enterprise' or self-employment
Net income <sup>d</sup>			
for self-employed	no reference	excludes 'operating expenses' after tax and contributions to social insurance and pension	wages and salaries (after tax plus contributions to social insurance) and pension, includes children's allowance, maintenance, scholarship, housing subsidy
for not self-employed:	no reference		
Time reference <sup>e</sup>	month	month	month (plus how often)
Primary income, definition	not available	wages and salaries, income from self-employment, pension, income from rentals and property income	wages and salaries (after tax plus contributions to social insurance)
Current transfers, definition	not available	children's allowance, housing subsidy, social assistance, and other allowances	asked detailed and complete by list
Household income <sup>f</sup>	yes	separate questions	net, for specific types of income; summarised
Individual income	no	separate questions	asked separate: by main list and additional specific secondary list
Open question	no	yes	yes
Closed question	16 categories	if answer on open question refused: closed question with 22 categories	no
Measuring unit <sup>g</sup>	monetary in national currency	monetary in national currency	monetary in national currency
Explanation/definition	reduction to one term	detailed definition of income in questions plus interviewer instructions	detailed explanation for questions additional. Definition of the components of income
Size of questionnaire:	reduction to one list with heading	stepwise 2 questions: 1 <sup>st</sup> open, if refused: 2 <sup>nd</sup> closed	33 questions

<sup>a</sup> Omnibus-survey (GFM-GETAS), comparable with ESOMAR.

<sup>b</sup> ZUMA-Demographical-Standards, compatible with "Demographische Standards" for Germany; comparable with ISSP (cf. Chapter 3 in this volume).

<sup>c</sup> German Socio-Economic Panel, comparable with European Community Household Panel.

<sup>d</sup> If not self-employed: gross or net – dependent on national tax system.

<sup>e</sup> For some occupations and job clusters also for some countries: year.

<sup>f</sup> Definition of household is different by nations and cultures (cf. Chapter 5 and Chapter 15 in this volume).

<sup>g</sup> ESOMAR asks for "ten key consumer durable items" (cf. Chapter 6 in this volume).

3. *All transfers*: This counts all types of public pensions for retirement, for widowed persons, and other social risks (like becoming poor) and all monetary transfers of the "welfare state" systems to the private household (i.e.: social welfare pays, unemployment assistance, sick pay, children and family allowances, etc.). In addition all voluntary or obligatory private transfers from private persons to the household or the household members (e.g. gifts, alimony, pocket money and allowance) are counted.
4. *Income from property and capital*: Counted here are returns from interests, mortgages, debts and dividends, as well as gains from shares, investments, loans and finally returns from rentals and lease.
5. *Near cash income and income in kind*: All near cash income like company cars and housing, fringe benefits and earnings in kind.

In general the reference period for the income measurement is the month of a calendar. But profits from enterprises refer very often to the calendar year or the business year. Some payments, like seasonal wages, unemployment and sick benefits, are paid daily or weekly. The questionnaire for social research uses the wordings "during one month" or "during a normal/average month". Whereas social-economic questionnaires give a specified and well-defined reference period for the earnings; for example, during the calendar or business year, one month or a range of months, etc.

The unit of accounting for monetary income is the national currency; sometimes a reference unit is accepted as an answer. For international comparisons, the national currency is converted into a common reference unit of accounting or alternatively a common basis, the purchasing power parities, is used (see below).

Survey techniques, the extent of the questionnaire and the accuracy of the information needed by the researcher have an impact on the answering behaviour of the respondent. Is it allowed to estimate the income? Is it sufficient to have income brackets? Is it necessary to measure income in details?

The best way to measure a financial situation is to use a diary on income and consumption during a reporting period. If possible an extract from the tax register provides the same measurement. During the interview situation, the respondent will consult ad hoc documents that are close at hand or will answer based on his/her memory. Such a remembered amount informs about a 'subjective estimation' of income and represents a non-committal classification. In such a situation only the survey instrument is useful to prevent item non-response. In market research, the income estimation done by the interviewer is also accepted. This interviewer estimation is based on the information about the respondent's employment status or life style variables and the personal impression and picture of the interviewer. Such an estimation usually under-reports the real income and, thus, the obtained income distribution will be biased toward the middle. For international comparisons,

market research uses lists of durables and consumption goods (see Chapter 6 and Chapter 20 in this volume).

International comparative research adds to the mentioned problems of operationalisation the problems of 'cultural' differences. The reasons for these differences are the variations in the national economic systems, the different systems of taxation and the national differences in the social security schemes. In Germany net income is defined as "after taxes and contributions to social security", whereas in other countries net income is defined as an amount "after deducting the taxes". Also the reference period for the income can differ from one country to another: In one country the usual time span is the week, and in others it can be the day or the month.

## 5. PURCHASING POWER PARITIES

Comparing income across countries by using currency exchange rates does not take into account the different purchasing power in different countries. The Purchasing Power Parities (PPPs) are calculated by taking into account all goods and services that are consumed in a country. The PPPs convert the national currency into a common standard, which eliminates the different price levels in the countries. At a specific time, one can buy the same basket of goods and services with the same amount of Purchasing Power Standards (PPS), in all countries. So the 'real' income values become comparable across countries, since they are measured in a common reference unit.

Different sub-sets of PPPs are calculated by the World-Bank, OECD and Eurostat, because of institutional differences in the social security system of countries. The first excludes social transfers in kind and takes into account only the actual consumption for governmental services (like health and education) for which the household is paying. The second includes the consumption of collectively provided goods and services in the calculation of the conversion rates (*cf.* Castles 1997; Zaidi 1991).

## 6. THE DEFINITION OF INCOME SHARING UNITS

Even in national surveys the definition of a 'household' varies (*cf.* Chapter 5 and Chapter 15 in this volume). An additional problem is the subjective application of the household definition during the interview situation by the interviewer. The respondent may understand 'household' in a different way, and so, as an example, the encircled people counted in the household may vary. The international context increases the problem of household defini-

tions so that it finally becomes impossible to classify the subjective point of views. The following four concepts for households are often used:

- the household as economic unit,
- the household as dwelling unit,
- the household as family, or
- the household as network.

Economic unit, dwelling unit, family and network open different perspectives in research. The observation units are distinguished by their structure, their composition, their function and output, their behaviour, and they show discrepancies in their stability and dynamics as well as in the social relation amongst their members. Besides this sociological delimitation there are also economic distinctions, like consumer unit and income sharing units; there are legal dividing settings, like communities sharing the needs and requirements or units for income taxation; special definitions, like dwelling or common roof; and finally people living together, taking meals together, sharing the same interests.

## 7. COMPARING INCOME POSITIONS

### 7.1 Measures of the Central Tendencies

Measures of central tendency that are easy to use and to interpret are the arithmetic mean and the median of an income distribution. The median, as the middle observation of the distribution, is a more stable and robust measure as the mean, defined as the sum of all income divided by the number of observations. The mean is much more affected by the extreme income values and the sample size, than the median. Also, the median is the preferred indicator, because the concept of poverty is often related to the relative distance to a common level of income (*e.g.* the poverty line is drawn at a 50% level of the median income). Both measures of the central tendency have the advantage that the interpretation and presentation is straightforward.

### 7.2 Deciles and Deciles Share Ratios

Another approach to look at income distributions is to rank the units of analysis in ascending order of their income and to present a defined proportion of the units (*e.g.* for the deciles: 10% of all income earners). The given decile point separates two deciles shares of the distribution and the median or the mean of each decile group summarises the relative position of that group in an overall distribution. Comparing the income of the bottom and the

top population group allows us to give the relative distance between the observed units inside the income distribution. This ratio is calculated as the ratio of the upper bound value of the highest income decile to the upper bound value of the lowest income decile. Doing so with two or more income distributions, it can be shown that one distribution is more equal than the other.

### 7.3 Lorenz Curve and Gini Coefficient

The indicators that are most widely used to compare income inequalities are the Lorenz Curve and the Gini Index. The diagram of the Lorenz Curve ranks the cumulative income in ascending order on a vertical axis and the cumulative income proportion of the units of observation on the horizontal axis. In the case of equal income the first 10% of the population will receive 10% of the cumulated total income, the next 10% of the observed units will get the next 10% of the revenues and so on. The diagram shows the diagonal of identical income. As soon as the empirically observed results differ, the graph for the income distribution deviates from the line of equal income.

The Lorenz Curve is also a relative measure on total income distribution with the advantage that it ignores the differences in the amount of total income.

Based on the Lorenz Curve, the Gini Index expresses the degree of income inequality in one single number. The Gini Coefficient is equal to the area between the Lorenz Curve and the diagonal line of identical income and expressed as the proportion of the whole triangle formed by the diagonal and the axis. The Gini Index varies from 0 to 1, where 0 indicates that all units have the same income and 1 stands for maximum inequality. The Gini Coefficient is sensitive to income changes around the median of the distribution (Cowell 1977).

### 7.4 Atkinson Index

The Atkinson Index reflects the changes in different segments of the income distribution. The analyst can increase the sensitivity of the measure at the lower end of the income distribution by setting the inequality aversion to 1; as the inequality aversion approaches 0 the Atkinson measure becomes more sensitive to changes at the upper proportion of the distribution (Atkinson, Rainwater, and Smeeding 1995).

## 8. PROBLEMS

Each survey on income has various error sources which can disturb the interpretation of the results. Some of these reasons are related to survey research and sampling in general, some to the income questions and others are related to cross-country comparisons.

### 8.1 Sample Design and Reachability of Target Population

Important for cross-country comparison of income is the sample design. The first problem deals with the probability of being selected for the interview. Depending on the population frame, from which the sample is drawn, the observed population can differ. Using a person register as sample frame, small households have a lower chance to be selected than using a household register or a household list for random walk. A household register under-samples persons living in big households.

The second problem is to establish the contact to a respondent inside the selected household. If there are no regulations and no controls regarding, which household member should be selected for the interview, the person who is the easiest available may be the respondent. If clearly fixed rules, given by a Kish-table and a reasonable numbers of re-contacts, exist and if the fieldwork team controls these rules, a random sample can be realised. The quality of the income information depends on the effort to realise the interview with the respondent selected for the random sample.

The third problem is related to the probability to get the answers back. Different types of households have unlike chances to be contacted. To ensure an interview at a household consisting of full-time employed persons needs more effort, than to realise the interview with a 'traditional family' household.

The fourth problem concerns the unit non-response. Different groups of people are not easy to reach for an interview because they are not at home at specific days or at specific times of a day. Here the interviewer should vary the day of the week and the time of the day he or she tries to contact the target persons. In addition the interviewers have to contact target persons more often than one or two times and in order to reduce rejections of the whole interview the interviewer must be confident that he/she succeeds to get an interview.

The fifth problem concerns the item non-response. There are country specific differences in the answering behaviour for income questions. In one country high income earners may refuse, and in another country it is obvious

that the answers concerning social benefits are refused (see Chapter 20 for some further analyses concerning this point).

## 8.2 Defining Income Sharing Units and Households

In order to analyse the people's economic situation across countries, the income sharing units have to be defined. How many persons contribute to the total household income and spend the household resources?

Income sharing units can be defined as households, where all members, whether related or not, live in the same dwelling.

The alternative way to define income sharing units is based on the concept of family. All related persons, whether by blood, marriage or adoption, who share a common living arrangement are a family. Temporarily absent, but related persons, are sometimes included and sometimes excluded.

Economic units share income according to the persons' responsibility to earn and to spend money. This does not require the criteria of living under the same roof nor being related by blood.

Last but not least, income sharing units can be constituted by networks. Concerning a common pool of resources, that supports the well-being of the network members, relationships and interactions of people build a unit. This income sharing unit is independent of a spatial criterion, the major element is communication about the monetary resources.

International comparison requires variables and information to apply a common unit of analysis to the data.

## 8.3 Operationalising Income Questions for the Three Types of Data Uses

We distinguished three different types of surveys: market research, social research and socio-economic surveys. Each poll uses its own operationalisation of income questions (*cf.* Table 1). Different questions generate different answering behaviour. For the comparative research with income data, it is important that the definition of income, given in the survey instrument, is transparent to the interviewee, and the definition is the same in every country; that the rules for summing up the monetary components are clear; and that the time spans for the income are referable into a common reference period.

## 8.4 The Relevance of Income Components in Different National Contexts

The relevance of income components in different national contexts – *e.g.* tax reimbursements, bonuses or non compulsory contributions to the social systems – varies. Different national systems of taxation give different importance to the set of income components. Not only does the amount of these income types differ, the way, how these income parts are reported does, too. In one country the tax reimbursement may have a strong influence on the household income. During the interview this is easier to remember. In another country this income component may have less or no effect on the household resources. Therefore more effort of the interviewer is needed, not to forget this income component.

## 8.5 Regional Differences in the Inclusion of Income Components to Different Income Categories

Not only does the national context differ over countries, regional variations do also have an effect on income surveys. In metropolitan regions, the subsidies for the housing costs (in high-price-level areas) are often included in wages and salaries. During the interview this receipt may be given under the heading 'earnings'. Looking at income components and the composition of total household income, there are regional differences on how the answering person summarises income parts into income categories.

Local taxes and contributions to the municipality differ inside a country. The way they are paid differs across countries. During the interview, this has an influence on the respondent's ability to remember these donations and duties.

## 8.6 Cognitive Abilities Needed to Remember Income and to Sum Up its Components

The interaction between the survey instrument (the questionnaire) and the interviewee has an effect on the abilities to remember income. Depending on the operationalisation of the income question, the respondent remembers his income with more or less detail.

In general, regular income from work and pensions are listed immediately. Public transfers are reported, if they are the main income source. Otherwise, the interview has to insist strongly to obtain information on public transfers. In order to collect information about private transfers and irregular income, the survey instrument has to be constructed for this purpose.

Rarely are allowances in kind, like business cars or free dwelling given spontaneously.

### 8.7 The Respondent's Knowledge of the Income Situation of All Other Household Members

Most of the surveys in market and social research contact a reference person for the whole household interview. The quality of the answers depend on the respondent's degree of knowledge about the financial situation of the household and its monetary resources. In big households, people with less information have a high probability to be selected. A peripheral contact person, being not the main income earner, will underestimate the total household income by about 30% (cf. Sozialwissenschaften-Bus 2/1995, own analysis).

### 8.8 Reducing Item Non-Response

Questioning about income is a sensitive issue. Therefore the item non-response is generally high. A correlation between the wording of the income questions, the type of income asked for, the respondent's income level and the probability to refuse answering these questions can be observed. Country specific differences can also influence the answering behaviour of the interviewee, because in one country the respondent considers one type of income as more sensitive as respondents do in another country (e.g. in Germany taxes on savings are a very sensitive issue).

The different types of surveys react with different strategies to reduce item non-response. Not always are the applied methods without difficulties and appropriate, in particular if a measurement is replaced by estimation. How to deal with item non-response must be defined at the beginning of the survey. The steps, that need to be taken have to be documented totally for every possible case.

### 8.9 Converting National Currencies into Common Units

As long as the research is interested in 'relative' income positions of households, the currency of the income variables does not matter. Sometimes, when monitoring social policy in several nations and comparing various countries' inequality, the user of income data is interested in 'real' levels of income.

The very first approach is to convert the national moneys into one reference currency, using the exchange rates. Using the price indices as conversion rule, the reference currency is adjusted for the different inflation rates of

the concerned countries. Alternatively the Purchasing Power Parities (PPPs) may be used (see Section 5 above).

### 8.10 Adjusting for Household Size and Composition

Equivalence scales are used to take differences in household size and composition into account. They calculate a household income per household member and adjust this to the differences in needs of the people living in this household. For example, a one person household needs one unit of adjusted household income to obtain a given level of living; a household with two adults requires 1.7 units to reach the same level of living. Different types of household members (in general: head of household, spouse or partner of head of the household, children, other adults) share different proportions of the household income for consumption. The assumption is made that the intra-household adjustment is the same for rich and poor households. The second assumption says that a given household needs the same units for consumption in one country as in another.

The choice of the equivalence scale (Buhman *et al.* 1988) is not a scientific decision, but a political or statistical one.

### 8.11 National Income Components are not Reported in a Common Comparable Income Concept

Some cross-country comparisons, like the ECHP, use standardised survey instruments. If the common blueprint does not take care of national specifications, the observed income composition becomes selective, because in one country a component may not be included in the reported monetary concept, or may be counted under a different heading. Hence, comparing countries with selective income aggregates may yield different measure of income in different countries.

## 9. CONCLUSION

We can conclude that there is no universally valid instrument for measuring income, not in a national nor in an international context. Therefore income has to be surveyed by using the 'best' national instrument with respect to the field of the research. The complete survey instrument needed for that type of research has to be carried out.

All instructions to the interviewer and the respondent, as well as all circumstances leading to the answer, have to be documented in a precise way. This documentation starts with the sampling design, includes the field-work

and presents all the instructions to the interviewers and finally provides copies of the questionnaires. The switch from measurement to estimation has to be noted, as well as by whom and when the income has been estimated.

Furthermore, the documentation of the researcher's data and data manipulations are important, so that a secondary researcher can recover and reconstruct the modifications.

Beside the income variables, other, particular socio-demographic variables, are needed, which allow the link of a person's and/or household's characteristics to the income information. These socio-demographic variables are also necessary as auxiliary variables, which allow the construction of common income sharing units, income aggregates and units of comparison. In addition, this information is useful to check and validate the given income response.

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