

## **Norway 1995: Survey Information\***

\*The information provided below is taken from the LIS technical questionnaire and “On the income distribution survey”, a short document prepared by Jon Epland of Statistics Norway.

### **Table of contents:**

- A. General Characteristics
- B. Population, sample size and sampling methods
- C. Data collection and acquisition
- D. Definition of the survey units
- E. Availability of labor market information
- F. Quality of data

### **A. General characteristics**

#### **Name**

The Income Distribution Survey

#### **Purpose**

The main purpose of the survey is to measure the level and distribution of the household income. The main users are the Norwegian Government (Ministries of Finance, Social Affairs, etc...) the research community, media and international organizations (OECD, Eurostat, etc...)

The survey was conducted for the first time in 1958 and it is conducted every year. Micro data were available for the first time in 1970.

Use of the data is limited to research purposes.  
Data for LIS were made anonymous.

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## **B. Population, sampling size and sampling methods**

### Coverage of the population in the survey:

The Income Distribution Survey 1995 covers all persons *including* people living in institutions (except long-time prisoner and persons committed to institutions for more than 6 months due to mental illness or alcoholism/drug abuse). People with foreign citizenship are included if they are registered in the Population Statistics System. They are normally registered here if they have a working and residence permit. Children born during the year are included, so also people that died after 1 October 1995. The sampling frame is the Central Population Register.

### Sample frame

The main sample frame is the total population register. The sampling procedure for the 1995 survey was somewhat different from earlier surveys (i.e. 1986 and 1991). According to the new sampling frame the whole country is divided into 109 separate strata. The sampling units are municipalities or groups of municipalities. Municipalities with few inhabitants are collapsed in order to cover at least 7 % of the total population in the strata.

All municipalities with more than 30 000 inhabitants and some municipalities with 25 000 - 30 000 inhabitants constitute own strata. Other strata are stratified within each county according to variables such as industry, density, centrality, media coverage and transport facilities etc. In the first stage a sample area is selected from each strata. Sampling areas that constitute own strata are selected with 100 % probability. Others are selected with a probability that is proportional to population size. In the second stage all individuals are randomly selected from the 109 separate strata. The second stage selection gives a sample that is self-representing when both stages are combined.

### Sample size

The total number of respondents who were actually surveyed was 26305; all geographic areas in the country were covered in the sample.

The IDS has information about persons and households. Household information is collected through the interview. If household information is missing, for instance if a household declines to participate in the survey, *they never the less are included in the survey*, but household information is then substituted with information on *family composition* derived from administrative registers (The Population Statistics system).

One might therefore say that there is no non-response in the IDS as the number of households selected to participate in the survey (the gross sample) will be equal to the

number of households included in the survey (the net sample). Previous studies<sup>1</sup> have shown that there is in general good overlap between information on the family derived from administrative registers and the actual household.

The sample of the 1995 IDS consists of the following three subsamples:

- (1) The Household Panel of the IDS (2526 households)
- (2) The Health Survey 1995 (5788 households)
- (3) A special sample of self-employed (1813 households)

Both the Household Panel (1) and the Health Survey (2) were drawn from the Central Population Register. The sample of self-employed (3) was selected on the basis of information from the Census 1990 and Tax Register of 1990 (persons with SE-income).

#### Sample design and weighting procedure

The Income Distribution Survey of 1995 uses the same method of weighting as the 1991 IDS. After first estimating weights on the basis of the traditional Horwitz-Thompson method, the weights were adjusted by using a method of calibration. This method, in brief, constructs new weights by the use of regression technique in order to produce estimations that for some variables are identical to known totals (from registers). The method is described in the paper by Heldal.<sup>2</sup> The income variables used for calibration in the 1995 survey (i.e. those variables where the estimations are identical to known totals) are:

- Employment income, wages and salaries
- Employment income, self-employed in primary sector
- Employment income, self-employed in other industries
- Pensionable income, basis for future social security benefits
- Property tax

All the known register totals were collected from the Tax register for personal tax payers.

In addition the sample was post-stratified with respect to age and according to Population statistics.

The sample also included a special sample of elderly people (aged over 79)

#### Changes to the survey over time

The first income distribution survey in Norway was conducted in 1958. The scope of the survey was, however, rather limited. It did for instance only include taxable income from

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<sup>1</sup> For instance Epland (1996): «The combination of survey data and register data - the case of Norway». Paper presented at the first meeting of the Expert group on household income, Canberra 2-4 December, 1996.

<sup>2</sup> Johan Heldal (1992): «A Method for Calibration of weights in Sample Surveys». Working Paper No. 3 Departement for Statistics on Individuals and Households. Statistics Norway

the tax return, and did not include any tax-free transfers. The household definition was restricted to only cover married couples and singles. Adult children still residing at home where, furthermore, considered to be separate households. The same scope and definitions were utilised in later surveys in the 60s (1962, 1967). The surveys of the 60s only exist as written reports, and not as micro-data.

In the 70s the Income Distribution Surveys were conducted every three years (1970, 1973, 1976, 1979). The household definition was still restricted to only cover the family unit (i.e. persons having common address and common family name). Persons living in a consensual union where, for instance, considered to be two households. Up until the 1979 survey, only taxable income was included in the survey. For all the surveys of the 60s and 70s the household definition was strictly based on information from administrative records and no household interview was ever conducted.

The Income Distribution Survey was reorganised in 1982. The household definition was changed to include all persons having common board and living in the same dwelling. The household composition was, furthermore, established after a household interview. The income concept now included both taxable income and social transfers not liable to taxation (for instance, family allowance and scholarships). These changes made it possible to construct disposable household income. The Income Distribution Survey has been conducted annually since 1984.

### **C. Data collection and acquisition**

#### Method of data collection

The IDS combines interview data and data from administrative registers; the information on household composition is collected from a household interview. For those households that did not respond to the interview, the missing information on the household is substituted with information on the 'family' derived from the Central Population Register. It is the person who is considered to be the best capable of providing information on the household that answers the question with regard to the household composition, i.e. proxy is allowed.

The IDS collects income and property data from the Tax Return Register and from other administrative registers. Administrative registers are also used in order to provide biographical information such as level of education and marital status. An obvious advantage of using administrative registers is that there will be no item non-response.

Information on taxable income and property is collected from the central tax authorities by linking the sample to administrative registers. In addition to tax files, several other administrative registers provides information on tax-free social transfers.

In 1995 the IDS collected the following information from the following sources:

#### The Tax Return Register

The Tax Return register provides information on all kinds of taxable income(s). The IDS collects all information available from the tax return form. Among these are:

- Wages and salaries
- Entrepreneurial income
- Property income
- Taxable income from public and private pensions
- Alimonies
- Interest paid
- Deposits in domestic banks
- Shares in domestic and foreign companies
- Real property
- Debt

#### The Population Statistics System (PSS)

This register provides important background information on all persons residing in Norway. The most important variables extracted from the PSS to be included in the IDS are:

- Family number
- Municipality
- Sex
- Age
- Marital status

#### The Tax register for personal tax payers

This register covers all individuals above the age of 12, irrespective of whether they have any taxable income or not. Some of the basic variables included in the IDS are:

- Assessed income and property taxes
- Occupational income
- Parent's tax deductions

#### The State Educational Loan Fund

This register covers all current students receiving support from the State Educational Loan Fund. In addition, former students paying interest and repaying debt are included. The following variables are included in the IDS:

- Scholarship (annual amount received)
- Loan (annual amount received)
- Debt at the end of the year

### The State Housing Bank

This register provides information on:

- Annual amount of dwelling support received.

### Social assistance register

This register gives information on annual amount received of:

- Social assistance payment

### The National Insurance Administration

All persons receiving some kind of benefit from the National Insurance System are registered in the National Insurance database. This register makes it possible to distinguish different types social security recipients. The following variables are included the IDS:

- Pension type (i.e. old-age pension, disability pension, survivor's pension, etc.)
- Disability status
- Basic amount
- Assistance amount
- Family allowance
- Lump sum payment, maternity allowance to mothers with no prior employment (NEW, not included in the 1991 survey)

### The Register for End of the year Certificates

This is a register that provides detailed information on different kind of wage and salary income, as well as taxable social security benefits. This register provides more detailed information on both wages and social security benefits than the Tax Return Register. In the IDS the following variables have been included:

- Unemployment benefit
- State subsidised pension pursuant to agreement
- Rehabilitation allowance
- Other tax-free income, i. e. mainly financial support for child care for single parents in education (NEW, Not included in the 1991 survey)

## Statistics' Norway Educational Register

This register supplies information on the highest level of completed education for all individuals, as well as education that is still going on. The following variables are included in the IDS:

- Highest Level of completed education
- Type of education (main subject, etc.)

### **D. Definition of the survey units**

#### Survey units

The survey unit is the household, and the household is determined in terms of shared residence and common housekeeping. Temporary absentees are included if they are considered household members. Husbands away from home and adult children on military duty are considered household members.

Students (18 years and over) are, however, only considered household members if they actually live in the household for at least 4 days per week.

The household can consist of more than one family. The 'family number' can identify each 'separate' family.

#### Head of household/family

The household member with the largest gross income is considered the head.

#### Children

Children are defined as all persons under the age of 17. It is possible to distinguish between children of the household head and children of some other household member or someone living outside the household.

#### Spouses

Married couples and cohabiting couples with common children are identified from administrative registers.

#### Students

A student will only be considered as a household member if he/she actually lives in the household at least 4 days a week.

## **E. Availability of labor market information**

There is some basic information that, regrettably, is not available in the Norwegian IDS. We have no information on neither labour force participation, i.e. hours worked, full-time vs. part-time etc., nor do we have information on industry or occupation, for instance according to ISCO.

We have in the survey used '*income*' as an indicator of economic activity. If a person has an occupational income larger than the minimum pension benefit to a single pensioner from the national pension scheme (Nkr. 62 700 in 1995) than he/she is categorised as economically active. For those who are economically active, the largest source of income (i.e. wage/salary or SE-income) decides if the person is an employee or a self-employed.

## **F. Quality of data**

### Response rates

The response rate for the household interview was 70-75%. However non-response households are included in the survey, the missing information about household composition is in that case taken from the administrative records.

Highest non-response rates were found for single elderly women, highest response rates were found for families with small children.

### Comparison between estimates from the Norwegian Income Distribution Survey and external sources

The main strength of the Norwegian Income surveys is the use of administrative registers in the reporting of income. One obvious advantage is, for instance, that there is no non-reporting of income in the survey. Any deviance between survey estimates and administrative registers is caused by sampling errors.

Table 1 presents a crude indicator of survey performance. For some income items the weighted sums from the survey is compared to the corresponding figures from administrative sources. The general impression is that there is good overlap between the two sources and that where significant deviation do occur, this can be explained by difference in income definitions.

**Table 1: Comparison between the Income Distribution Survey and register data 1995. (in million Nkr)**

Income Item	Survey estimates	Register totals	Deviation (%)
Wages/salary	392,873	392,736	0
S-E inc. after depreciation*	49,664	47,216	5
Property income	5,200	4,688	11
Housing income	12,813	12,029	7
Interest income	10,469	10,667	-2
Dividends	0,524	0,550	-5
Profit life-insurance	5,695	7,271	-22
Other property inc.*	119,066	119,490	0
Transfers	74,855	75,256	-1
Social sec. benefit	19,193	19,074	1
Occupational pension etc.	3,383	3,339	1
Alimony etc.	11,692	11,641	0
Family allow.	0,751	0,771	-3
Dwelling support	3,156	3,396	-7
Student grants	1,967	1,966	0
Parent's tax deduction	4,069	4,047	1
Social assistance	144,429	141,458	2
Assessed taxes	38,357	37,983	1
Interest paid	1,907	2,016	-5
Expense, building society			

(\* Register data overestimate "other property income" and underestimate "SE income" because self-employed persons with SE income earned in non-residential municipality will have this income item categorised as " other property income" according to the tax return register. In the IDS this income item will be corrected and removed to SE income.

Despite the fact that there is good overlap between survey estimates and register totals it is of course a substantial problem that neither survey estimates nor register totals (i.e. tax files) cover the informal or black economy. We have no information on the size of this economy in Norway and its distribution.

#### Unavailable information in the survey

Furthermore the IDS cannot provide realistic figures on housing income or the actual value of own dwelling. Those figures that are reported in the survey are based on tax values, which clearly underestimate the real value. The underestimation also concerns

other property figures, for instance other types of real property (than dwellings) and also the value of shares.

Another aspect concerns comparability over time (for instance changes since 1991). In 1992 Norway experienced a huge tax reform. One of the changes that took place and that will have an impact on comparability was that the availability of making depreciation for the self-employed was restricted. As a consequence some of the increase in SE-income (after depreciation) from 1991 to 1992 can be explained by changes in tax rules (a more detailed description on the tax reform and its consequences is found in Epland (1996) cf. footnote #1).