Knut Håkon Grini

Quality Report on the Norwegian Structure of Earnings Survey 2002

Rapporter   I denne serien publiseres statistiske analyser, metode- og modellbeskrivelser fra de enkelte forsknings- og statistikkområder. Også resultater av ulike enkeltundersøkelser publiseres her, oftest med utfyllende kommentarer og analyser.

Reports   This series contains statistical analyses and method and model descriptions from the various research and statistics areas. Results of various single surveys are also published here, usually with supplementary comments and analyses.

Standardtegn i tabeller	Symbols in tables	Symbol
Tall kan ikke forekomme	Category not applicable	.
Oppgave mangler	Data not available	..
Oppgave mangler foreløpig	Data not yet available	...
Tall kan ikke offentliggjøres	Not for publication	:
Null	Nil	-
Mindre enn 0,5 av den brukte enheten	Less than 0.5 of unit employed	0
Mindre enn 0,05 av den brukte enheten	Less than 0.05 of unit employed	0,0
Foreløpig tall	Provisional or preliminary figure	*
Brudd i den loddrette serien	Break in the homogeneity of a vertical series	—
Brudd i den vannrette serien	Break in the homogeneity of a horizontal series	I
Desimalskilletegn	Decimal punctuation mark	,(.)

Abstract

Knut Håkon Grini

Quality Report on the Norwegian Structure of Earnings Survey 2002

This report is a slightly altered version of the quality report that accompanied the data on the Norwegian Structure of Earnings survey 2002 forwarded to Eurostat. The statistics, data and quality reporting are regulated legally through council and commission regulations. The following report is built up and formulated to adhere to the commission regulation (EC) 72/2002 implementing council regulation (EC) 530/1999 as regards the quality evaluation of the structural statistics on earnings. The variables in the report are those defined in the commission regulation (EC) 1916/2000, which covers the definition and transmission of structural statistics on earnings and labour costs.

The report only covers the aspects regulated by the aforementioned regulations and does not venture into any documentation or analysis of the results from the statistics.

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1. Introduction

This report covers all the main points related to quality that are normally covered and commented on in connection with the publication of statistics, and in this case statistics on earnings. The aim is to supply information on the quality of the data and statistics from Norway that are reported to and distributed by Eurostat in connection with the Structure of Earnings Survey 2002. Hopefully this report will be of use for statistical institutions, researchers and other users of the earnings statistics.

Since the national statistics on earnings are the same as those forwarded in connection with the survey mentioned above, this report should also be of interest to users of national statistics on earnings published on Statistics Norway's website.

2. Relevance

The purpose of the statistics is to provide an overview of levels and changes in earnings for all employees (wage and salary earners) independent of industry or working hours and in accordance with user needs. Statistics are provided for each industry separately, broken down by sex, occupational group, age and educational level in order to meet the demands of public and private users.

Major users outside Statistics Norway are the Technical Reporting Committee on the Income Settlement, research and policy institutes, employee and employer organisations, Eurostat, ILO, OECD, the media, enterprises and private persons. The statistics are also used in Statistics Norway's Labour Accounts and in quarterly wage indices.

Based on the extensive use and feedback concerning Statistics Norway's earnings statistics, it is generally perceived that the statistics meet most user needs. Expressed needs for more statistics from the source are always an integral part of planning annual work programmes within the field.

3. Accuracy

3.1. Sampling errors

The statistics are constructed by compiling several separate sample surveys. All of these surveys are subject to possible errors due to the sampling methods applied, the quality of the reporting and the quality of the source used as population.

The populations for all surveys on earnings are based on the Norwegian Business register where all enterprises with local units that have employees in the reference period are included as the total population. The final population used for sampling in each survey is limited by use of cut-off, which varies between industries (see chapter 3.1.1.3 Bias).

3.1.1. Probability sampling

All of the aforementioned surveys are based on stratified random sampling of clusters (sampling unit), where the clusters are defined as enterprises and their local units by section according to Nace rev. 1.

Weights are calculated by use of post stratification procedures calculating the inverse inclusion probability, the aim being to estimate how many employed persons there are in the population in the reference period, referred to in the following as target population. The population used for sampling will be called the frame population. The main aim is of course that the weights make it possible to calculate an estimation of earnings for the target population.

3.1.1.1. Stratification

The variables used for stratification are industry and employment. As previously stated, each of the industries presented below, as rows in the table, represent a separate survey in the National earnings statistics. The stratification is different for each industry when defining size groups of enterprises and sub-groups of industry. The reason for this is to make use of the fact that the distribution of small and large enterprises is different between industries, and furthermore the understanding of what can be called large may vary a great deal from one industry to another.

These properties and arguments are especially important if the level and distribution of earnings are actually different from one strata to another within the same industry (more information in chapter 3.25).

Table 3.1. Population and sample SES 2002

	Frame population	Sample	Relative sample size
Total for all surveys			
Enterprises	41 693	11 941	28.6
Local units	58 682	27 557	47.0
Employees	1 119 059	753 028	67.3
C Oil and gas extraction, mining			
Enterprises	293	130	44.4
Local units	419	258	61.6
Employees	32 909	29 760	90.4
D Manufacturing			
Enterprises	6 090	1 843	30.3
Local units	7 480	3 001	40.1
Employees	267 748	181 541	67.8
E Electricity supply			
Enterprises	240	138	57.5
Local units	461	432	93.7
Employees	13 330	12 903	96.8
F Construction			
Enterprises	5 235	1 385	26.5
Local units	5 800	1 925	33.2
Employees	100 712	58 210	57.8
G Wholesale and retail trade			
Enterprises	14 680	4 488	30.6
Local units	22 995	11 864	51.6
Employees	279 460	167 291	59.9
H Hotels and restaurants			
Enterprises	4 389	1 182	26.9
Local units	5 252	1 953	37.2
Employees	73 091	46 428	63.5
I Transport and communication			
Enterprises	3 004	842	28.0
Local units	5 263	2 958	56.2
Employees	131 317	103 545	78.9
J Financial intermediation			
Enterprises	662	499	75.4
Local units	2 337	2 273	97.3
Employees	44 582	43 538	97.7
K Real estate, and business services			
Enterprises	7 100	1 434	20.2
Local units	8 675	2 893	33.3
Employees	175 910	109 812	62.4

Table 3.2.　Number of strata used in sampling from the frame population

	Number of strata
Industry	
Total	**112**
C Oil and gas extraction, mining	4
D Manufacturing	38
E Electricity supply	3
F Construction	9
G Wholesale and retail trade	9
H Hotels and restaurants	15
I Transport and communication	15
J Financial intermediation	4
K Real estate, and business services	15

3.1.1.2.Estimation of weights
In the following, all comments on population refer to the target population as it is found and defined by use of the Norwegian Business register.

Notation
i　　　Individuals (analyses unit)
a　　　Enterprises (sampling unit)
b　　　Sampling strata

s_b　　Enterprises in sample in strata b

K_b　　Number of enterprises in strata b

k_b　　Number of enterprises in sample from strata b

N　　　Total number of employees in the population

n　　　Number of employees in the sample

w_b^*　　Inverse sample probability

w_b　　Final post-stratified adjusted weight (The final strata b as given after post stratification do not necessarily correspond with strata used when sampling.)

w_{ai}　　Final weight for individual i in enterprise a

The weights in the Norwegian Structure of Earnings Survey are defined as:

1) $w_b = w_b^* \dfrac{N_b}{\hat{N}_b}$ where $i \in a \in b$ and s_b is the sample

of enterprises in stratum b. w_b^* is the inverse inclusion

probability defined as

2) $w_b^* = \dfrac{K_b}{k_b}$, for all $a \in b$.

Thus $\sum_{a \in s_b} w_b^* = \sum_{a \in s_b} \dfrac{K_b}{k_b} = k_b \dfrac{K_b}{k_b} = K_b$ and as such gives

an estimation of the number of enterprises in a strata b in the population.

The preferred ideal for the weights in the earnings

statistics is to be able to express $\sum_{a \in s_b} \sum_{i \in a} w_{ai}^* = \hat{N}_b$

Post-stratification procedures to establish w_b are

initiated when $\dfrac{N_b}{\sum_{a \in s_b} \sum_{i \in a} w_{ai}^*} = \dfrac{N_b}{\hat{N}_b} \neq 1$. This implies

that we wish the final weights to give an estimate on the number of employees in the population. The final weights can therefore be described as:

$$w_b = w_b^* \frac{N_b}{\hat{N}_b} = w_b^* \frac{N_b}{\sum_{a \in s_b} \sum_{i \in a} w_{ai}^*}$$

$$3) = \frac{K_b}{k_b} \frac{N_b}{\sum_{a \in s_b} \sum_{i \in a} \frac{K_b}{k_b}} = \frac{K_b}{k_b} \frac{N_b}{\frac{K_b}{k_b} n_b} = \frac{N_b}{n_b}$$

where $i \in a \in b$

A further inspection of the weights can be done through a comparison with other sources. This is covered in chapter 6 but comments are due already to give an example of how the weights rearrange the distribution of the none-weighted figures.

It is clear that the final weighted distribution of the SES has a much closer resemblance to the distributions found in the National Account (NA) and the Labour Force Survey (LFS). This does not prove arguments of the weights as far as estimation of earnings are concerned, but the improvement of the distribution caused by the weights is a claim that they at least make for a better understanding of the actual composition of the population. Furthermore, there are some differences between these statistics that may explain the last discrepancies between weighted SES figures and the NA or LFS. For more information on this please consult chapter 6.

3.1.1.3. Bias
The statistics on earnings are, as with all other sample based statistics, subject to bias, which arises when the distribution on some variables in different parts of the sample is not the same as the corresponding distribution in the population. Dividing the population into groups (strata) according to certain stratification variables reduces the possibility of imbalances in the sample. Partial non-response in several of the items collected by form and used in the wage statistics can normally be logically calculated on the basis of other information given on the form or imputed from earlier years.

Table 3.3. Distribution of employees in the SES weighted and non-weighted by industry, comparison with national accounts and LFS

Industry	SES Non-weighted	Weighted	NA	LFS
	Per cent			
C-D Oil and gas extraction, mining and Manufacturing	28.3	24.5	23.9	24.3
E Electricity supply	2.0	1.2	1.1	1.1
F Construction	7.1	9.1	9.8	11.8
G-H Wholesale and retail trade and Hotels and restaurants	29.1	29.4	29.6	30.2
I Transport and communication	14.8	14.4	14.5	12.1
J Financial intermediation	7.0	3.8	3.7	3.8
K Real estate, and business services	11.7	17.6	17.4	16.7
Total	100.0	100.0	100.0	100.0

Table 3.4. Coefficient of variance for monthly earnings of full-time employees in the SES by industry

Industry	Males and females Coefficient of variation
C Oil and gas extraction, mining	0.03
D Manufacturing	0.01
E Electricity supply	0.02
F Construction	0.01
G Wholesale and retail trade	0.01
H Hotels and restaurants	0.01
I Transport and communication	0.03
J Financial intermediation	0.01
K Real estate, and business services	0.01

Post-stratification adjusts any imbalances arising in the distribution between the stratification variables due to non-response. The weights are additionally adjusted for any imbalances due to non-response.

Non-response that is not randomly distributed may bias the separate samples for the different sections, and this may have some influence on these statistics. Non-response in the wage statistics is between 2.5 and 5 per cent. Possible sample bias in the individual statistics will be of less importance for these statistics due to the considerable quantity of data it is based on (table 1 in chapter 3.1).

The use of cut-off may be a source of bias. In most industries, the frame population covers sampling units with five or more employees. Exceptions are Hotels and Restaurants (H), Financial Intermediation, Business Services (K), where cut-off is set at 3 or more employees for inclusion in the frame population.

3.1.1.4. Variance
Variance of interest in this case is variance that arises due to the size and composition of the sample, more specifically the sampling model, so-called sample variance. Statistics on earnings make use of random

sampling of clusters (enterprises by industry), however the samples are large and this therefore results in relatively low variance. (See also chapter 8.1). The coefficient of variance varies between 0 and 1 and is in some cases used as a percentage. A low value presents the argument that very little of the variance derives from the sample (see also appendix B).

The coefficient of variance for a sample survey will increase disproportionately with the size of the sample. Smaller samples will have higher levels of sample variance than large samples. However it is necessary to point out that this measure of variance does not on its own provide information on the quality or accuracy of the estimates the survey is meant to measure.

3.1.2. Non-probability sampling
Not applicable

3.2. Non-sampling errors

3.2.1. Coverage errors
The population is made up of all enterprises in Statistics Norway's Central Register of Establishments and Enterprises, with the exception of small enterprises with fewer than five/three employees. Each enterprise covers one or more local units grouped by industrial category. The sample in each section consists of enterprises drawn from the population, dependent on activity code and the number of employees. The wage statistics data are obtained for each person employed in the local units, in the reference period, covered in the industrial sectors according to Nace. Errors in the stratification variables, activity (Nace Rev. 1) and number of employees in the frame population could be a source of errors. Additionally, actual differences between the frame population and target population may lead to problems such as over-coverage or under-coverage in sub-populations. In order to deal with this potential problem, the local units in the sample are asked to control the pre-printed code of activity on the form. If this code is believed to be incorrect, the local units are asked to describe their activities in order to correct this code. In each specific case, this information is assessed in order to come up with a correct classification of the unit.

In the wage statistics, some under-coverage may be expected due to a time lag in the registration of new units in the Central Register of Establishments and Enterprises. Over-coverage may also be present for the same reason, i.e. the time lag in the registration process when enterprises no longer have employees because the business has been closed, sold or taken over by new owners, has gone bankrupt or has been merged in the time period between the selection of the sample and the time of the census. As long as these errors are fairly constant, the effect on the statistics is minimal.

Table 3.5. Distribution of collected observations by source. Per cent by industry

| Industry | Total | Electronic | | Manually filled forms | |
		Electronic standard	Spreadsheets	Optical registration	Manual registration
Total	**100**	**64.3**	**14.4**	**16.0**	**5.3**
C Oil and gas extraction, mining	**100**	86.6	8.1	2.2	3.1
D Manufacturing	**100**	72.4	13.1	10.7	3.8
E Electricity supply	**100**	64.9	22.6	8.4	4.2
F Construction	**100**	45.9	27.4	20.9	5.7
G Wholesale and retail trade	**100**	48.8	10.2	32.7	8.3
H Hotels and restaurants	**100**	41.1	14.8	27.5	16.6
I Transport and communication	**100**	85.2	5.0	7.0	2.8
J Financial intermediation	**100**	51.9	36.1	8.6	3.5
K Real estate, and business services	**100**	59.0	22.1	13.5	5.3

3.2.2. Measurement errors

Measurement errors are defined as a discrepancy between the value of a variable reported by the respondent and the "true" value. Such errors mainly arise because the respondent lacks the information or finds it difficult to calculate the value. This may be due to the following:

- In his daily work, the respondent uses other unit definitions than those used as a basis for the statistics, for example other payment periods
- The respondent does not have the information that is requested
- The respondent himself has incorrect information
- The respondent misunderstands or fails to read the instructions. The respondent may misinterpret the content of the variables, or is imprecise in checking off on the form that will be read optically

However, the increasing use of the electronic standard for reporting statistics has reduced the amount of measurement errors in reporting. This standard basically retrieves wage data directly from the enterprises' wage and personnel systems, thus eliminating several possible sources of error that arise when using traditional forms. On the other hand, new problems arise when making use of new methods of collection and processing. In general however, these problems have been more easily identified and corrected when making use of electronic solutions in data collection and processing.

3.2.3. Processing errors

Processing errors are errors that can arise during the course of computer processing the reported data from the respondent and up to the point the statistics are completed. This applies to factors such as data transmission, registration, encoding and error correction. Reported forms are registered either optically or manually, while electronically reported data is entered directly into the tables where data information is compiled.

Table 3.6. Response rate by industry

Industry	Response rate per cent
Total	92.4
C Oil and gas extraction, mining	91.2
D Manufacturing	95.2
E Electricity supply	96.9
F Construction	94.2
G Wholesale and retail trade	94.9
H Hotels and restaurants	81.4
I Transport and communication	89.6
J Financial intermediation	95.4
K Real estate, and business services	90.4

3.2.4. Non-response errors

3.2.4.1. Unit non-response
Unit non-response refers to the fact that the respondent, in this case an enterprise, has not completed and returned the statistics questionnaire. In the statistics, the unit non-response is between 3 and 10 per cent (table below). The main reasons for non-response are that units have ceased to exist, been sold or transferred to a new owner, gone bankrupt or have been merged. Furthermore, there is also a small group reporting too late to be included in the statistics, or providing data of a quality that cannot be used for statistical purposes. In the case of unit non-response, the weights of the units on which the statistics are based are adjusted to compensate for the non-response.

3.2.4.2. Partial non-response
In the case of methods making use of clusters as sampling units, it is necessary to make distinctions between two types of partial non-response. The first and most typical type of non-response for a sample survey is that the sample unit, enterprise in this case, has not reported all employees. The second major type of non-response would be the traditional type, where elements of information regarding the unit of analysis are missing. Some of the items can often be calculated on the basis of other information and possibly imputed from previous years.

3.2.5. Model assumption errors

Statistics Norway has chosen to use September and October as the reference months for the annual wage statistics. These months are believed to be less affected by holidays and the most stable regarding wages and therefore also considered as representative.

The accounting and fiscal year is identical to the calendar year in Norway. Hence, this is not subject to any errors regarding the wage statistics.

The sample model used for all sections is based on stratified samples. Dividing the population into groups (strata) according to certain stratification variables reduces the possibility of imbalances in the sample and assures a better coverage of certain units or groups of units in the wage statistics.

The sample consists of enterprises drawn from the population. The population is basically all active enterprises in the section, with the exception of small enterprises with fewer than five/three employees, which are not included in the frame population. Large enterprises (sample units), where the definition of large varies between industries, receive a sampling probability of 1. Strata that cover small and medium-sized sample units are given a lower sampling probability.

The stratification is made according to industry and the size (number of employees) of the enterprises, on the assumption that wages and composition occupations in large enterprises differ from those in small ones, and that there are differences according to industry. In each stratum, this sample model ensures a minimal dispersion in the main variables measured, i.e. wage. The number of employees is an important feature with regard to the stratification. Some assessment of this size is made through to the sampling process and serves as guidance for ongoing improvement. In each stratum, the mean number of employees is calculated along with the standard deviation. This is done to ensure an optimum stratification that reflects the differences between the strata.

The different products in the wage statistics are separated according to section. Each section in the wage statistics represents one part of the total population, and these are therefore also to be considered as a part of the stratification. This stratification ensures that each section is fully covered, and that no major enterprises are missed out. Also, the coverage of other related sections are ensured through this model.

By collecting individual employees with person identification numbers, it is possible to add information from administrative sources. The quality of these identification keys is stressed both in the questionnaires and in the administrative data and reduces the relative level of errors to a minimum. The purpose of the sample model selection process is basically to get samples that ensure a representative basis for the wage statistics and avoid burdening all enterprises in the industry with forms to fill in. This limits the size of the samples while focusing on main variables. Another objective is to ensure that the burden of reporting obligations is minimised as much as possible for the smallest enterprises. Statistics Norway likes to believe that all these purposes are well fulfilled. In addition to this, the effects of any known and unknown model errors are reduced to an acceptable minimum through the use of this model.

4. Timeliness and punctuality

The reference period for the surveys is 1 September for sections G, J and K and 1 October for the remainder. The statistics are collected by way of the mandate given through "The Statistics Act of 1989", which for the statistics presented here makes response mandatory.

Key dates in the data collection process:
1 September:
- Questionnaires sent: 19 August 2002
- Date for delivery: 16 September 2002
- First reminder: 1 October 2002
- New date for delivery: 21 October 2002
- Second reminder: 28 October 2002
- Final date for delivery: 18 November 2002

1 October:
- Questionnaires sent: 19 September 2002
- Date for delivery: 16 October 2002
- First reminder: 26 October 2002
- New date for delivery: 15 November 2002
- Second reminder: 25 November 2002
- Final date for delivery: 13 December 2002

In addition to the applications, large enterprises are phoned during this period to ensure that the questionnaires are returned. The post-collection phase begins as soon as questionnaires are received. Working deadlines are set as the process takes place, and in accordance with priorities given by the pre-planned list for publication. There are no given and explicit deadlines for the different elements in the post-collection phase, except for the final deadline; the statistics for the different sections are finished and approved one week prior to the publishing dates.

The wage statistics for all employees 2002 were published on 27 June 2003. These statistics are produced by using the wage statistics for several industrial sections with the following publishing dates:
- Section C. Employees in oil and gas extraction and mining. Published 30 January 2003.
- Section D. Employees in manufacturing. Published 13 February 2003.

- Section E. Employees in electricity supply. Published 11 April 2003, corrected 2 April 2004.
- Section F. Employees in construction. Published 28 February 2003.
- Section G. Employees in wholesale and retail trade. Published 17 January 2003, corrected 24 February 2003.
- Section H. Employees in hotels and restaurants. Published 28 March 2003.
- Section I. Employees in transport and communication. Published 29 April 2003.
- Section J. Employees in financial intermediation. Published 20 December 2002.
- Section K. Employees in real estate and business activities. Published 5 December 2002.

5. Accessibility and clarity

References to the statistics:
- All employees:
  www.ssb.no/english/subjects/06/05/lonnansatt_en/
- Section C:
  www.ssb.no/english/subjects/06/05/lonnolje_en/arkiv/
- Section D:
  www.ssb.no/english/subjects/06/05/lonnind_en/arkiv/
- Section E:
  www.ssb.no/english/subjects/06/05/lonnkraft_en/
- Section F:
  www.ssb.no/english/subjects/06/05/lonnbygganl_en/arkiv/
- Section G:
  www.ssb.no/english/subjects/06/05/lonnvare_en/arkiv/
- Section H:
  www.ssb.no/english/subjects/06/05/lonnhotell_en/arkiv/
- Section I:
  www.ssb.no/english/subjects/06/05/lonnsamf_en/arkiv/
- Section J:
  www.ssb.no/english/subjects/06/05/lonnfinans_en/arkiv/
- Section K:
  www.ssb.no/english/subjects/06/05/lonnef_en/arkiv/

The statistics are published on the Internet - no results are sent to the reporting units.

The same Internet addresses as above apply for references to methical documents; these documents can be found using the link "About the statistics" in the left margin.

6. Comparability

6.1. Geographical comparability

The Norwegian earnings statistics are collected annually and comply with most mandatory points drawn up in the council regulation 530/1999, and subsidiary commission regulations. Specific exceptions are stated in the EEA agreement Annex XXI - p.18. Some special features for Norway do however apply:

1) The variable "3.1.2 Special payments for shift work" will include payments for shift work and other irregular payments.
2) The variable "3.5 Annual days of absence" will only include number of days of holiday and not absence due to sickness or absence for vocational training.

The statistical units are identical to the units used in other countries; the reference population is basically all active enterprises in the section, with the exception of small enterprises with less than 5 or 3 employees (depending on section), which are not included in the reference population.

Statistics Norway also uses international standards with regard to classifications of different variables. Some national adaptations are made, but these are not present in the transferred SES files.

6.2. Comparability over time

Comparable annual statistics on earnings were established for most industrial sections in 1997, a few sections were included later. The statistics are comparable from 1997 and are uniform and comparable among the sections. There has not been any change in the definitions of variables since 1997. The applied methods and models have however been subject to ongoing improvement based on increased knowledge and new requirements since they were established. These ongoing improvements have not affected comparability.

6.3. Coherence with the Labour Force Survey (LFS) 3rd quarter 2002

The following is a short presentation and comparison of the Norwegian SES and the Norwegian LFS surveys. It is important to point out basic differences that possibly could be the cause of differences between the surveys as they are observed in the following tables. Statistics from the LFS are based on published figures.

6.3.1. Comparison of basic information on model assumption, sampling, units and purpose

In the following three short chapters, several basic aspects of the LFS and SES are compared. One of the main reasons for different surveys is to meet different needs. Consequently, the statistics are built up on assumptions that meet these specific user needs. The LFS survey monitors and documents quarterly changes in the composition and distribution of the work force. It is based on a sample survey covering individuals (the sample unit is family) that report on their status in the work force.

The earnings statistics on the other hand are structured to answer questions concerning the level and distribution of earnings. As described earlier, the source is a sample of enterprises that reports on employees. The population for the two surveys does overlap, very much, but the source of information is different and so are the sampling models. Furthermore, the two surveys have different reference periods, and utilise different sources for control, verification and finally dissemination.

Both statistics are none the less used for explaining different properties of the same field of interest and in this capacity we can use the LFS to understand the distribution and composition of jobs and employees as they are described in the earnings survey. Discrepancies should, where they occur, be explained and understood as a consequence of overlapping information.

6.3.1.1. Population and sampling units

	LFS	SES
Population	All individuals aged 16-74	All enterprises with employees
Sampling unit	Families	Enterprises (by industry)
Analysis unit	Individuals	Employees
Reporting unit	Individuals	Employee (enterprise)
Frequency	Quarterly	Annual

6.3.1.2. Variable definitions

	LFS	SES
Employed	Persons on sick leave included	
Working time	Full-time - 37 hours or more, if not defined otherwise by the reporting unit	Full-time - 33 hours or more per week

6.3.1.3. Objective of the LFS and SES statistics

LFS	SES
Provide statistics on employed and unemployed and labour force participation	Provide statistics on the level and composition of earnings for all employees (wage and salary earners)

6.3.2. Tabular results and comparisons with the LFS

For the tables that refer to distributions of full-time and part-time employees respectively by age, discrepancies are small. Most of the differences between the two sources might very well be a result, at least to some extent, explained by the differences described in the previous chapters. Differences in the definitions of full-time employees in particular may contribute to some of the observed discrepancies even though these should be viewed as small to minimal in this case.

The same factors mentioned above will also explain discrepancies between the tables that show the distribution of full-time employees by industry.

In general, it seems that the distribution of employees by sex and industry and sex and age are very similar. This also gives more credit to the assumptions presented in connection with chapter 3, especially concerning the sampling model and hence model assumptions and bias.

Table 6.1a. Labour Force Survey Distribution of full-time employees by sex and industry, 3rd quarter 2002

Industry)	Males and females	Males only	Females only
	Frequency (%)		
Per cent			
C Oil and gas extraction, mining	3.2	3.7	1.9
D Manufacturing	24.1	25.6	19.8
E Electricity supply	1.3	1.5	0.8
F Construction	13.7	17.3	2.7
G Wholesale and retail trade	20.5	18.6	26.7
H Hotels and restaurants	3.5	1.9	8.4
I Transport and communication	12.8	13.1	11.8
J Financial intermediation	4.1	3.3	6.5
K Real estate, and business services	16.9	15.2	21.8
Total	100.0	100.0	100.0

Table 6.1b.   Structure of Earnings Survey Distribution of full-time employees by sex and industry 2002

Industry	Males and females	Males only	Females only
	Frequency (%)		
C Oil and gas extraction, mining	2.6	2.9	1.6
D Manufacturing	25.7	27.4	20.6
E Electricity supply	1.4	1.6	0.8
F Construction	10.8	13.7	2.1
G Wholesale and retail trade	19.0	18.2	21.3
H Hotels and restaurants	3.5	2.1	7.8
I Transport and communication	15.2	15.3	14.9
J Financial intermediation	4.1	3.0	7.6
K Real estate, and business services	17.6	15.7	23.2
Total	100.0	100.0	100.0

Table 6.2a.   Labour Force Survey Distribution of full-time employees by sex and age, 3rd quarter 2002

Age	Males and females	Males	Females
	Frequency (%)		
C-K			
16-24	11.0	10.3	13.4
25-64	88.3	89.1	86.2
65-max	0.7	0.7	0.4
Total	100.0	100.0	100.0

Table 6.2b.   Structure of Earnings Survey Distribution of full-time employees by sex and age, 2002

Age	Males and females	Males	Females
	Frequency (%)		
C-K			
14-24	8.8	8.4	9.9
25-64	90.5	90.9	89.6
65-high	0.6	0.7	0.5
Total	100.0	100.0	100.0

Table 6.3a.   Labour Force Survey Distribution of part-time employees by sex and age, 3rd quarter 2002

Age	Males and females	Males	Females
	Frequency (%)		
C-K			
16-24	32.6	42.1	28.6
25-64	64.4	52.6	69.2
65-max	3.1	5.3	2.2
Total	100.0	100.0	100.0

Table 6.3b.   Structure of Earnings Survey Distribution of part-time employees by sex and age, 2002

Age	Males and females	Males	Females
	Frequency (%)		
C-K			
14-24	32.1	41.7	28.0
25-64	65.5	54.3	70.2
65-high	2.5	4.0	1.8
Total	100.0	100.0	100.0

6.4. Coherence with National Accounts

In the following two tables, comparisons between National Accounts and the SES are shown. The first table gives the distribution of wages by industry as the estimated sum of annual wages from the SES and compensation of employees in the National Accounts. The other table compares the distribution of employees by industry. Discrepancies can mostly be explained through differences in definitions and reference periods between the two sources. All statistics from the National Accounts are based on published figures.

Table 6.4. Comparison of annual earnings SES and compensation of employees and self-employed in National Accounts[1]

Industry	National accounts	Structure of earnings
	Per cent of sum	
C Oil and gas extraction, mining	5.3	3.7
D Manufacturing	22.4	23.6
E Electricity supply	1.4	1.3
F Construction	9.6	9.4
G Wholesale and retail trade	20.1	18.9
H Hotels and restaurants	3.5	3.6
I Transport and communication	14.2	14.5
J Financial intermediation	5.1	4.8
K Real estate, and business services	18.4	20.3
Total	100.0	100.0

[1] Covers remuneration in kind and compensation for non-work-related activities such as sick leave, maternity leave etc.

Table 6.5. Comparison of employed in the SES and employees and self-employed in National accounts

Industry	National accounts	Structure of earnings
	Per cent of sum	
C Oil and gas extraction, mining	2.7	2.1
D Manufacturing	20.7	22.4
E Electricity supply	1.2	1.2
F Construction	10.2	9.1
G Wholesale and retail trade	24.6	22.7
H Hotels and restaurants	5.3	6.7
I Transport and communication	14.5	14.4
J Financial intermediation	3.6	3.8
K Real estate, and business services	17.2	17.6
Total	100.0	100.0

7. Quality Report - Part A Tables

7.1. Structure of Earnings Survey: grossed results: tabular analyses

Hourly gross earnings, full-time employees

Hourly gross earnings (NOK)	Males and females	Males	Females
	Frequency (%)		
0.00-99.99	3.5	3.2	4.6
100.00-124.99	15.2	12.0	24.5
125.00-149.99	26.9	25.6	30.6
150.00-174.99	19.3	20.0	17.0
175.00-199.99	11.5	12.3	9.3
200.00-249.99	12.1	13.2	8.7
250.00-299.99	5.8	6.7	3.1
300.00-high	5.7	6.9	2.3
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985
Overall mean (NOK)	174.53	181.23	154.47
Median value (NOK)	154.23	159.76	140.62

Hourly gross earnings, part-time employees

Hourly gross earnings (NOK)	Males and females	Males	Females
	Frequency (%)		
0.00 - 99.99	21.6	26.0	19.7
100.00 - 124.99	43.4	39.1	45.3
125.00 - 149.99	18.8	15.8	20.1
150.00 - 174.99	7.1	7.3	7.1
175.00 - 199.99	3.6	4.1	3.3
200.00 - 249.99	3.6	4.3	3.3
250.00 -299.99	1.1	1.6	0.9
300.00 - high	0.8	1.7	0.4
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 395
Overall mean (NOK)	124.55	127.12	123.45
Median value (NOK)	115.47	114.20	115.91

Monthly gross earnings, full-time employees

Monthly gross earnings (NOK)	Males and females	Males	Females
	Frequency (%)		
0-14 999	2.2	2.0	2.6
15 000-19 999	13.4	10.1	23.4
20 000-22 499	15.3	13.7	19.8
22 500-24 999	14.4	14.1	15.0
25 000-27 499	12.6	13.0	11.5
27 500-29 999	9.1	9.6	7.3
30 000-34 999	12.4	13.5	9.2
35 000-39 999	7.4	8.2	4.9
40 000-high	13.3	15.7	6.1
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985
Overall mean (NOK)	28 929	30 156	25 259
Median value (NOK)	25 794	26 825	23 034

Monthly gross earnings, part-time employees

Monthly gross earnings (NOK)	Males and females	Males	Females
	Frequency (%)		
0 - 2 499	78.4	82.3	76.7
2 500 - 4 999	13.1	8.4	15.0
5 000 - 7 499	3.0	2.4	3.2
7 500 - 9 999	1.7	1.6	1.7
10 000 - 12 499	1.2	1.4	1.1
12 500 - 14 999	0.8	1.0	0.8
15 000 - 17 499	1.0	1.3	0.9
17 500 - 19 999	0.4	0.7	0.3
20 000 - high	0.4	1.0	0.2
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 395
Overall mean (NOK)	10 175	9 483	10 471
Median value (NOK)	9 217	7 198	9 971

Annual gross earnings,
full-time employees

Annual gross earnings (NOK)	Males and females	Males	Females
	Frequency (%)		
0-224 999	11.7	8.9	20.2
225 000-249 999	11.4	9.7	16.3
250 000-274 999	13.3	12.5	15.7
275 000-299 999	12.3	12.3	12.0
300 000-324 999	9.9	10.2	8.9
325 000-349 999	7.7	8.2	6.3
350 000-399 999	11.3	12.3	8.4
400 000-449 999	7.2	8.0	4.9
450 000-499 999	4.8	5.4	2.9
500 000-high	10.5	12.5	4.5
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985
Overall mean (NOK)	340 382	354 854	297 088
Median value (NOK)	303 344	315 542	271 072

Annual gross earnings,
part-time employees

Annual gross earnings (NOK)	Males and females	Males	Females
	Frequency (%)		
0 - 24 999	90.3	89.9	90.5
25 000 - 49 999	2.9	2.2	3.2
50 000 - 74 999	1.9	1.6	2.0
75 000 - 99 999	1.4	1.3	1.4
100 000 - 124 999	1.0	1.1	0.9
125 000 - 149 000	0.7	0.9	0.7
150 000 - 174 999	0.9	1.2	0.8
175 000 - 199 999	0.5	0.7	0.4
200 000 - 224 999	0.2	0.3	0.1
225 000 - high	0.3	0.8	0.1
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 394
Overall mean (NOK)	119 561	111 545	122 994
Median value (NOK)	108 283	84 583	116 960

Annual holidays,
full-time employees

Annual holidays (days)	Males and females	Males	Females
	Frequency (%)		
0-9			
10-19			
20-24	46.3	46.1	47.0
25-29	53.7	53.9	53.0
30-34			
35-high			
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	25 0985
Overall mean (days)	24.1	24.1	24.1
Median value (days)	25.0	25.0	25.0

Annual holidays,
part-time employees

Annual holidays (days)	Males and females	Males	Females
	Frequency (%)		
0 - 9	36.0	44.6	32.3
10 - 19	43.6	37.7	46.1
20 - 24	11.1	8.6	12.2
25 - 29			
30 - 34			
35 - high			
ND	9.2	9.0	9.3
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 394
Overall mean (days)	11.4	10.1	11.9
Median value (days)	12.0	9.0	12.0

Monthly hours paid,
full-time employees

Monthly hours paid (hours)	Males and females	Males	Females
	Frequency (%)		
0-129			
130-139	1.6	1.4	2.3
140-149	7.5	6.3	11.1
150-159	67.0	65.6	71.3
160-169	11.5	12.6	8.1
170-179	8.4	10.1	3.4
180-high	3.9	3.9	3.8
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985
Overall mean (hours)	165.7	166.5	163.2
Median value (hours)	162.0	162.0	162.0

Monthly hours paid,
part-time employees

Monthly hours paid (hours)	Males and females	Males	Females
	Frequency (%)		
0 - 19	82.8	87.1	81
20 - 39	12.2	7.2	14.3
40 - 59	2.6	2.8	2.5
60 - 79	0.3	0.5	0.2
80 - 99	0.1	0.2	0.1
100 - 119			
120 - high			
ND	1.9	2.4	1.9
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 395
Overall mean (hours)	77.3	69.3	80.7
Median value (hours)	81.0	65.0	82.0

NACE Rev. 1 section,
full-time employees

Nace rev. 1	Males and females	Males	Females
		Frequency (%)	
C	2.6	2.9	1.6
D	25.7	27.4	20.6
E	1.4	1.6	0.8
F	10.8	13.7	2.1
G	19.0	18.2	21.3
H	3.5	2.1	7.8
I	15.2	15.3	14.9
J	4.1	3.0	7.6
K	17.6	15.7	23.2
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985

NACE Rev. 1 section,
part-time employees

Nace rev. 1	Males and females	Males	Females
		Frequency (%)	
C	0.4	0.4	0.4
D	9.9	9.9	9.9
E	0.4	0.4	0.4
F	2.7	3.7	2.2
G	36.5	30.7	38.9
H	18.6	18.8	18.5
I	11.3	17.5	8.7
J	2.6	0.9	3.4
K	17.6	17.6	17.6
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 395

Occupation,
full-time employees

Occupation (1 digit, ISCO)	Males and females	Males	Females
	Frequency (%)		
1	9.9	10.8	7.2
2	7.4	7.4	7.3
3	18.9	18.3	20.4
4	13.1	8.7	26.5
5	8.3	5.9	15.5
6	0.1	0.1	
7	17.4	22.0	3.5
8	15.3	17.8	7.9
9	9.7	9.0	11.6
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985

Occupation,
part-time employees

Occupation (1 digit, ISCO)	Males and females	Males	Females
	Frequency (%)		
1	1.3	2.2	0.9
2	1.8	2.2	1.6
3	7.4	5.5	8.3
4	15.6	11.4	17.4
5	43.2	39.0	45.0
6	0.1	0.1	0.1
7	3.5	7.4	1.8
8	5.3	11.2	2.8
9	21.7	20.9	22.1
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 395

Education,
full-time employees

Education (ISCED 1 digit)	Males and females	Males	Females
	Frequency (%)		
ISCED 0 and 1	4.0	4.0	4.0
ISCED 2	10.3	10.5	9.7
ISCED 3	60.1	60.4	59.2
ISCED 4	4.0	4.0	4.0
ISCED 5B	3.6	3.9	2.7
ISCED 5A	17.6	16.7	20.1
ISCED 6	0.4	0.4	0.3
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985

Education,
part-time employees

Education (ISCED 1 digit)	Males and females	Males	Females
	Frequency (%)		
ISCED 0 and 1	7.3	10.6	5.9
ISCED 2	14.7	12.9	15.4
ISCED 3	64.4	61.7	65.6
ISCED 4	2.3	2.2	2.4
ISCED 5B	1.2	1.4	1.1
ISCED 5A	9.9	10.7	9.5
ISCED 6	0.2	0.4	0.1
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985

**Age,
full-time employees**

Age	Males and females	Males	Females
	Frequency (%)		
14-24	8.8	8.4	9.9
25-54	77.8	77.7	78.1
55-64	12.7	13.2	11.5
65-high	0.6	0.7	0.5
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985
Overall mean (age)	40.0	40.2	39.1
Median value (age)	39.0	39.0	38.0

**Age,
part-time employees**

Age	Males and females	Males	Females
	Frequency (%)		
14 - 24	32.1	41.7	28.0
25 - 54	54.4	45.0	58.4
55 - 64	11.1	9.3	11.8
65 - high	2.5	4.0	1.8
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 394
Overall mean (age)	35.4	32.9	36.4
Median value (age)	33.0	27.0	35.0

**Length of service,
full-time employees**

Length of service (years)	Males and females	Males	Females
	Frequency (%)		
0-9	73.0	72.0	75.7
10-19	18.9	19.3	17.8
20-29	5.7	6.0	4.9
30-39	2.1	2.3	1.5
40-high	0.3	0.4	0.2
Overall frequency	100.0	100.0	100.0
Total number of employees	1 001 847	750 861	250 985
Overall mean (years)	6.7	6.9	5.9
Median value (years)	4.0	4.0	3.0

**Length of service,
part-time employees**

Length of service (years)	Males and females	Males	Females
	Frequency (%)		
0 – 9	82.5	88.0	80.2
10 – 19	13.5	8.4	15.7
20 – 29	2.8	2.0	3.1
30 – 39	0.9	1.2	0.8
40 – high	0.2	0.4	0.2
Overall frequency	100.0	100.0	100.0
Total number of employees	269 069	80 675	188 395
Overall mean (years)	4.4	3.6	4.8
Median value (years)	2.0	1.0	2.0

**Size of enterprise,
full-time employees**

Number of employees in enterprise	Males and females
	Frequency (%)
1-9	10.5
10-49	29.5
50-249	24.1
250-499	9.9
500-999	8.6
1 000-high	17.3
Overall frequency	100.0
Total number of employees	1 001 847
Overall mean (employees)	36.0
Median value (employees)	9.0

**Size of enterprise,
part-time employees**

Number of employees in enterprise	Males and females
	Frequency (%)
1 - 9	16.4
10 - 49	35.2
50 - 249	17.7
250 - 499	7.3
500 - 999	6
1 000 - high	17.5
Overall frequency	100.0
Total number of employees	269 069
Overall mean (employees)	29.8
Median value (employees)	10.0

8. Quality Report – Part B Tables – variance

8.1. Variance tables (relating to chapter 3.1.1)

Monthly earnings,
NACE Rev. 1 section, full-time employees

Industry	Males and females	Males	Females
	Coefficient of variation		
C	0.03	0.04	0.02
D	0.01	0.01	0.01
E	0.02	0.02	0.03
F	0.01	0.01	0.01
G	0.01	0.01	0.01
H	0.01	0.01	0.01
I	0.03	0.03	0.02
J	0.01	0.02	0.01
K	0.01	0.01	0.01

Monthly earnings,
NACE Rev. 1 section, part-time employees

Industry	Males and females	Males	Females
	Coefficient of variation		
C	0.05	0.06	0.07
D	0.02	0.05	0.02
E	0.05	0.06	0.05
F	0.03	0.04	0.03
G	0.02	0.03	0.01
H	0.03	0.05	0.03
I	0.09	0.10	0.09
J	0.04	0.21	0.02
K	0.04	0.05	0.05

Monthly earnings,
Occupation, full-time employees

Occupation (1 digit)	Males and females	Males	Females
	Coefficient of variation		
1	0.01	0.01	0.01
2	0.01	0.01	0.01
3	0.01	0.01	0.01
4	0.01	0.02	0.01
5	0.01	0.01	0.01
6	0.03	0.03	0.05
7	0.01	0.01	0.01
8	0.01	0.01	0.01
9	0.01	0.02	0.01

Monthly earnings,
Occupation, part-time employees

Occupation (1 digit)	Males and females	Males	Females
	Coefficient of variation		
0			
1	0.03	0.05	0.02
2	0.03	0.05	0.02
3	0.02	0.06	0.02
4	0.07	0.10	0.05
5	0.02	0.02	0.02
6	0.06	0.06	0.09
7	0.04	0.04	0.05
8	0.04	0.06	0.02
9	0.03	0.04	0.03

Monthly earnings,
Age, full-time employees

Age	Males and females	Males	Females
	Coefficient of variation		
14-24	0.01	0.01	0.01
25-54	0.01	0.01	0.01
55-64	0.01	0.01	0.01
65-high	0.01	0.01	0.03

Monthly earnings,
Age, part-time employees

Age	Males and females	Males	Females
	Coefficient of variation		
14-24	0.02	0.02	0.01
25-54	0.02	0.03	0.01
55-64	0.02	0.03	0.01
65-high	0.03	0.04	0.03

Monthly hours,
NACE Rev. 1 section, full-time employees

Industry	Males and females	Males	Females
	Coefficient of variation		
C	0.010	0.011	0.006
D	0.001	0.001	0.001
E	0.004	0.004	0.003
F	0.001	0.002	0.002
G	0.001	0.001	0.001
H	0.001	0.001	0.001
I	0.004	0.005	0.002
J	0.003	0.003	0.003
K	0.002	0.002	0.002

Monthly hours,
Occupation, full-time employees

Occupation (1 digit)	Males and females	Males	Females
	Coefficient of variation		
1	0.001	0.001	0.001
2	0.002	0.002	0.002
3	0.002	0.002	0.001
4	0.002	0.003	0.001
5	0.001	0.002	0.002
6	0.007	0.008	0.009
7	0.001	0.001	0.004
8	0.002	0.002	0.002
9	0.002	0.002	0.002

Monthly hours,
Age, full-time employees

Age	Males and females	Males	Females
	Coefficient of variation		
14-24	0.001	0.001	0.001
25-54	0.001	0.001	0.001
55-64	0.001	0.001	0.001
65-high	0.002	0.002	0.003

References

Council regulation (EC) 530/1999, of 9 March 1999: Concerning structural statistics on earnings and labour costs

Commission regulation (EC) 72/2002, of 16 January 2002: on implementing council regulation (EC) 530/1999 as regards quality evaluation of structural statistics on earnings.

Commission regulation (EC) 1916/2000, of 8 September 2000: on implementing council regulation (EC) 530/1999 concerning structural statistics on earnings and on labour costs as regards the definition and transmission of information on structure of earnings.

Grini, Knut Håkon: Notater 74/2003 'Lønnsstatistikk 1997-2002. dokumentasjon av utvalg og beregning av vekter.', Statistics Norway

NOS D 285: 'Lønnsstatistikk 2002', Statistics Norway

Särndal, Swensson, Wretman: 'Model Assisted Survey Sampling' Springer, Corrected fourth printing 1997.

Coefficient of variance

In chapter 3.1.3, we have made use of coefficient of variance (CV). The following is a short summary of the CV as it is used in the main text and tables. The CV, which is sometimes referred to as relative standard deviation, is defined as the ratio of the standard error of the estimator to the expected value. In our case, we aim to calculate a CV for the estimated average of monthly earnings.

Based on the general definition of an average as

$$\overline{X}_i = \frac{\sum\limits_{i=1}^{N} X_i}{N}$$, we can define the estimated average

for the target population by using the earlier definition of the weights in chapter 3.1.1.1.

$$\hat{\overline{X}} = \frac{\sum\limits_{a=1}^{k} w_a x_a}{\sum\limits_{a=1}^{k} w_a}$$ where x_a is the observed average

monthly earnings in enterprise a in the sample and w_a is the calculated weight for enterprise a.

The standard deviation: $s = \sqrt{\dfrac{\sum\limits_{a=1}^{k} w_a \left(x_a - \overline{x}\right)^2}{k-1}}$

where k is the number of clusters, in our case enterprises, in the sample.

The CV can therefore be calculated as $cv = \dfrac{s}{\hat{\overline{X}}}$. The

CV as commented in chapter 3.1 is often expressed as a

percentage $cv\% = \dfrac{s}{\hat{\overline{X}}} 100\%$. In text and tables, our

CV is not expressed as a percentage.

Variables covered in the document

This appendix covers a short list of variables covered in this documentation and the definition of these according to: Commission regulation (EC) 1916/2000, of 8 September 2000: on implementing council regulation (EC) 530/1999 concerning structural statistics on earnings and on labour costs as regards the definition and transmission of information on structure of earnings. For more information on the definition and classification of the variables, please consult the referenced NOS D 285 and the commission regulation.

A. Variables relating to the local unit

I) Size of the enterprise to which the local unit belongs
Classified as one of the following as a number of employees employed in the reference period:
1-9
10-49
50-249
250-499
500-999
1 000-high

II) The economic activity
According to the general industrial classification of economic activity, (NACE, Rev. 1)

Section Code	2-digit Code	Description
C	10-14	Oil and gas extraction, mining
D	15-37	Manufacturing
E	41	Electricity, gas and water supply
F	45	Construction
G	50-52	Wholesale and retail trade
H	55	Hotels and restaurants
I	60-64	Transport, storage and communication
J	65-67	Financing
K	70-74	Real estate, renting and business activities

B. Variables relating to the individual employee

I) Sex
II) Age
In whole years at the specified date of the representative month
III) Occupation
According to the International Standard Classification of Occupations (ISCO-88)
The code is reported at a 2-digit level to Eurostat but all tables that utilize occupation in this document only make use of the first digit.

Cod	Description
1	Senior officials and managers
2	Professionals
3	Technicians and associate professionals
4	Clerks
5	Market sales workers and service workers
7	Craft workers
8	Operators and drivers
9	Elementary occupations

IV) Highest completed level of education and training
According to ISCED 97. For the Norwegian Structure of Earnings Survey, this information is provided not by the reporting enterprise but through utilisation of a separate register with information on the highest level of completed education for each individual.

ISCED Code	Specification
0 and 1	Primary education or first stage of basic education
2	Lower secondary education or second stage of basic education
3	Upper secondary education
4	Post-secondary non-tertiary education
5A	First stage of tertiary education, General Not leading directly to an advanced research qualification)
5B	First stage of tertiary education, Technical (Not leading directly to an advanced research qualification)
6	Second stage of tertiary education (Leading directly to an advanced research qualification)

V) Length of service in the enterprise
Is defined as the number of whole years worked with the current employer

C. Variables concerning earnings, hours paid and holidays

I) Total gross earnings for a representative month
Gross earnings cover remuneration in cash paid directly and regularly by the employer in the reference period. This implies that taxes, national insurance contributions or other payments deducted by the employer are not deducted from the gross earnings.

II)　　　Total gross annual earnings in the reference
　　　　year
　　　　Encompasses all payments in cash as they are
　　　　defined above that relate to the reference year
　　　　2002.
III)　　Number of hours paid during the representative
　　　　month (or a standard month)
　　　　Covers normal hours and overtime hours in the
　　　　reference month, and also covers hours paid
　　　　but not worked, such as annual leave, sick
　　　　leave, official holidays etc.
IV)　　Annual days of holiday leave (excluding days of
　　　　sick leave)
　　　　This refers to the number of paid annual
　　　　holidays, not including public holidays, but
　　　　including holidays granted to employees
　　　　because of age, special duties or seniority.