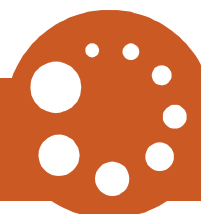




Constructing a new income from employment on the basis of the CCO and the Structural Survey

Descriptive analysis of differences compared with the ESS wage

EXPERIMENTAL STATISTICS



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Management summary

This report documents the methodology used in LABB (longitudinal analyses in the field of education) to determine monthly standardised incomes for full-time workers and gross hourly incomes of people who have just completed their certifying training or who are approaching the end of their training, and are not self-employed.

This report also provides a descriptive analysis of the differences between the constructed income variable and other sources, such as the Swiss Earnings Structure Survey (ESS), to provide elements to aid decision-making in terms of the validation and use of this constructed variable.

Underlying the report is the Swiss eGovernment strategy's principle of 'once-only', i.e. making maximum use of available data sources without resorting to new surveys.

For this reason, the approach adopted involves using data from the individual accounts of the Central Compensation Office (CCO) and linking them with those from the Structural Survey (SS) to calculate different incomes.

This report first describes how a standardised income is constructed for full-time workers, or for an hourly income, based on the CCO and the Structural Survey. It then describes how outliers are discarded, and finally how this income compares with the ESS wage.

Comparison with the ESS was carried out both in terms of weekly working hours and standardised income. Two complementary approaches were adopted.

- The first approach looks at the results obtained across the whole CCO/SS linkage compared with the results from the ESS, after making minimal adjustments in order to render the universes as coherent as possible. We will call the analyses on the adjusted databases analyses *on separate databases*. The advantage of this approach is that the comparisons made allow conclusions to be drawn across the board for all employees resident in Switzerland.¹ The disadvantage is that the differences observed may be due to measurement effects between the two sources on the variables studied, for example the occupation, or to time lags, etc.
- The second approach is based on the possibilities offered by AHVN13 to link the samples from the CCO/SS and from the ESS and to examine, at individual level, the differences noted between the standardised gross monthly income in the CCO/SS, and the ESS standardised gross monthly wage. For this *linked database*, important selections are carried out in order for the comparisons to make sense. For example, people holding more than one job simultaneously, or who have changed occupation, or whose income changed between the reference dates of the two sources, were removed. This second approach also necessitates a re-weighting to allow direct analyses and comparisons of income in terms of the reduced population. However, this re-weighting does not allow conclusions to be drawn for the Swiss working population in its entirety as some categories of people were eliminated due to the selections mentioned above.

Comparisons were carried out for all the analysed dimensions that LABB intends to disseminate in the published analyses, in particular on holders of VET (vocational education and training) or PET (professional education and training) qualifications. They also focus on the same indicators as those that are to be disseminated, in other words the median (which indicates the central value), as well as the income thresholds for the 1st decile, 1st quartile, 3rd quartile and 9th decile.

A unique production scheme for CCO/SS income has also been implemented for the report

¹ For details on the selections, see chapter 5

and subsequent dissemination.

The close proximity between the work in this report and the envisaged design of future analysis publications should allow the reader to anticipate potential deviations from the ESS depending on the analysed dimensions.

The results of this report are the following:

1. By definition, the CCO/SS standardised income measures something different from the ESS standardised wage. It measures the income from full-time employment, which is calculated on an 'actual' basis, whereas the ESS wage reflects the 'contractual' aspect. The difference is intrinsically important for people who do a significant amount of paid overtime but which is not compensated by leave or variable working hours. From an economic and social science perspective, this income calculated on an 'actual' basis is entirely pertinent.
2. The constructed CCO/SS income is partly based on the employee's perception of their working hours, while the wage information in the ESS reflects the contract or information from employers.
3. Owing to points 1 and 2, the numerical differences between the two incomes cannot be a measure of quality or mutual validation. In fact, certain important differences between the sources are perfectly justified and explainable. This report therefore focuses on documenting and understanding the deviations between the two sources.
4. Concerning working hours and the separate databases:
 - a. The median working time stated by respondents in the SS is 0.4 hours greater than the value indicated in the ESS. This difference may be attributable to overtime not compensated by leave, or variable working hours, but it is impossible to say with any certainty. By way of comparison, the Swiss Labour Force Survey (SLFS) indicated 0.8 hours of unpaid overtime in 2018 for workers aged between 19 and 64. The difference of 0.4 hours is observed both for women and men.
 - b. A significant difference is noted (3 hours) in the ISCO major group of occupations of clerical support workers. It is impossible to say where this deviation comes from, but it may be caused by measurement effects on the occupation or may be linked to the significant number of missing occupations (ISCO sub-major groups of occupations) in the ESS (see chapter 8 for more details).
5. Concerning the standardised incomes and the separate databases:
 - a. The ESS standardised wage is CHF 64 (median value) higher than the income constructed via the CCO/SS (CHF 6 680 for the ESS and CHF 6 616 for the CCO/SS), although the difference is not statistically significant.² The ESS wage is higher than the CCO/SS income for women (by CHF 196), but lower for men (by CHF 50), although this is not statistically significant. The fact that women earn slightly more according to the ESS in no way contradicts the fact that they work slightly more according to the CCO/SS (see above 4.a). Many complex effects can be seen in combination (e.g. population differences).
 - b. According to the ISCO major occupation groups, the differences in medians are usually lower than CHF 200. Exceptions to this are clerical support workers (CCO/SS higher than the ESS by CHF 303), and elementary occupations (CCO/SS lower than the ESS by CHF 287). Measurement effects on the occupation in question could again be a potential source of deviations here (see chapter 9 for more details).
 - c. The 19–35 age category, which is examined in the most detail, shows comparable matches with other age categories.

² Confidence interval 95%.

- d. The lower the working hours, the more likely the ESS wage is to be greater than the CCO/SS income, and the difference – which is CHF -42 for a work-time percentage of 90% or more – reaches CHF 290 for work-time percentages below 90%. Here, too, there may also be a measurement effect, and it is difficult to draw any firm conclusions. In particular, the working hours categories in the ESS are built on the basis of time worked in the enterprises that are included in the ESS sample, and on the basis of contracts. Meanwhile, the SS categories are based on all the person's paid work and on their usual working hours.
- e. The differences on the 1st and 3rd quartiles (or on the 1st and 9th deciles) are logically greater than those observed on the medians, reaching CHF 269 and CHF -131 respectively for the two quartiles mentioned. Broadly, the ESS wage tends to be higher than that of the CCO/SS for quantiles below the median, and lower for the higher quantiles. The ESS wage is therefore slightly closer to the median than that of the CCO/SS.

The income analyses on the linked database adopt a complementary approach. Rather than focusing on the differences in quantile values between the two sources as above, they also highlight the quantiles of the differences. They are therefore interested in differences between the two sources at an individual level. Such analyses allow the following question to be answered: what are the differences in income observed for the 10% of people showing the greatest discrepancies?

The results are the following:

6. For the sub-population of people who stated they had the same working hours in the SS as those indicated by their employer in the ESS (37% of the population corresponding to the linked database), and by also adopting a different standardisation with regard to the rest of the report as it is identical to the one in ESS (so on the basis of 40 hours a week), it is observed that:
 - a. the median of differences is CHF -1 overall and reaches a maximum of CHF 14 depending on the ISCO major group of occupations, although the difference is almost never significantly different from CHF 0.
 - b. Similar analyses on all the planned analysis dimensions, such as sex, economic section, age category, language region and employment area, hardly ever show a result that is significantly different from CHF 0 either.
 - c. The 1st and 3rd quartiles of the differences are CHF -17 and CHF 155, respectively.
 - d. An analysis of the differences in quantiles indicates a difference of CHF 34 between the two medians.
7. These results show that there are no, or only very few, intrinsic differences between the ESS wage and the CCO income for the sub-population considered (population corresponding to the linked database whose number of hours worked according to the SS coincides with that of the ESS). On the entire linked database and for the 'actual' standardised CCO/SS income, we note that:
 - a. The median of the differences between the 'actual' CCO/SS standardised income and that of the ESS is CHF 150 (or 2.2% of the ESS median wage). This result reflects the fact that the number of hours worked is on the whole higher in the SS than in the ESS.
 - b. Values between around CHF 100 and CHF 200 are observed in terms of the median of the differences for each ISCO major group of occupations, and for all analysed dimensions.
 - c. The quartiles of the income differences are much further from 0 than the median of

the differences and are generally around CHF 300 or CHF 400. This means that for 25% of people, the ESS wage was higher (or lower) than the CCO/SS income by CHF 300 or more. The 1st and 9th deciles are CHF -718 and CHF 1 154, respectively at a general level. These results therefore indicate that significant differences can be noted at individual level. They are not problematic per se, given the conceptual differences between the two compared incomes and the measurement problems that may remain.

- d. An analysis of the differences between quantiles qualifies the impact of point c. While individuals may diverge between the two sources, the values measured overall differ between the 1st and 9th decile by around CHF 100 at a general level, which is 7 to 10 times less than at point b. For the ISCO major groups of occupations, the differences on the 1st and 9th decile are in the order of around CHF 300. Similar results are obtained for all the dimensions analysed.

The numerical tests on the linked databases therefore show that at the level of individuals, significant income differences can be observed between sources. Nonetheless, both the analyses on the linked database and the separate database show that these individual differences have a more limited effect on the aggregate results at quantile level, whatever the dimension analysed.

This report therefore documents how and to what extent the income constructed on the basis of linkage of data from the CCO and the SS differs – whether conceptually or numerically – from the ESS wage. This document should allow readers to better interpret and utilise the results of future LABB analyses based on the use of constructed incomes derived from the CCO/SS.

1 Sources and definitions

1.1 Sources

The sources used in this report are the following:

- The register of individual accounts of the Central Compensation Office³ (CCO): it records the income subject to OASI/DI contributions, the type of activity and the associated contribution periods.
- The Structural Survey⁴ (SS), which has been conducted every year since 2010 as part of the population census on a sample of around 270 000 people aged 15 or over. The reference date for survey respondents is 31 December. Respondents receive the survey questionnaire in early January, shortly after this reference date.
- The Swiss Earnings Structure Survey⁵ (ESS), which has been conducted every two years (since 2010) in October by means of a questionnaire involving around 49 000 enterprises. The ESS covers jobs in enterprises that are economically active in the secondary or tertiary sectors and that employ at least three people.
- The Structural Business Statistics⁶ (STATENT) are based on the OASI compensation fund registers, and are compiled on the basis of register data. They are used here to retrieve information on economic sector and enterprise size.
- Population and Households Statistics⁷ (STATPOP). The STATPOP provide information on the size and composition of the resident population. Linking STATPOP with the ESS brings the ESS universe (based on the domestic concept) closer to that of the CCO/SS by focusing in particular on persons in the ESS who are part of the permanent resident population in Switzerland.

Table 1.1 provides an overview of the principal conceptual differences between the main sources.

Table 1.1: Main statistical sources used in this report: comparison table of principal conceptual differences

	Swiss Earnings Structure Survey (ESS)	CCO individual accounts	Structural Survey (SS)
Population concept	Domestic (activities carried out on Swiss soil)	Jobs subject to social insurance contributions in Switzerland	Permanent resident population
Type of collection	Survey	Register	Survey
Basic unit	Enterprise	Individual	Individual
Reference date	October	-	End of December
Definition of a person's job	Job in the enterprise sampled	All jobs subject to social insurance contributions	Main job

³ <https://www.zas.admin.ch/zas/en/home.html>

⁴ <https://www.bfs.admin.ch/bfs/en/home/statistics/population/surveys/se.html>

⁵ <https://www.bfs.admin.ch/bfs/en/home/statistics/work-income/surveys/ess.html>

⁶ <https://www.bfs.admin.ch/bfs/en/home/statistics/industry-services/businesses-employment.gnpdetail.2020-0290.html>

⁷ <https://www.bfs.admin.ch/bfs/en/home/statistics/population/surveys/statpop.assetdetail.8541.html>

Types of jobs not taken into account	Self-employed persons; jobs in enterprises with fewer than 3 employees; jobs in the primary sector	Jobs where people earn an annual income below the minimum threshold for social insurance contributions	-
Working hours	Working hours according to information from the sampled enterprise based on the employment contract	Not available	Average number of hours worked per week (all of a person's jobs)

1.2 Definitions

Number of hours worked per week:

Average number of hours worked per week according to the SS (variable *timeworkedperweeksum*): SS respondents declare the average number of hours worked per week for all paid work. The SS variable is then produced using this information when the SS data are processed. Missing or incoherent values are imputed.

Number of hours worked per week ESS (variable *iwaz*). The *iwaz* variable indicates the weekly working hours set out in the person's employment contract (hours or lessons) for employed persons who are paid monthly and based on information from the enterprise. People who are paid hourly are not included.

Income:

ESS standardised wage (variable *mb/s*): standardised gross monthly wage (excluding overtime based on a 40-hour work week and 4 1/3 weeks a month. This income includes social insurance contributions, various allowances (e.g. for shift work, Sunday or night-time work), 1/12 of the 13th month wage, 1/12 of special payments.

Income from the CCO individual accounts: income from salaried employment or self-employment; corresponds to gross wage (including social insurance contributions) with components such as bonus, 13th month wage, overtime pay, benefits in kind (provided they feature on the wage statement), etc.

CCO/SS standardised or hourly income: income (of persons who do not have self-employed status) obtained by linking data from the CCO individual accounts and working hours according to the Structural Survey (SS) (see chapter 3).

To simplify the terminology, we sometimes use the term income both for the ESS and for CCO/SS data, although the ESS always concerns wages.

ISCO 08 major occupation groups

- 0 Armed forces occupations
- 1 Managers
- 2 Professionals

- 3 Technicians and associate professionals
- 4 Clerical support workers
- 5 Service and sales workers
- 6 Skilled agricultural, forestry and fishery workers
- 7 Craft and related trades workers
- 8 Plant and machine operators, and assemblers
- 9 Elementary occupations

1.3 Abbreviations

CCO	Central Compensation Office
CFC	Federal VET diplomas
ISCO	International Standard Classification of Occupations
ESS	Swiss Earnings Structure Survey
VET	Vocational education and training
PET	Professional education and training
LABB	Longitudinal analyses in the field of education
AHVN13	Social insurance number (with 13 digits)
NOGA	General Classification of Economic Activities
OECD	Organisation for Economic Cooperation and Development
SLFS	Swiss Labour Force Survey
SS	Structural Survey
SSP	School Staff Statistics
STATENT	Structural Business Statistics
STATPOP	Population and Households Statistics

2 General framework and aims

This report documents the methodology used in LABB to determine and track the evolution of standardised incomes for full-time jobs, and gross hourly incomes for people who have just completed their certifying training, or are close to the end of their training, and are not self-employed.

The report also provides a descriptive analysis of the deviations between the constructed income variable and other sources, such as the Swiss Earnings Structure Survey (ESS), to provide elements to aid decision-making in terms of the validation and use of this constructed variable.

Underlying the report is the Swiss eGovernment strategy's principle of 'once-only', i.e. making maximum use of available data sources without resorting to new surveys. For this reason, the approach taken involves using data from the Central Compensation Office (CCO) individual accounts by linking them with the data from the Structural Survey.

The specific objectives of the LABB programme are to disseminate –

- primarily for holders of a vocational education and training (VET) qualification, who are very often persons aged 25 or under when they obtain the qualification –
 - o (standardised hourly and gross) income in the 5–10 years after obtaining the qualification, so to carry out transversal analyses;
 - o evolutions in income by different category (e.g. field of training or sex) and to carry out longitudinal analyses.Chapter 4 describes in detail how the income variable will be used for VET holders and for the target population.
- Secondly, for holders of a professional education and training qualification (PET), i.e. people who tend to be aged between 24 and 40⁸ when they obtain the qualification:
 - o (standardised, hourly or gross) income of holders of PET qualifications in the 10 years from when they obtain the qualification or the 5 years preceding it;
 - o evolutions in income by different category (e.g. field of training or sex).
- More broadly, to be able to extend this type of analysis – in particular at the request of the OECD – to the entire field of education (those with no post-compulsory qualifications, university graduates, etc.).

Considering that the main objective is to look at the evolution of income when people first enter the labour market after obtaining a VET qualification, and therefore at young people, comparing with the results from the ESS will place a particular emphasis on people aged 35 or under where possible. Because it is planned to also use the variable for holders of professional education and training qualifications diplomas, or from a broader perspective of extending to the whole Swiss education system and subsequent training paths, the comparisons will also include people aged up to 64.

⁸ The 1st quartile for professional education institutions is 24 years of age (5% are younger than 21). The 3rd quartile for the advanced federal diploma of professional education and training is 40 years of age (5% are older than 52).

3 Construction of 'actual' standardised income and hourly income variables

Depending on the pursued aims, and also the availability of data, there are several possible ways of measuring income from employment.

The CCO individual accounts contain information on the total gross monthly income received by the person, while the SS measures the number of hours worked per week for all paid work carried out by the respondent. The calculation method for the standardised⁹ income and hourly income is defined in Box 1.

- For the 'actual' standardised income, the method considers the 'actual' income that the person would have if they worked a "usual 100%" in a given occupation.¹⁰ This usual 100% is calculated on the basis of full-time references (see section 3.1). This means that the calculation also takes account of any overtime worked in general by people in the occupation.¹¹ The effect on standardised income depends on whether or not the overtime is paid.
- The hourly income is obtained simply based on the person's total monthly income according to the CCO, and the number of hours per week the person says they worked on average according to the SS.

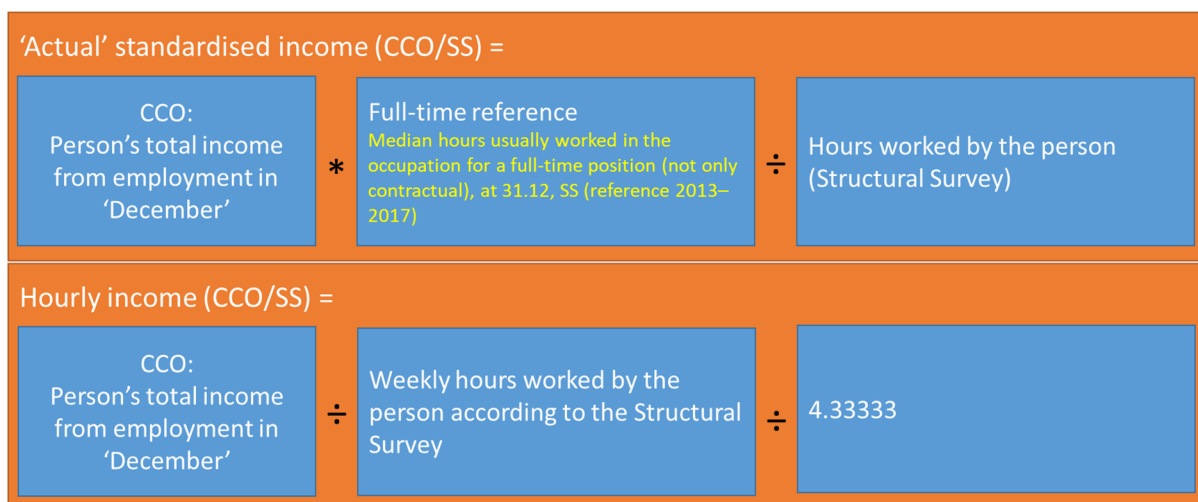
For the CCO income, we specifically look at the 'December' income. This means the income received by the person in a period of employment that covers the month of December. For a person who worked N months, including December, in the same enterprise, this income in the CCO is therefore 1/N of the person's total income received. It is not the income shown on the person's December payslip (which may include payment of the 13th monthly wage). Due to the 'aggregated' way in which the data from the CCO are recorded, there is a risk that the income does not accurately reflect the person's situation in December, in particular for those who stayed in the same enterprise but changed status or work-time percentage during the course of the year. In fact, for these people, the income calculated above would be the average income for all the months worked by this person in the enterprise in question. Let us suppose for example that a person stayed all year in the same enterprise, but worked 50% from January to June, and 100% from July to December, with the same hourly income. For this person, the CCO information would reflect the average situation regarding income, so an income corresponding to a 75% work-time percentage. The income information would not reflect the 100% work-time percentage that the person had in December and probably indicated in the SS.

⁹ As a test, and in line with the ESS, the data were standardised on the basis of a 40-hour week. This standardisation is not expanded on in this document, apart from the specific cases in section 10.2.1.

¹⁰ It is important to note that in the SS, the occupation declared by the respondent refers to their main occupation. To simplify matters, in the rest of this report this will always be referred to as the occupation according to the SS.

¹¹ This method was also used by the research bureau BASS in its study on the evolution of doctors' incomes. *Einkommen, OKP-Leistungen und Beschäftigungssituation der Ärzteschaft 2009–2014*, BASS, 2018, p. 99

Box 1: Definition of 'actual' standardised CCO/SS income and CCO/SS hourly income



If we take the example of those who said their main occupation was doctor and for which a full-time position equates to 50 hours of work a week (see also Figure 3.2), the standardised CCO/SS income would be what they would earn if they worked 50 hours a week. This standardised income also corresponds to what readers may think of as 'actual' income for a full-time position in certain occupations.

The standardised CCO/SS income differs conceptually and numerically from the ESS standardised wage *mb/s*. The latter variable is calculated on the basis of a full-time reference of 40 hours and without taking account of overtime. By definition, the standardised CCO/SS income will differ from the standardised ESS *mb/s* wage in occupations where a normal full-time position is notably different from a contractual full-time position (see also the example in Box 2 below).

3.1 Full-time references

Based on the 2013–2017 target database (as defined in chapter 6), the full-time references in terms of ISCO four-digit occupation codes (unit groups) are calculated in the following way:

- The full-time reference is the median value of the number of weekly working hours for people who stated they worked between 90% and 100% and who said they worked more than 39 hours a week. This value is calculated for all occupations in terms of the four-digit ISCO occupation codes.
- For occupations where there are fewer than 50 observations cumulated over the 2013–2017 period, we take the following approach: if the variance calculation is problematic due to there being too few observations, or because the confidence interval is around the overall median value (which is the case for 0.5% of persons in the 2016 target population)¹², a value of 41.6 hours is applied. This value corresponds to the overall median for 2013–2017 with a confidence interval of 95% (0.01 hours).

The full-time references calculated on the basis of the pooled 2013–2017 SS data are also to be applied to data from 2017 onwards (see also section 3.2).

¹² See chapter 6.

Figure 3.1 shows the implemented values, presented in this figure in the form of averages, at the level of ISCO two-digit codes (sub-major groups) indicated in the SS, the medians calculated in terms of the four-digit ISCO codes (unit groups), and applied to the 2016 target population.

Figure 3.1: Full-time references implemented* in the calculation of standardised incomes

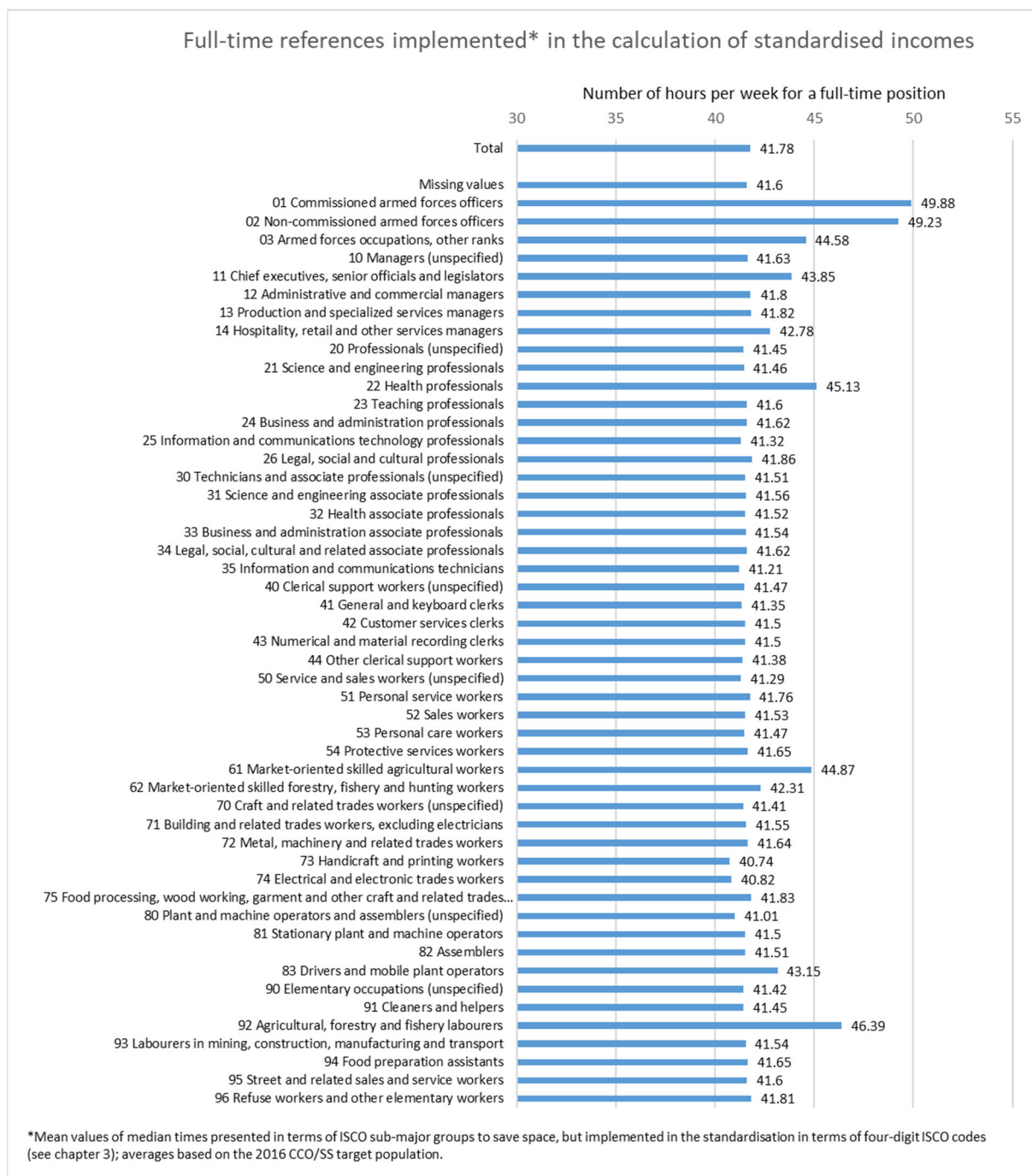


Figure 3.2 details the values implemented in terms of the ISCO four-digit codes for the sub-major group of occupations 22: health professionals (the values calculated on the basis of pooled 2013–2017 data with confidence intervals are available in the annex A1). This shows the significant variability in weekly working hours that can exist within an ISCO sub-major group of occupations and also demonstrates the need to calculate full-time references at a detailed level if the reality of different occupations is to be reflected.

Figure 3.2: Full-time references implemented in the calculation of standardised income for health professionals, in terms of the four-digit ISCO occupation codes.



3.2 Characteristics of CCO/SS income

The calculation method entails certain specific properties that are particular to the standardised CCO/SS income, namely:

- If people overestimated their working hours in the SS, that would also influence the full-time reference. Consequently, the standardised CCO/SS income would not be affected at the level of all workers in the occupation.¹³ It would, however, refer to working hours that are higher than the actual hours worked.
- The full-time references are calculated by occupation, but not according to other dimensions, such as sex or age. The term 'usual' therefore applies to all workers in an occupation, but not to other categories or sub-categories.
- Using a full-time reference based on the 2013–2017 SS has the following advantages and disadvantages: if workers were in future to do more (or less) overtime (that is not compensated by leave or variable working times) for the same wage as during the reference period, the standardised income would fall (or rise), as would the hourly income. This is correct, but the standardised income would then no longer reflect the 'usual' working hours at the point in question. This is why the period used for full-time references must be clearly communicated. Moreover, it will be necessary to monitor the evolution of the full-time references and to adapt them if necessary (e.g. at five-year intervals). It is important to note that the income that is intrinsically the best suited to studies on e.g. economic dynamics is hourly income.

Fehler! Verweisquelle konnte nicht gefunden werden. summarises all the differences between

¹³ It would be modified though for individuals who did not over-estimate their working time.

the constructed CCO/SS income and the ESS wage.¹⁴

Table 3.1: Summary of the intrinsic differences between the CCO/SS income and the ESS wage

	CCO/SS income	ESS wage
Frame of reference	Persons	Jobs
Frequency	Annual	Every 2 years
Universe	Workers ¹⁵ whose income is subject to OASI contributions	Paid jobs in enterprises with at least 3 employees; excluding the primary sector
Reference month	December	October
Granularity of occupations (ISCO)	Four-digit ISCO	Two-digit ISCO
Source of information	Employer (CCO, income), employee (SS, working time)	Employer
Type of standardised or hourly income	'Actual' basis	'Contractual' basis

Box 2 illustrates the characteristics of the constructed CCO/SS income compared with the ESS wage using an example.

Box 2: Characteristics of the CCO/SS standardised income illustrated through two examples

Let us take the example of an occupation with contracts stipulating a working time of 40 hours a week and a monthly wage of CHF 6 500.

1. Let us assume that in this occupation, someone generally does 2 hours of overtime a week that are not compensated by leave or variable working hours and are *paid* at the same hourly rate as normal hours.

As the paid overtime is included in the CCO, and according to the CCO/SS definition of 'actual' standardised income, the income would equal $6\,500 \times (42/40) = \text{CHF } 6\,825$ but with usual 100% working hours of 42 hours. The standardised income according to the ESS definition would be CHF 6 500 with a full-time reference of 40 hours. However, the person would have the same hourly income of CHF 37.50 based on the ESS definition and the one selected here.

2. Let us assume that in this occupation, someone generally does 2 hours of overtime a week that are not compensated by leave or variable working time and are *unpaid*.

According to the CCO/SS, the standardised income would be CHF 6 500, but with usual 100% working hours of 42 hours. The standardised income according to the ESS definition would be CHF 6 500 with a full-time reference of 40 hours. After standardisation, the person would therefore have the same income based on both sources but with a different full-time reference. In terms of hourly income, according to the CCO/SS it would be CHF 35.71 and thus 5% lower than the CHF 37.50 according to the ESS definition.

¹⁴ See also <https://ilostat ilo.org/resources/concepts-and-definitions/description-earnings-and-labour-cost/> for a general overview on the methods used to collect data on earnings and labour cost and the impact of the sources selected.

¹⁵ The data from the Central Compensation Office relating to self-employed people are not used because they present several difficulties. In addition, as the ESS does not include self-employed people, it is not possible to make comparisons.

4 Use of the CCO/SS income variable in the LABB publication on holders of vocational education and training qualifications

4.1 Introduction

The CCO/SS income variable is intended to be used in the publication 'Income progression after obtaining a certificate of initial vocational training' to describe the temporal evolution of incomes up to five and a half years after obtaining a vocational education and training qualification (VET).

This section describes the definitions regarding the population analysed, the choice of indicators (with an example result), the planned breakdown categories and the checks carried out.

4.2 Population analysed

The database of the population of holders of a vocational education and training (VET) qualification falling within the framework of the planned publication was drawn by selection from the LABB longitudinal register¹⁶ of persons who obtained a Federal VET diploma or a Federal VET certificate.

Given that the publication will look at the evolution of income according to subsequent training pathways in the 42 months after obtaining the qualification, it will focus in particular on older cohorts of VET qualification holders (2012 and 2013 cohorts). Some tables may group together the cohorts from 2012 to 2014.

The target population is VET qualification holders who meet the following criteria:

1. must be no older than 25 when they obtained the qualification (selection from STATPOP: Population and Households Statistics)¹⁷
2. must be a permanent resident in Switzerland (source: STATPOP) when the qualification was obtained.
3. must have been continuously in Switzerland during the entire period analysed.
4. must have been an employee or apprentice in December of the year in question and they must have received income from employment in the month in question.

A sample of this target population is obtained by linking data from the SS, CCO and STATENT (see chapter 6).

Table 4.1 describes the size of this sample (limited here to VET holders) according to the cohort of VET holders (2012 and 2013). As the table shows, the sample from linkage with the SS is much smaller than the population of qualification holders. This loss can be partly offset by 'pooling' cohorts.

¹⁶ Harmonised database of all FSO statistics on pupils, students, exams and qualifications compiled from surveys on the Swiss education system, see also www.labb.bfs.admin.ch.

¹⁷ STATPOP provides the demographic reference for the students listed, such as migration background (country of birth and nationality). It also allows us to contextualise non-registration in the training statistics according to the student's presence in the population register, thus giving us a more precise measure of elements beyond the scope of analysis.

Table 4.1: Number of VET qualification holders and size of sample from linkage of LABB and CCO/SS data depending on cohort of VET holders from the period after they obtained the qualification, and the year of the SS

Cohorts of VET qualification holders	Time of measurement in relation to graduation (T)						
	T - 0.5 yrs	T + 0.5 yrs	T + 1.5 yrs	T + 2.5 yrs	T + 3.5 yrs	T + 4.5 yrs	T + 5.5 yrs
2012 cohort (number of holders=53 042)	SS2011 (N=1 012)	SS2012 (N=1 208)	SS2013 (N=1 395)	SS2014 (N=1 420)	SS2015 (N=1 325)	SS2016 (N=1 318)	SS2017 (N=1 315)
2013 cohort (number of holders= 50 975)	SS2012 (N=899)	SS2013 (N=1 145)	SS2014 (N=1 288)	SS2015 (N=1 214)	SS2016 (N=1 228)	SS2017 (N=1 262)	SS2018 (N=1 183)
Size of sample after pooling	1 911	2 353	2 683	2 634	2 553	2 580	2 498

N.B.: The figures shown in grey are provisional and will be updated after the CCO-IC data for 2018 have been updated. The year-to-year variations in the sample size are linked to the variable overdensification in the Structural Survey.

4.3 Planned indicators

The measures that will be disseminated to analyse the 'actual' CCO/SS standardised income (for a 'usual' full-time job) and the CCO/SS hourly income are the median – as the measure of central tendency – and the 1st decile, 1st quartile, 3rd quartile and 9th decile.

We are not interested in averages (indicator that is sensitive to extreme values), or to the distribution extremities.

4.4 Examples of results

Figure 4.1: CCO/SS 'actual' standardised income of holders of a Federal VET diploma¹⁸ according to time since

¹⁸ The Ns shown are lower than in the Table 4.1 as Figure 4.1 does not take into account Federal VET certificate holders, nor those who obtained a vocational matura in the same year as their federal proficiency certificate.

qualification obtained

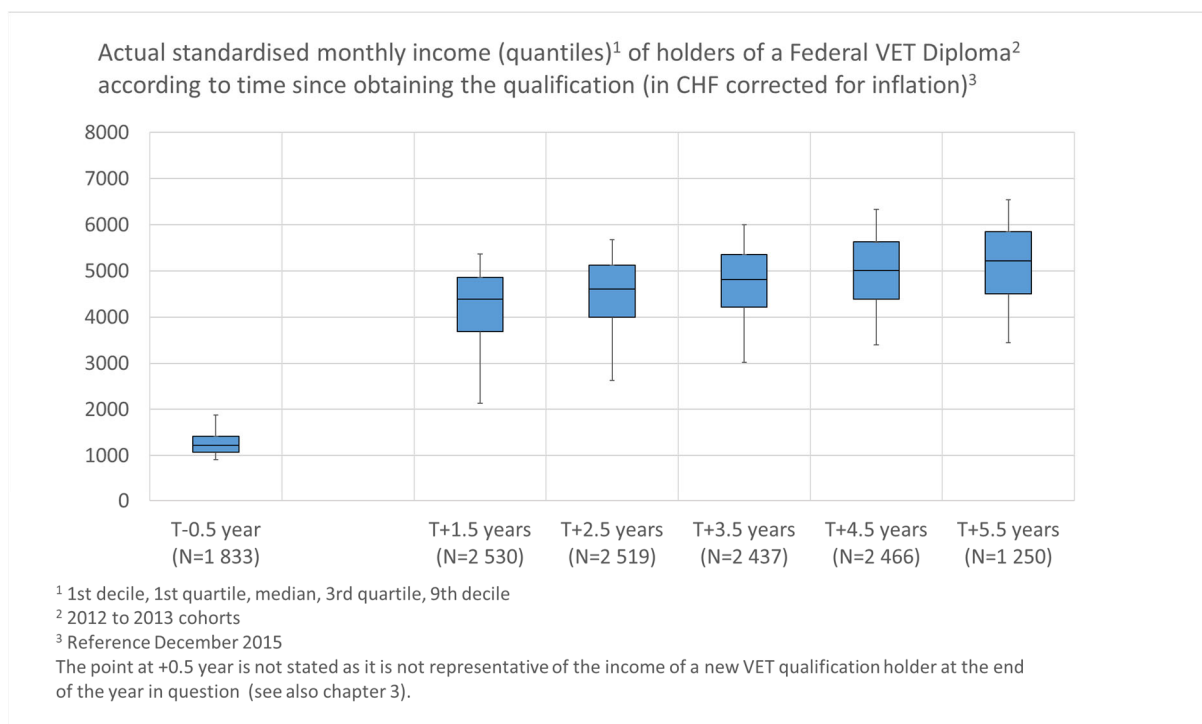


Table 4.2: quantiles of CCO/SS 'actual' standardised income of holders of a Federal VET diploma (2012–2013) according to time since qualification obtained (corrected for inflation in CH, reference December 2015).

Time since obtaining the VET diploma (T)	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	95% confidence interval for the median
T-0.5 year (N=1 833)	914	1 068	1 218	1 414	1 874	[1 208 ; 1 228]
T+1.5 years (N=2 530)	2 130	3 683	4 384	4 861	5 362	[4 345 ; 4 422]
T+2.5 years (N=2 519)	2 630	3 995	4 611	5 122	5 674	[4 568 ; 4 654]
T+3.5 years (N=2 437)	3 021	4 221	4 819	5 352	5 999	[4 775 ; 4 863]
T+4.5 years (N=2 466)	3 394	4 388	5 010	5 627	6 339	[4 966 ; 5 054]
T+5.5 years (N=1 250)	3 442	4 499	5 220	5 851	6 542	[5 159 ; 5 281]

N.B. the confidence intervals do not take account of the additional variability linked to standardisation (see section 3.1).

4.5 Breakdowns planned and checks carried out on the basis of comparisons between CCO/SS and the ESS

In the planned publication, the CCO/SS 'actual' and hourly standardised incomes (as defined in chapter 3) could be broken down according to the variables listed in the table below, if the accuracy is sufficient (

Table 4.2). The dimensions will not generally be crossed except in the case of multivariate quantile regressions. One exception is the crossing of the field of training and whether or not the individual will continue training.

Table 4.3: Breakdowns planned in the publication and checks carried out on the basis of comparisons between CCO/SS and the ESS

Dimension measured	Source	Variable	Number of categories	Comments	Checks carried out
General characteristics of qualification holders		Age	NA	Qualification holders are aged 25 or under	Analysis by age category
Sociodemographic characteristics	STATPOP	Sex	2		yes
	STATPOP	Migration status	4		yes
	STATPOP	Employment area	3		yes
	STATPOP	Language region	3		yes
Educational variables and training pathways	LABB	Upper secondary qualification	3	The Federal VET diplomas in 3 and 4 years will be grouped together in certain analyses	via educational attainment (SS)
	LABB	Field of training	14	Planned groupings	indirectly, via occupation practised
and/or	LABB	<i>Learned occupation (one-digit ISCO)</i>	8	idem	idem
	LABB	Continuation of training after upper secondary qualification	3	Same design as the publication on professional mobility by LABB 2020 ¹⁹	no
Job/enterprise characteristics	STATENT	Economic sector (NOGA)	18	Planned groupings	Yes, through NOGA (STATENT)
	STATENT	Total number of jobs	4		yes
Career path	LABB/SS	'Occupational' mobility (according to ISCO)	4	Same design as the publication on professional mobility by LABB 2020	no
	SS	Hierarchical progression	2 (yes/no)	idem	no
	STATENT	Change in economic sector	2 (yes/no)	idem	no

¹⁹ See FSO (2020), Professional trajectories of VET qualification holders in the five years following the qualification (<https://www.bfs.admin.ch/bfs/fr/home/statistiques/catalogues-banques-donnees/publications.assetdetail.12947494.html>)

5 General approach, population and scope of analysis

5.1 General approach

The general approach taken to compare the CCO/SS constructed incomes with the ESS wages comprises two steps.

1. The comparisons are made for each source taken separately (hereinafter called *separate databases*). These results have the advantage of providing relevant estimates in relation to the respective target population. The disadvantage is that, even when applying the above filters that aim to make the universes as coherent as possible, we cannot rule out the fact that differences in the populations investigated may lead to deviations that are not necessarily relevant. This approach therefore has to be supplemented with a second step.
2. The second step involves looking on the basis of the AHVN13 at persons who were in two sources at once (hereinafter referred to as *linked database*). This resolves the issue of different populations mentioned in point 1. The disadvantage is that we are then only working with a very limited sample that – also owing to the many selections made (see chapter 6), only covers a very limited portion of Switzerland's working population.

5.2 Source selections

The target population for the analyses on the separate databases for the CCO/SS comprises persons who meet the following criteria:

- I. Persons must belong to the permanent resident population aged between 19 and 64 in order to eliminate the problem of persons earning an income from employment after retirement age.
- II. They must be employed in December and must receive an income from employment in the month in question, and not be an apprentice.
- III. They must not receive an income from self-employment in December.
- IV. They must not work in the primary sector.

To put this approach into practice, the analyses are carried out on a sample obtained from linking data from the CCO and the Structural Survey²⁰ on the basis of the AHVN13.

The following filters are therefore applied to the CCO/SS data:²¹

1. Aged between 19 and 64.
2. No CCO income from self-employment in December.
3. Declared themselves employed in the SS and have CCO income from employment in December.
4. Not have been identified as having an outlier income.
5. Not have the status of apprentice in the SS.
6. Not work in the primary sector according to STATENT
7. According to the analyses, additional filters may be applied, e.g. having valid weekly working

²⁰ In the linkage of CCO data with those of the 2016 SS, the SS respondents for whom no earned income was found in the CCO for December 2016 are not considered. This corresponds to 2 686 024 people (weighted result). Of these, 229 509, or around 8.5%, declared themselves employed.

²¹ After these selections, the CCO/SS 2016 separate database covers around 82% of all employees from the 2016 SS.

hours.

This sample (for 2016) is compared with the 2016 ESS data.

The target population of the 2016 ESS are jobs in October in enterprises with at least 3 people with an economic activity in the secondary or tertiary sector. Within the framework of the analyses presented in this report, the ESS target population is restricted according to the following criteria:

1. Persons must be aged between 19 and 64
2. They must be permanent residents in Switzerland at the end of 2016.
3. They must not be paid by the hour²²
4. They must not be apprentices

Corresponding filters are therefore applied to the ESS ²³:

1. Be aged between 19 and 64 according to STATPOP
2. Be a permanent resident in Switzerland at the end of 2016.
3. Have *iwaz* > 0 in the ESS.
4. Not be an apprentice

In order to harmonise the sources considered (see also chapter 10), additional population selections were carried out when the linked database was constructed.

The sample of the linked database was constructed through linkage, on the basis of the AHVN13, of people who were simultaneously in both separate databases (a total of 54 500 people). The filters below were then applied to this sample (for the impact of the selection steps on the number of people selected, see Table 6.1).

1. Filtering on the basis of information from the 2016 CCO/SS involves eliminating people who held several jobs simultaneously, people who changed jobs or who had variations in their income between the reference dates, and apprentices.
2. Filtering on the basis of information from the ESS eliminates people for whom information on the number of hours worked was missing or equal to 0, as well as people with more than one job.
3. Finally, on the basis of STATENT, people who worked in the primary sector and those working in enterprises with fewer than 3 employees were eliminated.

The target population of the linked database is therefore limited to people who were permanently resident in Switzerland at the end of 2016, who were employed, who were aged between 19 and 64, who were not paid by the hour, who did not have invalid or missing working hours, did not have more than one job and who did not work in the primary sector or in an enterprise with fewer than 3 employees. In addition, these people did not have a change of job or a variation in income between the reference dates of the two surveys.

After the selections have been made, the linked database comprises 28 810 people, and covers approximately 56% of workers in the CCO/SS 2016 separate database²⁴ (i.e. 1 696 209 after weighting).

²² Jobs with a contract stating an hourly wage present a particular risk of instability, both in terms of working hours and income between the months of October and December, which are the respective reference dates in the ESS and SS. These jobs primarily have a number of hours worked on the *iwaz* variable from the ESS which is equal to zero.

²³ The separate 2016 ESS database represents around 78% of workers in the 2016 ESS.

²⁴ Database G in chapter 6.

5.3 Weighting of the linked database

Information on the weighting of the linked database is provided in an accompanying document.²⁵

6 General production process

Given the definition of the populations analysed for the comparisons that will be carried out, and the planned use in LABB (chapters 4 and 5), a single production plan has been established (see Diagram 1). It covers both the validation carried out in this report, and the future production of LABB analyses on incomes.

In Diagram 1, we distinguish the following steps:

- a. Linking of the CCO data for December with the STATENT data for December on the basis of the AHVN13 to obtain information on the characteristics of enterprises (step A).²⁶
- b. Linking with the SS, then filtering to define the target population (step B) (e.g. workers in the SS and CCO, aged between 19 and 64, see also section 5.2)
- c. Determining the full-time references by occupation (C) on the basis of the target population (see section 3.1).
- d. Step D involves calculating the standardised incomes, and step E involves checking their plausibility (see chapter 7).
- e. A database is created (step F) to serve as a general reference both for LABB publications and for various comparisons with the ESS on the separate or linked databases (see chapters 8 to 10).
- f. The processes and filtering result in the creation of two separate CCO/SS (G) and ESS (H) databases which are used to compare working hours and income.
- g. The process leading from database (F) to the linked CCO/SS-ESS 2016 database (I) involves subsequent linkage with the 2016 ESS, filtering and weighting.²⁷
- h. The process leading from database (F) to the database used specifically for future LABB analyses (J) involves subsequent linking with the LABB education data on new holders of vocational education and training qualifications (according to the use described in chapter 4) and potential subsequent filtering in relation to the planned analyses.

²⁵ See FSO (2021): LABB: Weighting of the linked database

²⁶ This linkage covers all the CCO even if the person is absent from the STATENT data for December. This step does not therefore involve a population selection.

²⁷ See the FSO publication on this topic (2021)

Diagram 1: General database construction process²⁸

General production process

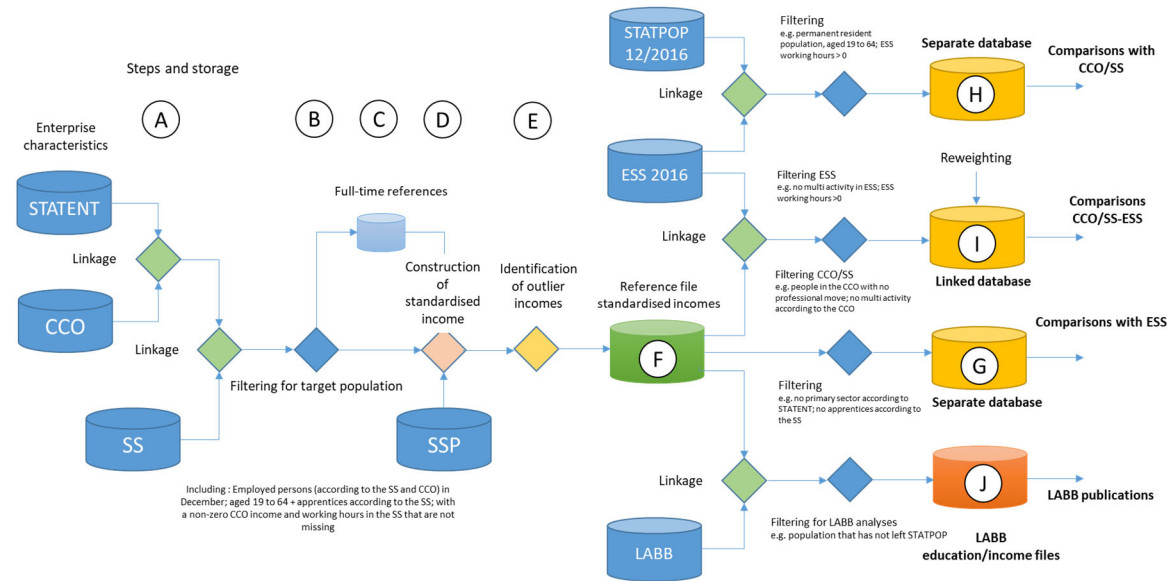


Table 6.1 shows in detail the various linkage and filtering steps leading to the construction of the linked database (I) and the impact of these steps on the sample size.

²⁸ The files produced exclusively for the purpose of calibrating the linked database are not shown here.

Table 6.1: Selection steps and sample size

Storage stage	Selection and sample stage	2016			2010 - 2017		Reason
		Number of non-weighted records	Number of weighted records****	Number of eliminated non-weighted records	Number of non-weighted records	Number of eliminated non-weighted records	
A	Total SS	274 213	6 981 381	-	2 268 032	-	Definition of target population
	Linkage of SS with people with income from employment CCO in December	165 913	4 295 356	108 300	1 388 589	879 443	
B	CCO/SS sample						Definition of target population sample for LABB analyses. Consequence: decrease of 11%, as approx. 5% unemployed or out of work, 1.5% remaining self-employed and approx. 3% employed in a family business (0.5 % unknown SS).
	<i>Filtering for target population</i>						
	19-64 years	160 944	4 167 955	4 969	1 345 045	43 544	
	only employees in December according to CCO	150 611	3 914 344	10 333	1 242 721	102 324	
	employees according to SS valid SS working time	134 712	3 485 399	15 899	1 097 532	145 189	
F	Sample after filtering	126 096	3 263 721	8 616	1 040 375	57 157	Elimination of people with very unstable hourly incomes. The standardised income exists for the job but not for the person in ESS. Elimination of people who are not part of the ESS universe. Elimination of people who are not part of the ESS universe.
	Sample after elimination of outlier incomes (reference database)	125 564	3 249 864	532	1 033 228	7 147	
	Linkage with ESS 2016 for descriptive analysis						
	CCO/SS filtering						
	Elimination of multiple employment CCO	47 501		6 999			
	Elimination of job changes*	45 377		2 124			
	Elimination of income variations**	30 103		15 274			
	Elimination of apprentices according to SS	30 073		30			
	ESS filtering						
	Elimination of number of hours worked in ESS missing or equal to 0***	29 218		855			
	Elimination of multiple employment according to ESS	28 897		321			
	Elimination of people working in enterprises with fewer than 3 employees according to STATENT	28 891		6			
	Elimination of people working in the primary sector according to STATENT	28 810		81			
	Final CCO/SS/ESS sample (linked database)	28 810	1 696 209				
G							

* which took place between September and January

** between September and December for increases in income. Between September and January for decreases in income.

*** variable ESS: ivaz > 0

**** weighting variable up to stage G: zpers_weight (source: SS); weighting variable at stage G: w_cal

7 Determining the plausibility of the CCO/SS standardised incomes

7.1 Introduction

Constructing a standardised (or hourly) income on the basis of incomes from the CCO and information on working hours from the SS can lead to anomalous results. Although the analyses planned by LABB are done in terms of quantiles, and the fact that the issue of outlier incomes is not crucial, it is important to try to eliminate outlier incomes. However, we are not interested here in the analysis of extreme but correct incomes, which could influence, for example, the analysis of means.

The linkage procedure may result in outlier incomes for a number of reasons: the CCO income does not reflect the person's situation at the end of the year in question, the respondent's answer regarding working hours is incorrect, the respondent's answer refers to a situation that does not correspond to when the CCO income was received.²⁹

Analyses comparing data from the CCO with those from the ESS show that this first case should be very limited (see section 10.2.1).

The chosen plausibility checking method therefore primarily aims to detect outlier standardised incomes that result from an incorrect or inadequate working hours in the SS. The main aim is thus to identify situations for which the data linkage and construction of the standardised income variable do not work properly.

The proposed method is based on the analysis – for each ISCO major group of occupations – of the position of incomes with respect to the distribution of incomes, before and after standardisation. The advantage of this is that it does not focus on extreme income values.

This method is applied to the entire 2010 CCO/SS target population at the most recent date (currently 2017 and 1 040 375 records). The results presented in this section also use linkage of 2016 CCO/SS data with 2016 ESS data in order to verify that the method works properly.

7.2 Selected method

The selected method aims to eliminate the incomes that would have become outliers following the standardisation procedure and thus would have been produced through linkage of the CCO and SS data.

It focuses on the standardised incomes which are in the tails of the income distribution and for which the standardisation procedure has substantially changed their relative position in the income distribution.

The following method is used to put this approach into practice:

- The distribution of the logarithms of the non-standardised income is analysed for each ISCO major group of occupations (one-digit ISCO)³⁰ and a standard deviation is calculated

²⁹ For example, if in the SS the person refers to their working time after 1 January, whereas the income refers to the one received in December.

³⁰ Taking account of weighting

($\sigma_{\text{non_std}_{\text{ISCO1}}}$).

- The distribution of the logarithms of the standardised income is analysed in a similar way and a standard deviation is also calculated for this distribution ($\sigma_{\text{std}_{\text{ISCO1}}}$ ³¹).

We define two distances ($d_{\text{non_std}_{\text{ISCO1}}}$ and $d_{\text{std}_{\text{ISCO1}}}$) measuring the position of the income in terms of number of standard deviations ($\sigma_{\text{non_std}_{\text{ISCO1}}}$ or $\sigma_{\text{std}_{\text{ISCO1}}}$) from the median income for each income distribution.

A standardised income that meets the following two conditions is considered a discarded outlier income:

- If it is more than two standard deviations ($\sigma_{\text{std}_{\text{ISCO1}}}$) from the median standardised income for the ISCO major group of occupations in question, and therefore falls in the tails of the income distribution. Formally: $\text{abs}(d_{\text{std}_{\text{ISCO1}}}) > 2$

AND

- For which the standardisation procedure has substantially changed the position in the distribution. We consider this to be the case when the absolute value of the difference between the distances relative to the median in terms of standard deviation, and calculated for the standardised and non-standardised cases, differs by more than 2.

In other words, $\text{abs}(d_{\text{std}_{\text{ISCO1}}} - d_{\text{nonstd}_{\text{ISCO1}}}) > 2$.

Table 7.1 illustrates what the different standardised income thresholds correspond to in CHF. Being below the lower threshold or above the upper threshold means being part of the tails of the distribution.

Table 7.1: Lower and upper income thresholds³² in CHF by ISCO major group of occupations for standardised incomes for 2016 (N=126 096³³)

ISCO major group (CURROCCUPATIONISCOAGG, SS)	Lower threshold	Upper threshold
-9 no further information	1 083	24 127
-7 non attributable	1 113	22 221
0 Armed forces occupations	3 087	27 717
1 Managers	2 883	31 803
2 Professionals	2 718	26 307
3 Technicians and associate professionals	2 466	20 093
4 Clerical support workers	2 252	17 169
5 Service and sales workers	1 568	15 106
6 Skilled agricultural, forestry and fishery workers	1 424	16 634
7 Craft and related trades workers	1 871	17 245
8 Plant and machine operators, and assemblers	2 357	13 949
9 Elementary occupations	1 494	15 263

³¹ It should be noted that standardisation theoretically decreases the standard deviations of distributions. For the base 10 logarithm, they decrease from 0.27 (non-standardised) to 0.19 (standardised).

³² Median income minus 2 standard deviations or plus 2 standard deviations.

³³ Database of the target population indicated at point (D) in the Schema in chapter 6; N non weighted General production process

7.3 Results

Figure 7.1 shows the impact of the method used for 2016. The points shown in red are incomes considered outliers and therefore discarded. We note that the extreme values of distributions are generally retained.

Figure 7.1: Impact of the method used on individuals in the 2016 target population.

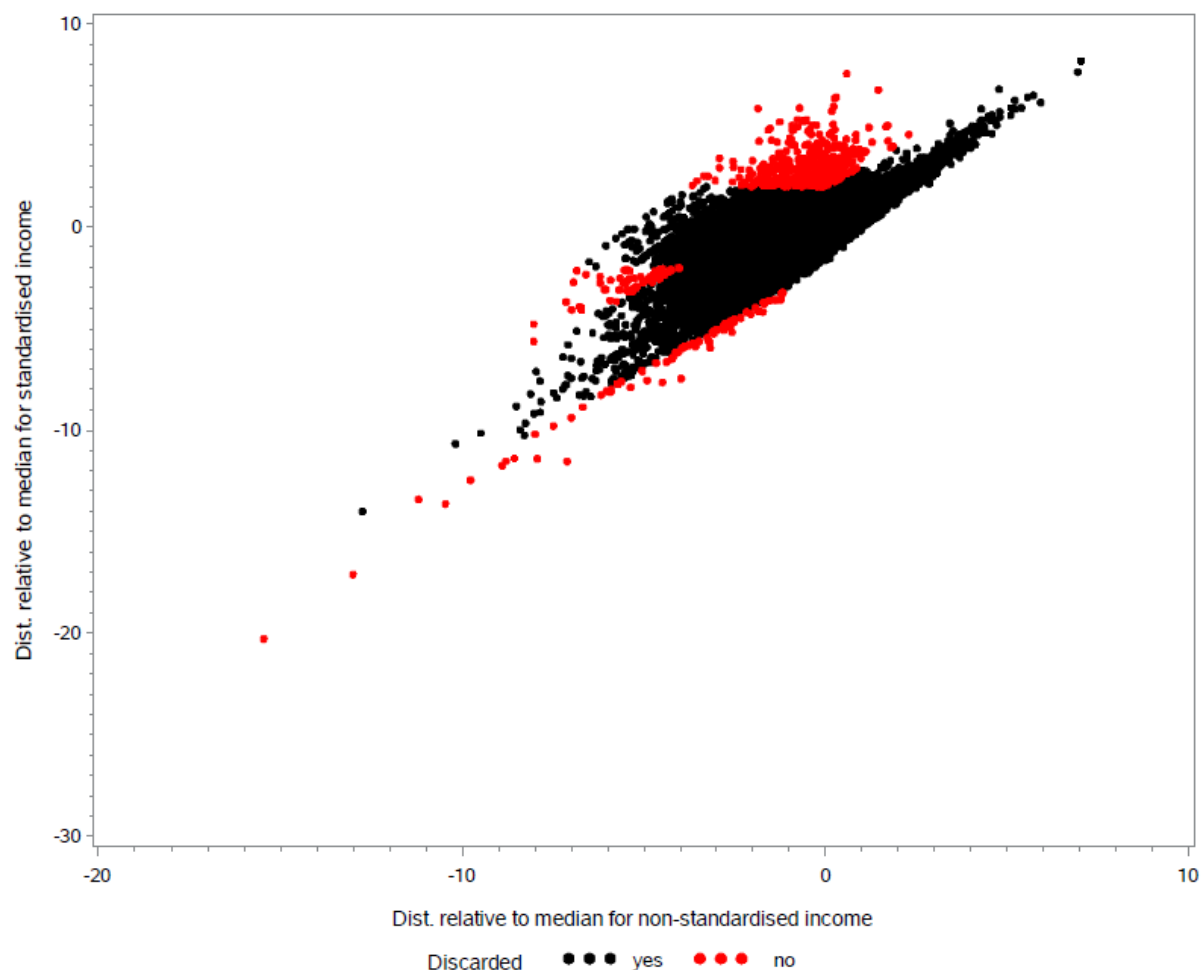


Table 7.2 shows that around 0.4% of 2016 incomes were discarded by the procedure used, with relatively little variation between the ISCO major groups of occupations.

Table 7.2: Proportion of outliers discarded, by ISCO major group of occupations

ISCO major group (CURROCCUPATIONISCOAGG, SS)	N non weighted	Weighted population	Percentage of discarded values
Total	126 096	3 263 721	0.42
-9 no further information	1 542	41 774	0.63
-7 non attributable	1 440	38 481	0.42
0 Armed forces occupations	145	3 975	0.00
1 Managers	15 540	390 987	0.11
2 Professionals	27 964	693 775	0.33
3 Technicians and associate professionals	25 417	660 128	0.35
4 Clerical support workers	11 950	299 532	0.58
5 Service and sales workers	18 393	481 825	0.77
6 Skilled agricultural, forestry and fishery workers	938	24 605	0.00
7 Craft and related trades workers	12 082	336 059	0.13
8 Plant and machine operators, and assemblers	4 726	129 065	0.32
9 Elementary occupations	5 959	163 514	1.28

7.4 Validation principle

The availability of linkage with the ESS 2016 data allows us to test whether the following hypothesis is justified:

The discarded persons are mainly people whose working hours in the Structural Survey are incorrect or inadequate. Because of this, we expect that the working hours of these people will be very different to those stated in the ESS.

7.5 Validation with the ESS

Validating the appropriate elimination of outlier incomes is based on a linked database that is slightly different to the one used for the comparative analyses of income or working hours between the CCO/SS and the ESS in the following chapters. The only difference is due to the fact that the linked database used in the general production process, as described in chapter 6 is created after the elimination phase for outlier incomes, whereas the one used for validation purposes by definition still contains the outlier incomes. On account of these differences, the calculations performed in this section for the purpose of checking that the method works properly, are not weighted.

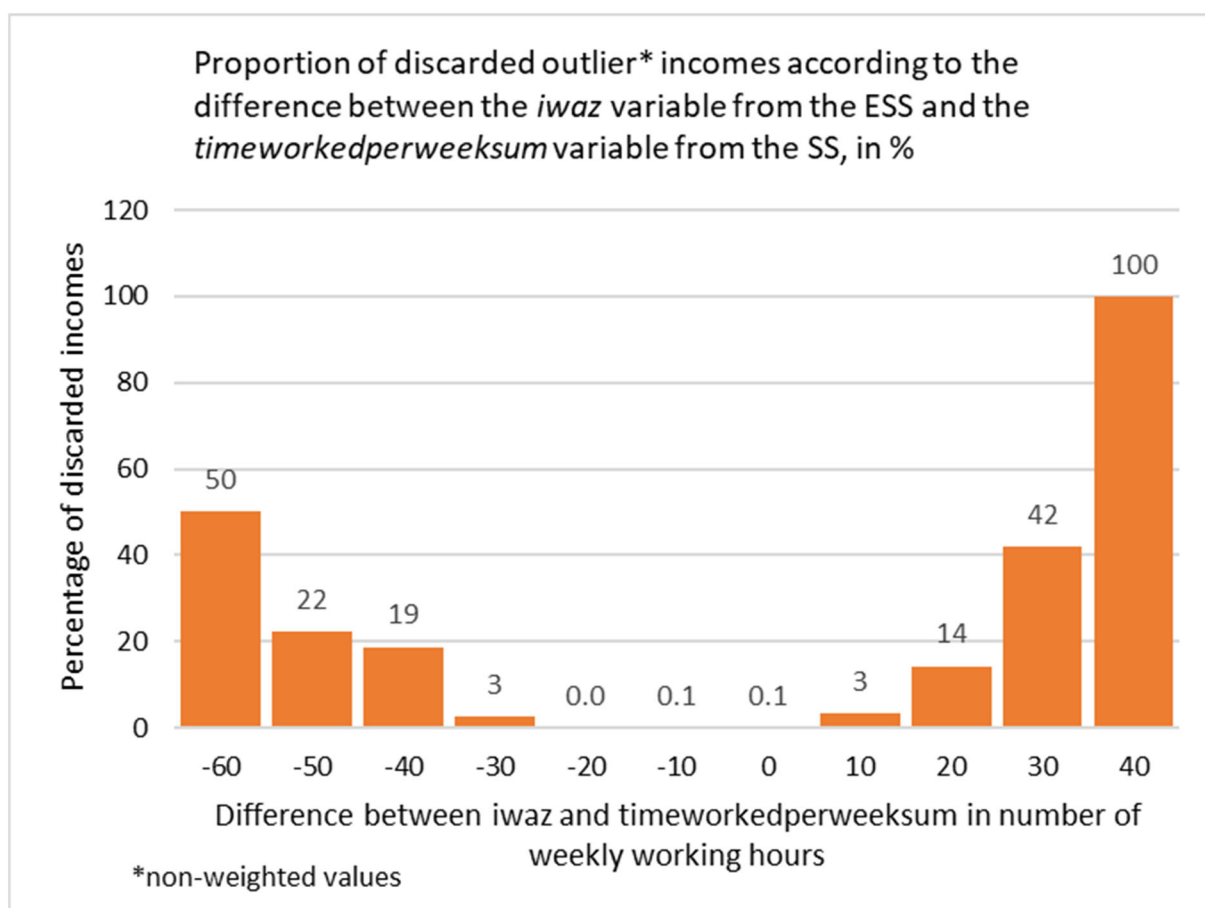
The figure below shows the proportion of incomes identified as outliers according to the

difference between the number of weekly working hours measured in the ESS (*iwaz*) and in the SS (*timeworkedperweeksum*).

We note the following:

- The more the number of hours differs between the two sources, the greater the proportion of discarded outlier incomes. This means that the ESS confirms that the persons eliminated by the procedure are the ones who potentially have a problem with the working hours reported in the SS.³⁴ Overall, of the 0.25% of persons eliminated, 65%, or 0.16%, are individuals who have a difference in the number of weekly working hours of 5 hours³⁵ or more between the two sources.
- The method eliminates proportionally significantly fewer persons when the numbers of hours coincide on the whole.³⁶ Nevertheless, these cases represent 0.09% of the total number of persons, or 35% of eliminations. A detailed analysis of the small group of cases that has exactly the same number of hours in the SS and the ESS shows that they are very often cases in which the gross CCO income differs from the ESS wage by several thousand CHF. For these cases, the origin of these – presumably outlier – results is not due to the responses in the SS. It may instead be cases where the CCO income does not match the person's situation at the end of the year. The fact that the plausibility checking method discards these cases is therefore justified.

Figure 7.2: Proportion of discarded outlier incomes according to the difference between the *iwaz* variable from the ESS and the *timeworkedperweeksum* variable from the SS.



³⁴ It is also possible that the issue is in the ESS, but this possibility is not the subject of this validation and the ESS will not be used in implementation

³⁵ Categories 10 and more of differences in hours in Figure 7.2, and the categories -10 and fewer of differences in hours.

³⁶ Category 0 hours in Figure 7.2.

7.6 Correction of implausible working hours in the SS for teachers

The availability of the exhaustive School Staff Statistics (SSP)³⁷ highlights a problem that sometimes exists in the SS – that certain teachers³⁸ state the number of weekly lessons rather than the number of hours worked.

Figure 7.3 shows the distribution of persons in the SS who feature as teachers in the SSP, according to the ratio between the weekly working hours variable in the SS and the number of lessons given per week as a teacher in the SSP. We can clearly see three peaks. The second peak around 1.5 is logical and corresponds to the expected ratio between the weekly working hours for a full-time job of around 41.6 hours (see Figure 3.1 for the teaching professionals occupation group) and the anticipated number of lessons (around 28 lessons a week for a full-time job)³⁹.

The values markedly above 1.5 are linked to people with reduced working hours in the SSP, and probably reflect people with several jobs besides those linked to teaching in the SSP.^{40,41} They are thus not problematic per se.

However, the peak around 1 indicates people who stated in their response to the SS that they worked part-time and mostly used the wrong unit of measurement.

Figure 7.3 Distribution of persons according to the ratio between weekly working hours shown in the SS and the weekly number of lessons according to the SSP.

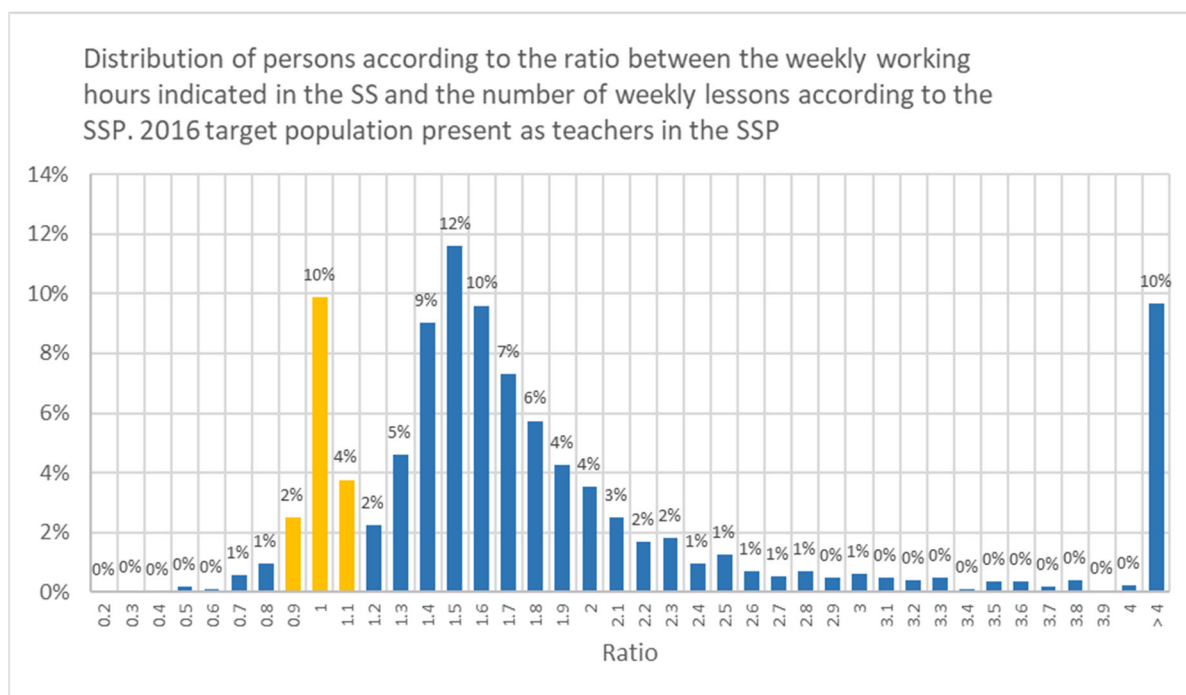
³⁷ <https://www.bfs.admin.ch/bfs/fr/home/statistiques/education-science/enquetes/ssp.html>

³⁸ Here, we consider someone a teacher if they had at least one teaching activity in the SSP. The person may potentially have indicated another occupation as their main occupation in the SS.

³⁹ For the 2018/2019 school year, the median full-time reference in the SSP for the category performing a teaching activity, is 28 lessons a week, with an average of 27.6.

⁴⁰ Only the teaching activities in the SSP were considered in this section. The SSP also includes information on all staff working in schools and therefore on tasks such as school management.

⁴¹ We note a third peak on the far right-hand side of the graph which is 'artificial' as it groups all values exceeding 4.



For these individuals – who probably used the wrong unit of measurement – standardisation will mechanically result in an income around 50% higher than the actual income.

A procedure is applied to prevent the creation of such outlying standardised incomes. However, it does not aim, on a larger scale, to make data more plausible in accordance with the SSP since the SSP only covers around 4% of all paid jobs in Switzerland, and the SS and the SSP use different measurement concepts.⁴² This is why, in Figure 7.3, very low and very high values in the considered ratio are left unchanged.

The procedure is the following:

- If the working hours indicated in the SS are greater than 0.8 and smaller than 1.2 times the total number of lessons indicated in the SSP (bars shown in yellow in Figure 7.3), the hypothesis is that the person used the wrong unit of measurement in their answer to the SS.
- The correction therefore involves multiplying their working hours by a factor equivalent to 41.6 divided by the full-time reference indicated for the teacher in the SSP.

This procedure corrects 16% of persons identified as teachers in the SSP (see also Figure 7.3).

⁴² The SSP has, for example, a reference date that is representative of the academic year.

8 Comparative analyses of the number of hours worked on the separate databases

8.1 Introduction

This section analyses the differences between the number of hours worked according to the SS (*TIMEWORKEDPERWEEKSUM* variable) and according to the ESS (*iwaz* variable) on the separate CCO/SS and ESS databases.

The measure primarily used to compare hours worked between the two sources is based on the median (with confidence intervals). The other quantiles (1st and 3rd quartiles, 1st and 9th deciles) are also provided for information purposes but are not at the heart of the analyses owing to the underlying concepts of the variables relating to working hours being very different in each source.

The difference between the number of hours worked in the two sources is calculated by subtracting the (weighted)⁴³ median number of hours worked in the SS from the weighted median⁴⁴ number of hours worked in the ESS. A difference greater than 0 thus indicates a median in the ESS that is greater than that in the SS, and a difference of less than 0 indicates the opposite.

The hypotheses regarding the origin of the observed differences are the following:

- The difference in working hours between the two sources comes from the time lag between the reference dates.
- The difference in working hours between the two sources comes from differences in the target population between the separate databases (e.g. in the ESS there are no enterprises with fewer than 3 employees).
- The difference in hours worked is linked to the fact that respondents in the SS enter an actual working time, whereas the ESS collects data on contractual working hours.
 - o So if the SS respondent worked overtime that was not compensated by leave or variable working hours, the number of hours indicated in the SS may be higher than in the ESS, whereas if the respondent worked fewer hours than they were contracted to do, the number of hours stated in the SS may be lower than in the ESS.
- The differences are due to the large number of missing values for the ISCO major groups of occupations in the ESS.
- We cannot rule out the possibility that there are measurement effects between the ISCO indicated by the employer in the ESS, and the one indicated by the employee in the SS.
- It may also be that there are non-response effects in both surveys which are not entirely corrected by weighting, in particular for sub-populations.

8.2 Results

The figures below and the tables in annex A3 summarise the results⁴⁵ of the comparisons at

⁴³ With the weights of target persons (*zpers_weight* variable) from the Structural Survey.

⁴⁴ With the extrapolation weight (*gewicht* variable) from the ESS.

⁴⁵ For the analyses on working hours, teaching professionals from the ISCO sub-major (two-digit) group in the ESS (N=100 532) and from ISCO2 in the SS (N= 7 016) were eliminated before the analyses because their full- time hours are sometimes stated as 24 or 28 hours of lessons in the ESS, whereas they are 40 hours in the SS (see also chapter 7.6). The impact is significant for the ISCO major group of occupations '2. Professionals' for which an artificial difference of nearly 4 hours per week is noted (which disappears when 'teaching professionals') are eliminated.

overall level for the hours worked variable in the two sources, according to the ISCO major groups of occupations, sex, age group and work-time percentage.

According to the measure of central tendency that is the median (Figure 8.1), the SS respondents report slightly more weekly hours worked (in December) compared with the number of contractual hours (in October) reported by the employer in the ESS (40.9 hours worked according to the SS and 40.5 hours worked according to the ESS). This difference may be due to overtime not compensated by leave, or variable working times, but it is impossible to say with any certainty. By way of comparison, the Swiss Labour Force Survey (SLFS) indicated 0.8 hours of overtime in 2018 not compensated by leave or variable working hours for workers aged between 19 and 64. The difference of 0.4 hours is observed for both women and men.

While the overall difference in medians between the two sources is -0.4 hours, the differences can also be calculated among different sub-populations. For the most part, they also vary between 0.8 and -0.9 hours according to the ISCO major groups of occupations (

Figure 8.2) and in the majority of cases, the median number of hours worked in the SS is higher than the one in the ESS.

The differences are more marked for the ISCO major groups of occupations '9. Elementary occupations' (1.5), '0. Armed forces occupations' (-6.4, but with more than 4 times more people in the SS than in the ESS, which indicates a significant and more general problem of consistency between the two sources for armed forces occupations) and '4. Clerical support workers' (-3.2). For the latter ISCO major group of occupations, an additional breakdown shows that these 3 hours of difference mainly come from general and keyboard clerks, women, and people with a monthly income of more than CHF 5 500. At this stage of the analysis, it is not possible to identify more precisely where these deviations come from. Additionally, it was noted that in general these differences are more marked for women than for men.

Finally, the breakdown by age group for all separate databases indicates a smaller difference in median and quartiles for 19- to 35-year-olds – an age group that was analysed in more detail than all the age groups given the intended use of the results (see Figure 8.3).

Figure 8.1: Median number of hours worked per week for the separate 2016 ESS and 2016 CCO/SS databases, according to ISCO major group of occupations and sex.

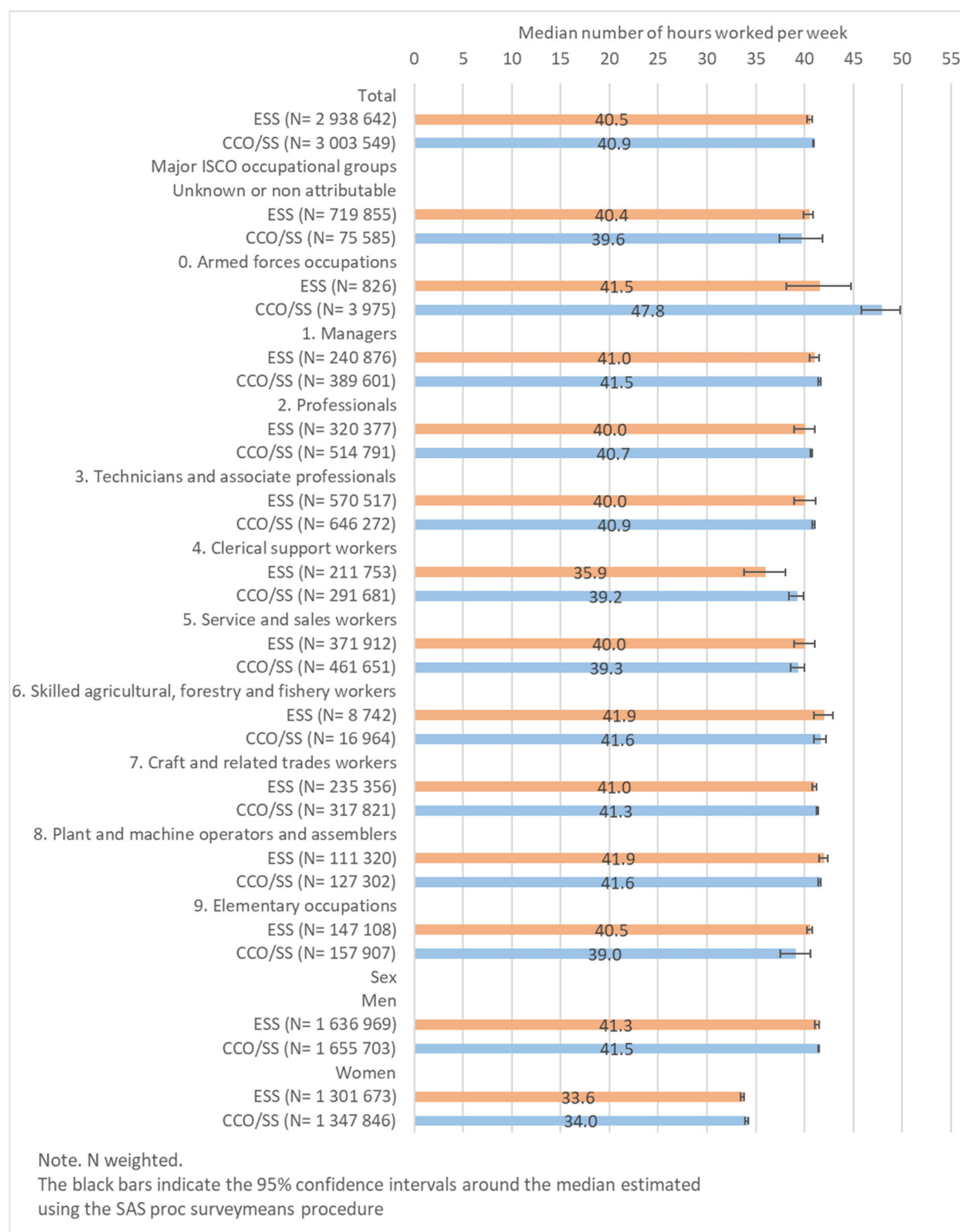


Figure 8.2: Differences between quantiles of number of hours worked per week for the separate 2016 ESS and 2016 CCO/SS databases, according to ISCO major groups of occupations.

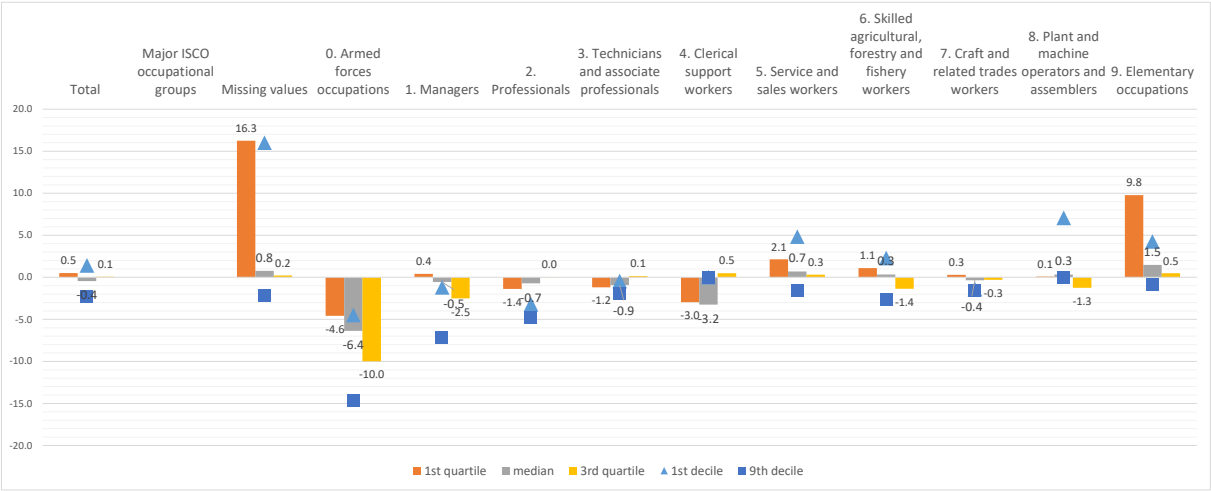
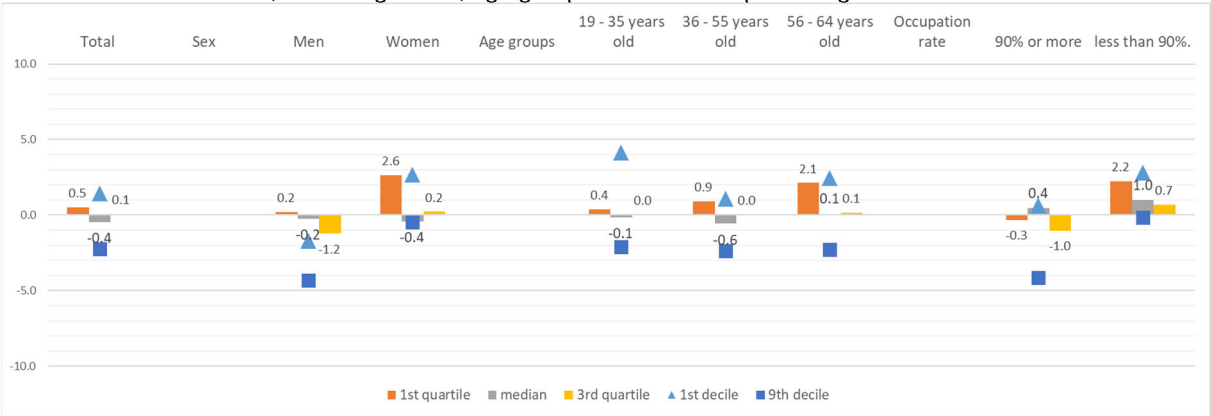


Figure 8.3: Differences between quantiles of number of hours worked per week for the separate 2016 ESS and 2016 CCO/SS databases, according to sex, age group and work-time percentage.



9 Comparative analyses of standardised income on the separate databases

9.1 Introduction

This section compares the 'actual' CCO/SS standardised income with the *mb/s* standardised wage from the ESS on the separate databases.

The measures used to compare the incomes are based on the (weighted) median, the 1st and 3rd quartiles, and the 1st and 9th deciles. The difference between the income quantiles in the two sources is calculated by subtracting the CCO/SS income quantile from the ESS wage quantile. A difference greater than 0 thus indicates that the income quantile in the ESS is greater than in the SS, and a difference of less than 0 indicates the opposite.

The hypotheses regarding the origin of the observed differences are the following:

- The difference in income between the two sources comes from the time lag between the reference dates.
- The difference in income between the two sources comes from differences in target population between the separate databases.
- CCO/SS incomes that are higher⁴⁶ than ESS wages may be due to different income standardisation between the SS and ESS:
 - o The full-time reference can indeed be higher in the SS than in the ESS. A typical example is one of an occupation where people generally do paid overtime. If the overtime is not paid at all, the standardisation method means that the standardised income should be the same between the two sources. However, the CCO/SS hourly income would be lower than the ESS hourly wage (see also Box 2).
- CCO/SS incomes that are lower than ESS wages could be the result of specific situations in occupation groups in which the proportion of overtime varies between people working full-time and part-time⁴⁷.
- The differences are due to the large number of missing values for the ISCO major groups of occupations in the ESS.
- We cannot rule out the possibility that there are measurement effects between the ISCO indicated by the employer in the ESS, and the one indicated by the employee in the SS.
- It may also be that there are non-response effects in both surveys, which are not entirely corrected by weighting, in particular for sub-populations.

9.2 Results

Figures **Fehler! Verweisquelle konnte nicht gefunden werden.** and 9.2 and the tables in

⁴⁶ For an occupation, at the overall level, with the exception of particular situations (see following footnote), the method produces higher values than those of the ESS. Whatever the occupation, the full-time reference is always equal to or greater than 40 hours (ESS reference value). The effect of paid or unpaid overtime is discussed in section 3.2. However, the method can produce lower values for *mb/s* income at individual level. An example would be someone who works unpaid overtime in an occupation in which people do not work overtime.

⁴⁷ Let us assume the following notional situation for an ISCO unit group: in this group, people working full-time do not work overtime, so the CCO/SS full-time reference is close to that of the ESS (40 hours). On the other hand, part-time workers do unpaid overtime. For the full-time workers, we would expect the CCO/SS standardised income to be very close to that of the ESS. However, for those working part-time, their monthly (non-standardised) income would be the same as in the ESS but their work-time percentage (in relation to the full-time reference) would be estimated as being higher than in the ESS. As a result, the standardised CCO/SS income for these people working part-time would be lower than in the ESS. According to the proportion of full-timers and part-timers in the group of occupations in question, the median CCO/SS income may be lower than in the ESS.

annex A4 summarise the results of the comparisons at macro level for the income variables in the two sources, according to ISCO major group of occupations, sex, age group and work-time percentage.

On the whole, the difference between the two sources is CHF 64 for the median, and around CHF 269 and CHF -131 respectively for the 1st and 3rd quartiles. The income differences are greatest on the 1st and 9th deciles, in other words among the lowest and highest incomes in the distributions.

Most categories of ISCO major groups of occupations have differences in the median of below CHF 200 (**Fehler! Verweisquelle konnte nicht gefunden werden.**). Some groups are an exception with a difference for the median or in the medians of more than CHF 200 : 0. Armed forces occupations (CHF 861), 4. Clerical support workers (CHF -303), and 9. Elementary occupations (CHF 287).⁴⁸

⁴⁸ As well as the category with the missing values in the ISCO major groups (CHF 2 169).

Figure 9.1: Median incomes for the separate 2016 ESS and 2016 CCO/SS databases, according to ISCO major group of occupations and sex.

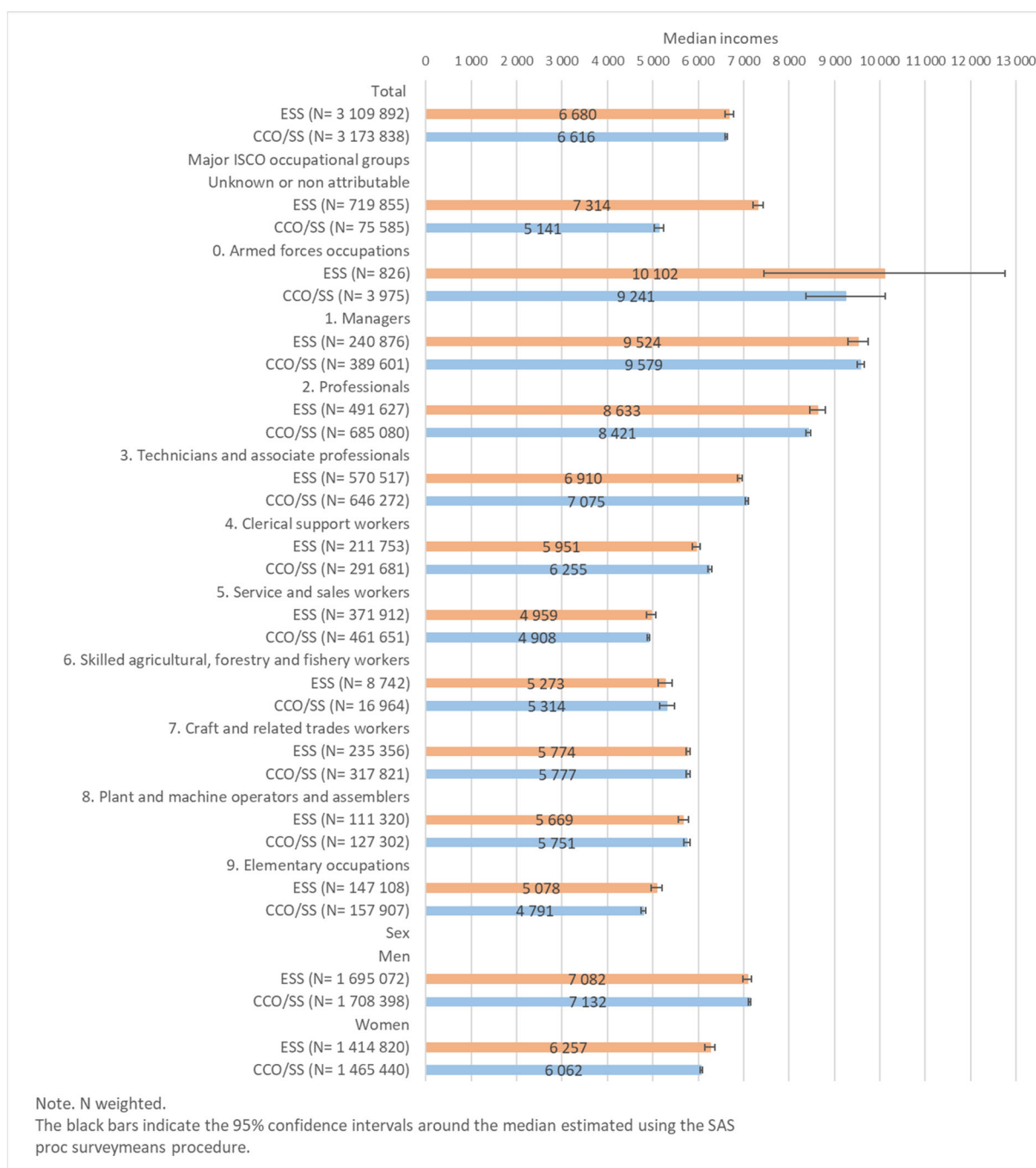
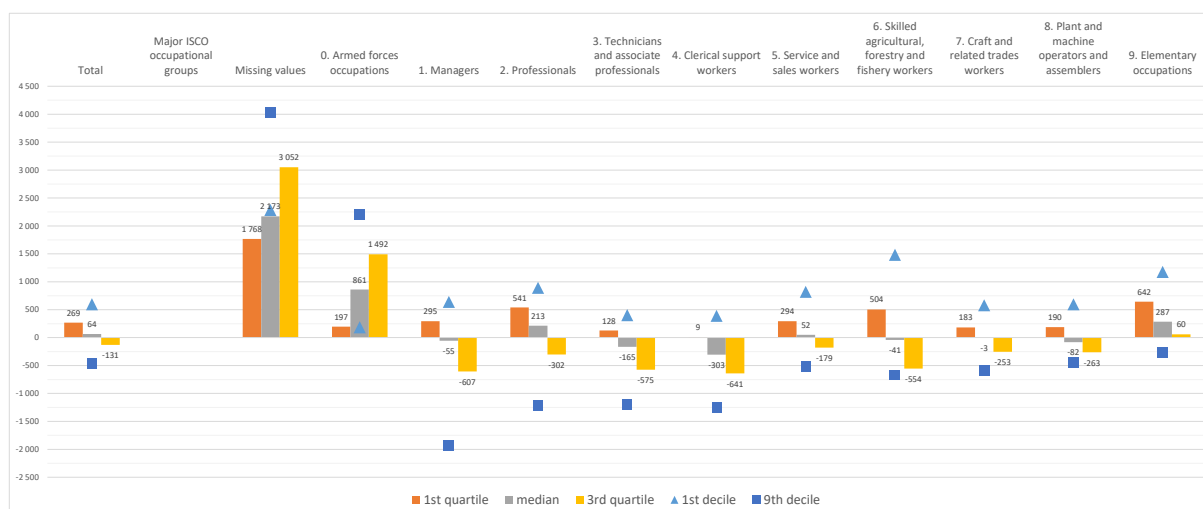


Figure 9.2: Differences in income quantiles for the separate 2016 ESS and 2016 CCO/SS databases, according to ISCO major occupation groups.



An additional breakdown by sex for the ISCO major group '4. Clerical support workers' reveals that – contrary to the comparisons of number of hours worked – the difference in median income between the two sources is lower for women (CHF -204) than for men (CHF -520).⁴⁹ The slightly higher difference for men may be due to a more general comparability issue between the two sources owing to the number of missing values at ISCO group level and to possible measurement effects.⁵⁰

Similarly, a breakdown of ISCO major group '9. Elementary occupations' shows that the overall difference between the two sources for this group, of CHF 287, is highest for work-time percentages lower than 90% – categories for which there are more workers in the CCO/SS than in the ESS. As above, this could indicate comparability issues between the two sources rather than differences in income.

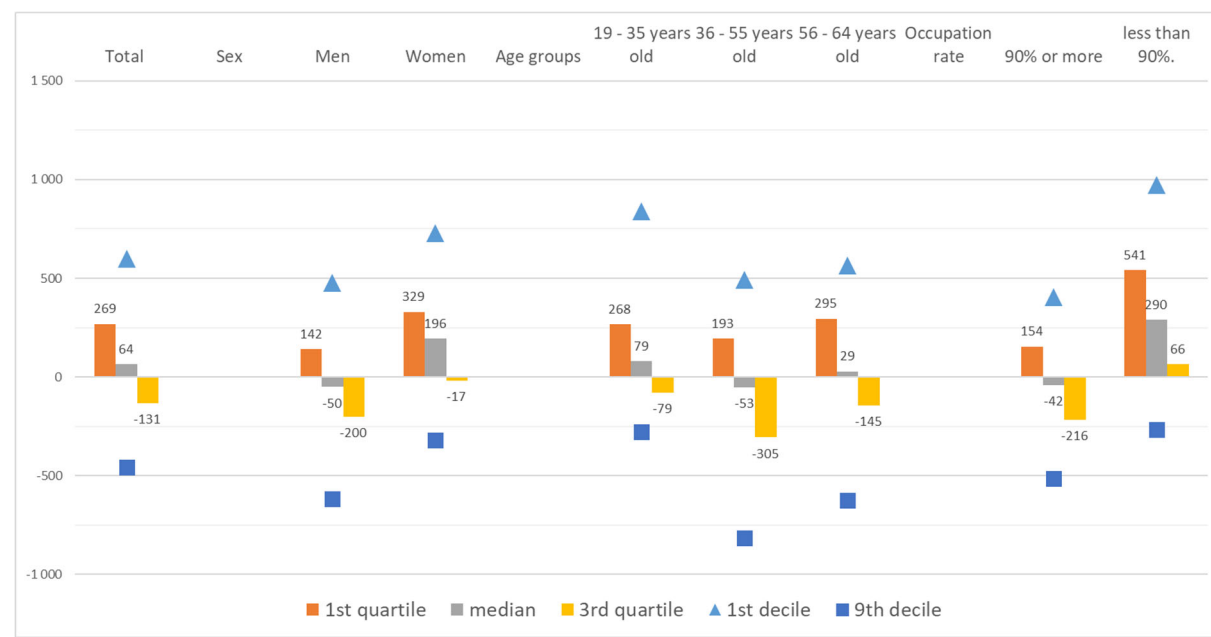
Figure 9.3 then shows that the difference in medians between the incomes in the two sources is greater for women (CHF 196) than for men (CHF -50), and that the difference increases as the working hours decrease (from CHF -42 for work-time percentages of 90% or more, to CHF 290 for work-time percentages below 90%). One hypothesis could be that part-time jobs present a greater risk of temporal instability and that an hour of overtime (or differences between the SS and ESS, see Figure 8.3) has a greater impact on the income for a part-time job than for a full-time one. Some differences may also be due to the time lag between the reference dates in the two sources.⁵¹

⁴⁹ And like the comparison of hours worked, the difference for the 19–35 age group is smaller (CHF -159) than the overall difference for this ISCO major group.

⁵⁰ If we look at the dominant sub-major group in major group 4, i.e. general and keyboard clerks: The CCO/SS indicates that 2.2 times more men work in this sub-major group than the ESS, whereas this factor is only 1.3 for women.

⁵¹ It should also be noted here that the ESS measures working hours in the enterprise sampled, while the SS measures overall working time. It is therefore far from certain that the variables in the two sources are comparable when it comes to work-time percentage.

Figure 9.3: Differences in income quantiles for the separate 2016 ESS and 2016 CCO/SS databases, according to sex, age group and work-time percentage.



10 Comparative analyses of standardised income on the linked database

10.1 Introduction

This chapter describes – on the basis of the linked CCO/SS-ESS database – the differences between the CCO/SS standardised income and the ESS standardised wage using two types of indicator.

The first, which refers to the *differences between incomes*, measures the distribution of income differences. It highlights the level and scope of differences in income between the ESS and the CCO/SS at the individual level. It is presented in the form of quantiles of differences.

The second, *the differences between income quantiles*, aims to compare (as in chapters 8 and 9) the CCO/SS income with that of the ESS at an aggregated level for the same indicators that will be disseminated in the LABB publications. It also supplements the results in chapter 9 obtained for the separate databases by providing results that are potentially less influenced by measurement effects, e.g. for occupations.⁵²

The *mb/s* wage from the ESS is primarily compared with the 'actual' standardised CCO/SS income. The comparisons with the CCO/SS income standardised at 40 hours a week are also discussed for the specific cases of people with the same number of weekly working hours in both sources.

Indicators

1. Quantiles of income differences for the two sources. The difference is calculated by subtracting the standardised income according to the CCO/SS (actual or standardised at 40 hours) from that in the ESS. We then calculate the quantiles of this difference.
2. The differences between the income quantiles according to the two sources. It is calculated by subtracting the income quantile according to the CCO/SS from the income quantile according to the ESS.

A difference greater than 0 thus indicates that the income in the ESS is greater than in the CCO/SS, and a difference of less than 0 indicates the opposite.

The quantiles considered are the (weighted) median with the confidence intervals, the 1st quartile, the 3rd quartile and the 1st and 9th deciles.

In this chapter, the differences are presented or discussed according to the following breakdown variables: ISCO major group of occupations, sex, age group and work-time percentage. The comparisons according to all the dimensions listed in section 4.5 can be found in the annex A5.

⁵² See chapter 9 for more details.

10.2 Comparisons of quantiles of the differences

10.2.1 Analysis of the sub-populations of people with the same number of hours worked in the SS and ESS

37% of people in the population corresponding to the linked database have an identical number of hours worked in both sources. If additionally, a standardisation identical to the one in the ESS is adopted, this group allows the income differences that are due to a different number of hours worked in the two sources to be separated from more fundamental differences in the income from the CCO and the ESS.

Figure 10.1,

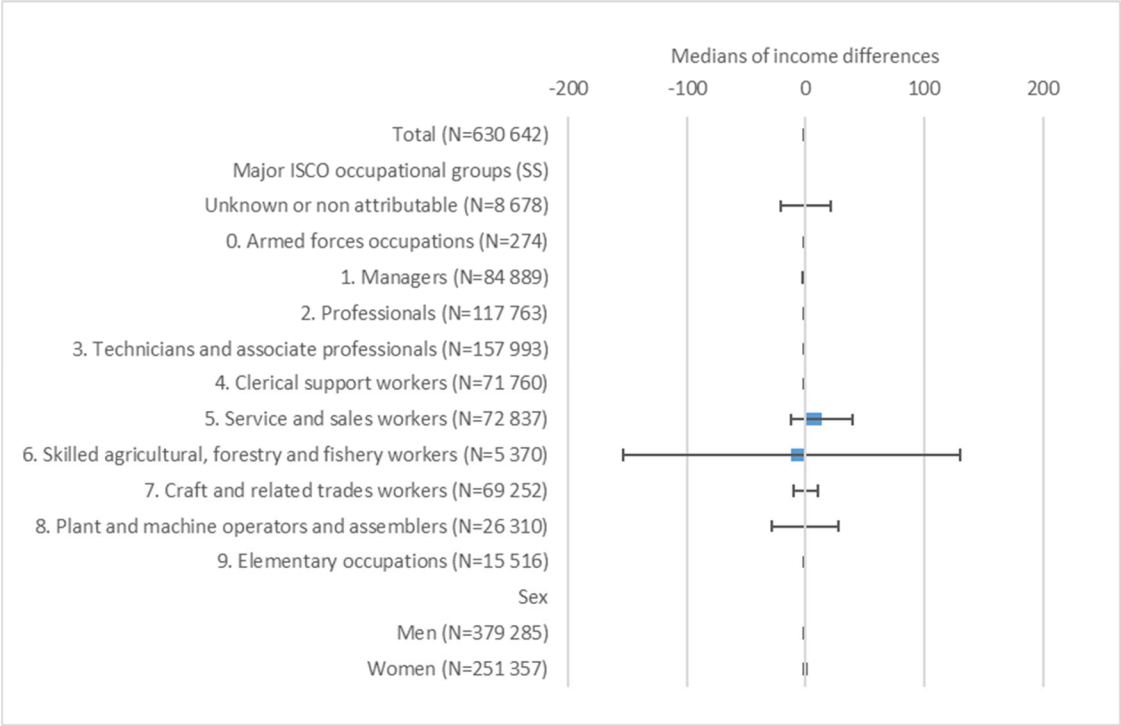
Figure 10.2 and the tables in annex A5.I show the results of these comparisons in detail.

We find that:

1. The median of the differences is CHF -1 overall, and up to CHF 14 depending on the ISCO major group of occupations, although the value is hardly ever significantly different from CHF 0.
2. Similar analyses on all the planned dimensions of analysis, such as sex, economic sector, work-time percentage, age category, language region, and employment area, also reveal hardly any results that are significantly different from CHF 0.
3. The 1st and 3rd quartiles of differences are CHF -17 and CHF 155, respectively.

These results show that there are no, or only very few, intrinsic differences between the ESS wage and the CCO income for the sub-population considered here (population from the linked database whose number of hours worked according to the SS coincides with that of the ESS). These small differences at individual level hence mean that the median incomes differ only slightly between the two sources (with a difference in the medians of CHF 34 for all persons with the same number of hours worked per week).

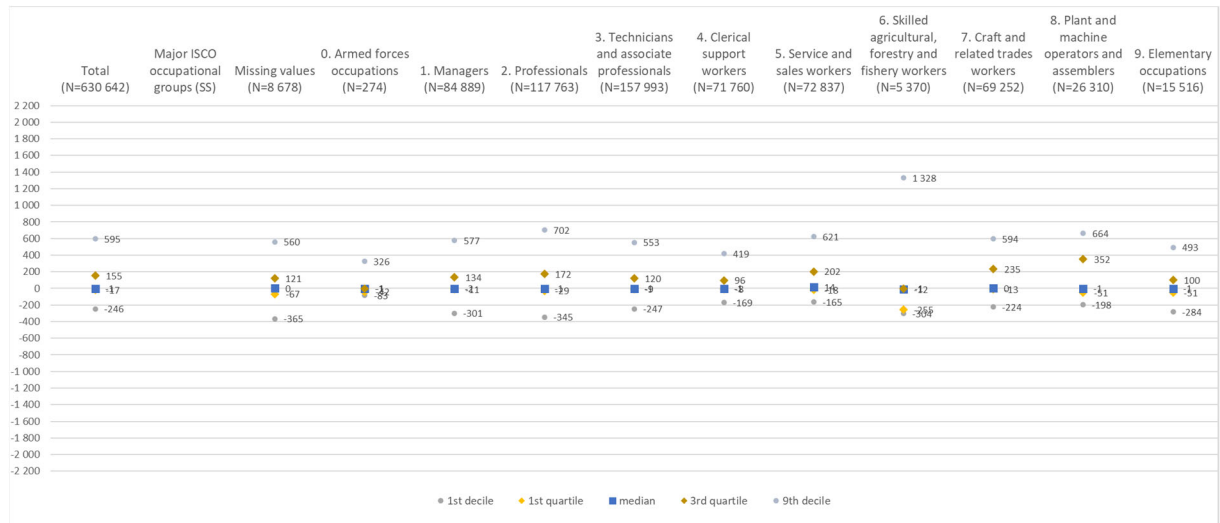
Figure 10.1: Medians of income differences according to the 2016 ESS and the 2016 CCO/SS for the linked database, for an identical standardisation between the two sources according to ISCO major group of occupations in the SS and according to sex for the sub-group of people with the same number of hours in both sources.



N.B. N weighted.

The black bars indicate the 95% confidence intervals.

Figure 10.2: Quantiles of the income differences according to the 2016 ESS and the 2016 CCO/SS for the linked database, according to the ISCO major groups of occupations in the SS and for people with the same number of hours worked in the ESS and the SS.



10.2.2 Total population of the linked database

Figure 10.3 and the tables in annex A5.II show detailed results referring to the quantiles of the income differences for the entire linked database and for the 'actual' CCO/SS standardised income.

Figure 10.3 : Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, according to ISCO major group of occupations in the SS

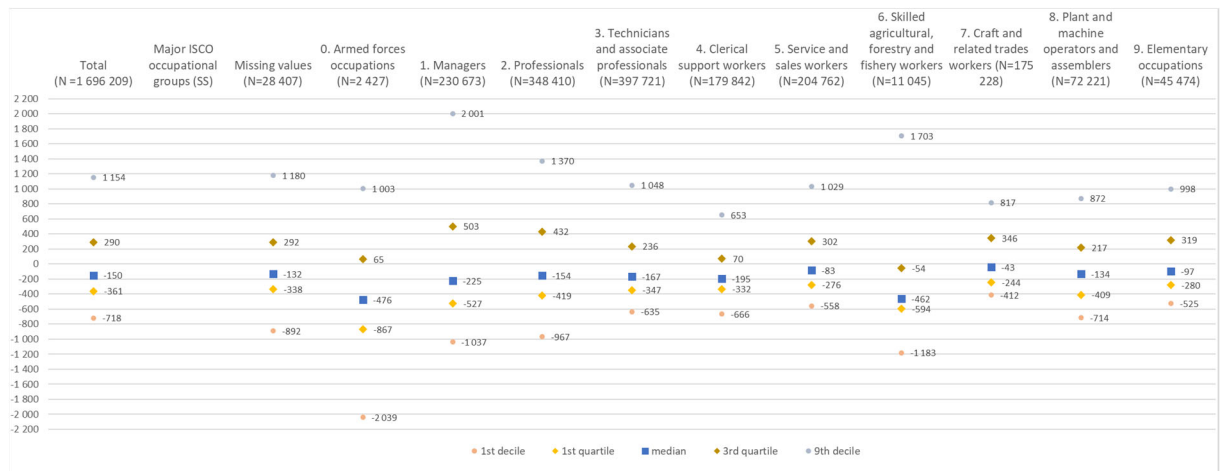


Figure 10.3 shows that the median of the differences between the *mb/s* wage from the ESS and the standardised 'actual' income from the CCO/SS is CHF -150 (or 2.2% of the median ESS wage).

This result can be explained by two effects that partly offset each other:

- Given that the average value of standardisation factors is around 41.6 hours (see Figure 3.1), this mechanically increases the CCO/SS income for a person with the same working hours by around 4% compared with the ESS wage (which is standardised at 40 hours).

- Looking at all work-time percentages together, the median value of working time is 1% higher in the CCO/SS than in the ESS, which, for the same gross monthly income, lowers the standardised CCO/SS income by approximately⁵³ 1% compared with the ESS one.

For the 20% of people with the most divergent⁵⁴ incomes, the differences are: CHF -718 CHF for the highest CCO/SS incomes, the ESS at CHF 1 154 for people with an ESS wage that is significantly higher than the CCO/SS income.

One explanation for these significant differences on the first and last deciles could be linked to people who changed their work-time percentage during the course of the year while staying in the same enterprise. According to the analyses on professional mobility⁵⁵, 18.6% of employed persons who did not change jobs between 2018 and 2019 changed their work-time percentage by at least 10%. The aggregated manner in which the CCO data are recorded (see also chapter 3) means that for these people, there may be a discrepancy (too high or too low) between the recorded income and the work-time percentage in December.

The breakdown of results according to the ISCO major groups of occupations shows median difference broadly similar to the median difference measured for the total population in the linked database.⁵⁶

If we look at the entire distribution of differences (Figure 10.3), we note that ISCO group 4. 'Clerical support workers' shows a median difference in the same order of magnitude as the other ISCO major groups and that the distribution of differences is tighter than for the other major groups (with a difference of around CHF -666 on the 1st decile and around CHF 653 on the 9th decile). This result differs from the results obtained on the separate databases (see section 9.2) which showed that this major group was the most divergent. One explanation for these two different observations could come from differences between the populations that the linked and separate databases refer to, and to a measurement effect on occupations (see also section 9.2), which was present in the comparisons on the separate databases, but is significantly reduced here.

The ISCO major groups 1. 'Managers' and 2. 'Professionals' display the most widely spread distributions of differences of all the ISCO major groups, with a difference of approximately CHF 1370 on the 9th decile and around CHF -1000 on the 1st decile.

A comparison of Figure 10.3 with

⁵³ This calculation can only be approximate and will only reveal trends as it is based on calculations on medians

⁵⁴ In other words, the people belonging to the first and last decile of the differences in income.

⁵⁵ Analyses based on the SLFS.

⁵⁶ The major groups of occupations armed forces and agriculture, which appear to be the most divergent, only have a very small number of observations. They also have very large confidence intervals that cover the median value observed for the whole population (see also annex A5.II).

Figure 10.2 shows that where the number of hours is identical in the ESS and the SS, the distributions of differences are much more compact. These results appear to indicate that a significant portion of the very divergent incomes, particularly for certain ISCO major groups, is due to differences in the number of hours worked.⁵⁷

The results presented in annex A5.II do not highlight gender differences. However, the 19–35 age group are more closely matched than the other age categories. Finally, the median of the differences is slightly further from zero for employed persons working part-time (around CHF -199 and a higher 'actual' CCO/SS standardised income than the ESS one) than for employed persons working full-time (around CHF -136).

10.3 Comparisons of differences in quantiles

Section 10.2 showed results in terms of quantiles of the differences. It therefore focused on differences between individuals and on the extent of these differences.

This section takes a different approach. It looks at how the CCO/SS income measurements at an aggregated level compare with the ESS wage for various dimensions analysed. The results produced are therefore much closer to those that are planned to be disseminated in the LABB publications (see also chapter 4).

This section therefore carries out similar comparisons to those performed in chapters 8 and 9 for the separate databases. Compared with these two chapters, the advantage of the comparisons here is that the measurement effects of occupations are by definition much smaller⁵⁸ given that the data are linked and the occupation only comes from one source. However, the results cannot be extrapolated to the entire Swiss workforce owing to the many selections carried out to construct the database (this population represents around 52% of the workforce). Another methodological disadvantage concerns interpreting the significance of results. There are strong correlations between the estimates for the two sources of the median and quantiles as these values are estimated for both sources on the same sample. In this case, a comparison of the confidence intervals for each of the two sources is not a good tool for detecting significant differences (this method would be excessively conservative). Ideally, confidence intervals should be calculated for the differences in quantiles, which we have not yet been able to do here. It is therefore impossible to say whether potential differences between the two sources are significant or not. No comments are therefore made on whether or not the differences are significant.⁵⁹

Figure 10.4, Figure 10.5 and the tables in annex A5 show detailed results of the comparisons of the differences in income quantiles for the linked database.

The comparison for the median shows – for the total population of the linked database – a difference of CHF -11 between the incomes from the two sources, with a difference of around CHF 47 for the 1st quartile and around CHF -49 for the 3rd quartile. The difference in the tails

⁵⁷ It should be noted that standardisation plays little or no role here on the spread of the distribution of differences. In fact, standardisation applies a reference value for each occupation in the form of a numerical factor, and this generally varies little between occupations within most of the ISCO major groups (see section 3.1 and annex A1).

⁵⁸ However, they do not disappear entirely. Let us take the example of someone who states incorrectly that they work in occupation A in the SS, when in fact they work in occupation B, and this is the value that is reported in the ESS. For this person, the difference in income will be taken into account for occupation A in the comparisons made, as it is the SS occupation that is used as a reference here, whereas it should have been taken into account for the calculations for occupation B.

⁵⁹ Note that this is not a problem for the first type of indicators (quantiles of the differences) as a confidence interval can be obtained easily for these estimates and was calculated as part of this report.

of the distribution calculated on the 1st and 9th deciles amounts to CHF 120 and CHF 13, respectively.

The differences in the medians range from CHF -50 to CHF 38 for the majority of major occupation groups. One of the groups that is outside of this range⁶⁰ is group 8 'Plant and machine operators, and assemblers' with a difference in the medians of CHF -185, as well as group 4 'Clerical support workers' but with a comparatively smaller difference of CHF -139.

The results by age group and sex do not show any particular differences, with differences often well below CHF 50.

Figure 10.4: Median incomes according to the 2016 ESS and the 2016 CCO/SS for the linked database, according to ISCO major occupation group (SS) and sex

⁶⁰ ISCO group 0 'Armed forces occupations' with a difference in the medians of CHF -681, and group 6 'Skilled agricultural, forestry and fishery workers' with a difference in the medians of CHF-359 are not discussed due to the small number of observations (fewer than 90).

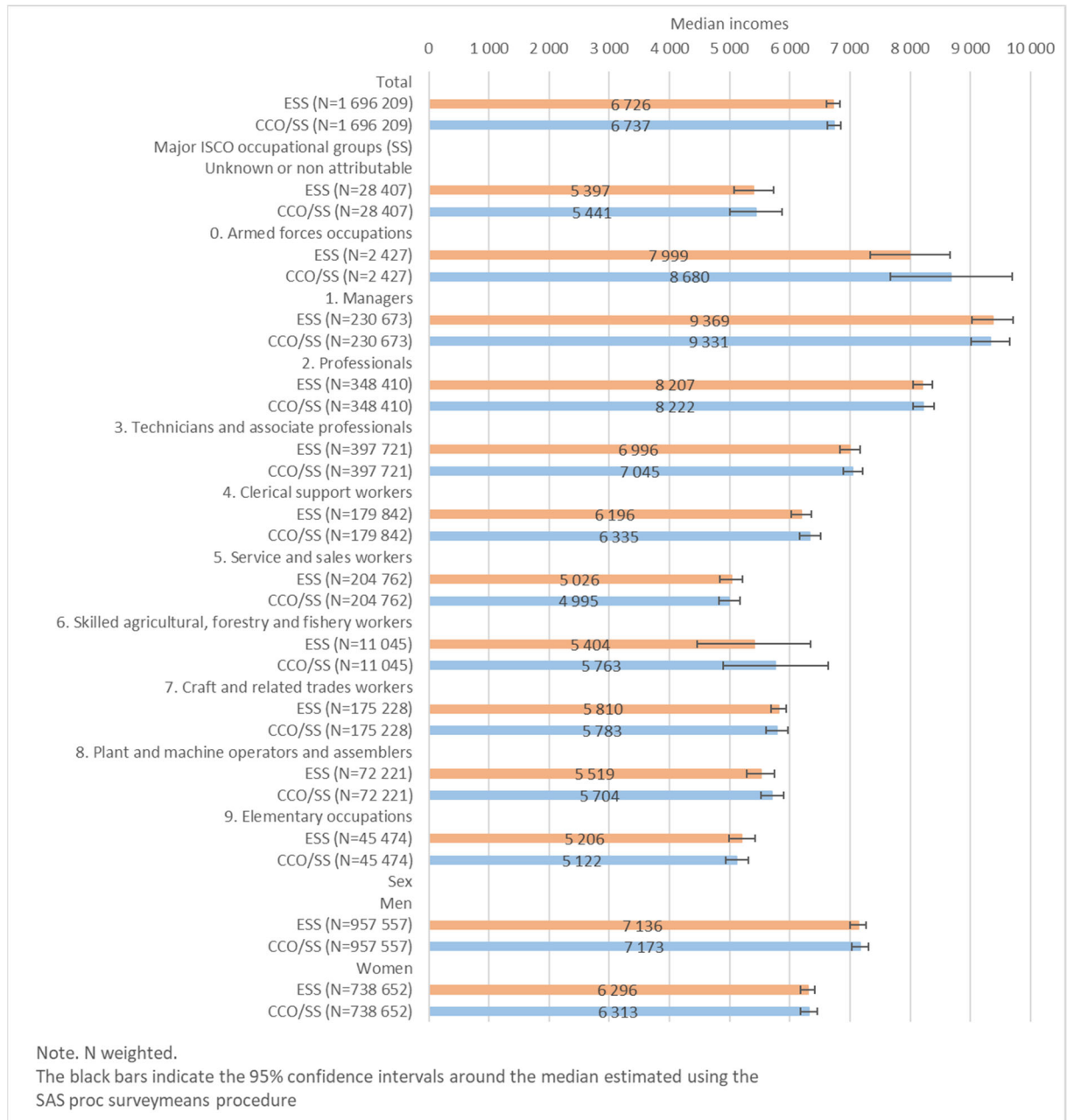
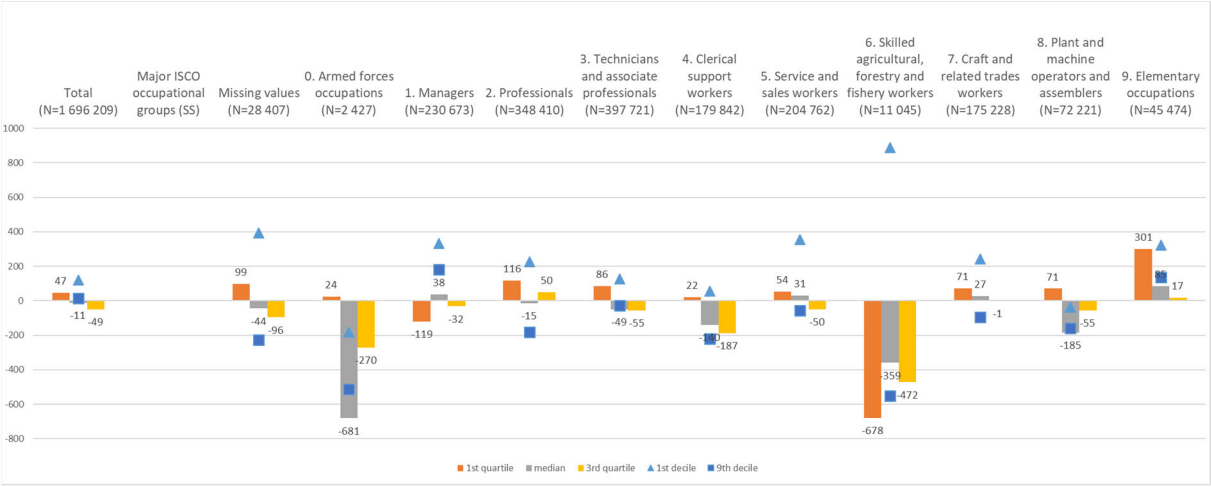


Figure 10.5: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, according to ISCO major groups (SS)



10.4 Illustration of the characteristics of the CCO/SS income using examples

What are the characteristics of the CCO/SS income compared with the ESS standardised wage?

This chapter looks at these characteristics by focusing on three occupation groups on the basis of the linked database. The first two – chief executives and healthcare professionals – are characterised by substantial amounts of overtime (median value of around 44 hours per week for a full-time position for the former, and around 45 hours for the latter, see also Figure 3.1). The third – 'General and keyboard clerks' – is characterised by the absence or very small amount of overtime (median value of 41.4 hours for a full-time position).

We are also interested in the hourly income, i.e. simply dividing the person's total monthly income by the total number of hours worked (see also chapter 3) and by a factor of $4 \frac{1}{3}$. We do this division for the *mb/s* income from the ESS and for the CCO/SS.

Figure 10.6 shows the median hourly incomes and the median of the differences between the two sources. The two indicators both lead to the same conclusion: that the hourly income of chief executives and healthcare professionals is smaller for the CCO/SS constructed income than in the ESS. For these two occupation groups, the median of the differences are around CHF 3 per hour. The interpretation of the differences in these two occupation groups is that these people generally do overtime that is only partially paid. For general and keyboard clerks, the differences are very close to zero and are not statistically significant either.

Figure 10.6 : Median hourly income for three occupation groups

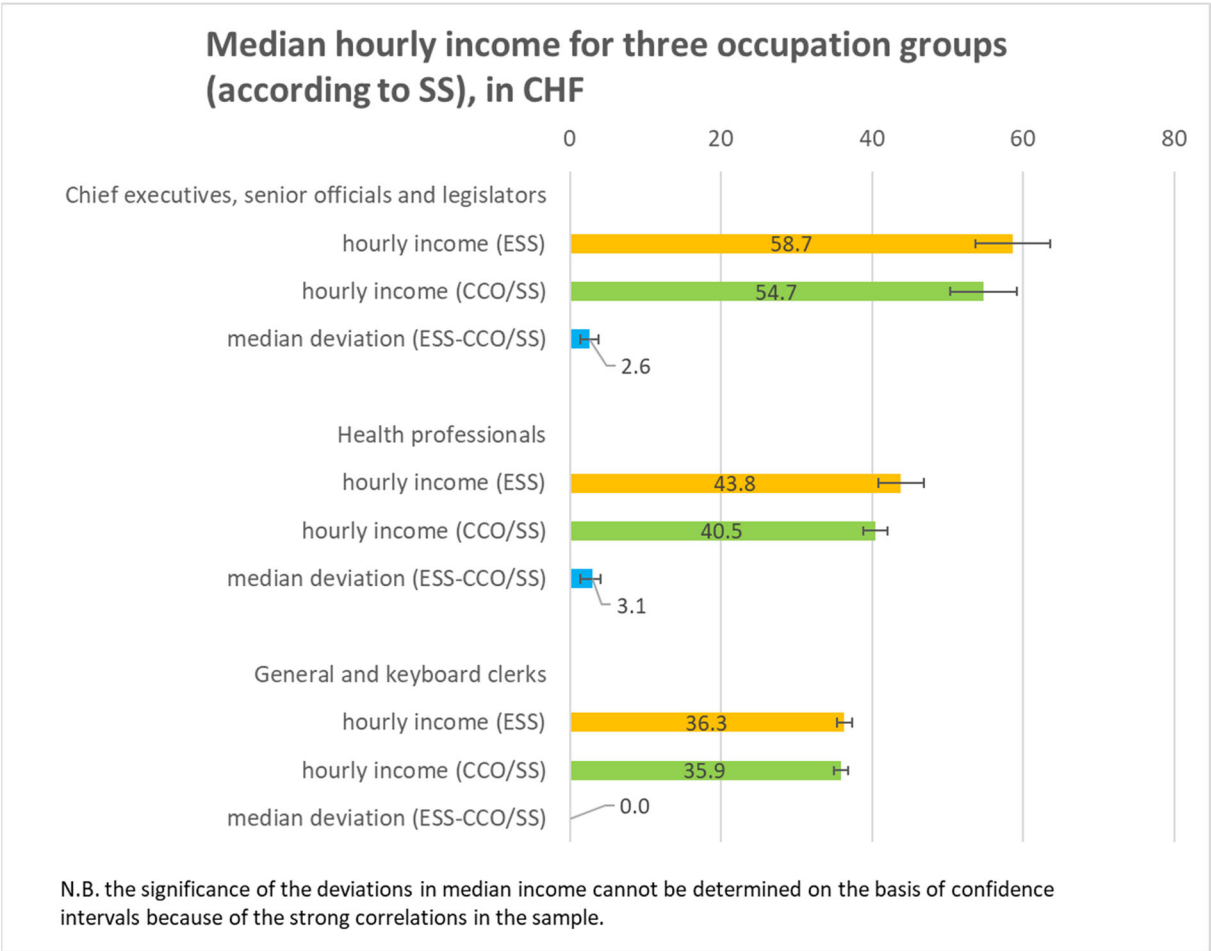
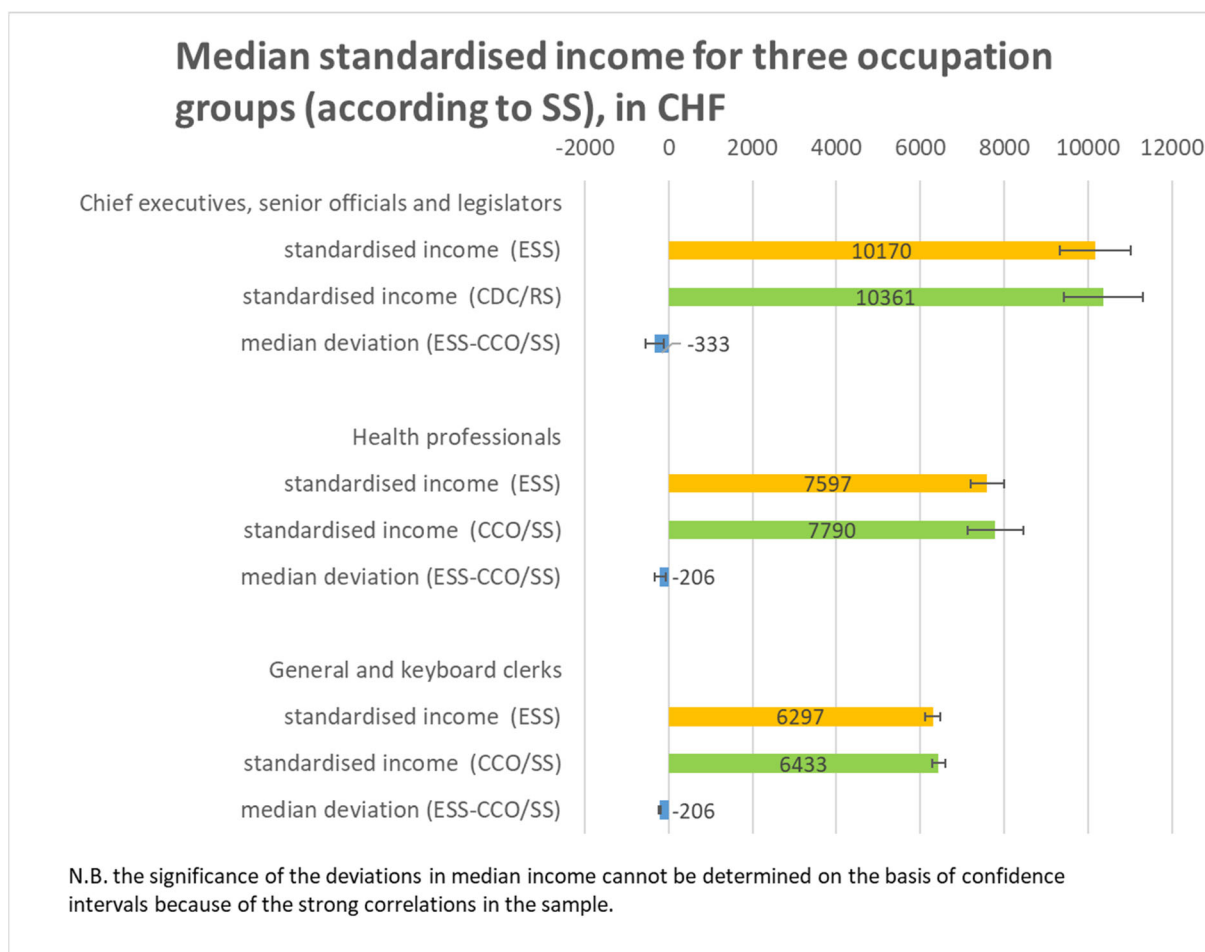


Figure 10.7 shows the standardised income for the three groups of occupations. In all three cases, the standardised CCO/SS income is higher than the ESS wage. In the case of general and keyboard clerks, the difference of CHF 206 can be directly explained by the adopted standardisation of 41.4 hours a week (i.e. a standardisation that is 3.5% higher than the 40 hours used in the ESS standardisation). For chief executives and senior officials Figure 10.6 showed that the hourly income is 4% lower than that of the ESS. However, given that the overtime is partly paid and that the persons concerned work almost 10% more than the 40 hours used in the ESS standardised wage, the standardised CCO/SS income is CHF 333 higher than that of the ESS.

Figure 10.7: Median standardised income for three occupation groups



This section shows – on the basis of two sub-major groups of occupations characterised by significant amounts of overtime – the sensitivity of the constructed CCO/SS income to overtime that is paid or unpaid, and the conceptual differences with the ESS wage. Conversely, and as for general and keyboard clerks, most of the sub-major groups of occupations are characterised by no or very little overtime. For these occupations, and as also observed in this chapter, the CCO/SS income deviates from the ESS wage mainly because of the standardisation adopted at around 41.5 hours per week (see Figure 3.1) versus 40 hours in the ESS.

10.5 Conclusion of the analyses on the linked database

The analysis of the linked database yields complementary results to those of the analyses conducted on the separate databases (chapters 8 and 9). In particular, it was noted that the differences in standardised income are entirely marginal when the number of working hours in the ESS matches that in the SS. For the population considered as a whole, the analyses of the quantiles of the differences showed median values around CHF -150, and therefore CCO/SS incomes that were slightly higher than the ESS ones. This result can be explained by the choice of standardisation method. We also observed a significant number of people for whom the ESS wage and the CCO/SS income differ by several hundred Swiss francs. For the individuals concerned, this result can be explained by the aggregated manner in which the CCO data are recorded (see also chapter 3) and by different working hours between the sources, although differences between the gross incomes in the ESS and the CCO/SS cannot be ruled out.

The analyses of the differences in quantiles which therefore focus on a comparison of aggregated results according to various dimensions analysed show that the sometimes-significant differences observed at individual level has little or no impact in terms of aggregated values.

11 Conclusion

This report describes the construction of a new standardised income measurement based on the linkage of data from the CCO individual accounts with those from the Structural Survey.

With a view to using this constructed variable in LABB to analyse the evolution of incomes of VET qualification holders, this income was compared with the ESS wage in detail and for all planned dimensions analysed.

Given the conceptual differences between the two standardised incomes – one on an 'actual' basis from the CCO/SS and one on a 'contractual' basis from the ESS – this study refrains from considering potential numerical matches or mismatches as quality indicators. Instead, the report documents as broadly as possible the differences between the two incomes.

It uses two approaches: a 'macro' approach and a 'micro' one. These complementary approaches both have their limits. The 'macro' approach may encounter measurement problems that have nothing to do with the incomes, for example where the occupation reported by a person in the SS is not the same as the one reported by the employer in the ESS. The results of the 'micro' approach may not be representative of the Swiss working population. We cannot rule out the fact that persons eliminated from the 'micro' approach for the purpose of making relevant comparisons are actually the persons who present particular income measurement problems in the sources considered.

This work could be extended by breaking down the differences between the ESS standardised wage and the 'actual' standardised CCO/SS income into two parts: one part that can be attributed to the difference in gross income between the ESS and the CCO/SS, and one that can be attributed to the difference in contractual and actual working hours. Although this report contains this type of analyses, such a breakdown would allow us to quantify various sources of differences in an even more precise and systematic manner.

Linkage with the School Staff Statistics allowed us to identify issues with measurement units and partially to correct them. Another potential avenue to develop this work on incomes could be to evaluate the need to extend linkage to other sources.

The creation of a new constructed CCO/SS income offers numerous new possibilities.

If the CCO/SS income is used in future analyses, the limits of the tests performed should be borne in mind, as should the risk that they are not entirely appropriate for the population under study.

Annex

A1. Tables annexed to chapter 3

Annex T 1: Full-time references calculated for ISCO major group of occupations 4 on the basis of 2013–17 SS target population

Median number of hours worked by occupation in the SS, on the 2013–2017 target population

Occupation according to the SS	N non-weighted	median number of hours worked per week	95% Confidence interval
-11	3 365	41.59	[41.46;41.71]
-9	5 387	41.57	[41.46;41.71]
-7	49	41.73	[41.12;42.34]
0110 Commissioned armed forces officers	224	49.86	[47.87;51.86]
0210 Non-commissioned armed forces officers	197	49.24	[46.75;51.73]
0310 Armed forces occupations, other ranks	221	44.59	[43.49;45.69]
1000	11 721	41.63	[41.56;41.70]
1111 Legislators	125	48.57	[46.23;50.91]
1112 Senior government officials	2 424	41.71	[41.55;41.88]
1114 Senior officials of special-interest organisations	443	41.69	[41.09;42.29]
1120 Managing directors and chief executives	15 109	44.23	[43.98;44.48]
1200	1 415	41.88	[41.60;42.15]
1210	917	41.23	[41.03;41.43]
1211 Finance managers	2 476	41.85	[41.63;42.07]
1212 Human resource managers	1 697	41.40	[41.24;41.56]
1213 Policy and planning managers	1 392	41.78	[41.48;42.07]
1219 Business services and administration managers not elsewhere classified	321	41.63	[41.10;42.16]
1220	114	40.27	[39.60;40.93]
1221 Sales and marketing managers	7 673	41.97	[41.85;42.09]
1222 Advertising and public relations managers	152	41.68	[41.08;42.28]
1223 Research and development managers	595	42.41	[41.98;42.85]
1300	1 982	42.07	[41.79;42.34]
1311 Agricultural and forestry production managers	47	41.67	[40.91;42.43]
1320	1 742	41.57	[41.36;41.77]
1321 Manufacturing managers	1 225	42.16	[41.94;42.38]
1322 Mining managers	8	43.02	[40.22;45.82]
1323 Construction managers	551	42.80	[42.51;43.10]
1324 Supply, distribution and related managers	2 704	41.64	[41.52;41.76]
1330 Information and communications technology service managers	3 112	41.48	[41.30;41.66]
1340	375	41.77	[41.24;42.31]
1341 Child care services managers	330	41.56	[40.98;42.14]
1342 Health services managers	741	41.69	[41.17;42.22]
1343 Aged care services managers	27	41.17	[41.04;41.29]
1344 Social welfare managers	89	41.42	[40.79;42.05]
1345 Education managers	941	42.61	[42.20;43.01]
1346 Financial and insurance services branch managers	105	41.80	[41.37;42.22]
1349 Professional services managers not elsewhere classified	149	41.61	[41.01;42.21]
1400	25	41.75	[41.12;42.38]
1410	730	42.63	[42.37;42.90]
1411 Hotel managers	417	44.40	[43.60;45.21]
1412 Restaurant managers	1 174	42.72	[42.52;42.92]
1420 Retail and wholesale trade managers	372	41.70	[41.46;41.93]
1431 Sports, recreation and cultural centre managers	534	41.69	[41.12;42.26]
1439 Services managers not elsewhere classified	34	41.79	[41.14;42.45]
2000	3 529	41.45	[41.34;41.57]
2100	70	41.41	[40.77;42.06]
2110	-	-	-
2111 Physicists and astronomers	358	41.45	[41.14;41.75]
2112 Meteorologists	26	41.55	[40.83;42.28]
2113 Chemists	507	41.09	[40.69;41.49]
2114 Geologists and geophysicists	151	41.73	[41.13;42.33]
2120 Mathematicians, actuaries and statisticians	275	41.18	[40.91;41.46]
2130	-	-	-
2131 Biologists, botanists, zoologists and related professionals	520	41.35	[40.86;41.84]
2132 Farming, forestry and fisheries advisers	187	42.41	[42.08;42.74]
2133 Environmental protection professionals	166	41.55	[40.94;42.17]
2140	3 524	41.17	[41.03;41.31]
2141 Industrial and production engineers	713	41.15	[40.80;41.49]
2142 Civil engineers	1 156	41.85	[41.65;42.04]
2143 Environmental engineers	76	41.32	[40.71;41.94]
2144 Mechanical engineers	1 088	41.40	[41.15;41.65]
2145 Chemical engineers	215	41.23	[40.68;41.79]
2146 Mining engineers, metallurgists and related professionals	21	42.25	[40.49;44.00]
2149 Engineering professionals not elsewhere classified	221	41.14	[40.75;41.53]

(continued Annex T 1)

2150	9	40.00	[37.78;42.22]
2151 Electrical engineers	866	41.26	[41.04;41.48]
2152 Electronics engineers	328	40.92	[40.68;41.16]
2153 Telecommunications engineers	178	40.34	[39.83;40.85]
2160	200	41.39	[40.77;42.01]
2161 Building architects	2 984	41.95	[41.70;42.21]
2162 Landscape architects	114	41.97	[41.38;42.56]
2163 Product and garment designers	168	41.50	[40.88;42.12]
2164 Town and traffic planners	215	41.47	[41.12;41.82]
2165 Cartographers and surveyors	370	41.46	[41.25;41.66]
2166 Graphic and multimedia designers	696	41.29	[40.92;41.65]
2200	48	41.75	[41.11;42.38]
2210	3 285	49.58	[48.74;50.43]
2211 Generalist medical practitioners	60	49.59	[46.38;52.80]
2212 Specialist medical practitioners	1 139	49.46	[47.41;51.51]
2220	7	40.83	-
2221 Nursing professionals	332	41.55	[41.01;42.08]
2222 Midwifery professionals	125	41.44	[40.88;42.00]
2230 Traditional and complementary medicine professionals	83	41.42	[40.70;42.13]
2250 Veterinarians	216	44.95	[43.65;46.25]
2261 Dentists	200	41.72	[41.14;42.29]
2262 Pharmacists	707	41.62	[41.23;42.01]
2263 Environmental and occupational health and hygiene professionals	45	41.21	[40.68;41.75]
2264 Physiotherapists	655	41.51	[40.98;42.04]
2265 Dieticians and nutritionists	76	41.52	[40.94;42.10]
2266 Audiologists and speech therapists	88	41.40	[40.77;42.04]
2267 Optometrists and ophthalmic opticians	52	41.68	[41.07;42.29]
2269 Health professionals not elsewhere classified	248	41.54	[40.97;42.11]
2300	604	41.42	[41.00;41.83]
2310 University and higher education teachers	2 016	41.85	[41.64;42.06]
2320 Vocational education teachers	1 190	41.64	[41.25;42.03]
2330 Secondary education teachers	3 731	41.77	[41.38;42.16]
2340	106	40.00	[39.44;40.56]
2341 Primary school teachers	3 533	41.54	[41.01;42.06]
2342 Early childhood educators	708	41.23	[40.67;41.78]
2351 Education methods specialists	172	41.63	[41.06;42.21]
2352 Special needs teachers	428	41.65	[41.10;42.21]
2355 Other arts teachers	34	40.06	[39.34;40.79]
2356 Information technology trainers	45	41.50	[40.85;42.15]
2359 Teaching professionals not elsewhere classified	15	41.00	[40.58;41.41]
2400	392	41.72	[41.21;42.23]
2410	1 586	41.59	[41.35;41.84]
2411 Accountants	3 193	41.75	[41.63;41.88]
2412 Financial and investment advisers	2 602	41.85	[41.57;42.13]
2413 Financial analysts	456	41.49	[40.91;42.08]
2420	92	41.49	[40.83;42.15]
2421 Management and organisation analysts	1 600	41.95	[41.52;42.39]
2422 Policy administration professionals	6 353	41.52	[41.44;41.60]
2423 Personnel and careers professionals	1 761	41.43	[41.27;41.58]
2424 Training and staff development professionals	20	41.97	[41.06;42.89]
2431 Advertising and marketing professionals	1 696	41.46	[41.28;41.65]
2432 Public relations professionals	273	41.49	[41.12;41.85]
2433 Technical and medical sales professionals (excluding ICT)	867	41.71	[41.32;42.11]
2434 Information and communications technology sales professionals	-	-	-
2500	4 382	41.40	[41.27;41.52]
2511 Systems analysts	2 023	41.29	[41.08;41.51]
2512 Software developers	5 176	41.26	[41.14;41.39]
2513 Web and multimedia developers	323	41.33	[40.85;41.81]
2514 Applications programmers	426	41.33	[40.84;41.81]
2519 Software and applications developers and analysts not elsewhere classified	19	40.00	[39.22;40.78]
2521 Database designers and administrators	203	41.31	[40.81;41.81]
2522 Systems administrators	375	41.43	[41.07;41.78]
2523 Computer network professionals	129	41.18	[40.58;41.78]
2529 Database and network professionals not elsewhere classified	262	41.45	[40.95;41.95]
2600	17	40.65	[39.78;41.52]
2610	563	41.45	[41.20;41.71]
2611 Lawyers	1 271	44.33	[43.56;45.09]
2612 Judges	184	42.95	[42.07;43.83]
2619 Legal professionals not elsewhere classified	970	41.64	[41.26;42.02]
2620	12	40.00	[39.23;40.77]
2621 Archivists and curators	142	41.16	[40.62;41.70]
2622 Librarians and related information professionals	216	41.25	[40.71;41.79]
2631 Economists	280	41.71	[41.18;42.23]
2632 Sociologists, anthropologists and related professionals	94	41.43	[40.84;42.02]
2633 Philosophers, historians and political scientists	82	41.76	[41.07;42.45]
2634 Psychologists	373	41.55	[41.00;42.10]
2635 Social work and counselling professionals	1 257	41.46	[41.14;41.78]
2636 Religious professionals	704	44.63	[44.05;45.21]
2640	-	-	-
2641 Authors and related writers	239	41.32	[40.71;41.93]
2642 Journalists	1 333	41.34	[40.84;41.84]

(continued Annex T 1)

2643 Translators, interpreters and other linguists	196	41.35	[40.77;41.94]
2650	52	41.92	[41.06;42.78]
2651 Visual artists	128	41.35	[40.68;42.01]
2652 Musicians, singers and composers	338	41.47	[40.87;42.07]
2653 Dancers and choreographers	31	42.23	[40.29;44.18]
2654 Film, stage and related directors and producers	391	41.45	[40.86;42.05]
2655 Actors	70	40.00	[38.66;41.34]
2656 Announcers on radio, television and other media	50	40.45	[39.96;40.94]
2659 Creative and performing artists not elsewhere classified	26	41.44	[40.46;42.43]
3000	7 024	41.51	[41.44;41.57]
3100	5 241	41.43	[41.34;41.53]
3110	1 203	41.29	[41.09;41.49]
3111 Chemical and physical science technicians	1 243	40.83	[40.68;40.97]
3112 Civil engineering technicians	1 118	41.80	[41.59;42.00]
3113 Electrical engineering technicians	587	41.43	[41.17;41.70]
3114 Electronics engineering technicians	248	41.15	[40.78;41.53]
3115 Mechanical engineering technicians	772	41.54	[41.27;41.80]
3116 Chemical engineering technicians	399	40.61	[40.34;40.88]
3117 Mining and metallurgical technicians	5	41.19	-
3118 Draughtspersons	2 162	41.60	[41.44;41.75]
3119 Physical and engineering science technicians not elsewhere classified	2 709	41.54	[41.41;41.68]
3120	3 346	41.63	[41.51;41.75]
3121 Mining supervisors	7	40.50	[39.70;41.31]
3122 Manufacturing supervisors	1 375	41.75	[41.56;41.94]
3123 Construction supervisors	4 047	42.11	[42.02;42.20]
3130	84	42.21	[41.57;42.85]
3131 Power production plant operators	86	41.25	[40.89;41.60]
3132 Incinerator and water treatment plant operators	240	41.55	[41.02;42.08]
3139 Process control technicians not elsewhere classified	5	41.71	-
3141 Life science technicians (excluding medical)	261	40.01	[39.50;40.52]
3142 Agricultural technicians	42	42.55	[41.20;43.91]
3143 Forestry technicians	177	41.74	[41.20;42.27]
3150	157	41.74	[41.28;42.19]
3151 Ships' engineers	6	41.42	-
3152 Ships' deck officers and pilots	97	41.72	[41.14;42.30]
3153 Aircraft pilots and related associate professionals	424	41.65	[41.04;42.25]
3154 Air traffic controllers	224	41.16	[40.89;41.44]
3155 Air traffic safety electronics technicians	37	41.45	[41.02;41.88]
3200	26	40.84	[40.36;41.32]
3210	92	41.37	[40.76;41.97]
3211 Medical imaging and therapeutic equipment technicians	784	41.49	[40.97;42.01]
3212 Medical and pathology laboratory technicians	544	41.34	[40.84;41.84]
3213 Pharmaceutical technicians and assistants	781	41.50	[41.30;41.70]
3214 Medical and dental prosthetic technicians	374	41.69	[41.14;42.23]
3221 Nursing associate professionals	5 152	41.51	[41.37;41.65]
3222 Midwifery associate professionals	5	41.99	-
3230 Traditional and complementary medicine associate professionals	6	40.54	[38.67;42.41]
3240 Veterinary technicians and assistants	135	42.60	[42.21;42.98]
3250	10	40.92	[39.91;41.94]
3251 Dental assistants and therapists	93	40.66	[40.47;40.85]
3252 Medical records and health information technicians	20	41.64	-
3254 Dispensing opticians	416	41.72	[41.53;41.91]
3255 Physiotherapy technicians and assistants	97	41.64	[41.03;42.25]
3256 Medical assistants	1 201	41.51	[41.17;41.84]
3257 Environmental and occupational health inspectors and associates	184	41.58	[41.01;42.16]
3258 Ambulance workers	543	41.68	[41.22;42.15]
3259 Health associate professionals not elsewhere classified	6	41.16	-
3300	1 457	41.47	[41.25;41.68]
3310	4 628	41.63	[41.43;41.83]
3311 Securities and finance dealers and brokers	1 539	41.72	[41.44;42.00]
3312 Credit and loans officers	320	41.70	[41.15;42.24]
3313 Accounting associate professionals	5 231	41.39	[41.29;41.49]
3314 Statistical, mathematical and related associate professionals	18	41.62	[40.87;42.36]
3315 Valuers and loss assessors	392	41.51	[41.33;41.70]
3321 Insurance representatives	1 377	41.54	[41.38;41.70]
3322 Commercial sales representatives	3 570	41.72	[41.56;41.89]
3323 Buyers	1 564	41.44	[41.28;41.60]
3324 Trade brokers	2 908	41.61	[41.47;41.76]
3330	12	40.00	[37.68;42.32]
3331 Clearing and forwarding agents	635	41.42	[41.15;41.69]
3332 Conference and event planners	392	41.74	[41.26;42.22]
3333 Employment agents and contractors	82	41.83	[41.15;42.51]
3334 Real estate agents and property managers	1 878	41.67	[41.38;41.95]
3339 Business services agents not elsewhere classified	213	41.37	[40.76;41.97]
3340	-	-	-
3341 Office supervisors	570	41.44	[41.03;41.84]
3342 Legal secretaries	110	41.48	[40.90;42.05]
3343 Administrative and executive secretaries	2 971	41.42	[41.29;41.55]
3344 Medical secretaries	609	41.47	[41.07;41.88]
3350	720	41.46	[41.25;41.67]
3351 Customs and border inspectors	795	41.54	[41.42;41.65]

(continued Annex T 1)

3352 Government tax and excise officials	275	41.54	[41.18;41.91]
3353 Government social benefits officials	327	41.51	[41.13;41.88]
3354 Government licensing officials	134	41.45	[40.98;41.93]
3355 Police inspectors and detectives	391	41.58	[41.09;42.06]
3359 Regulatory government associate professionals not elsewhere classified	51	41.80	[41.25;42.36]
3411 Legal and related associate professionals	1 550	41.49	[41.25;41.74]
3412 Social work associate professionals	1 434	41.45	[41.14;41.77]
3413 Religious associate professionals	102	41.73	[41.14;42.33]
3421 Athletes and sports players	93	40.20	[39.66;40.74]
3422 Sports coaches, instructors and officials	526	41.69	[41.13;42.25]
3423 Fitness and recreation instructors and program leaders	166	41.87	[41.28;42.45]
3431 Photographers	134	41.90	[41.28;42.53]
3432 Interior designers and decorators	658	41.71	[41.49;41.93]
3433 Gallery, museum and library technicians	13	41.02	[40.06;41.98]
3434 Chefs	945	42.07	[41.86;42.27]
3435 Other artistic and cultural associate professionals	192	41.49	[40.92;42.06]
3510	733	41.38	[41.02;41.73]
3511 Information and communications technology operations technicians	865	40.91	[40.70;41.12]
3512 Information and communications technology user support technicians	951	41.35	[41.11;41.58]
3513 Computer network and systems technicians	80	41.28	[40.64;41.91]
3514 Web technicians	61	41.17	[40.52;41.82]
3521 Broadcasting and audio-visual technicians	377	41.04	[40.43;41.65]
3522 Telecommunications engineering technicians	366	41.16	[40.57;41.74]
4000	59	41.47	[40.84;42.10]
4100	-	-	-
4110 General office clerks	18 038	41.35	[41.30;41.40]
4120 Secretaries (general)	2 623	41.34	[41.22;41.46]
4130	7	41.87	-
4131 Typists and word processing operators	15	41.15	[40.34;41.96]
4132 Data entry clerks	31	40.38	[39.92;40.83]
4210	18	41.65	[40.38;42.91]
4211 Bank tellers and related clerks	1 108	41.53	[41.23;41.82]
4212 Bookmakers, croupiers and related gaming workers	77	41.74	[41.17;42.31]
4213 Pawnbrokers and money-lenders	-	-	-
4214 Debt-collectors and related workers	30	41.40	[40.79;42.01]
4220	19	41.53	[41.24;41.81]
4221 Travel consultants and clerks	580	41.39	[41.21;41.56]
4223 Telephone switchboard operators	301	41.24	[40.67;41.81]
4224 Hotel receptionists	168	41.88	[41.33;42.43]
4225 Enquiry clerks	-	-	-
4226 Receptionists (general)	714	41.55	[41.24;41.87]
4227 Survey and market research interviewers	11	41.30	[40.41;42.19]
4229 Client information workers not elsewhere classified	10	42.55	[39.81;45.29]
4311 Accounting and bookkeeping clerks	246	41.38	[40.82;41.94]
4312 Statistical, finance and insurance clerks	850	41.49	[41.32;41.66]
4313 Payroll clerks	151	41.04	[40.71;41.37]
4321 Stock clerks	3 414	41.56	[41.46;41.66]
4322 Production clerks	-	-	-
4323 Transport clerks	1 439	41.44	[41.33;41.54]
4411 Library clerks	19	40.75	[40.29;41.20]
4412 Mail carriers and sorting clerks	704	41.54	[41.18;41.90]
4413 Coding, proof-reading and related clerks	82	41.40	[40.69;42.11]
4415 Filing and copying clerks	31	41.31	[40.63;42.00]
4416 Personnel clerks	385	41.28	[41.09;41.47]
4419 Clerical support workers not elsewhere classified	57	41.17	[40.45;41.90]
5000	680	41.29	[41.01;41.56]
5100	869	41.75	[41.34;42.15]
5110	9	42.20	[40.10;44.30]
5111 Travel attendants and travel stewards	564	41.46	[40.90;42.01]
5112 Transport conductors	403	41.23	[41.10;41.37]
5113 Travel guides	70	41.75	[41.04;42.46]
5120 Cooks	6 078	41.80	[41.66;41.94]
5130	-	-	-
5131 Waiters	3 232	41.90	[41.59;42.22]
5132 Bartenders	350	41.89	[41.31;42.46]
5140	11	41.08	-
5141 Hairdressers	985	42.42	[42.32;42.53]
5142 Beauticians and related workers	252	41.78	[41.21;42.35]
5150	241	41.51	[41.14;41.88]
5151 Cleaning and housekeeping supervisors in offices, hotels and other establishments	217	41.69	[41.13;42.26]
5152 Domestic housekeepers	1 195	41.41	[41.13;41.70]
5153 Building caretakers	3 055	41.56	[41.40;41.72]
5161 Astrologers, fortune-tellers and related workers	-	-	-
5162 Companions and valets	207	41.28	[40.71;41.85]
5163 Undertakers and embalmers	81	41.63	[41.07;42.18]
5164 Pet groomers and animal care workers	288	42.43	[41.45;43.40]
5165 Driving instructors	64	43.59	[42.37;44.82]
5169 Personal services workers not elsewhere classified	-	-	-
5211 Stall and market salespersons	71	42.07	[41.45;42.69]
5220	155	41.17	[40.83;41.50]
5221 Shop keepers	638	41.84	[41.63;42.04]

(continued Annex T 1)

5222 Shop supervisors	2 355	41.49	[41.42;41.56]
5223 Shop sales assistants	11 224	41.55	[41.52;41.59]
5230 Cashiers and ticket clerks	507	41.05	[40.90;41.19]
5241 Fashion and other models	-	-	-
5242 Sales demonstrators	35	41.24	[40.59;41.89]
5244 Contact centre salespersons	32	41.26	[40.48;42.04]
5245 Service station attendants	67	42.36	[41.71;43.00]
5249 Sales workers not elsewhere classified	16	41.24	[40.25;42.24]
5300	46	41.10	[40.31;41.88]
5311 Child care workers	534	41.46	[41.00;41.91]
5312 Teachers' aides	37	40.75	[40.29;41.21]
5320	1 402	41.50	[41.29;41.71]
5321 Health care assistants	1 765	41.42	[41.15;41.68]
5322 Home-based personal care workers	1 037	41.47	[41.02;41.92]
5329 Personal care workers in health services not elsewhere classified	803	41.45	[41.05;41.84]
5410	704	41.63	[41.32;41.95]
5411 Fire-fighters	371	42.70	[41.51;43.88]
5412 Police officers	3 859	41.60	[41.43;41.76]
5413 Prison guards	394	41.50	[41.10;41.89]
5414 Security guards	1 295	41.62	[41.40;41.84]
5419 Protective services workers not elsewhere classified	210	41.68	[41.13;42.24]
6111 Field crop and vegetable growers	88	48.35	[46.07;50.63]
6112 Tree and shrub crop growers	192	44.92	[43.86;45.98]
6113 Gardeners, horticultural and nursery growers	2 421	41.85	[41.56;42.14]
6120	-	-	-
6121 Livestock and dairy producers	25	45.98	[42.88;49.07]
6122 Poultry producers	15	41.91	[40.92;42.90]
6123 Apiarists and sericulturists	5	42.71	-
6129 Animal producers not elsewhere classified	-	-	-
6130 Mixed crop and animal producers	563	49.84	[48.77;50.91]
6210 Forestry and related workers	575	42.32	[42.09;42.55]
6221 Aquaculture workers	8	43.15	[40.51;45.79]
6222 Inland and coastal waters fishery workers	18	41.50	-
6224 Hunters and trappers	-	-	-
7000	428	41.39	[41.22;41.56]
7100	126	41.69	[41.11;42.27]
7110	821	41.90	[41.56;42.24]
7111 House builders	30	41.64	[40.92;42.37]
7112 Bricklayers and related workers	3 480	41.63	[41.38;41.88]
7113 Stonemasons, stone cutters, splitters and carvers	214	41.64	[41.14;42.14]
7114 Concrete placers, concrete finishers and related workers	512	41.67	[41.12;42.22]
7115 Carpenters and joiners	2 155	42.01	[41.91;42.11]
7119 Building frame and related trades workers not elsewhere classified	303	41.88	[41.33;42.43]
7120	831	41.62	[41.33;41.90]
7121 Roofers	520	41.69	[41.16;42.22]
7122 Floor layers and tile setters	1 267	41.69	[41.48;41.90]
7123 Plasterers	1 230	41.13	[40.88;41.39]
7124 Insulation workers	646	41.41	[41.12;41.70]
7125 Glaziers	139	41.78	[41.35;42.20]
7126 Plumbers and pipe fitters	3 087	41.22	[41.10;41.34]
7127 Air conditioning and refrigeration mechanics	393	41.29	[40.94;41.64]
7131 Painters and related workers	1 826	41.17	[41.00;41.35]
7132 Spray painters and varnishers	715	41.65	[41.43;41.88]
7133 Building structure cleaners	401	41.64	[41.10;42.18]
7200	3 975	41.46	[41.36;41.56]
7210	-	-	-
7211 Metal moulders and coremakers	68	41.45	[40.76;42.13]
7212 Welders and flamecutters	422	41.47	[41.08;41.86]
7213 Sheet-metal workers	607	41.75	[41.52;41.98]
7214 Structural-metal preparers and erectors	1 205	41.46	[41.25;41.66]
7215 Riggers and cable splicers	37	41.31	[40.52;42.11]
7220	56	41.35	[40.69;42.01]
7221 Blacksmiths, hammersmiths and forging press workers	40	42.31	[41.57;43.06]
7222 Toolmakers and related workers	985	41.48	[41.26;41.70]
7223 Metal working machine tool setters and operators	1 075	41.19	[40.93;41.45]
7224 Metal polishers, wheel grinders and tool sharpeners	287	41.39	[40.83;41.94]
7230	1 492	41.30	[41.16;41.44]
7231 Motor vehicle mechanics and repairers	2 905	42.07	[41.99;42.15]
7232 Aircraft engine mechanics and repairers	223	41.62	[41.09;42.16]
7233 Agricultural and industrial machinery mechanics and repairers	917	41.94	[41.62;42.26]
7234 Bicycle and related repairers	88	42.54	[41.97;43.11]
7300	23	41.70	[40.94;42.45]
7310	14	40.98	-
7311 Precision-instrument makers and repairers	2 216	40.00	[39.87;40.13]
7312 Musical instrument makers and tuners	56	41.63	[41.02;42.24]
7313 Jewellery and precious-metal workers	277	41.22	[40.65;41.78]
7314 Potters and related workers	7	41.78	[40.36;43.20]
7315 Glass makers, cutters, grinders and finishers	67	41.42	[40.79;42.04]
7316 Sign writers, decorative painters, engravers and etchers	167	41.72	[41.15;42.29]
7317 Handicraft workers in wood, basketry and related materials	8	41.02	-
7318 Handicraft workers in textile, leather and related materials	18	41.40	[40.68;42.12]

(continued Annex T 1)

7320	445	41.03	[40.47;41.59]
7321 Pre-press technicians	261	41.15	[40.57;41.74]
7322 Printers	748	41.04	[40.65;41.42]
7323 Print finishing and binding workers	143	41.26	[40.67;41.85]
7400	8	40.22	[39.47;40.97]
7411 Building and related electricians	2 627	40.27	[40.18;40.36]
7412 Electrical mechanics and fitters	3 478	41.04	[40.94;41.14]
7413 Electrical line installers and repairers	588	41.42	[41.25;41.58]
7421 Electronics mechanics and servicers	828	41.34	[41.08;41.59]
7422 Information and communications technology installers and servicers	317	41.17	[40.71;41.62]
7500	34	41.55	[40.86;42.24]
7510	13	42.75	[40.81;44.69]
7511 Butchers, fishmongers and related food preparers	1 074	42.48	[42.34;42.61]
7512 Bakers, pastry-cooks and confectionery makers	1 586	41.59	[41.50;41.68]
7513 Dairy-products makers	310	43.35	[42.71;43.99]
7514 Fruit, vegetable and related preservers	-	-	-
7515 Food and beverage tasters and graders	14	40.00	[37.68;42.32]
7520	64	42.20	[41.57;42.82]
7521 Wood treaters	31	41.67	[41.02;42.32]
7522 Cabinet-makers and related workers	3 104	41.71	[41.63;41.78]
7523 Woodworking-machine tool setters and operators	209	41.90	[41.41;42.39]
7530	238	41.52	[41.19;41.86]
7531 Tailors, dressmakers, furriers and hatters	167	41.47	[40.90;42.04]
7532 Garment and related pattern-makers and cutters	7	40.00	[38.54;41.46]
7533 Sewing, embroidery and related workers	143	41.63	[41.09;42.17]
7534 Upholsterers and related workers	35	41.65	[40.91;42.38]
7535 Pelt dressers, tanners and fellmongers	14	41.10	-
7536 Shoemakers and related workers	95	41.81	[41.24;42.38]
7541 Underwater divers	40	41.60	[41.27;41.93]
7542 Shotfirers and blasters	52	41.56	[40.90;42.22]
7543 Product graders and testers (excluding foods and beverages)	832	41.18	[40.89;41.47]
7544 Fumigators and other pest and weed controllers	19	41.86	-
7549 Craft and related workers not elsewhere classified	415	42.56	[42.30;42.82]
8000	198	41.01	[40.54;41.48]
8100	3 753	41.54	[41.41;41.66]
8111 Miners and quarriers	91	41.76	[41.13;42.38]
8112 Mineral and stone processing plant operators	15	40.81	[40.06;41.56]
8113 Well drillers and borers and related workers	59	41.88	[41.28;42.48]
8114 Cement, stone and other mineral products machine operators	84	41.86	[41.25;42.47]
8120	151	41.54	[40.96;42.12]
8121 Metal processing plant operators	249	41.38	[40.94;41.82]
8122 Metal finishing, plating and coating machine operators	204	41.55	[40.98;42.13]
8131 Chemical products plant and machine operators	461	40.07	[39.74;40.41]
8132 Photographic products machine operators	27	41.70	-
8141 Rubber products machine operators	68	41.88	[41.30;42.46]
8142 Plastic products machine operators	217	41.58	[41.02;42.15]
8143 Paper products machine operators	56	41.39	[40.70;42.08]
8150	-	-	-
8151 Fibre preparing, spinning and winding machine operators	29	41.61	[40.94;42.28]
8152 Weaving and knitting machine operators	76	41.68	[41.06;42.30]
8154 Bleaching, dyeing and fabric cleaning machine operators	42	41.77	[41.13;42.41]
8155 Fur and leather preparing machine operators	9	41.00	-
8156 Shoemaking and related machine operators	-	-	-
8157 Laundry machine operators	407	41.52	[40.96;42.07]
8160 Food and related products machine operators	542	41.79	[41.60;41.98]
8171 Pulp and papermaking plant operators	76	41.75	[41.12;42.37]
8181 Glass and ceramics plant operators	47	41.65	[41.06;42.25]
8182 Steam engine and boiler operators	88	41.26	[40.62;41.90]
8183 Packing, bottling and labelling machine operators	224	41.56	[40.98;42.14]
8189 Stationary plant and machine operators not elsewhere classified	36	41.57	[40.96;42.18]
8210	1 817	41.48	[41.31;41.65]
8211 Mechanical machinery assemblers	272	41.33	[40.82;41.83]
8212 Electrical and electronic equipment assemblers	7	40.73	-
8219 Assemblers not elsewhere classified	86	42.46	[41.45;43.47]
8300	3 039	44.07	[43.70;44.44]
8310	12	41.00	[40.66;41.34]
8311 Locomotive engine drivers	1 077	41.06	[40.98;41.14]
8312 Railway brake, signal and switch operators	259	41.19	[41.02;41.37]
8320	23	41.70	[40.93;42.47]
8321 Motorcycle drivers	10	42.35	[39.23;45.47]
8322 Car, taxi and van drivers	1 038	43.01	[42.25;43.76]
8331 Bus and tram drivers	1 558	41.43	[41.31;41.56]
8332 Heavy truck and lorry drivers	3 170	44.66	[44.29;45.02]
8340	454	41.95	[41.41;42.50]
8341 Mobile farm and forestry plant operators	15	43.96	[42.07;45.84]
8342 Earthmoving and related plant operators	161	42.00	[41.42;42.58]
8343 Crane, hoist and related plant operators	834	41.72	[41.31;42.13]
8344 Lifting truck operators	246	41.75	[41.19;42.30]
8350 Ships' deck crews and related workers	61	42.07	[41.19;42.95]
9000	6 108	41.40	[41.31;41.50]
9100	255	41.47	[40.91;42.02]

(continued Annex T 1)

9110	1 681	41.44	[41.08;41.80]
9111 Domestic cleaners and helpers	61	40.78	[40.32;41.25]
9112 Cleaners and helpers in offices, hotels and other establishments	405	41.95	[41.40;42.49]
9121 Hand launderers and pressers	176	41.21	[40.62;41.80]
9122 Vehicle cleaners	37	41.79	[41.17;42.40]
9123 Window cleaners	-	-	-
9129 Other cleaning workers	16	42.74	[40.66;44.81]
9210	397	49.22	[48.29;50.16]
9211 Crop farm labourers	58	49.38	[46.60;52.16]
9212 Livestock farm labourers	35	41.53	[40.77;42.28]
9214 Garden and horticultural labourers	281	41.79	[41.23;42.34]
9215 Forestry labourers	-	-	-
9216 Fishery and aquaculture labourers	-	-	-
9300	48	41.65	[40.97;42.33]
9310	1 290	41.66	[41.25;42.08]
9311 Mining and quarrying labourers	21	44.19	[42.99;45.38]
9312 Civil engineering labourers	725	41.56	[41.40;41.72]
9313 Building construction labourers	140	41.48	[40.84;42.11]
9320	2 174	41.42	[41.25;41.59]
9321 Hand packers	113	41.36	[40.72;41.99]
9329 Manufacturing labourers not elsewhere classified	107	41.78	[41.13;42.43]
9331 Hand and pedal vehicle drivers	7	40.98	-
9332 Drivers of animal-drawn vehicles and machinery	6	46.54	-
9333 Freight handlers	505	41.64	[41.38;41.90]
9334 Shelf fillers	33	40.67	[40.57;40.78]
9412 Kitchen helpers	56	41.54	[40.92;42.17]
9520 Street vendors (excluding food)	5	40.64	-
9610	104	42.17	[41.56;42.77]
9611 Garbage and recycling collectors	32	41.66	[40.98;42.34]
9612 Refuse sorters	6	42.68	[41.00;44.36]
9613 Sweepers and related labourers	135	42.47	[41.69;43.26]
9620	11	41.05	[40.29;41.81]
9621 Messengers, package deliverers and luggage porters	296	41.69	[41.15;42.23]
9622 Odd job persons	-	-	-
9623 Meter readers and vending-machine collectors	39	41.45	[40.81;42.09]
9629 Elementary workers not elsewhere classified	42	41.52	[40.87;42.17]

Note: No results are shown for occupations with fewer than 5 observations for the period 2013-2017 due to data protection.

The unlabelled codes are the codes used in the SS indicating non-distributable occupations from the next ISCO hierarchical level.

A2. Tables annexed to chapter 6

Annex T 2: Characteristics of the reference file and linked database

	Reference file (a)			Linked database (b)		
	% weighted	N weighted	N	% weighted	N weighted	N
Total	100	3 249 864	125 564	100	1 696 209	28 810
Sex						
Men	54	1 751 616	66 328	56	957 557	16 136
Women	46	1 498 249	59 236	44	738 652	12 674
Age group						
19-35 years old	36	1 177 615	43 296	35	594 249	9 138
36-55 years old	50	1 624 563	64 205	52	875 094	15 593
> 55 years old	14	447 687	18 063	13	226 866	4 079
Migration status (aggregated)						
Unknown or non attributable	0	12 343	463	0	6 971	101
Swiss without migration background	60	1 948 208	74 654	60	1 024 313	17 467
Swiss with migration background	14	443 128	18 896	13	224 136	4 445
Foreigner in the 1st generation	23	759 269	28 533	23	394 150	6 057
Foreigner in the 2nd generation	3	84 764	2 945	3	46 221	730
Foreigner in the 3rd or higher generation	0	2 152	73	0	418	10
Level of education						
Secondary level I	13	427 020	16 398	9	159 119	2 456
Secondary level II	47	1 517 377	56 740	48	822 191	12 260
Tertiary level	40	1 305 467	52 426	42	714 899	14 094
Occupation rate (SS)						
Employed person working full-time (90-100%)	69	2 255 442	86 389	76	1 297 332	21 797
Employed person working part-time I (70-89%)	11	371 736	14 866	11	193 140	3 583
Employed person working part-time II (50-69%)	10	325 245	12 902	8	131 670	2 414
Employed person working part-time III (less than 50%)	9	297 441	11 407	4	74 066	1 016
Major ISCO occupational groups (SS)						
Unknown or non attributable	2	79 830	2 967	2	28 407	468
0. Armed forces occupations	0	3 975	145	0	2 427	83
1. Managers	12	390 550	15 521	14	230 673	4 016
2. Professionals	21	691 490	27 871	21	348 410	7 249
3. Technicians and associate professionals	20	657 821	25 331	23	397 721	6 928
4. Clerical support workers	9	297 802	11 881	11	179 842	3 045
5. Service and sales workers	15	478 113	18 254	12	204 762	3 262
6. Skilled agricultural, forestry and fishery workers	1	24 605	938	1	11 045	85
7. Craft and related trades workers	10	335 615	12 065	10	175 228	1 867
8. Plant and machine operators and assemblers	4	128 648	4 711	4	72 221	1 030
9. Elementary occupations	5	161 416	5 880	3	45 474	777

Note.

(a) File F in Schema 1. Weighting variable: zpers_weight (RS)

(b) Weighting variable w_cal

A3. Tables annexed to chapter 8

Annexe T 3: Quantiles of number of hours worked per week calculated for the 2016 ESS separate database (excluding teaching professionals)

	N	N _{weighted}	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	95% confidence interval for the median
Total	1 330 983	2 938 642	21,0	33,6	40,5	42,0	42,5	[40.2 ; 40.7]
Major ISCO occupational groups (ESS: isco1)								
Unknown or non attributable	323 367	719 855	24,0	36,0	40,4	42,0	42,5	[39.9 ; 40.9]
0. Armed forces occupations	705	826	36,9	38,6	41,5	44,1	44,6	[38.2 ; 44.7]
1. Managers	112 695	240 876	31,5	40,0	41,0	42,0	42,5	[40.5 ; 41.5]
2. Professionals	166 324	320 377	21,0	33,4	40,0	42,0	42,5	[38.9 ; 41.1]
3. Technicians and associate professionals	285 552	570 517	20,5	32,0	40,0	42,0	42,4	[38.9 ; 41.1]
4. Clerical support workers	85 211	211 753	16,0	21,0	35,9	41,9	42,4	[33.8 ; 38.0]
5. Service and sales workers	167 171	371 912	18,9	25,6	40,0	42,0	42,5	[38.9 ; 41.1]
6. Skilled agricultural, forestry and fishery workers	1 712	8 742	33,5	40,9	41,9	42,4	43,6	[40.9 ; 42.9]
7. Craft and related trades workers	71 584	235 356	36,9	40,0	41,0	42,0	43,0	[40.7 ; 41.2]
8. Plant and machine operators and assemblers	50 321	111 320	39,0	40,0	41,9	42,9	45,8	[41.4 ; 42.4]
9. Elementary occupations	66 341	147 108	13,5	28,9	40,5	42,0	42,5	[40.2 ; 40.7]
Sex								
Men	734 990	1 636 969	34,4	40,0	41,3	42,0	43,0	[41.0 ; 41.5]
Women	595 993	1 301 673	16,8	24,0	33,6	41,5	42,0	[33.4 ; 33.8]
Age groups								
19 - 35 years old	423 650	967 302	24,6	37,8	41,0	42,0	42,5	[40.7 ; 41.2]
36 - 55 years old	706 611	1 541 673	20,6	32,8	40,0	42,0	42,5	[39.0 ; 41.0]
56 - 64 years old	200 722	429 667	20,0	31,5	40,0	42,0	42,5	[38.9 ; 41.1]
Occupation rate (ESS: ibgr)								
90% or more	965 041	2 088 349	40,0	40,0	42,0	42,0	43,0	[41.7 ; 42.2]
less than 90%.	365 942	850 292	12,0	18,9	25,0	32,0	33,6	[24.9 ; 25.1]

Annex T 4: Quantiles of number of hours worked per week calculated for the 2016 CCO/SS separate database (excluding teaching professionals)

	N	N _{weighted}	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	95% confidence interval for the median
Total	115 833	3 003 549	19,6	33,1	40,9	41,9	44,8	[40,9 ; 41,0]
Major ISCO occupational groups (SS: curroccupationiscoagg)								
Unknown or non attributable	2 811	75 585	8,0	19,7	39,6	41,8	44,7	[37,5 ; 41,8]
0. Armed forces occupations	145	3 975	41,3	43,2	47,8	54,0	59,3	[45,9 ; 49,8]
1. Managers	15 487	389 601	32,7	39,6	41,5	44,5	49,7	[41,4 ; 41,6]
2. Professionals	20 628	514 791	24,2	34,7	40,7	42,0	47,2	[40,6 ; 40,8]
3. Technicians and associate professionals	24 916	646 272	20,9	33,2	40,9	41,8	44,4	[40,8 ; 41,0]
4. Clerical support workers	11 645	291 681	15,9	24,0	39,2	41,5	42,5	[38,4 ; 39,9]
5. Service and sales workers	17 686	461 651	14,0	23,5	39,3	41,7	44,1	[38,6 ; 40,0]
6. Skilled agricultural, forestry and fishery workers	646	16 964	31,2	39,8	41,6	43,7	46,3	[41,0 ; 42,2]
7. Craft and related trades workers	11 450	317 821	38,3	39,7	41,3	42,3	44,5	[41,3 ; 41,4]
8. Plant and machine operators and assemblers	4 661	127 302	31,9	39,9	41,6	44,2	45,8	[41,4 ; 41,7]
9. Elementary occupations	5 758	157 907	9,2	19,1	39,0	41,5	43,3	[37,5 ; 40,6]
Sex								
Men	62 631	1 655 703	36,1	39,8	41,5	43,2	47,3	[41,4 ; 41,5]
Women	53 202	1 347 846	14,1	21,4	34,0	41,3	42,4	[33,9 ; 34,2]
Age groups								
19 - 35 years old	38 990	1 061 974	20,5	37,4	41,1	42,0	44,6	[41,1 ; 41,2]
36 - 55 years old	60 099	1 525 318	19,5	31,9	40,6	41,9	44,9	[40,5 ; 40,6]
56 - 64 years old	16 744	416 258	17,5	29,3	39,9	41,8	44,7	[39,2 ; 40,6]
Occupation rate (SS: curreactivitystatusii)								
Employed person working full-time (90-100%)	81 091	2 116 951	39,3	40,3	41,5	43,0	47,1	[41,5 ; 41,6]
Employed person working part-time (less than 90%)	34 742	886 597	9,2	16,6	24,0	31,3	33,7	[23,9 ; 24,1]

Annex T 5: Difference between the 2016 ESS and 2016 CCO/SS separate databases on the quantiles of hours worked per week

	Difference between the quantiles of hours worked per week					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	1,4	0,5	-0,4	0,1	-2,3	2 938 642	3 003 549	[40.2 ; 40.7]	[40.9 ; 41.0]
Major ISCO occupational groups									
Unknown or non attributable	16,0	16,3	0,8	0,2	-2,2	719 855	75 585	[39.9 ; 40.9]	[37.5 ; 41.8]
0. Armed forces occupations	-4,5	-4,6	-6,4	-10,0	-14,7	826	3 975	[38.2 ; 44.7]	[45.9 ; 49.8]
1. Managers	-1,2	0,4	-0,5	-2,5	-7,2	240 876	389 601	[40.5 ; 41.5]	[41.4 ; 41.6]
2. Professionals	-3,2	-1,4	-0,7	0,0	-4,8	320 377	514 791	[38.9 ; 41.1]	[40.6 ; 40.8]
3. Technicians and associate professionals	-0,5	-1,2	-0,9	0,1	-1,9	570 517	646 272	[38.9 ; 41.1]	[40.8 ; 41.0]
4. Clerical support workers	0,0	-3,0	-3,2	0,5	-0,1	211 753	291 681	[33.8 ; 38.0]	[38.4 ; 39.9]
5. Service and sales workers	4,8	2,1	0,7	0,3	-1,6	371 912	461 651	[38.9 ; 41.1]	[38.6 ; 40.0]
6. Skilled agricultural, forestry and fishery workers	2,3	1,1	0,3	-1,4	-2,6	8 742	16 964	[40.9 ; 42.9]	[41.0 ; 42.2]
7. Craft and related trades workers	-1,4	0,3	-0,4	-0,3	-1,5	235 356	317 821	[40.7 ; 41.2]	[41.3 ; 41.4]
8. Plant and machine operators and assemblers	7,1	0,1	0,3	-1,3	0,0	111 320	127 302	[41.4 ; 42.4]	[41.4 ; 41.7]
9. Elementary occupations	4,3	9,8	1,5	0,5	-0,8	147 108	157 907	[40.2 ; 40.7]	[37.5 ; 40.6]
Sex									
Men	-1,7	0,2	-0,2	-1,2	-4,3	1 636 969	1 655 703	[41.0 ; 41.5]	[41.4 ; 41.5]
Women	2,7	2,6	-0,4	0,2	-0,4	1 301 673	1 347 846	[33.4 ; 33.8]	[33.9 ; 34.2]
Age groups									
19 - 35 years old	4,1	0,4	-0,1	0,0	-2,1	967 302	1 061 974	[40.7 ; 41.2]	[41.1 ; 41.2]
36 - 55 years old	1,1	0,9	-0,6	0,0	-2,4	1 541 673	1 525 318	[39.0 ; 41.0]	[40.5 ; 40.6]
56 - 64 years old	2,5	2,1	0,1	0,1	-2,3	429 667	416 258	[38.9 ; 41.1]	[39.2 ; 40.6]
Occupation rate									
90% or more	0,6	-0,3	0,4	-1,0	-4,1	2 088 349	2 116 951	[41.7 ; 42.2]	[41.5 ; 41.6]
less than 90%	2,8	2,2	1,0	0,7	-0,2	850 292	886 597	[24.9 ; 25.1]	[23.9 ; 24.1]

Annex T 6: Difference between the 2016 ESS and 2016 CCO/SS separate databases on the quantiles of hours worked per week: women

	Difference between the quantiles of hours worked per week					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	2,7	2,6	-0,4	0,2	-0,4	1 301 673	1 347 846	[33.4 ; 33.8]	[33.9 ; 34.2]
Major ISCO occupational groups									
Unknown or non attributable	10,7	12,3	9,9	0,8	-0,1	286 139	40 574	[36.9 ; 38.7]	[25.6 ; 30.2]
0. Armed forces occupations	-16,9	-4,0	4,5	0,0	-5,6	35	70	[25.6 ; 51.8]	[. ; .]
1. Managers	-2,2	-0,6	0,1	0,1	-2,8	76 217	121 064	[38.9 ; 41.1]	[39.1 ; 40.7]
2. Professionals	-2,3	-0,3	-3,1	0,1	-2,4	131 789	196 899	[33.4 ; 33.8]	[35.9 ; 37.5]
3. Technicians and associate professionals	0,5	-0,3	-2,1	0,1	0,0	302 570	324 242	[33.4 ; 33.8]	[35.2 ; 36.2]
4. Clerical support workers	-2,0	-0,3	-2,6	-1,0	0,1	150 910	202 516	[28.7 ; 30.1]	[31.2 ; 32.7]
5. Service and sales workers	5,8	3,7	2,2	0,9	-0,3	240 812	304 422	[33.3 ; 33.9]	[30.6 ; 32.1]
6. Skilled agricultural, forestry and fishery workers	4,9	0,8	2,5	0,2	-0,4	1 002	2 600	[37.7 ; 46.0]	[36.0 ; 42.7]
7. Craft and related trades workers	0,4	0,1	0,5	0,5	-0,3	26 820	39 409	[37.0 ; 43.0]	[37.5 ; 41.4]
8. Plant and machine operators and assemblers	5,3	7,8	1,2	0,2	-1,3	14 407	21 437	[40.4 ; 41.4]	[37.5 ; 41.9]
9. Elementary occupations	0,9	3,5	8,4	1,9	0,6	70 972	94 612	[29.5 ; 34.4]	[22.3 ; 24.8]
Sex									
Men									
Women	2,7	2,6	-0,4	0,2	-0,4	1 301 673	1 347 846	[33.4 ; 33.8]	[33.9 ; 34.2]
Age groups									
19 - 35 years old	4,3	2,2	0,2	0,3	-0,5	447 494	496 897	[39.0 ; 41.0]	[39.2 ; 40.4]
36 - 55 years old	2,1	0,1	1,2	0,4	0,0	672 239	669 159	[32.3 ; 33.3]	[31.0 ; 32.2]
56 - 64 years old	3,7	1,3	2,1	0,4	0,2	181 940	181 791	[31.0 ; 33.0]	[29.1 ; 30.6]
Occupation rate									
90% or more	-0,9	0,1	0,6	0,0	-2,2	618 111	626 212	[41.7 ; 42.2]	[41.3 ; 41.4]
less than 90%	2,9	0,9	1,3	2,1	0,1	683 562	721 634	[24.3 ; 24.9]	[22.8 ; 23.7]

Annex T 7: Difference between the 2016 ESS and 2016 CCO/SS separate databases on the quantiles of hours worked per week: men

	Difference between the quantiles of hours worked per week					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	-1,7	0,2	-0,2	-1,2	-4,3	1 636 969	1 655 703	[41.0 ; 41.5]	[41.4 ; 41.5]
Major ISCO occupational groups									
Unknown or non attributable	15,1	0,6	-0,3	-1,6	-4,0	433 716	35 011	[40.5 ; 41.5]	[41.0 ; 41.6]
0. Armed forces occupations	-4,4	-5,3	-6,5	-10,0	-14,7	790	3 905	[38.2 ; 44.8]	[46.0 ; 50.0]
1. Managers	-1,4	-0,6	-0,6	-2,9	-7,4	164 659	268 537	[41.0 ; 41.5]	[41.7 ; 42.0]
2. Professionals	-1,6	0,5	-0,3	-0,8	-6,7	188 588	317 892	[40.5 ; 41.5]	[41.2 ; 41.4]
3. Technicians and associate professionals	-3,0	0,1	0,0	-0,7	-2,4	267 947	322 030	[41.2 ; 41.7]	[41.4 ; 41.5]
4. Clerical support workers	-1,7	0,5	0,2	0,0	-2,0	60 844	89 164	[41.0 ; 42.0]	[41.1 ; 41.4]
5. Service and sales workers	3,9	0,3	0,5	-0,6	-1,6	131 100	157 229	[41.5 ; 42.5]	[41.3 ; 41.6]
6. Skilled agricultural, forestry and fishery workers	0,6	0,8	0,2	-1,7	-4,0	7 740	14 364	[40.9 ; 42.9]	[41.1 ; 42.3]
7. Craft and related trades workers	0,8	0,1	-0,4	-0,5	-1,6	208 536	278 412	[40.8 ; 41.2]	[41.3 ; 41.5]
8. Plant and machine operators and assemblers	0,8	-0,1	0,2	-1,4	-0,6	96 913	105 864	[41.5 ; 42.4]	[41.6 ; 41.8]
9. Elementary occupations	18,9	0,6	0,2	-0,1	-1,6	76 136	63 295	[41.2 ; 41.7]	[41.1 ; 41.5]
Sex									
Men	-1,7	0,2	-0,2	-1,2	-4,3	1 636 969	1 655 703	[41.0 ; 41.5]	[41.4 ; 41.5]
Women									
Age groups									
19 - 35 years old	0,6	0,3	0,1	-0,7	-1,9	519 808	565 077	[41.2 ; 41.7]	[41.3 ; 41.5]
36 - 55 years old	-3,0	0,1	-0,3	-2,0	-6,1	869 434	856 159	[41.0 ; 41.5]	[41.5 ; 41.6]
56 - 64 years old	0,2	0,3	-0,2	-1,2	-5,5	247 727	234 467	[41.0 ; 41.4]	[41.3 ; 41.5]
Occupation rate									
90% or more	0,5	-0,7	0,4	-2,1	-5,4	1 470 238	1 490 739	[41.7 ; 42.2]	[41.6 ; 41.7]
less than 90%.	2,2	1,3	-0,2	0,5	-1,0	166 730	164 963	[28.3 ; 29.7]	[28.5 ; 29.9]

Annex T 8: Difference between the 2016 ESS and 2016 CCO/SS separate databases on the quantiles of hours worked per week: 19- to 35-year-olds

	Difference between the quantiles of hours worked per week					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	4,1	0,4	-0,1	0,0	-2,1	967 302	1 061 974	[40.7 ; 41.2]	[41.1 ; 41.2]
Major ISCO occupational groups									
Unknown or non attributable	17,4	20,4	1,3	0,3	-2,0	224 651	31 967	[40.5 ; 41.5]	[36.9 ; 42.6]
0. Armed forces occupations	12,0	-0,3	-0,6	-4,6	-9,1	329	1 845	[42.6 ; 44.9]	[38.8 ; 49.9]
1. Managers	-0,7	0,3	-0,4	-1,4	-6,6	53 829	94 501	[40.5 ; 41.5]	[41.2 ; 41.6]
2. Professionals	-0,1	-1,6	-0,1	0,0	-3,3	124 466	202 573	[40.5 ; 41.4]	[40.9 ; 41.2]
3. Technicians and associate professionals	-2,8	-3,1	-0,2	0,1	-1,7	195 813	237 428	[40.5 ; 41.5]	[41.0 ; 41.3]
4. Clerical support workers	-0,2	-3,2	-0,4	0,2	-0,5	59 581	90 585	[38.5 ; 41.5]	[40.2 ; 40.6]
5. Service and sales workers	6,8	7,6	0,6	0,2	-1,3	139 887	182 450	[40.5 ; 41.5]	[40.2 ; 40.6]
6. Skilled agricultural, forestry and fishery workers	4,2	0,9	0,2	-1,6	-2,1	4 770	7 740	[40.9 ; 43.0]	[40.7 ; 42.7]
7. Craft and related trades workers	0,9	0,2	-0,4	-0,4	-1,5	96 215	133 977	[40.8 ; 41.2]	[41.3 ; 41.5]
8. Plant and machine operators and assemblers	5,5	-0,1	0,3	-1,3	-0,8	29 898	35 582	[41.5 ; 42.4]	[41.4 ; 41.9]
9. Elementary occupations	9,5	20,4	1,4	0,2	-1,4	37 865	43 325	[40.7 ; 41.2]	[37.1 ; 42.0]
Sex									
Men	0,6	0,3	0,1	-0,7	-1,9	519 808	565 077	[41.2 ; 41.7]	[41.3 ; 41.5]
Women	4,3	2,2	0,2	0,3	-0,5	447 494	496 897	[39.0 ; 41.0]	[39.2 ; 40.4]
Age groups									
19 - 35 years old	4,1	0,4	-0,1	0,0	-2,1	967 302	1 061 974	[40.7 ; 41.2]	[41.1 ; 41.2]
36 - 55 years old									
56 - 64 years old									
Occupation rate									
90% or more	0,6	-0,4	0,5	-0,7	-1,9	749 675	807 421	[41.7 ; 42.2]	[41.5 ; 41.6]
less than 90%	4,2	4,4	1,4	1,4	-0,2	217 627	254 553	[25.1 ; 25.3]	[23.0 ; 24.5]

A4. Tables annexed to chapter 9

Annex T 9: Income quantiles calculated for the 2016 ESS separate database

	N	N _{weighted}	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	95% confidence interval for the median
Total	1 431 515	3 109 892	4 431	5 301	6 680	8 732	11 454	[6 589 ; 6 771]
Major ISCO occupational groups (ESS: isco1)								
Unknown or non attributable	323 367	719 855	4 538	5 650	7 314	9 867	13 354	[7 201 ; 7 428]
0. Armed forces occupations	705	826	5 055	6 270	10 102	11 988	14 949	[7 441 ; 12 764]
1. Managers	112 695	240 876	5 911	7 469	9 524	12 227	15 851	[9 300 ; 9 747]
2. Professionals	266 856	491 627	5 681	6 966	8 633	10 523	12 485	[8 464 ; 8 803]
3. Technicians and associate professionals	285 552	570 517	4 950	5 837	6 910	8 183	9 915	[6 858 ; 6 962]
4. Clerical support workers	85 211	211 753	4 399	5 096	5 951	6 932	8 149	[5 864 ; 6 039]
5. Service and sales workers	167 171	371 912	3 872	4 327	4 959	6 100	7 513	[4 858 ; 5 060]
6. Skilled agricultural, forestry and fishery workers	1 712	8 742	4 230	4 639	5 273	6 164	7 344	[5 113 ; 5 433]
7. Craft and related trades workers	71 584	235 356	4 439	5 035	5 774	6 557	7 417	[5 727 ; 5 820]
8. Plant and machine operators and assemblers	50 321	111 320	4 281	4 915	5 669	6 501	7 515	[5 560 ; 5 778]
9. Elementary occupations	66 341	147 108	3 817	4 396	5 078	5 913	6 863	[4 961 ; 5 195]
Sex								
Men	769 521	1 695 072	4 733	5 643	7 082	9 508	12 532	[6 989 ; 7 176]
Women	661 994	1 414 820	4 217	4 933	6 257	7 944	10 023	[6 147 ; 6 368]
Age groups								
19 - 35 years old	448 281	1 009 549	4 159	4 749	5 689	6 989	8 553	[5 630 ; 5 748]
36 - 55 years old	761 552	1 636 295	4 679	5 749	7 254	9 520	12 297	[7 140 ; 7 367]
56 - 64 years old	221 682	464 048	4 815	5 916	7 474	9 923	12 707	[7 340 ; 7 608]
Occupation rate (ESS: ibgr)								
90% or more	1 002 055	2 148 317	4 478	5 361	6 737	8 959	11 995	[6 648 ; 6 825]
less than 90%	429 460	961 575	4 336	5 171	6 559	8 323	10 415	[6 433 ; 6 686]

Annex T 10: Income quantiles calculated for the 2016 CCO/SS separate database

	N	N _{weighted}	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	95% confidence interval for the median
Total	122 849	3 173 838	3 833	5 033	6 616	8 863	11 911	[6 596 ; 6 636]
Major ISCO occupational groups (SS: curroccupationiscoagg)								
Unknown or non attributable	2 811	75 585	2 254	3 881	5 141	6 815	9 327	[5 038 ; 5 245]
0. Armed forces occupations	145	3 975	4 870	6 072	9 241	10 497	12 743	[8 365 ; 10 116]
1. Managers	15 487	389 601	5 273	7 174	9 579	12 834	17 792	[9 503 ; 9 654]
2. Professionals	27 644	685 080	4 789	6 425	8 421	10 825	13 707	[8 370 ; 8 472]
3. Technicians and associate professionals	24 916	646 272	4 546	5 709	7 075	8 758	11 111	[7 041 ; 7 109]
4. Clerical support workers	11 645	291 681	4 009	5 087	6 255	7 573	9 406	[6 211 ; 6 298]
5. Service and sales workers	17 686	461 651	3 052	4 033	4 908	6 279	8 024	[4 881 ; 4 934]
6. Skilled agricultural, forestry and fishery workers	646	16 964	2 747	4 135	5 314	6 718	8 018	[5 158 ; 5 470]
7. Craft and related trades workers	11 450	317 821	3 860	4 852	5 777	6 810	8 015	[5 742 ; 5 812]
8. Plant and machine operators and assemblers	4 661	127 302	3 686	4 726	5 751	6 764	7 954	[5 689 ; 5 813]
9. Elementary occupations	5 758	157 907	2 641	3 754	4 791	5 853	7 137	[4 737 ; 4 845]
Sex								
Men	64 794	1 708 398	4 258	5 501	7 132	9 708	13 150	[7 105 ; 7 160]
Women	58 055	1 465 440	3 491	4 603	6 062	7 961	10 342	[6 036 ; 6 087]
Age groups								
19 - 35 years old	40 957	1 111 470	3 318	4 481	5 610	7 069	8 831	[5 587 ; 5 633]
36 - 55 years old	63 891	1 616 203	4 188	5 556	7 306	9 825	13 112	[7 275 ; 7 338]
56 - 64 years old	18 001	446 165	4 248	5 621	7 446	10 068	13 333	[7 382 ; 7 509]
Occupation rate (SS: curactivitystatusii)								
90% or more	83 860	2 184 126	4 074	5 206	6 778	9 175	12 509	[6 755 ; 6 802]
less than 90%.	38 989	989 712	3 363	4 630	6 269	8 258	10 682	[6 235 ; 6 304]

Annex T 11: Difference between the 2016 ESS and 2016 CCO/SS separate databases on income quantiles

	Difference between the income quantiles					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	598	269	64	-131	-457	3 109 892	3 173 838	[6 589 ; 6 771]	[6 596 ; 6 636]
Major ISCO occupational groups									
Unknown or non attributable	2 284	1 768	2 173	3 052	4 027	719 855	75 585	[7 201 ; 7 428]	[5 038 ; 5 245]
0. Armed forces occupations	185	197	861	1 492	2 205	826	3 975	[7 441 ; 12 764]	[8 365 ; 10 116]
1. Managers	638	295	-55	-607	-1 940	240 876	389 601	[9 300 ; 9 747]	[9 503 ; 9 654]
2. Professionals	892	541	213	-302	-1 222	491 627	685 080	[8 464 ; 8 803]	[8 370 ; 8 472]
3. Technicians and associate professionals	404	128	-165	-575	-1 196	570 517	646 272	[6 858 ; 6 962]	[7 041 ; 7 109]
4. Clerical support workers	390	9	-303	-641	-1 257	211 753	291 681	[5 864 ; 5 039]	[6 211 ; 6 298]
5. Service and sales workers	820	294	52	-179	-510	371 912	461 651	[4 858 ; 5 060]	[4 881 ; 4 934]
6. Skilled agricultural, forestry and fishery workers	1 483	504	-41	-554	-673	8 742	16 964	[5 113 ; 5 433]	[5 158 ; 5 470]
7. Craft and related trades workers	579	183	-3	-253	-598	235 356	317 821	[5 727 ; 5 820]	[5 742 ; 5 812]
8. Plant and machine operators and assemblers	595	190	-82	-263	-439	111 320	127 302	[5 560 ; 5 778]	[5 689 ; 5 813]
9. Elementary occupations	1 177	642	287	60	-274	147 108	157 907	[4 961 ; 5 195]	[4 737 ; 4 845]
Sex									
Men	476	142	-50	-200	-618	1 695 072	1 708 398	[6 989 ; 7 176]	[7 105 ; 7 160]
Women	727	329	196	-17	-319	1 414 820	1 465 440	[6 147 ; 6 368]	[6 036 ; 6 087]
Age groups									
19 - 35 years old	841	268	79	-79	-278	1 009 549	1 111 470	[5 630 ; 5 748]	[5 587 ; 5 633]
36 - 55 years old	491	193	-53	-305	-815	1 636 295	1 616 203	[7 140 ; 7 367]	[7 275 ; 7 338]
56 - 64 years old	566	295	29	-145	-626	464 048	446 165	[7 340 ; 7 608]	[7 382 ; 7 509]
Occupation rate									
90% or more	404	154	-42	-216	-513	2 148 317	2 184 126	[6 648 ; 6 825]	[6 755 ; 6 802]
less than 90%.	973	541	290	66	-267	961 575	989 712	[6 433 ; 6 686]	[6 235 ; 6 304]

Annex T 12: Difference between the 2016 ESS and 2016 CCO/SS separate databases on income quantiles:
women

	Difference between the income quantiles					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	727	329	196	-17	-319	1 414 820	1 465 440	[6 147 ; 6 368]	[6 036 ; 6 087]
Major ISCO occupational groups									
Unknown or non attributable	2 090	1 479	1 854	2 127	2 556	286 139	40 574	[6 507 ; 6 706]	[4 606 ; 4 899]
0. Armed forces occupations	1 001	2 622	3 013	2 922	4 928	35	70	[8 496 ; 12 400]	[. ; .]
1. Managers	551	317	37	-465	-1 094	76 217	121 064	[7 803 ; 8 494]	[8 000 ; 8 221]
2. Professionals	1 151	721	374	-113	-964	244 936	314 493	[8 070 ; 8 529]	[7 859 ; 7 992]
3. Technicians and associate professionals	482	219	-42	-365	-843	302 570	324 242	[6 504 ; 6 619]	[6 559 ; 6 647]
4. Clerical support workers	383	36	-204	-426	-649	150 910	202 516	[5 894 ; 6 065]	[6 133 ; 6 234]
5. Service and sales workers	915	327	62	-94	-388	240 812	304 422	[4 678 ; 4 852]	[4 679 ; 4 726]
6. Skilled agricultural, forestry and fishery workers	2 396	797	207	45	-852	1 002	2 600	[4 540 ; 5 268]	[4 285 ; 5 109]
7. Craft and related trades workers	811	236	26	24	-350	26 820	39 409	[4 709 ; 5 023]	[4 772 ; 4 908]
8. Plant and machine operators and assemblers	660	402	248	-18	-152	14 407	21 437	[4 640 ; 4 906]	[4 433 ; 4 617]
9. Elementary occupations	971	519	175	-70	-487	70 972	94 612	[4 476 ; 4 809]	[4 399 ; 4 534]
Sex									
Men									
Women	727	329	196	-17	-319	1 414 820	1 465 440	[6 147 ; 6 368]	[6 036 ; 6 087]
Age groups									
19 - 35 years old	899	315	153	-1	-319	478 362	533 127	[5 467 ; 5 637]	[5 363 ; 5 435]
36 - 55 years old	610	354	150	-48	-462	733 989	732 037	[6 580 ; 6 829]	[6 517 ; 6 592]
56 - 64 years old	642	323	180	6	-218	202 469	200 276	[6 540 ; 6 870]	[6 439 ; 6 610]
Occupation rate									
90% or more	595	201	141	2	-143	646 440	658 059	[5 926 ; 6 144]	[5 857 ; 5 930]
less than 90%.	842	458	226	-28	-418	768 380	807 381	[6 302 ; 6 554]	[6 164 ; 6 241]

Annex T 13: Difference between the 2016 ESS and 2016 CCO/SS separate databases on income quantiles: men

	Difference between the income quantiles					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	476	142	-50	-200	-618	1 695 072	1 708 398	[6 989 ; 7 176]	[7 105 ; 7 160]
Major ISCO occupational groups									
Unknown or non attributable	2 375	1 817	2 295	3 626	4 527	433 716	35 011	[7 739 ; 8 022]	[5 443 ; 5 729]
0. Armed forces occupations	89	129	798	1 523	2 165	790	3 905	[7 280 ; 12 797]	[8 359 ; 10 123]
1. Managers	696	339	-58	-811	-2 662	164 659	268 537	[10 034 ; 10 391]	[10 163 ; 10 378]
2. Professionals	648	351	98	-294	-1 365	246 691	370 587	[8 864 ; 9 196]	[8 858 ; 9 006]
3. Technicians and associate professionals	327	34	-250	-745	-1 375	267 947	322 030	[7 298 ; 7 431]	[7 555 ; 7 673]
4. Clerical support workers	433	-96	-520	-1 290	-2 403	60 844	89 164	[5 798 ; 5 972]	[6 339 ; 6 471]
5. Service and sales workers	662	206	-55	-373	-677	131 100	157 229	[5 397 ; 5 736]	[5 533 ; 5 711]
6. Skilled agricultural, forestry and fishery workers	1 403	444	-115	-619	-670	7 740	14 364	[5 159 ; 5 478]	[5 217 ; 5 650]
7. Craft and related trades workers	516	153	-34	-274	-650	208 536	278 412	[5 831 ; 5 907]	[5 874 ; 5 933]
8. Plant and machine operators and assemblers	393	35	-170	-338	-512	96 913	105 864	[5 684 ; 5 895]	[5 908 ; 6 012]
9. Elementary occupations	1 470	639	215	-106	-152	76 136	63 295	[5 414 ; 5 534]	[5 179 ; 5 338]
Sex									
Men	476	142	-50	-200	-618	1 695 072	1 708 398	[6 989 ; 7 176]	[7 105 ; 7 160]
Women									
Age groups									
19 - 35 years old	745	202	7	-120	-188	531 187	578 344	[5 750 ; 5 860]	[5 766 ; 5 831]
36 - 55 years old	264	-41	-250	-469	-1 041	902 306	884 165	[7 650 ; 7 916]	[7 986 ; 8 080]
56 - 64 years old	487	101	-99	-257	-1 065	261 579	245 889	[7 996 ; 8 314]	[8 148 ; 8 359]
Occupation rate									
90% or more	325	67	-120	-276	-680	1 501 877	1 526 067	[6 965 ; 7 152]	[7 147 ; 7 209]
less than 90%	1 743	968	624	409	-33	193 195	182 331	[7 125 ; 7 420]	[6 541 ; 6 756]

Annex T 14: Difference between the 2016 ESS and 2016 CCO/SS separate databases on income quantiles: 19- to 35-year-olds

	Difference between the income quantiles					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	841	268	79	-79	-278	1 009 549	1 111 470	[5 630 ; 5 748]	[5 587 ; 5 633]
Major ISCO occupational groups									
Unknown or non attributable	2 433	1 509	1 434	1 612	1 835	224 651	31 967	[5 896 ; 6 064]	[4 433 ; 4 659]
0. Armed forces occupations	484	-11	-393	-211	145	329	1 845	[4 841 ; 6 432]	[5 462 ; 6 598]
1. Managers	370	124	-26	-122	-314	53 829	94 501	[7 019 ; 7 492]	[7 190 ; 7 374]
2. Professionals	978	506	166	-168	-623	166 713	252 070	[6 923 ; 7 157]	[6 810 ; 6 939]
3. Technicians and associate professionals	591	156	-36	-253	-581	195 813	237 428	[5 871 ; 5 962]	[5 903 ; 6 001]
4. Clerical support workers	743	70	-159	-398	-675	59 581	90 585	[5 105 ; 5 208]	[5 244 ; 5 387]
5. Service and sales workers	1 008	363	47	-102	-434	139 887	182 450	[4 546 ; 4 677]	[4 527 ; 4 602]
6. Skilled agricultural, forestry and fishery workers	2 209	908	129	-35	-567	4 770	7 740	[4 728 ; 4 983]	[4 552 ; 4 901]
7. Craft and related trades workers	853	204	24	-76	-316	96 215	133 977	[5 175 ; 5 256]	[5 154 ; 5 229]
8. Plant and machine operators and assemblers	710	339	-25	-184	-259	29 898	35 582	[5 066 ; 5 223]	[5 058 ; 5 280]
9. Elementary occupations	1 471	789	441	134	-288	37 865	43 325	[4 741 ; 4 879]	[4 270 ; 4 468]
Sex									
Men	745	202	7	-120	-188	531 187	578 344	[5 750 ; 5 860]	[5 766 ; 5 831]
Women	899	315	153	-1	-319	478 362	533 127	[5 467 ; 5 636]	[5 363 ; 5 435]
Age groups									
19 - 35 years old	841	268	79	-79	-278	1 009 549	1 111 470	[5 630 ; 5 748]	[5 587 ; 5 633]
36 - 55 years old									
56 - 64 years old									
Occupation rate									
90% or more	639	165	41	-69	-123	765 353	829 109	[5 617 ; 5 728]	[5 606 ; 5 657]
less than 90%	1 342	633	210	-121	-703	244 195	282 361	[5 637 ; 5 849]	[5 479 ; 5 588]

Annex T 15: Difference between the 2016 ESS and 2016 CCO/SS separate databases on income quantiles: 19- to 35-year-olds and women

	Difference between the income quantiles					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	899	315	153	-1	-319	478 362	533 127	[5 468 ; 5 636]	[5 364 ; 5 434]
Major ISCO occupational groups									
Unknown or non attributable	2 353	1 495	1 350	1 411	1 098	99 864	17 486	[5 669 ; 5 840]	[4 248 ; 4 561]
0. Armed forces occupations	-29	494	1 561	3 221	3 946	8	18	[4 828 ; 7 780]	[4 743 ; 4 743]
1. Managers	414	6	-113	-89	-501	23 065	39 070	[6 373 ; 7 048]	[6 646 ; 7 001]
2. Professionals	1 144	601	289	-112	-816	87 565	123 240	[6 805 ; 7 111]	[6 595 ; 6 743]
3. Technicians and associate professionals	723	178	5	-192	-613	107 701	126 503	[5 683 ; 5 823]	[5 687 ; 5 810]
4. Clerical support workers	669	63	-152	-312	-579	40 773	61 853	[5 120 ; 5 229]	[5247 ; 5406]
5. Service and sales workers	966	385	31	-111	-326	90 053	119 221	[4 446 ; 4 557]	[4 436 ; 4 506]
6. Skilled agricultural, forestry and fishery workers	2 410	735	-52	-263	-477	561	1 292	[4 161 ; 4 866]	[4 173 ; 4 957]
7. Craft and related trades workers	914	275	-5	-6	11	10 372	16 503	[4 481 ; 4 801]	[4 547 ; 4 746]
8. Plant and machine operators and assemblers	998	557	395	200	47	3 575	6 652	[4 453 ; 4 700]	[3 965 ; 4 399]
9. Elementary occupations	1 191	703	383	-24	-715	14 825	21 288	[4 320 ; 4 568]	[3 926 ; 4 196]
Sex									
Men									
Women	899	315	153	-1	-319	478 362	533 127	[5 468 ; 5 636]	[5 364 ; 5 434]
Age groups									
19 - 35 years old	899	315	153	-1	-319	478 362	533 127	[5 468 ; 5 636]	[5 364 ; 5 434]
36 - 55 years old									
56 - 64 years old									
Occupation rate									
90% or more	711	213	118	57	-50	295 118	326 232	[5 365 ; 5 534]	[5 289 ; 5 373]
less than 90%	1 141	534	189	-137	-730	183 244	206 894	[5 601 ; 5 821]	[5 459 ; 5586]

Annex T 16: Difference between the 2016 ESS and 2016 CCO/SS separate databases on income quantiles: 19- to 35-year-olds and men

	Difference between the income quantiles					N _{weighted}		95% confidence interval for the median	
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016	ESS 2016	CCO/SS 2016
Total	745	202	7	-120	-188	531 187	578 344	[5 750 ; 5 860]	[5 766 ; 5 830]
Major ISCO occupational groups									
Unknown or non attributable	2 407	1 452	1 402	1 749	2 557	124 788	14 481	[6 064 ; 6 241]	[4 551 ; 4 949]
0. Armed forces occupations	495	-12	-427	-254	121	320	1 827	[4 807 ; 6 404]	[5 466 ; 6 600]
1. Managers	495	257	121	-95	-311	30 764	55 431	[7 522 ; 7 873]	[7 432 ; 7 721]
2. Professionals	780	429	52	-147	-404	79 148	128 830	[7 029 ; 7 236]	[7 001 ; 7 160]
3. Technicians and associate professionals	478	93	-91	-244	-504	88 112	110 925	[6 074 ; 6 177]	[6 145 ; 6 288]
4. Clerical support workers	1 024	121	-181	-597	-793	18 807	28 732	[5 010 ; 5 185]	[5 141 ; 5 416]
5. Service and sales workers	1 035	370	58	-146	-484	49 833	63 229	[4 748 ; 4 973]	[4 724 ; 4 880]
6. Skilled agricultural, forestry and fishery workers	2 252	918	104	-68	-512	4 209	6 448	[4 778 ; 5 038]	[4 615 ; 4 994]
7. Craft and related trades workers	810	174	6	-97	-333	85 843	117 473	[5 237 ; 5 307]	[5 227 ; 5 307]
8. Plant and machine operators and assemblers	593	148	-146	-236	-295	26 323	28 931	[5 133 ; 5 300]	[5 268 ; 5 457]
9. Elementary occupations	1 695	808	368	121	-120	23 040	22 037	[4 962 ; 5 073]	[4 516 ; 4 784]
Sex									
Men	745	202	7	-120	-188	531 187	578 344	[5 750 ; 5 860]	[5 766 ; 5 830]
Women									
Age groups									
19 - 35 years old	745	202	7	-120	-188	531 187	578 344	[5 750 ; 5 860]	[5 766 ; 5 830]
36 - 55 years old									
56 - 64 years old									
Occupation rate									
90% or more	563	124	-23	-125	-139	470 235	502 877	[5 747 ; 5 859]	[5 793 ; 5 860]
less than 90%.	1 788	930	282	-63	-507	60 951	75 467	[5 712 ; 5 952]	[5 451 ; 5 649]

A5. Tables and graphs annexed to chapter 10

I. People with the same number of weekly working hours in the ESS and in the SS

Annex T 17: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to ISCO major occupation group (SS)

	Quantiles of the income differences between ESS:mbis and CCO/SS incomes standardised at 40 hours					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-246	-17	-1	155	595	[-1 ; -1]	11 438	630 642
Major ISCO occupational groups (SS)								
Unknown or non attributable	-365	-67	0	121	560	[-21 ; 21]	159	8 678
0. Armed forces occupations	-83	-42	-1	-1	326	[-2 ; -1]	8	274
1. Managers	-301	-11	-2	134	577	[-2 ; -1]	1 574	84 889
2. Professionals	-345	-29	-1	172	702	[-2 ; 0]	2 559	117 763
3. Technicians and associate professionals	-247	-9	-1	120	553	[-2 ; -1]	2 821	157 993
4. Clerical support workers	-169	-8	-1	96	419	[-1 ; -1]	1 366	71 760
5. Service and sales workers	-165	-18	14	202	621	[-12 ; 39]	1 333	72 837
6. Skilled agricultural, forestry and fishery workers	-304	-255	-12	-1	1 328	[-154 ; 130]	46	5 370
7. Craft and related trades workers	-224	-13	0	235	594	[-10 ; 10]	864	69 252
8. Plant and machine operators and assemblers	-198	-51	-1	352	664	[-28 ; 27]	402	26 310
9. Elementary occupations	-284	-51	-1	100	493	[-2 ; -1]	306	15 516

Annex T 18: Quantiles of the income differences between the 2016 ESS and the CCO/SS 2016 for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to sociodemographic variables (SS, STATPOP)

	Quantiles of the income differences between ESS:mbls and CCO/SS incomes standardised at 40 hours					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-246	-17	-1	155	595	[-1 ; -1]	11 438	630 642
Sex								
Men	-271	-26	-1	133	593	[-1 ; -1]	6 873	379 285
Women	-210	-6	-1	193	628	[-1 ; 0]	4 565	251 357
Age group								
19-35 years old	-218	-9	1	202	622	[-8 ; 10]	3 961	245 629
36-55 years old	-276	-25	-1	115	578	[-2 ; -1]	5 917	300 878
56-64 years old	-255	-12	-2	87	687	[-2 ; -1]	1 560	84 136
Language region								
German- and Romansh-speaking	-230	-12	-1	163	595	[-1 ; -1]	7 427	442 292
French-speaking	-304	-35	-1	132	607	[-2 ; -1]	3 405	159 002
Italian-speaking	-159	-6	-1	128	575	[-1 ; -1]	606	29 348
Migration status (aggregated)								
Missing values	-1 336	-83	-5	24	335	[-46 ; 36]	40	1 992
Swiss without migration background	-191	-6	-1	163	595	[-1 ; -1]	6 705	376 270
Swiss with migration background	-287	-43	-1	83	538	[-2 ; -1]	1 876	85 779
Foreigner in the 1st generation	-348	-52	-1	184	605	[-2 ; 0]	2 460	145 864
Foreigner in the 2nd generation	-262	-25	0	81	536	[-12 ; 12]	355	20 613
Foreigner in the 3rd or higher generation	47	47	47	62	71	[. ; .]	2	124
Level of education								
Secondary level I	-283	-90	-1	160	481	[-8 ; 6]	986	56 957
Secondary level II	-195	-9	-1	156	595	[-1 ; 0]	5 241	318 120
Tertiary level	-318	-20	-1	152	617	[-2 ; -1]	5 211	255 565
Occupation rate (SS)								
Employed person working full- time (90-100%)	-239	-16	-1	154	584	[-1 ; -1]	9 793	539 646
Employed person working part- time (less than 90%)	-284	-23	-1	155	729	[-2 ; -1]	1 645	90 996

Annex T 19: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to major employment area (SS)

	Quantiles of the income differences between ESS:mbis and CCO/SS incomes standardised at 40 hours					95% confidence interval for the	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	median		
Total	-246	-17	-1	155	595	[-1 ; -1]	11 438	630 642
Large employment areas								
Aarau - Olten	-179	-28	-1	75	404	[-2 ; -1]	461	31 263
Basel	-273	-28	-1	113	669	[-4 ; 2]	781	46 731
Bellinzona	-159	-4	-1	123	389	[-15 ; 13]	271	12 911
Bern	-121	-6	-1	191	714	[-10 ; 8]	827	45 266
Biel/Bienne	-161	-5	-1	79	317	[-6 ; 3]	337	27 674
Chur	-168	-41	-1	104	944	[-7 ; 4]	185	10 357
Fribourg	-305	-4	18	223	476	[-12 ; 49]	368	22 777
Genève	-303	-77	-2	164	623	[-2 ; -1]	1 228	53 511
Lausanne	-330	-17	-1	118	607	[-2 ; 0]	1 225	52 700
Lugano	-157	-24	-1	143	595	[-2 ; 0]	332	16 282
Luzern	-154	-5	-1	114	604	[-6 ; 4]	749	36 646
Neuchâtel	-234	-37	-1	111	709	[-5 ; 3]	397	16 195
Sion	-319	-97	-2	115	364	[-5 ; 1]	225	16 210
St. Gallen	-180	-5	4	330	591	[-30 ; 38]	629	43 530
Winterthur - Schaffhausen	-226	-14	-1	206	761	[-8 ; 6]	665	34 685
Zürich	-322	-21	-1	199	572	[-2 ; 0]	2 758	163 904

Annex T 20: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to enterprise characteristics (STATENT)

	Quantiles of the income differences between ESS:mbils and CCO/SS incomes standardised at 40 hours					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-246	-17	-1	155	595	[-1 ; -1]	11 438	630 642
Enterprise size (in number of employees, STATENT)								
Micro (1-19)	-155	-4	-1	301	626	[-2 ; 0]	474	97 794
Small (20-49)	-245	-26	-1	63	386	[-2 ; -1]	928	74 810
Medium (50-249)	-254	-24	-2	114	420	[-2 ; -1]	1 942	135 167
Large (250+)	-263	-27	-1	178	671	[-3 ; 2]	8 094	322 871
NOGA (STATENT)								
B. MINING AND QUARRYING	-39	-39	-35	-1	8	[. ; .]	3	103
C. MANUFACTURING	-280	-25	-1	117	576	[-1 ; -1]	2 129	118 937
D. ELECTRICITY, GAS, STEAM AND AIR-CONDITIONING SUPPLY	-707	-321	-155	-2	235	[-331 ; 21]	161	6 453
E. WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND F	-545	-133	-11	31	236	[-104 ; 83]	30	2 027
F. CONSTRUCTION	-174	-4	3	231	689	[-34 ; 39]	233	35 149
G. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHIC	-126	-5	10	263	724	[-14 ; 34]	1 399	89 606
H. TRANSPORTATION AND STORAGE	-299	-67	0	140	676	[-8 ; 7]	1 007	44 163
I. ACCOMMODATION AND FOOD SERVICE ACTIVITIES	-105	-11	0	204	381	[-21 ; 21]	131	14 834
J. INFORMATION AND COMMUNICATION	-492	-129	-1	203	643	[-24 ; 21]	725	32 090
K. FINANCIAL AND INSURANCE ACTIVITIES	-212	-8	0	217	716	[-14 ; 13]	1 245	49 488
L. REAL ESTATE ACTIVITIES	-91	-2	62	303	416	[-1 ; 125]	69	6 654
M. PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	-218	-6	-2	90	528	[-2 ; -1]	563	41 776
N. ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	-295	-74	-1	184	1 001	[-15 ; 12]	175	13 686
O. PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SO	-137	-6	-2	132	496	[-2 ; -1]	1 996	89 919
P. EDUCATION	-625	-321	-2	20	580	[-37 ; 33]	248	11 974
Q. HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	-282	-68	-1	106	468	[-2 ; 0]	1 090	58 407
R. ARTS, ENTERTAINMENT AND RECREATION	-336	-3	-1	248	681	[-3 ; 0]	69	4 463
S. OTHER SERVICE ACTIVITIES	-161	-3	-1	17	547	[-2 ; -1]	165	10 914

Annex T 21: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to occupation (SS)

	Quantiles of the income differences between ESS:mbis and CCO/SS incomes standardised at 40 hours					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-246	-17	-1	155	595	[-1 ; -1]	11 438	630 642
Occupation (SS, ISCO sub-major groups)								
Unknown or non attributable	-365	-67	0	121	560	[-21 ; 21]	159	8 678
01. Commissioned armed forces officers	1 623	1 623	1 623	1 623	1 623	[1 623 ; 1 623]	1	34
03. Armed forces occupations, other ranks	-83	-57	-2	-1	-1	[-28 ; 25]	7	240
10.	-265	-14	-2	99	427	[-3 ; -1]	405	18 355
11. Chief executives, senior officials and legislators	-400	-31	-1	263	924	[-3 ; 0]	291	16 957
12. Administrative and commercial managers	-278	-5	-2	159	821	[-4 ; -1]	435	26 593
13. Production and specialized services managers	-299	-18	-2	101	425	[-3 ; -1]	392	19 576
14. Hospitality, retail and other services managers	-580	-80	0	213	332	[-76 ; 76]	51	3 408
20.	-351	-3	0	218	583	[-43 ; 43]	114	4 735
21. Science and engineering professionals	-274	-8	-1	107	539	[-12 ; 10]	446	21 203
22. Health professionals	-316	-78	9	176	698	[-7 ; 26]	209	9 031
23. Teaching professionals	-270	-4	5	398	996	[-36 ; 47]	270	11 611
24. Business and administration professionals	-225	-15	-1	105	573	[-2 ; -1]	642	32 029
25. Information and communications technology professionals	-507	-129	-2	169	702	[-4 ; 0]	586	26 133
26. Legal, social and cultural professionals	-268	-28	-2	324	875	[-5 ; 2]	292	13 021
30.	-251	-18	-2	69	406	[-5 ; 2]	282	16 748
31. Science and engineering associate professionals	-266	-13	-1	85	477	[-2 ; 0]	639	36 398
32. Health associate professionals	-282	-56	-1	197	605	[-17 ; 16]	418	22 160
33. Business and administration associate professionals	-166	-4	-1	150	608	[-2 ; -1]	1 200	66 020
34. Legal, social, cultural and related associate professionals	-150	-3	-1	103	366	[-9 ; 7]	168	11 247
35. Information and communications technicians	-668	-191	-1	99	492	[-25 ; 22]	114	5 421
40.	-2	-2	2	9	76	[. ; .]	3	129
41. General and keyboard clerks	-140	-4	-1	96	411	[-2 ; -1]	896	51 987
42. Customer services clerks	-380	-97	-1	43	270	[-5 ; 4]	174	7 255
43. Numerical and material recording clerks	-216	-18	-1	147	1 099	[-12 ; 10]	181	8 837
44. Other clerical support workers	-174	-26	-2	22	297	[-4 ; 0]	112	3 552
50.	-3	-2	-1	97	420	[-109 ; 107]	28	1 647
51. Personal service workers	-192	-63	-1	125	456	[-3 ; 0]	324	19 312
52. Sales workers	-129	-5	7	155	691	[-18 ; 33]	582	29 331
53. Personal care workers	-160	-2	186	202	222	[32 ; 339]	157	12 345
54. Protective services workers	-205	-33	40	249	954	[9 ; 70]	242	10 202
61. Market-oriented skilled agricultural workers	-304	-257	-12	-2	1 158	[-155 ; 131]	41	5 115
62. Market-oriented skilled forestry, fishery and hunting workers	-406	-141	-5	2 604	4 791	[. ; .]	5	255
70.	-345	-255	-3	48	629	[-272 ; 265]	19	601
71. Building and related trades workers, excluding electricians	-249	-11	9	378	1 221	[-46 ; 64]	113	14 987
72. Metal, machinery and related trades workers	-149	-23	-1	49	433	[-2 ; 0]	255	19 158
73. Handicraft and printing workers	-232	-160	-1	100	384	[-28 ; 26]	114	7 666
74. Electrical and electronic trades workers	-155	-13	-1	257	585	[-47 ; 45]	226	15 428
75. Food processing, wood working, garment and other craft and related trades workers	-269	-2	48	570	575	[-239 ; 336]	137	11 413
80.	-60	-38	-2	-2	-1	[. ; .]	4	157
81. Stationary plant and machine operators	-165	-14	-1	135	785	[-9 ; 6]	136	7 984
82. Assemblers	-127	-108	-50	-1	89	[-148 ; 48]	32	2 173
83. Drivers and mobile plant operators	-269	-55	47	353	682	[-130 ; 224]	230	15 995
90.	-313	-65	-1	91	556	[-5 ; 3]	154	7 011
91. Cleaners and helpers	-92	-43	11	291	446	[-54 ; 75]	45	2 003
92. Agricultural, forestry and fishery labourers	-10	-10	42	99	133	[. ; .]	2	85
93. Labourers in mining, construction, manufacturing and transport	-284	-90	-2	39	219	[-42 ; 39]	88	5 427
96. Refuse workers and other elementary workers	-378	-14	-2	718	1 185	[-511 ; 507]	17	990

The unlabelled codes are the codes used in the SS indicating non-distributable occupations from the next ISCO hierarchical level

Annex T 22: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to ISCO major occupation group (SS)

	Differences in income quantiles between ESS : mbls and CCO/SS standardised at 40 hours					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	161	147	34	125	45	[6 593 ; 6 996]	[6 586 ; 6 936]	11 438	630 642
Major ISCO occupational groups (SS)									
Unknown or non attributable	418	140	89	-178	188	[4 727 ; 5 661]	[4 586 ; 5 623]	159	8 678
0. Armed forces occupations	-2	-1	-40	-1	1 022	[4 437 ; 5 318]	[4 479 ; 5 356]	8	274
1. Managers	5	144	127	-4	220	[8 784 ; 9 498]	[8 610 ; 9 417]	1 574	84 889
2. Professionals	176	112	109	123	-62	[7 977 ; 8 517]	[7 887 ; 8 389]	2 559	117 763
3. Technicians and associate professionals	96	121	81	66	286	[6 844 ; 7 401]	[6 763 ; 7 320]	2 821	157 993
4. Clerical support workers	65	145	145	152	-112	[6 152 ; 6 580]	[5 976 ; 6 466]	1 366	71 760
5. Service and sales workers	345	86	117	119	149	[5 012 ; 5 541]	[4 881 ; 5 437]	1 333	72 837
6. Skilled agricultural, forestry and fishery workers	775	74	-53	12	41	[4 745 ; 7 839]	[4 053 ; 8 636]	46	5 370
7. Craft and related trades workers	413	73	140	31	-13	[5 705 ; 6 157]	[5 482 ; 6 100]	864	69 252
8. Plant and machine operators and assemblers	370	195	43	45	420	[5 233 ; 5 989]	[5 198 ; 5 939]	402	26 310
9. Elementary occupations	239	131	204	69	224	[5 082 ; 5 663]	[4 846 ; 5 492]	306	15 516

Annex T 23: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to sociodemographic variables (SS, STATPOP)

	Differences in income quantiles between ESS : mbls and CCO/SS standardised at 40 hours					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	161	147	34	125	45	[6 593 ; 6 996]	[6 586 ; 6 936]	11 438	630 642
Sex									
Men	145	130	129	99	48	[7 008 ; 7 414]	[6 881 ; 7 284]	6 873	379 285
Women	131	129	131	91	253	[6 031 ; 6 493]	[5 890 ; 6 371]	4 565	251 357
Age group									
19-35 years old	238	123	121	125	142	[5 708 ; 6 090]	[5 584 ; 5 973]	3 961	245 629
36-55 years old	26	133	65	73	76	[7 264 ; 7 702]	[7 177 ; 7 660]	5 917	300 878
56-64 years old	302	161	25	100	-217	[7 282 ; 7 846]	[7 281 ; 7 798]	1 560	84 136
Language region									
German- and Romansh-speaking	141	177	63	105	78	[6 597 ; 7 076]	[6 567 ; 6 980]	7 427	442 292
French-speaking	83	61	80	90	-75	[6 639 ; 7 233]	[6 571 ; 7 141]	3 405	159 002
Italian-speaking	217	87	142	137	257	[6 046 ; 6 691]	[5 876 ; 6 578]	606	29 348
Migration status (aggregated)									
Missing values	-156	-4	185	4	4	[5 692 ; 7 617]	[5 543 ; 7 395]	40	1 992
Swiss without migration background	141	181	113	143	87	[6 743 ; 7 148]	[6 641 ; 7 024]	6 705	376 270
Swiss with migration background	60	72	16	120	25	[6 561 ; 7 238]	[6 537 ; 7 230]	1 876	85 779
Foreigner in the 1st generation	221	85	32	95	-340	[6 236 ; 6 827]	[6 147 ; 6 852]	2 460	145 864
Foreigner in the 2nd generation	264	64	21	-3	-28	[5 502 ; 6 489]	[5 480 ; 6 470]	355	20 613
Foreigner in the 3rd or higher generation	47	47	47	62	71	[. ; .]	[. ; .]	2	124
Level of education									
Secondary level I	315	109	68	106	-28	[4 837 ; 5 419]	[4 791 ; 5 328]	986	56 957
Secondary level II	176	88	127	56	100	[6 064 ; 6 378]	[5 924 ; 6 264]	5 241	318 120
Tertiary level	193	102	120	60	18	[8 219 ; 8 684]	[8 109 ; 8 554]	5 211	255 565
Occupation rate (SS)									
Employed person working full-time (90-100%)	142	132	57	107	3	[6 612 ; 7 027]	[6 576 ; 6 949]	9 793	539 646
Employed person working part-time (less than 90%)	163	105	27	130	322	[6 451 ; 7 021]	[6 424 ; 6 993]	1 645	90 996

Annex T 24: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to major employment area (SS)

	Differences in income quantiles between ESS : mbls and CCO/SS standardised at 40 hours					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	161	147	34	125	45	[6 593 ; 6 996]	[6 586 ; 6 936]	11 438	630 642
Large employment areas									
Aarau - Olten	78	86	35	41	52	[6 440 ; 7 585]	[6 400 ; 7 554]	461	31 263
Basel	192	49	75	194	33	[6 845 ; 7 981]	[6 797 ; 7 878]	781	46 731
Bellinzona	127	-123	35	27	51	[5 352 ; 6 322]	[5 255 ; 6 349]	271	12 911
Bern	177	165	132	229	216	[6 282 ; 7 057]	[6 134 ; 6 941]	827	45 266
Biel/Bienne	71	-14	43	240	-15	[5 708 ; 6 937]	[5 729 ; 6 829]	337	27 674
Chur	121	69	139	302	393	[5 893 ; 6 643]	[5 902 ; 6 354]	185	10 357
Fribourg	383	103	142	164	201	[5 836 ; 6 602]	[5 671 ; 6 483]	368	22 777
Genève	37	45	74	23	-2	[7 691 ; 8 191]	[7 620 ; 8 113]	1 228	53 511
Lausanne	80	41	5	64	162	[6 169 ; 7 043]	[6 202 ; 6 999]	1 225	52 700
Lugano	8	116	4	-17	433	[6 124 ; 6 870]	[6 075 ; 6 911]	332	16 282
Luzern	44	63	73	78	262	[5 849 ; 6 516]	[5 749 ; 6 469]	749	36 646
Neuchâtel	103	43	296	-64	-193	[6 133 ; 6 959]	[5 830 ; 6 670]	397	16 195
Sion	-88	43	53	-110	54	[6 152 ; 7 230]	[6 173 ; 7 102]	225	16 210
St. Gallen	159	50	101	284	40	[5 701 ; 6 701]	[5 469 ; 6 729]	629	43 530
Winterthur - Schaffhausen	173	172	185	406	10	[6 439 ; 7 231]	[6 233 ; 7 067]	665	34 685
Zürich	190	220	96	89	14	[6 754 ; 7 577]	[6 683 ; 7 455]	2 758	163 904

Annex T 25: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to enterprise characteristics (STATENT)

	Differences in income quantiles between ESS : mbis and CCO/SS standardised at 40 hours					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	161	147	34	125	45	[6 593 ; 6 996]	[6 586 ; 6 936]	11 438	630 642
Enterprise size (in number of employees, STATENT)									
Micro (1-19)	444	101	185	213	48	[5 870 ; 6 516]	[5 682 ; 6 334]	474	97 794
Small (20-49)	93	132	-25	3	184	[6 189 ; 6 854]	[6 162 ; 6 930]	928	74 810
Medium (50-249)	112	134	-53	34	194	[6 214 ; 6 969]	[6 280 ; 7 010]	1 942	135 167
Large (250+)	179	162	118	157	117	[7 010 ; 7 528]	[6 886 ; 7 418]	8 094	322 871
NOGA (STATENT)									
B. MINING AND QUARRYING	-39	-39	-33	13	4	[. ; .]	[. ; .]	3	103
C. MANUFACTURING	76	164	-13	130	16	[6 245 ; 6 821]	[6 259 ; 6 833]	2 129	118 937
D. ELECTRICITY, GAS, STEAM AND AIR-CONDITIONING SUPPLY	27	-21	-456	-361	-224	[7 647 ; 8 975]	[7 937 ; 9 596]	161	6 453
E. WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION	16	9	-133	26	-626	[4 722 ; 6 434]	[4 800 ; 6 623]	30	2 027
F. CONSTRUCTION	713	15	123	187	171	[5 806 ; 6 341]	[5 549 ; 6 353]	233	35 149
G. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	342	103	128	350	228	[5 241 ; 6 435]	[5 129 ; 6 292]	1 399	89 606
H. TRANSPORTATION AND STORAGE	341	52	155	250	211	[6 032 ; 7 293]	[5 961 ; 7 055]	1 007	44 163
I. ACCOMMODATION AND FOOD SERVICE ACTIVITIES	31	182	54	-40	25	[4 214 ; 4 876]	[4 212 ; 4 770]	131	14 834
J. INFORMATION AND COMMUNICATION	88	106	181	-22	-371	[8 222 ; 9 780]	[8 134 ; 9 505]	725	32 090
K. FINANCIAL AND INSURANCE ACTIVITIES	210	56	116	-44	332	[8 190 ; 9 130]	[8 169 ; 8 919]	1 245	49 488
L. REAL ESTATE ACTIVITIES	76	68	202	491	644	[4 977 ; 7 664]	[4 651 ; 7 586]	69	6 654
M. PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	-3	68	13	119	-1	[7 230 ; 7 962]	[7 122 ; 8 044]	563	41 776
N. ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	815	157	61	64	143	[4 872 ; 5 955]	[4 984 ; 5 722]	175	13 686
O. PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY	202	72	27	126	17	[7 200 ; 7 933]	[7 152 ; 7 927]	1 996	89 919
P. EDUCATION	-166	374	20	-48	-33	[6 652 ; 7 810]	[6 598 ; 7 824]	248	11 974
Q. HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	76	149	13	-2	-176	[6 201 ; 6 653]	[6 123 ; 6 706]	1 090	58 407
R. ARTS, ENTERTAINMENT AND RECREATION	192	215	466	107	25	[6 340 ; 8 438]	[5 889 ; 7 956]	69	4 463
S. OTHER SERVICE ACTIVITIES	91	45	25	0	-201	[6 439 ; 8 208]	[6 337 ; 8 261]	165	10 914

Annex T 26: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, for people with the same number of weekly working hours in the ESS and in the SS and for identical standardisation between the ESS and CCO/SS, according to occupation (SS)

	Differences in income quantiles between ESS : mbls and CCO/SS standardised at 40 hours					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	161	147	34	125	45	[6 593 ; 6 996]	[6 586 ; 6 936]	11 438	630 642
Occupation (SS, ISCO sub-major groups)									
Unknown or non attributable	418	140	89	-178	188	[4 727 ; 5 661]	[4 586 ; 5 623]	159	8 678
01. Commissioned armed forces officers	1 623	1 623	1 623	1 623	1 623	[7 983 ; 7 983]	[6 360 ; 6 360]	1	34
03. Armed forces occupations, other ranks	-2	-2	-72	-1	-1	[4 355 ; 4 779]	[4 428 ; 4 851]	7	240
10.	47	258	84	-7	-84	[8 571 ; 9 447]	[8 384 ; 9 467]	405	18 355
11. Chief executives, senior officials and legislators	58	-22	196	52	41	[8 350 ; 9 863]	[8 023 ; 9 798]	291	16 957
12. Administrative and commercial managers	22	125	184	-74	-172	[8 775 ; 10 455]	[8 437 ; 10 426]	435	26 593
13. Production and specialized services managers	21	58	151	370	558	[8 585 ; 9 948]	[8 379 ; 9 853]	392	19 576
14. Hospitality, retail and other services managers	389	7	258	44	-1 557	[3 896 ; 7 289]	[3 828 ; 6 841]	51	3 408
20.	274	345	325	63	47	[6 964 ; 8 421]	[6 603 ; 8 131]	114	4 735
21. Science and engineering professionals	161	84	122	52	-177	[7 830 ; 8 683]	[7 723 ; 8 546]	446	21 203
22. Health professionals	53	151	61	237	-541	[6 435 ; 7 853]	[6 375 ; 7 790]	209	9 031
23. Teaching professionals	322	347	171	146	66	[8 852 ; 10 172]	[8 748 ; 9 935]	270	11 611
24. Business and administration professionals	173	150	10	36	-9	[6 651 ; 7 730]	[6 645 ; 7 715]	642	32 029
25. Information and communications technology professionals	64	141	198	89	380	[8 903 ; 9 890]	[8 685 ; 9 711]	586	26 133
26. Legal, social and cultural professionals	500	352	353	130	-34	[7 755 ; 8 932]	[7 211 ; 8 769]	292	13 021
30.	196	-140	105	155	-50	[6 132 ; 7 437]	[6 074 ; 7 284]	282	16 748
31. Science and engineering associate professionals	122	59	39	3	111	[6 632 ; 7 368]	[6 579 ; 7 344]	639	36 398
32. Health associate professionals	293	174	62	47	-74	[6 156 ; 6 672]	[5 928 ; 6 776]	418	22 160
33. Business and administration associate professionals	97	134	-1	165	57	[7 250 ; 7 823]	[7 215 ; 7 859]	1 200	66 020
34. Legal, social, cultural and related associate professionals	36	45	-11	-154	-7	[6 141 ; 7 867]	[6 087 ; 7 942]	168	11 247
35. Information and communications technicians	148	123	40	-21	-139	[6 445 ; 7 845]	[6 316 ; 7 894]	114	5 421
40.	120	120	39	2	6	[. ; .]	[. ; .]	3	129
41. General and keyboard clerks	63	140	64	102	150	[6 250 ; 6 712]	[6 191 ; 6 643]	896	51 987
42. Customer services clerks	99	86	-1	-77	-160	[5 520 ; 6 389]	[5 540 ; 6 370]	174	7 255
43. Numerical and material recording clerks	86	6	603	38	-15	[5 916 ; 7 155]	[5 355 ; 6 510]	181	8 837
44. Other clerical support workers	193	51	25	41	-291	[5 691 ; 6 030]	[5 650 ; 6 021]	112	3 552
50.	108	85	123	-1	-2	[5 498 ; 7 826]	[5 258 ; 7 819]	28	1 647
51. Personal service workers	29	239	187	76	-2	[4 776 ; 5 382]	[4 586 ; 5 198]	324	19 312
52. Sales workers	506	104	72	203	214	[4 523 ; 4 812]	[4 441 ; 4 750]	582	29 331
53. Personal care workers	143	88	178	154	-134	[4 832 ; 5 841]	[4 698 ; 5 619]	157	12 345
54. Protective services workers	-7	250	75	202	420	[6 536 ; 8 036]	[6 500 ; 7 921]	242	10 202
61. Market-oriented skilled agricultural workers	775	804	-67	67	-7	[4 687 ; 7 812]	[3 931 ; 8 702]	41	5 115
62. Market-oriented skilled forestry, fishery and hunting workers	9	-9	521	3 126	4 610	[. ; .]	[. ; .]	5	255
70.	1 134	-32	-37	86	190	[5 335 ; 6 721]	[5 265 ; 6 864]	19	601
71. Building and related trades workers, excluding electricians	401	384	382	-24	-6	[5 447 ; 6 620]	[5 089 ; 6 213]	113	14 987
72. Metal, machinery and related trades workers	130	-20	-48	23	-17	[5 609 ; 6 430]	[5 611 ; 6 524]	255	19 158
73. Handicraft and printing workers	401	86	-163	226	5	[4 866 ; 6 259]	[4 936 ; 6 516]	114	7 666
74. Electrical and electronic trades workers	-104	153	-12	525	-167	[5 841 ; 6 860]	[5 842 ; 6 882]	226	15 428
75. Food processing, wood working, garment and other craft and related trades workers	104	32	414	276	-21	[5 047 ; 6 153]	[4 859 ; 5 512]	137	11 413
80.	-60	-43	-6	-2	-2	[. ; .]	[. ; .]	4	157
81. Stationary plant and machine operators	254	184	268	55	238	[5 418 ; 6 277]	[5 130 ; 6 030]	136	7 984
82. Assemblers	288	-115	-79	-37	-3	[4 780 ; 5 851]	[5 051 ; 5 740]	32	2 173
83. Drivers and mobile plant operators	284	277	63	32	722	[4 897 ; 6 370]	[4 695 ; 6 446]	230	15 995
90.	258	81	137	66	760	[4 926 ; 5 835]	[4 813 ; 5 674]	154	7 011
91. Cleaners and helpers	308	446	120	213	-136	[4 255 ; 4 806]	[3 994 ; 4 826]	45	2 003
92. Agricultural, forestry and fishery labourers	-10	-10	42	99	133	[. ; .]	[. ; .]	2	85
93. Labourers in mining, construction, manufacturing and transport	47	-11	148	-149	227	[4 941 ; 5 786]	[4 737 ; 5 694]	88	5 427
96. Refuse workers and other elementary workers	1 066	1 146	400	28	217	[. ; .]	[4 201 ; 6 886]	17	990

The unlabelled codes are the codes used in the SS indicating non-distributable occupations from the next ISCO hierarchical level

II. Entire linked database

Annex T 27: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, according to ISCO major occupation group (SS)

	Quantiles of the income differences between ESS:mbis and CCO/SS 'actual' incomes					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-718	-361	-150	290	1 154	[-163 ; -136]	28 810	1 696 209
Major ISCO occupational groups (SS)								
Unknown or non attributable	-892	-338	-132	292	1 180	[-225 ; -38]	468	28 407
0. Armed forces occupations	-2 039	-867	-476	65	1 003	[-865 ; -87]	83	2 427
1. Managers	-1 037	-527	-225	503	2 001	[-277 ; -173]	4 016	230 673
2. Professionals	-967	-419	-154	432	1 370	[-188 ; -119]	7 249	348 410
3. Technicians and associate professionals	-635	-347	-167	236	1 048	[-191 ; -142]	6 928	397 721
4. Clerical support workers	-666	-332	-195	70	653	[-221 ; -170]	3 045	179 842
5. Service and sales workers	-558	-276	-83	302	1 029	[-132 ; -34]	3 262	204 762
6. Skilled agricultural, forestry and fishery workers	-1 183	-594	-462	-54	1 703	[-635 ; -289]	85	11 045
7. Craft and related trades workers	-412	-244	-43	346	817	[-98 ; 11]	1 867	175 228
8. Plant and machine operators and assemblers	-714	-409	-134	217	872	[-211 ; -57]	1 030	72 221
9. Elementary occupations	-525	-280	-97	319	998	[-160 ; -35]	777	45 474

Annex T 28: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, according to sociodemographic variables (SS, STATPOP)

	Quantiles of the income differences between ESS:mbls and CCO/SS 'actual' incomes					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-718	-361	-150	290	1 154	[-163 ; -136]	28 810	1 696 209
Sex								
Men	-712	-380	-154	287	1 166	[-172 ; -136]	16 136	957 557
Women	-732	-340	-146	296	1 138	[-168 ; -125]	12 674	738 652
Age group								
19-35 years old	-560	-276	-97	291	977	[-121 ; -74]	9 138	594 249
36-55 years old	-816	-402	-177	324	1 198	[-195 ; -158]	15 583	875 094
56-64 years old	-789	-418	-200	214	1 202	[-235 ; -164]	4 079	226 866
Language region								
German- and Romansh-speaking	-699	-357	-141	316	1 180	[-160 ; -122]	18 914	1 228 323
French-speaking	-792	-382	-169	240	1 110	[-185 ; -153]	8 631	407 585
Italian-speaking	-595	-309	-166	217	903	[-200 ; -131]	1 265	60 301
Migration status (aggregated)								
Missing values	-509	-242	-24	43	565	[-124 ; 75]	101	6 971
Swiss without migration background	-702	-360	-155	269	1 113	[-171 ; -138]	17 467	1 024 313
Swiss with migration background	-686	-374	-154	301	1 137	[-181 ; -127]	4 445	224 136
Foreigner in the 1st generation	-821	-380	-140	344	1 299	[-175 ; -105]	6 057	394 150
Foreigner in the 2nd generation	-568	-283	-137	212	944	[-188 ; -85]	730	46 221
Foreigner in the 3rd or higher generation	-345	-210	-136	328	633	[-474 ; 203]	10	418
Level of education								
Secondary level I	-583	-309	-118	233	857	[-172 ; -63]	2 456	159 119
Secondary level II	-601	-314	-145	228	978	[-166 ; -124]	12 260	822 190
Tertiary level	-918	-434	-167	396	1 510	[-189 ; -144]	14 094	714 899
Occupation rate (SS)								
Employed person working full-time (90-100%)	-633	-336	-136	308	1 185	[-153 ; -119]	21 797	1 297 332
Employed person working part-time (less than 90%)	-1 218	-464	-199	223	1 137	[-221 ; -177]	7 013	398 877

Annex T 29: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, according to the major employment areas (SS)

	Quantiles of the income differences between ESS:mbis and CCO/SS 'actual' incomes					95% confidence interval for the	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	median		
Total	-718	-361	-150	290	1 154	[-163 ; -136]	28 810	1 696 209
Large employment areas								
Aarau - Olten	-592	-360	-120	362	1 051	[-206 ; -33]	1 155	96 315
Basel	-681	-374	-158	398	1 368	[-203 ; -113]	1 671	105 407
Bellinzona	-551	-289	-182	98	901	[-236 ; -128]	567	25 054
Bern	-654	-319	-132	384	1 299	[-180 ; -84]	2 498	149 133
Biel/Bienne	-755	-401	-162	79	716	[-216 ; -109]	842	76 884
Chur	-564	-332	-185	142	841	[-277 ; -93]	495	40 309
Fribourg	-688	-329	-132	238	762	[-165 ; -98]	969	60 713
Genève	-900	-438	-203	399	1 573	[-253 ; -153]	2 239	104 156
Lausanne	-790	-380	-172	210	1 112	[-190 ; -154]	4 031	161 299
Lugano	-679	-341	-159	219	925	[-226 ; -91]	690	34 917
Luzern	-610	-317	-143	212	1 049	[-184 ; -102]	2 191	110 423
Neuchâtel	-675	-342	-139	319	1 014	[-183 ; -94]	907	38 819
Sion	-609	-318	-122	171	817	[-191 ; -54]	619	49 670
St. Gallen	-573	-322	-98	369	909	[-154 ; -41]	1 587	113 520
Winterthur - Schaffhausen	-805	-349	-164	301	1 365	[-251 ; -78]	1 589	100 413
Zürich	-816	-395	-147	351	1 227	[-181 ; -114]	6 760	429 176

Annex T 30: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, according to enterprise characteristics (STATENT)

	Quantiles of the income differences between ESS:mbis and CCO/SS 'actual' incomes					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-718	-361	-150	290	1 154	[-163 ; -136]	28 810	1 696 209
Enterprise size (in number of employees, STATENT)								
Micro (1-19)	-683	-348	-116	478	1 350	[-177 ; -55]	1 381	333 757
Small (20-49)	-755	-353	-171	153	827	[-208 ; -133]	2 055	217 913
Medium (50-249)	-631	-341	-145	242	1 123	[-170 ; -119]	5 184	361 487
Large (250+)	-765	-377	-156	287	1 202	[-171 ; -141]	20 190	783 052
NOGA (STATENT)								
B. MINING AND QUARRYING	-1 036	-344	-187	-22	141	[-467 ; 92]	19	946
C. MANUFACTURING	-650	-336	-153	213	793	[-179 ; -128]	4 506	279 477
D. ELECTRICITY, GAS, STEAM AND AIR-CONDITIONING SUPPLY	-926	-572	-264	-39	399	[-402 ; -125]	301	12 676
E. WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND F	-898	-431	-267	29	384	[-392 ; -141]	79	5 747
F. CONSTRUCTION	-554	-244	0	434	1 030	[-102 ; 103]	872	113 399
G. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHIC	-593	-299	-121	292	1 280	[-157 ; -85]	3 113	236 741
H. TRANSPORTATION AND STORAGE	-702	-379	-181	194	914	[-226 ; -136]	2 180	91 270
I. ACCOMMODATION AND FOOD SERVICE ACTIVITIES	-442	-238	46	180	751	[-66 ; 158]	358	53 070
J. INFORMATION AND COMMUNICATION	-985	-457	-212	282	1 346	[-285 ; -140]	1 275	63 811
K. FINANCIAL AND INSURANCE ACTIVITIES	-904	-442	-180	375	1 736	[-221 ; -140]	2 900	117 510
L. REAL ESTATE ACTIVITIES	-648	-274	-87	235	1 298	[-216 ; 42]	169	14 905
M. PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	-1 001	-407	-204	372	1 164	[-245 ; -163]	1 622	128 170
N. ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	-920	-365	-71	428	1 987	[-196 ; 53]	462	48 331
O. PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SO	-653	-386	-196	232	1 137	[-230 ; -163]	6 272	247 652
P. EDUCATION	-825	-473	-195	556	1 764	[-327 ; -64]	838	40 286
Q. HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	-903	-409	-146	415	1 344	[-190 ; -103]	3 292	197 098
R. ARTS, ENTERTAINMENT AND RECREATION	-595	-336	-113	450	1 111	[-258 ; 32]	166	12 745
S. OTHER SERVICE ACTIVITIES	-977	-391	-142	326	1 572	[-273 ; -11]	386	32 374

Annex T 31: Quantiles of the income differences between the 2016 ESS and the 2016 CCO/SS for the linked database, according to occupation (SS)

	Quantiles of the income differences between ESS:mbis and CCO/SS 'actual' incomes					95% confidence interval for the median	N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile			
Total	-718	-361	-150	290	1 154	[-163 ; -136]	28 810	1 696 209
Occupation (SS, ISCO sub-major groups)								
Unknown or non attributable	-892	-338	-132	292	1 180	[-225 ; -38]	468	28 407
01. Commissioned armed forces officers	-2 729	-1 788	-162	39	1 252	[-1 169 ; 846]	24	632
02. Non-commissioned armed forces officers	-2 217	-897	-508	37	486	[-962 ; -54]	28	806
03. Armed forces occupations, other ranks	-1 485	-688	-504	243	966	[-727 ; -280]	31	989
10.	-766	-440	-212	386	1 193	[-280 ; -145]	943	48 481
11. Chief executives, senior officials and legislators	-1 816	-916	-333	751	2 918	[-552 ; -113]	809	53 350
12. Administrative and commercial managers	-874	-452	-141	731	2 134	[-215 ; -67]	1 145	63 189
13. Production and specialized services managers	-708	-482	-316	326	1 997	[-433 ; -199]	986	56 278
14. Hospitality, retail and other services managers	-901	-415	-34	248	643	[-185 ; 117]	133	9 376
20.	-932	-423	-163	442	1 406	[-249 ; -76]	394	15 729
21. Science and engineering professionals	-726	-350	-154	263	1 004	[-209 ; -99]	1 094	59 010
22. Health professionals	-2 239	-1 069	-206	521	1 575	[-344 ; -68]	747	37 414
23. Teaching professionals	-936	-378	74	967	2 113	[-57 ; 204]	1 446	62 358
24. Business and administration professionals	-688	-387	-197	300	1 202	[-232 ; -161]	1 524	78 919
25. Information and communications technology professionals	-878	-444	-224	158	903	[-261 ; -187]	1 110	51 519
26. Legal, social and cultural professionals	-1 019	-503	-169	463	1 324	[-245 ; -93]	934	43 460
30.	-572	-354	-170	516	1 322	[-283 ; -57]	663	39 352
31. Science and engineering associate professionals	-539	-305	-141	247	722	[-191 ; -92]	1 484	91 741
32. Health associate professionals	-699	-391	-148	305	1 050	[-191 ; -105]	1 294	66 052
33. Business and administration associate professionals	-695	-357	-209	189	981	[-246 ; -172]	2 781	157 231
34. Legal, social, cultural and related associate professionals	-571	-333	-138	220	998	[-254 ; -22]	478	32 305
35. Information and communications technicians	-875	-379	-156	173	815	[-227 ; -85]	228	11 040
40.	-237	-237	-233	-109	-60	[. ; .]	4	170
41. General and keyboard clerks	-717	-348	-206	50	608	[-231 ; -182]	2 015	133 941
42. Customer services clerks	-665	-290	-166	162	653	[-274 ; -58]	400	18 131
43. Numerical and material recording clerks	-637	-281	-150	38	572	[-187 ; -113]	418	20 445
44. Other clerical support workers	-384	-231	-146	388	1 277	[-235 ; -56]	208	7 155
50.	-456	-266	-157	32	278	[-286 ; -29]	69	3 707
51. Personal service workers	-558	-314	-54	286	993	[-167 ; 58]	850	67 388
52. Sales workers	-524	-259	-123	212	997	[-158 ; -87]	1 191	70 969
53. Personal care workers	-528	-232	12	414	865	[-70 ; 94]	629	39 606
54. Protective services workers	-541	-315	-44	553	1 435	[-290 ; 202]	523	23 092
61. Market-oriented skilled agricultural workers	-1 183	-594	-463	-201	1 079	[-637 ; -289]	75	10 657
62. Market-oriented skilled forestry, fishery and hunting workers	-751	-450	-32	1 509	4 078	[-1 882 ; 1 817]	10	388
70.	-648	-423	-218	357	673	[-317 ; -119]	38	1 080
71. Building and related trades workers, excluding electricians	-419	-224	-16	454	793	[-128 ; 97]	368	51 592
72. Metal, machinery and related trades workers	-519	-269	-131	114	709	[-203 ; -59]	571	50 850
73. Handicraft and printing workers	-263	-163	-26	251	530	[-126 ; 75]	217	14 587
74. Electrical and electronic trades workers	-311	-195	12	411	1 707	[-114 ; 138]	382	29 090
75. Food processing, wood working, garment and other craft and related trades workers	-405	-279	-34	349	650	[-203 ; 135]	291	28 029
80.	-1 499	-1 270	-345	-170	-12	[-1 029 ; 340]	12	540
81. Stationary plant and machine operators	-543	-279	-66	238	728	[-161 ; 30]	356	22 904
82. Assemblers	-300	-238	-116	196	574	[-267 ; 35]	91	7 352
83. Drivers and mobile plant operators	-868	-583	-163	186	1 077	[-300 ; -25]	571	41 426
90.	-480	-307	-126	346	869	[-202 ; -50]	337	17 669
91. Cleaners and helpers	-450	-214	19	575	2 219	[-123 ; 161]	144	7 795
92. Agricultural, forestry and fishery labourers	-1 132	-764	-241	-26	-22	[-738 ; 257]	14	1 009
93. Labourers in mining, construction, manufacturing and transport	-577	-268	-121	167	685	[-198 ; -43]	244	16 198
94. Food preparation assistants	-604	-604	-604	-604	-604	[-604 ; -604]	1	20
96. Refuse workers and other elementary workers	-553	-264	749	1 302	1 649	[-116 ; 1 614]	37	2 783

The unlabelled codes are the codes used in the SS indicating non-distributable occupations from the next ISCO hierarchical level

Annex T 32: Income quantiles according to the 2016 ESS for the linked database

	N	N _{weighted}	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	95% confidence interval for the median
Total	28 810	1 696 209	4 534	5 407	6 726	8 711	11 396	[6 615 ; 6 837]
Major ISCO occupational groups (ESS)								
Unknown or non attributable	468	28 407	3 899	4 493	5 397	6 233	8 076	[5 069 ; 5 724]
0. Armed forces occupations	83	2 427	4 525	5 889	7 999	9 821	11 874	[7 332 ; 8 667]
1. Managers	4 016	230 673	6 091	7 268	9 369	12 014	16 020	[9 024 ; 9 714]
2. Professionals	7 249	348 410	5 500	6 683	8 207	10 416	12 815	[8 042 ; 8 373]
3. Technicians and associate professionals	6 928	397 721	4 966	5 935	6 996	8 591	10 557	[6 828 ; 7 164]
4. Clerical support workers	3 045	179 842	4 626	5 332	6 196	7 222	8 565	[6 030 ; 6 362]
5. Service and sales workers	3 262	204 762	3 982	4 366	5 026	6 237	7 792	[4 835 ; 5 216]
6. Skilled agricultural, forestry and fishery workers	85	11 045	4 396	4 628	5 404	6 628	7 621	[4 465 ; 6 342]
7. Craft and related trades workers	1 867	175 228	4 469	5 135	5 810	6 741	7 472	[5 682 ; 5 938]
8. Plant and machine operators and assemblers	1 030	72 221	3 994	4 829	5 519	6 510	7 703	[5 287 ; 5 751]
9. Elementary occupations	777	45 474	3 944	4 514	5 206	6 126	7 566	[4 984 ; 5 428]
Sex (STATPOP)								
Men	16 136	957 557	4 753	5 719	7 136	9 442	12 495	[7 002 ; 7 270]
Women	12 674	738 652	4 348	5 091	6 296	7 808	9 832	[6 173 ; 6 420]
Age group (STATPOP)								
19-35 years old	9 138	594 249	4 256	4 839	5 847	7 189	8 855	[5 717 ; 5 977]
36-55 years old	15 593	875 094	4 853	5 905	7 267	9 487	12 415	[7 128 ; 7 406]
56-64 years old	4 079	226 866	4 897	5 946	7 536	9 680	12 596	[7 292 ; 7 780]
Occupation rate (ESS)								
Employed person working full-time (90-100%)	21 797	1 297 332	4 548	5 423	6 782	8 917	11 928	[6 649 ; 6 915]
Employed person working part-time (less than 90%)	7 013	398 877	4 477	5 334	6 538	8 139	9 941	[6 393 ; 6 683]

Annex T 33: Income quantiles according to the 2016 CCO/SS for the linked database

	N	N _{weighted}	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	95% confidence interval for the median
Total	28 810	1 696 209	4 414	5 360	6 737	8 760	11 382	[6 621 ; 6 853]
Major ISCO occupational groups (SS)								
Unknown or non attributable	468	28 407	3 507	4 394	5 441	6 329	8 303	[5 006 ; 5 876]
0. Armed forces occupations	83	2 427	4 708	5 864	8 680	10 091	12 388	[7 670 ; 9 690]
1. Managers	4 016	230 673	5 759	7 387	9 331	12 045	15 839	[9 009 ; 9 653]
2. Professionals	7 249	348 410	5 272	6 567	8 222	10 366	12 998	[8 049 ; 8 395]
3. Technicians and associate professionals	6 928	397 721	4 839	5 849	7 045	8 646	10 586	[6 886 ; 7 204]
4. Clerical support workers	3 045	179 842	4 570	5 310	6 335	7 409	8 785	[6 162 ; 6 509]
5. Service and sales workers	3 262	204 762	3 629	4 313	4 995	6 286	7 850	[4 823 ; 5 166]
6. Skilled agricultural, forestry and fishery workers	85	11 045	3 510	5 306	5 763	7 099	8 171	[4 889 ; 6 637]
7. Craft and related trades workers	1 867	175 228	4 228	5 063	5 783	6 741	7 568	[5 603 ; 5 962]
8. Plant and machine operators and assemblers	1 030	72 221	4 033	4 759	5 704	6 565	7 862	[5 517 ; 5 891]
9. Elementary occupations	777	45 474	3 621	4 213	5 122	6 109	7 431	[4 937 ; 5 306]
Sex								
Men	16 136	957 557	4 687	5 668	7 173	9 477	12 414	[7 032 ; 7 313]
Women	12 674	738 652	4 187	5 004	6 313	7 870	9 867	[6 172 ; 6 453]
Age group								
19-35 years old	9 138	594 249	3 987	4 806	5 799	7 208	8 925	[5 672 ; 5 927]
36-55 years old	15 593	875 094	4 735	5 832	7 313	9 553	12 422	[7 151 ; 7 475]
56-64 years old	4 079	226 866	4 918	5 968	7 574	9 737	12 673	[7 272 ; 7 876]
Occupation rate (SS)								
Employed person working full-time (90-100%)	21 797	1 297 332	4 429	5 369	6 747	8 896	11 832	[6 612 ; 6 883]
Employed person working part-time (less than 90%)	7 013	398 877	4 377	5 292	6 719	8 319	10 164	[6 586 ; 6 852]

Annex T 34: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, according to ISCO major occupation group (SS)

	Differences in income quantiles between ESS : mbis and 'actual' CCO/SS					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	120	47	-11	-49	13	[6 615 ; 6 837]	[6 621 ; 6 853]	28 810	1 696 209
Major ISCO occupational groups (SS)									
Unknown or non attributable	392	99	-44	-96	-227	[5 069 ; 5 724]	[5 006 ; 5 876]	468	28 407
0. Armed forces occupations	-183	24	-681	-270	-514	[7 332 ; 8 667]	[7 670 ; 9 690]	83	2 427
1. Managers	331	-119	38	-32	182	[9 024 ; 9 714]	[9 009 ; 9 653]	4 016	230 673
2. Professionals	228	116	-15	50	-183	[8 042 ; 8 373]	[8 049 ; 8 395]	7 249	348 410
3. Technicians and associate professionals	127	86	-49	-55	-29	[6 828 ; 7 164]	[6 886 ; 7 204]	6 928	397 721
4. Clerical support workers	55	22	-140	-187	-220	[6 030 ; 6 362]	[6 162 ; 6 509]	3 045	179 842
5. Service and sales workers	353	54	31	-50	-58	[4 835 ; 5 216]	[4 823 ; 5 166]	3 262	204 762
6. Skilled agricultural, forestry and fishery workers	886	-678	-359	-472	-550	[4 465 ; 6 342]	[4 889 ; 6 637]	85	11 045
7. Craft and related trades workers	241	71	27	-1	-96	[5 682 ; 5 938]	[5 603 ; 5 962]	1 867	175 228
8. Plant and machine operators and assemblers	-38	71	-185	-55	-159	[5 287 ; 5 751]	[5 517 ; 5 891]	1 030	72 221
9. Elementary occupations	323	301	85	17	136	[4 984 ; 5 428]	[4 937 ; 5 306]	777	45 474

Annex T 35: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, according to sociodemographic variables (SS, STATPOP)

	Differences in income quantiles between ESS : mbis and 'actual' CCO/SS					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	120	47	-11	-49	13	[6 615 ; 6 837]	[6 621 ; 6 853]	28 810	1 696 209
Sex									
Men	66	51	-37	-35	82	[7 002 ; 7 270]	[7 032 ; 7 313]	16 136	957 557
Women	161	86	-16	-62	-35	[6 173 ; 6 420]	[6 172 ; 6 453]	12 674	738 652
Age group									
19-35 years old	269	33	48	-19	-70	[5 717 ; 5 977]	[5 672 ; 5 927]	9 138	594 249
36-55 years old	119	73	-46	-66	-7	[7 128 ; 7 406]	[7 151 ; 7 475]	15 593	875 094
56-64 years old	-21	-21	-38	-57	-77	[7 292 ; 7 780]	[7 272 ; 7 876]	4 079	226 866
Language region									
German- and Romansh-speaking	137	51	-1	-25	38	[6 612 ; 6 890]	[6 617 ; 6 888]	18 914	1 228 323
French-speaking	82	58	-46	-141	-92	[6 597 ; 6 928]	[6 622 ; 6 994]	8 631	407 585
Italian-speaking	100	-34	-94	30	464	[6 036 ; 6 568]	[6 099 ; 6 693]	1 265	60 301
Migration status (aggregated)									
Missing values	109	30	-95	-69	-130	[4 738 ; 7 029]	[4 916 ; 7 041]	101	6 971
Swiss without migration background	72	53	-41	-30	67	[6 775 ; 7 036]	[6 831 ; 7 063]	17 467	1 024 313
Swiss with migration background	6	152	-115	-136	275	[6 402 ; 7 031]	[6 570 ; 7 093]	4 445	224 136
Foreigner in the 1st generation	215	101	140	-69	-207	[6 105 ; 6 537]	[5 983 ; 6 379]	6 057	394 150
Foreigner in the 2nd generation	324	69	25	-32	-142	[5 655 ; 6 217]	[5 654 ; 6 169]	730	46 221
Foreigner in the 3rd or higher generation	672	369	-148	153	-373	[3 550 ; 5 919]	[3 478 ; 6 286]	10	418
Level of education									
Secondary level I	273	41	-28	-14	-143	[5 051 ; 5 371]	[5 056 ; 5 421]	2 456	159 119
Secondary level II	183	69	-35	-80	-115	[5 963 ; 6 154]	[5 954 ; 6 233]	12 260	822 190
Tertiary level	211	95	-29	-20	74	[8 164 ; 8 534]	[8 209 ; 8 547]	14 094	714 899
Occupation rate (SS)									
Employed person working full-time (90-100%)	119	54	34	21	96	[6 649 ; 6 915]	[6 612 ; 6 883]	21 797	1 297 332
Employed person working part-time (less than 90%)	100	42	-181	-180	-223	[6 393 ; 6 683]	[6 586 ; 6 852]	7 013	398 877

Annex T 36: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, according to major employment area (SS)

	Differences in income quantiles between ESS : mbis and 'actual' CCO/SS					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	120	47	-11	-49	13	[6 615 ; 6 837]	[6 621 ; 6 853]	28 810	1 696 209
Large employment areas									
Aarau - Olten	30	259	48	-64	6	[6 014 ; 6 733]	[5 981 ; 6 670]	1 155	96 315
Basel	608	41	-38	-39	-3	[6 689 ; 7 598]	[6 787 ; 7 576]	1 671	105 407
Bellinzona	293	-105	-173	69	-355	[5 605 ; 6 422]	[5 768 ; 6 606]	567	25 054
Bern	159	87	46	8	151	[6 368 ; 6 876]	[6 206 ; 6 946]	2 498	149 133
Biel/Bienne	145	-105	-106	-207	-52	[6 018 ; 6 818]	[6 131 ; 6 917]	842	76 884
Chur	-398	133	-38	-4	517	[5 911 ; 6 630]	[5 848 ; 6 769]	495	40 309
Fribourg	155	45	-46	70	-102	[6 226 ; 6 757]	[6 315 ; 6 760]	969	60 713
Genève	110	-62	-125	92	222	[7 531 ; 8 111]	[7 645 ; 8 247]	2 239	104 156
Lausanne	62	50	-102	-121	-33	[6 418 ; 6 933]	[6 502 ; 7 053]	4 031	161 299
Lugano	-135	35	58	-98	463	[6 195 ; 6 770]	[6 099 ; 6 750]	690	34 917
Luzern	229	-51	-37	-121	384	[5 968 ; 6 507]	[6 021 ; 6 528]	2 191	110 423
Neuchâtel	44	35	39	-198	-146	[6 181 ; 6 690]	[6 188 ; 6 606]	907	38 819
Sion	242	132	19	-261	-538	[5 950 ; 6 595]	[5 896 ; 6 612]	619	49 670
St. Gallen	93	-10	-3	216	-83	[6 004 ; 6 725]	[6 012 ; 6 724]	1 587	113 520
Winterthur - Schaffhausen	120	-164	198	-95	63	[6 485 ; 7 249]	[6 324 ; 7 014]	1 589	100 413
Zürich	60	183	-6	18	-21	[6 960 ; 7 350]	[6 950 ; 7 372]	6 760	429 176

Annex T 37: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, according to enterprise characteristics (STATENT)

	Differences in income quantiles between ESS : mbis and 'actual' CCO/SS					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	120	47	-11	-49	13	[6 615 ; 6 837]	[6 621 ; 6 853]	28 810	1 696 209
Enterprise size (in number of employees, STATENT)									
Micro (1-19)	346	88	110	68	-5	[5 801 ; 6 209]	[5 706 ; 6 083]	1 381	333 757
Small (20-49)	66	-99	-169	-162	-227	[6 024 ; 6 569]	[6 204 ; 6 728]	2 055	217 913
Medium (50-249)	89	77	23	-64	-112	[6 412 ; 6 724]	[6 370 ; 6 719]	5 184	361 487
Large (250+)	80	48	-14	27	62	[7 173 ; 7 553]	[7 176 ; 7 577]	20 190	783 052
NOGA (STATENT)									
B. MINING AND QUARRYING	-174	-175	-152	-736	44	[6 067 ; 6 951]	[6 191 ; 7 132]	19	946
C. MANUFACTURING	64	-44	-92	-113	-120	[6 272 ; 6 696]	[6 368 ; 6 783]	4 506	279 477
D. ELECTRICITY, GAS, STEAM AND AIR-CONDITIONING SUPPLY	-113	-175	-243	-600	-587	[7 372 ; 8 662]	[7 542 ; 8 980]	301	12 676
E. WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION	49	-62	-228	-219	-801	[5 395 ; 6 093]	[5 571 ; 6 373]	79	5 747
F. CONSTRUCTION	236	103	56	97	147	[5 926 ; 6 327]	[5 879 ; 6 261]	872	113 399
G. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	116	-18	-33	183	242	[5 469 ; 6 114]	[5 544 ; 6 105]	3 113	236 741
H. TRANSPORTATION AND STORAGE	129	-5	-25	15	44	[5 940 ; 7 296]	[6 036 ; 7 250]	2 180	91 270
I. ACCOMMODATION AND FOOD SERVICE ACTIVITIES	135	211	43	20	288	[4 278 ; 4 666]	[4 227 ; 4 632]	358	53 070
J. INFORMATION AND COMMUNICATION	276	21	-49	-81	-155	[7 931 ; 9 135]	[7 944 ; 9 219]	1 275	63 811
K. FINANCIAL AND INSURANCE ACTIVITIES	-25	-139	-15	-85	529	[8 692 ; 9 536]	[8 762 ; 9 497]	2 900	117 510
L. REAL ESTATE ACTIVITIES	-1	122	-112	312	-76	[5 932 ; 7 059]	[5 980 ; 7 235]	169	14 905
M. PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	45	75	-162	-110	-246	[7 129 ; 7 729]	[7 289 ; 7 893]	1 622	128 170
N. ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	428	-158	83	254	587	[5 377 ; 6 307]	[5 390 ; 6 129]	462	48 331
O. PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY	26	-23	-85	-22	-34	[7 404 ; 8 057]	[7 506 ; 8 125]	6 272	247 652
P. EDUCATION	-226	408	39	170	369	[7 061 ; 7 753]	[7 062 ; 7 675]	838	40 286
Q. HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	362	160	-29	-46	-286	[6 170 ; 6 547]	[6 160 ; 6 614]	3 292	197 098
R. ARTS, ENTERTAINMENT AND RECREATION	186	211	243	29	-137	[5 948 ; 7 302]	[5 889 ; 6 875]	166	12 745
S. OTHER SERVICE ACTIVITIES	137	213	-164	-610	79	[6 116 ; 7 081]	[6 020 ; 7 506]	386	32 374

Annex T 38: Differences in income quantiles between the 2016 ESS and the 2016 CCO/SS for the linked database, according to occupation (SS)

	Differences in income quantiles between ESS : mbls and 'actual' CCO/SS					95% confidence interval for the median		N	N _{weighted}
	1 st decile	1 st quartile	median	3 rd quartile	9 th decile	ESS 2016	CCO/SS 2016		
Total	120	47	-11	-49	13	[6 615 ; 6 837]	[6 621 ; 6 853]	28 810	1 696 209
Occupation (SS, ISCO sub-major groups)									
Unknown or non attributable	392	99	-44	-96	-227	[5 069 ; 5 724]	[5 006 ; 5 876]	468	28 407
01. Commissioned armed forces officers	897	-371	-1 064	49	-1 571	[9 212 ; 10 172]	[10 002 ; 11 509]	24	632
02. Non-commissioned armed forces officers	94	-458	-1 258	-320	-831	[7 819 ; 8 465]	[7 165 ; 11 635]	28	806
03. Armed forces occupations, other ranks	-321	-188	-45	-455	139	[5 461 ; 7 245]	[5 593 ; 7 203]	31	989
10.	419	-29	-73	-10	-39	[8 458 ; 9 305]	[8 455 ; 9 453]	943	48 481
11. Chief executives, senior officials and legislators	246	310	-191	-213	-2 330	[9 319 ; 11 020]	[9 418 ; 11 304]	809	53 350
12. Administrative and commercial managers	-38	2	285	-59	438	[9 891 ; 10 610]	[9 399 ; 10 533]	1 145	63 189
13. Production and specialized services managers	461	-345	-156	120	373	[7 828 ; 9 474]	[7 979 ; 9 636]	986	56 278
14. Hospitality, retail and other services managers	2	60	175	-12	-1 422	[4 720 ; 6 549]	[4 706 ; 6 212]	133	9 376
20.	17	63	-100	-15	-520	[7 727 ; 9 107]	[7 681 ; 9 354]	394	15 729
21. Science and engineering professionals	122	127	-35	-101	-262	[7 635 ; 8 233]	[7 672 ; 8 265]	1 094	59 010
22. Health professionals	395	206	-194	-548	-685	[7 190 ; 8 004]	[7 132 ; 8 448]	747	37 414
23. Teaching professionals	234	346	368	313	204	[8 558 ; 9 226]	[8 040 ; 9 008]	1 446	62 358
24. Business and administration professionals	-5	29	-135	94	250	[7 251 ; 7 904]	[7 346 ; 8 079]	1 524	78 919
25. Information and communications technology professionals	99	-95	109	-47	-153	[8 896 ; 9 720]	[8 854 ; 9 544]	1 110	51 519
26. Legal, social and cultural professionals	19	117	-56	47	-220	[7 745 ; 8 454]	[7 727 ; 8 585]	934	43 460
30.	343	407	-30	-80	-79	[6 220 ; 7 256]	[6 209 ; 7 327]	663	39 352
31. Science and engineering associate professionals	283	21	-47	-72	-129	[6 816 ; 7 407]	[6 921 ; 7 395]	1 484	91 741
32. Health associate professionals	263	61	-25	-37	-175	[6 321 ; 6 821]	[6 398 ; 6 793]	1 294	66 052
33. Business and administration associate professionals	37	44	-95	-132	112	[7 132 ; 7 592]	[7 159 ; 7 755]	2 781	157 231
34. Legal, social, cultural and related associate professionals	298	176	5	38	232	[5 763 ; 6 845]	[5 659 ; 6 939]	478	32 305
35. Information and communications technicians	-121	-28	-83	-350	-466	[6 537 ; 7 626]	[6 690 ; 7 639]	228	11 040
40.	-30	-32	-134	-232	-235	[...]	[...]	4	170
41. General and keyboard clerks	35	-17	-136	-240	-212	[6 124 ; 6 469]	[6 276 ; 6 590]	2 015	133 941
42. Customer services clerks	72	195	-28	-262	-152	[5 443 ; 6 218]	[5 363 ; 6 355]	400	18 131
43. Numerical and material recording clerks	-66	-141	85	-274	-180	[5 395 ; 6 606]	[5 532 ; 6 300]	418	20 445
44. Other clerical support workers	594	190	-88	-19	-126	[5 456 ; 6 239]	[5 566 ; 6 306]	208	7 155
50.	72	-135	-205	-239	-410	[5 768 ; 7 270]	[6 048 ; 7 401]	69	3 707
51. Personal service workers	204	155	-8	132	-111	[4 458 ; 4 808]	[4 443 ; 4 839]	850	67 388
52. Sales workers	445	61	-26	-127	-80	[4 581 ; 4 889]	[4 606 ; 4 917]	1 191	70 969
53. Personal care workers	286	84	12	-43	-195	[5 175 ; 5 547]	[5 136 ; 5 562]	629	39 606
54. Protective services workers	495	346	221	11	604	[6 708 ; 7 679]	[6 211 ; 7 735]	523	23 092
61. Market-oriented skilled agricultural workers	892	-690	-380	-536	-534	[4 417 ; 6 319]	[4 868 ; 6 628]	75	10 657
62. Market-oriented skilled forestry, fishery and hunting workers	105	-70	-448	2 206	3 815	[3 369 ; 10 630]	[5 515 ; 9 380]	10	388
70.	-76	-7	-134	-50	526	[5 494 ; 7 233]	[6 003 ; 6 992]	38	1 080
71. Building and related trades workers, excluding electricians	167	265	60	308	-34	[5 659 ; 6 104]	[5 470 ; 6 172]	368	51 592
72. Metal, machinery and related trades workers	246	-8	7	-165	-228	[5 539 ; 6 041]	[5 580 ; 5 985]	571	50 850
73. Handicraft and printing workers	320	51	-37	50	-23	[5 076 ; 5 961]	[5 041 ; 6 070]	217	14 587
74. Electrical and electronic trades workers	412	90	-81	293	296	[5 825 ; 6 857]	[5 850 ; 6 992]	382	29 090
75. Food processing, wood working, garment and other craft and related trades workers	-70	-16	368	-168	-174	[5 362 ; 6 174]	[5 108 ; 5 691]	291	28 029
80.	-833	-1 087	-434	-790	-316	[4 192 ; 7 263]	[4 534 ; 7 789]	12	540
81. Stationary plant and machine operators	-68	19	-13	-136	-228	[5 148 ; 5 740]	[5 174 ; 5 741]	356	22 904
82. Assemblers	312	-4	-164	154	-100	[4 786 ; 5 941]	[5 098 ; 5 957]	91	7 352
83. Drivers and mobile plant operators	-202	16	-295	-40	-223	[5 236 ; 5 969]	[5 638 ; 6 156]	571	41 426
90.	181	338	71	64	145	[4 822 ; 5 487]	[4 774 ; 5 391]	337	17 669
91. Cleaners and helpers	176	175	223	459	828	[4 377 ; 5 076]	[4 023 ; 4 884]	144	7 795
92. Agricultural, forestry and fishery labourers	-806	-722	-35	-162	-267	[3 299 ; 5 842]	[3 723 ; 5 488]	14	1 009
93. Labourers in mining, construction, manufacturing and transport	184	53	40	101	68	[5 267 ; 5 888]	[5 259 ; 5 816]	244	16 198
94. Food preparation assistants	-604	-604	-604	-604	-604	[4 290 ; 4 290]	[4 894 ; 4 894]	1	20
96. Refuse workers and other elementary workers	1 916	1 588	824	-21	-354	[4 556 ; 6 639]	[2 938 ; 6 609]	37	2 783

The unlabelled codes are the codes used in the SS indicating non-distributable occupations from the next ISCO hierarchical level