

Labour Force Survey microdataset pre-processing

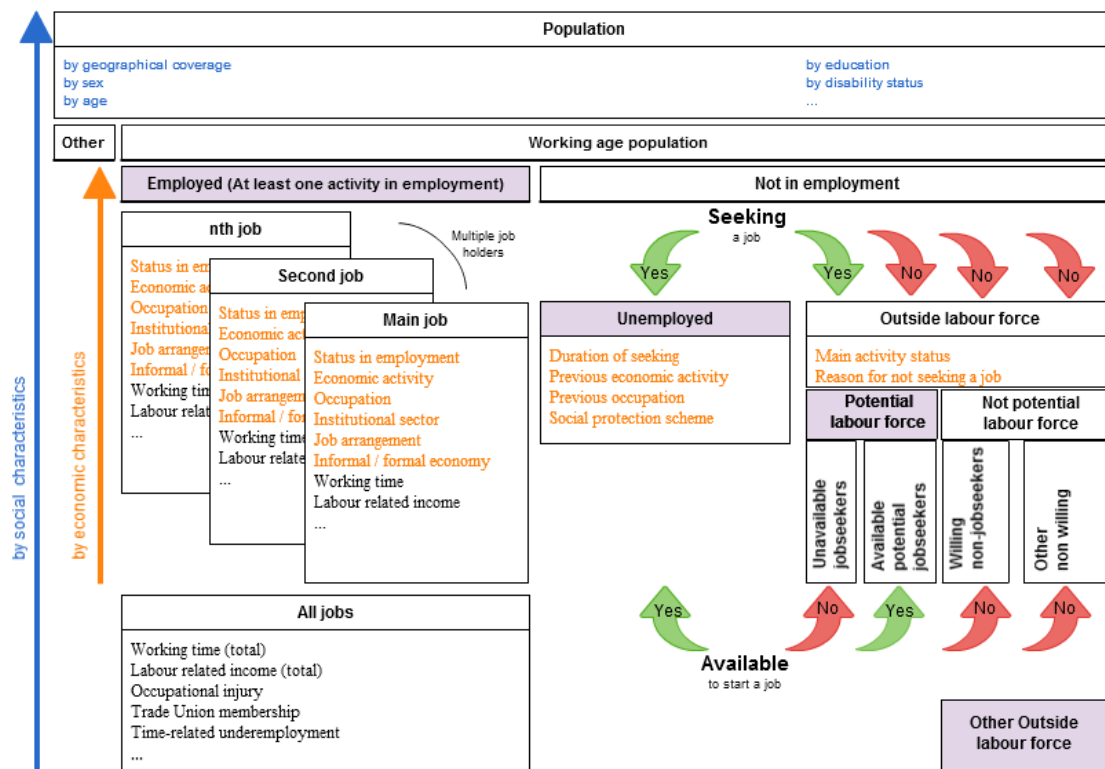
International Labour Office guideline

ILO / Department of Statistics

vs 0.3.3, 2016-10-07

The ILO Department of STATISTICS is developing a comprehensive framework with operational definition. The objective of this document is to define and explain all the key variables we are trying to harmonize from all the microdata we are receiving or collecting at the ILO Department of Statistics.

Microdata training material : (http://laborsta.ilo.org/sti/config/ILO_Micro_Guideline.zip)



Labour market characteristics during the reference period

1. Dataset settings variables

Dataset setting variables

label	name	type
Key unique identifier	ilo_key	numeric
Sample weight	ilo_wgt	numeric

Sex

1. Sex 'ilo_sex'

Male or Female.

Age:

For international comparability, ILO is suggesting 3 types of categorization:

1. Five year bands: 'ilo_age_5yrbands'

5-year age bands from 0 to 64 and plus category 65+

and

2. Ten year bands: 'ilo_age_10yrbands'

10-year age bands from 15 to 64 plus categories <15 and 65+

and

3. Aggregate year bands: 'ilo_age_aggregate'

The most aggregated category (<15, 15-24; 25-54; 55-64 and 65+) and is used for recoding categorical variables into fewer categories. If age is unknown, it should be included in the category 65+ with a note if relevant.

Education

Level of Education

For international comparability ILO proposed 3 types of classification for levels of education:

1. ISCED 2011: 'ilo_edu_isced11' or

2. ISCED 1997: 'ilo_edu_isced97' and

3. Aggregate levels of education: 'ilo_edu_aggregate'

The most aggregated category and is used for recoding categorical variables into fewer categories.

Education attendance

4. Education attendance: 'ilo_edu_attendance'

- **Attending:** Person at school, or in education or training
- **Not attending:** everyone else

It refers to current enrolment.

Disability status

For international comparability ILO suggested 2 types of classification:

1. Detailed disability status: 'ilo_dsb_details' ;

Following the Washington group recommendation, at least 4 core questions (difficulties in seeing / hearing / walking / remembering) are asked to all the respondents.

For each question they can answer either "No- no difficulty", "Yes - some difficulty", "Yes - a lot of difficulty" or "Cannot do at all". A person will be considered disabled if he/she is answering at least once to the 3rd (Yes - a lot of difficulty) or the 4th (Cannot do at all) categories.

and

2. Aggregate disability status: 'ilo_dsb_aggregate'

The most aggregated category and is used for recoding categorical variables into fewer categories.

3. Economic situation

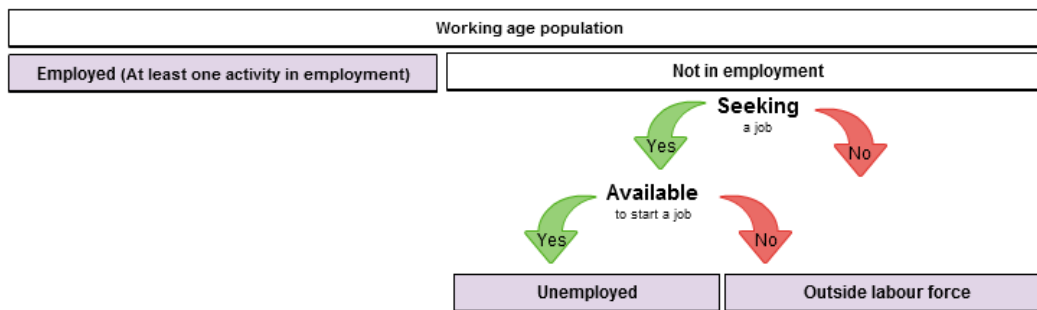
Economic situation variables

label	variable	type	nb
Working age population	ilo_wap	categorical	1
Labour Force Status	ilo_lfs	categorical	1
-----	-----	-----	-----
Multiple job holders	ilo_mjh	categorical	1
<i>i. employment:</i>	<i>economic characteristics for main job</i>		
<i>ii. employment:</i>	<i>economic characteristics for all Jobs</i>		
<i>iii. unemployment:</i>	<i>economic characteristics</i>		
<i>iv. outside labour force:</i>	<i>economic characteristics</i>		

Working age population

For purposes of international comparability, working-age population is defined as persons aged 15 years old and over.

Labour Force Status



Labour force status variables

Following the [Resolution concerning statistics of work, employment and labour underutilization Adopted by the Nineteenth International Conference of Labour Statisticians \(October 2013\)](#)

- **Persons in employment** are defined as all those of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit. They comprise:
 - a. employed persons **at work**, i.e. who worked in a job for at least **one** hour; **and**
 - b. employed persons **not at work** due to temporary absence from a job, or to working-time arrangements (such as shift work, flexitime and compensatory leave for overtime).
 - the reasons for absence that are by their nature usually of short duration, and where "job attachment" is maintained, include those such as sick leave due to own illness or injury (including occupational); public holidays, vacation or annual leave; and periods of maternity or paternity leave as specified by legislation;
 - reasons for absence where the "job attachment" requires further testing, include among others: parental leave, educational leave, care for others, other personal absences, strikes or lockouts, reduction in economic activity (e.g. **temporary lay-off**, slack work), disorganization or suspension of work (e.g. due to bad weather, mechanical, electrical or communication breakdown, problems with information and communication technology, shortage of raw materials or fuels)
- **Persons in unemployment** are defined as all those of working age who were not in employment, carried out activities to seek employment during a specified recent period and were currently available to take up employment given a job opportunity, where:
 - a. **not in employment** s assessed with respect to the short reference period for the measurement of employment; **and**
 - b. **seek employment** refers to any activity when carried out, during a specified recent period comprising the last four weeks or one month, for the purpose of finding a job or setting up a business or agricultural undertaking. This includes

also part-time, informal, temporary, seasonal or casual employment, within the national territory or abroad. **and**

- c. **currently available**, serves as a test of readiness to start a job in the present, assessed with respect to a short reference period comprising that used to measure employment.

Also includes:

- a. **future starters** defined as persons "not in employment" and "currently available" who did not "seek employment", as specified in above, because they had already made arrangements to start a job within a short subsequent period, set according to the general length of waiting time for starting a new job in the national context but generally not greater than three months;
 - b. participants in skills training or retraining schemes within employment promotion programmes, who on that basis, were "not in employment", not "currently available" and did not "seek employment" because they had a job offer to start within a short subsequent period generally not greater than three months;
 - c. persons "not in employment" who carried out activities to migrate abroad in order to work for pay or profit but who were still waiting for the opportunity to leave
- **Persons outside the labour force** comprise all persons of working age who, during the specified reference period, were not in the labour force i.e. were ***not in employment or not in unemployment***.

Multiple job holders

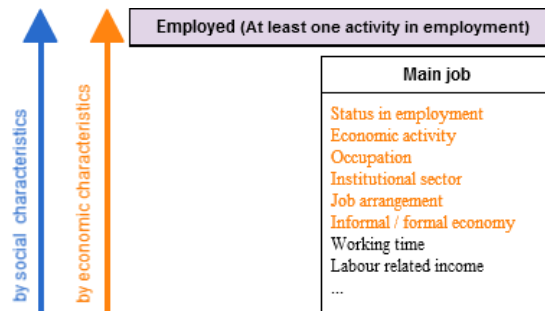
Relates to persons who during the reference period carried out more than one economic activity.

- **One job only**
- **More than one job**

If no answer move to **1 - one job only**

i. Employment: economic characteristics for main job*

*' 'ilo_job1' refers to main job, 'ilo_job2' refers to second job, etc.



Employment: economic characteristics for main job

Employment: economic characteristics for main job variables

label	variable	type	nb
Status in employment	ilo_job1_ste	categorical	2
Economic activity	ilo_job1_eco	categorical	3
Occupation	ilo_job1_ocu	categorical	3
Institutional sector	ilo_job1_ins	categorical	1
Job arrangement	ilo_job1_job	categorical	2
Informal / formal economy	ilo_job1_ife	categorical	2

Working time	ilo_job1_how	numeric	2
Labour related income	ilo_job1_lri	numeric	2

Covers employed population and could be defined for main job (job1), second job (job2) etc.

Refer to figure 1.

Main job is that with the longest hours usually worked, as defined in the international statistical standards on working time.

Status in employment

For international comparability ILO suggested 2 types of classifications:

1. ICSE 1993: 'ilo_job1_ste_icse93' and
2. Aggregate Status in Employment: 'ilo_job1_ste_aggregate'

The most aggregated category and is used for recoding categorical variables into fewer categories.

Economic activity

For international comparability ILO suggested 3 types of international classification:

1. ISIC, Rev.4: 'ilo_job1_eco_isic4' or

2. ISIC, Rev.3.1: 'ilo_job1_eco_isic3' and

3. Aggregate category of economic activity: 'ilo_job1_eco_aggregate'

The most aggregated category and is used for recoding categorical variables into fewer categories.

Occupation

For international comparability ILO suggested 3 types of international classification:

1. ISCO, Rev.2008: 'ilo_job1_ocu_isco08' or

2. ISCO, Rev.1988: 'ilo_job1_ocu_isco88' and

3. Aggregate category of occupation: 'ilo_job1_ocu_aggregate'

The most aggregated category and is used for recoding categorical variables into fewer categories.

Institutional sector of economic activities

1. Aggregate Institutional sector of economic activities: 'ilo_job1_ins_sector',

Sector of employment: public or private

Job arrangement

1. Working time arrangement: 'ilo_job1_job_time',

Working time arrangement: part time or full time

- Measurement could be defined based on self-assessment question or on a defined national hours threshold; the threshold could be also defined based on median of usual hours of work for all jobs.

and

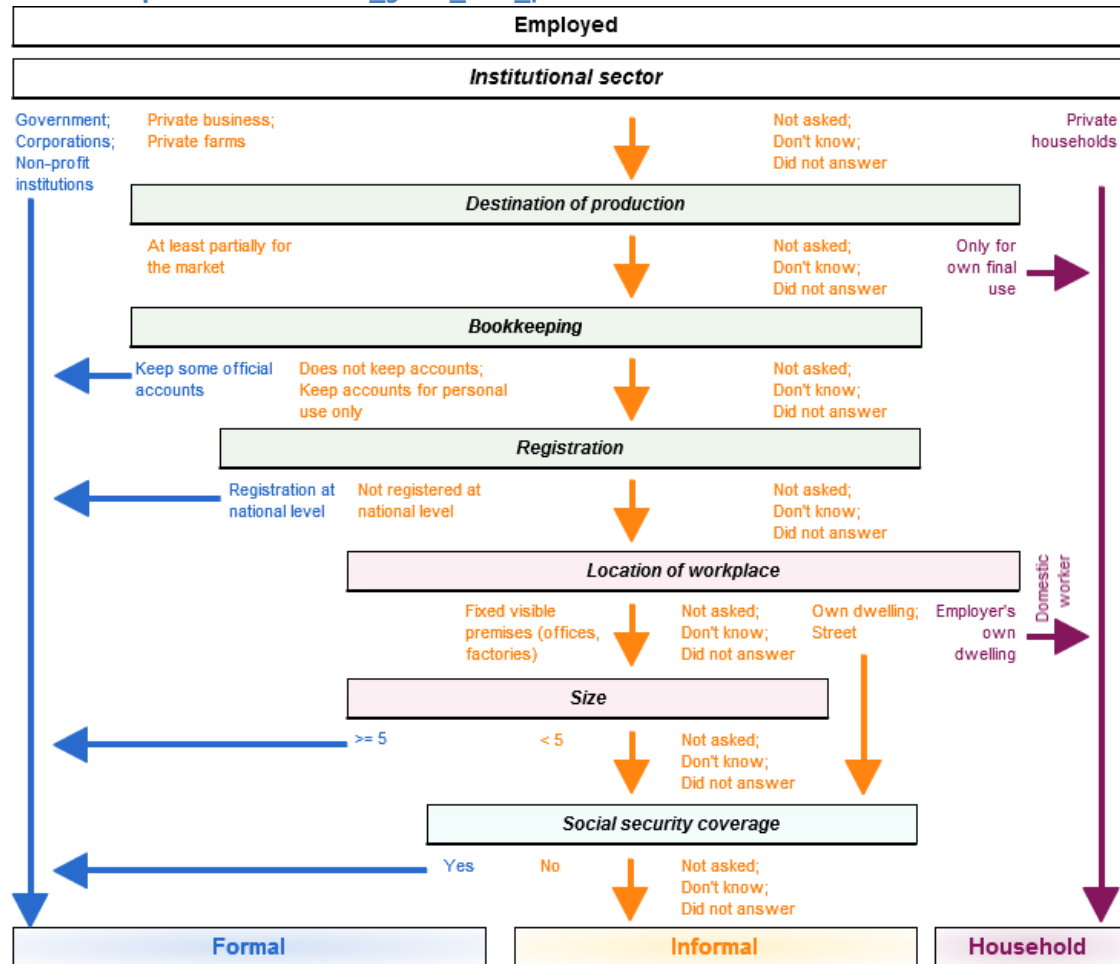
2. Type of job contract: 'ilo_job1_job_contract'

Type of job contract: permanent or temporary

Permanent usually means 'without limit of time'.

Informal / Formal Economy

1. Unit of production: 'ilo_job1_ife_prod'



Unit of production navigational path

Applied only to main job;

The variable should **not** be defined if **both Bookkeeping and Registration** are missing.

Scope: total employment.

- **Informal:** All workers in unincorporated enterprises that produce at least partly for the market and are not registered; **It excludes** households that produce exclusively for own final use; subsistence agriculture, construction of own dwellings, manufacture of own wearing apparel, own furniture, water and fuel collection for own use, etc.
- **Formal:** all workers in incorporated enterprises;
- **Household:** All workers in unincorporated enterprises that produce goods and services exclusively for own-final use. **It includes** Paid domestic employees,

subsistence agriculture, construction of own dwellings, manufacture of own wearing apparel, own furniture, water and fuel collection for own use, etc.

If **Formal** and **Household** cannot be identified, define only **Informal** and the rest is NA.

In any of the following scenarios, if one of the questions is not asked, skip step and continue with the flow.

- **Institutional sector (Legal organization and ownership):** The owners are persons or households, NOT legal persons (excludes the government, all corporations and non-profit institutions);
- **Destination of production:** The economic unit produces at least some goods or services for sale (identify those that sell at least partly for the market, if relevant to the country context);
- **Bookkeeping:** The economic unit does not maintain the set of accounts required by law (e.g., balance sheets); it is enough that the economic unit keeps some official accounts, not necessary to keep full set of accounts (excludes quasi-corporations);
- **Registration of the unit:** The economic unit is not registered under national legislation (in the process of registration is considered as not registered), i.e. with social security authorities, sales or income tax authorities (should be at a national level; to exclude all registered units);
- **Location of workplace:** Differentiate among economic units that are located in the owners' dwelling, in the street, in construction sites, in agricultural plots, that are itinerant, etc. **and** economic units that have fixed visible premises, such as offices, factories, etc. **and** domestic workers
- **Size:** The number of workers engaged/employed on a continuous basis is below 5 or according to national circumstances;
- **Social security coverage:** When employee is not affiliated to a social security schemes related to that job. If the social security coverage cannot be established through a direct question, it can be defined using questions on benefits from the employer. Employees are covered by social security if they answer “yes” to **all the three following questions:**
 - Q1: Does your employer pay contributions to a **pension fund** for you?
 - Q2: Do you benefit from **paid annual leave** or from compensation instead of it?
 - Q3: In case of incapacity to work due to health reasons, would you benefit from **paid sick leave**?

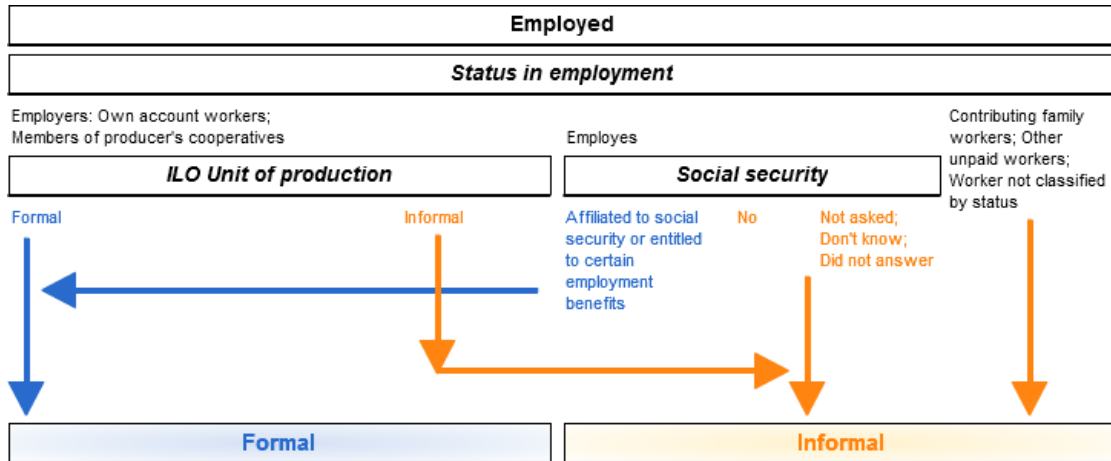
Unincorporated enterprises are distinguished from corporations and quasi-corporations on the basis of the legal organisation of the units and the type of accounts kept for them.

[Resolution concerning statistics of employment in the informal sector adopted by the Fifteenth International Conference of Labour Statisticians \(January 1993\)](#)

2. Nature of job: 'ilo_job1_ife_nature'

Applied only to main job;

Scope: total employment.



Nature of the job navigational path

- **Informal job:** Persons with informal main job **It includes:**
 - a. **Employee** not protected by national labour legislation in that job:
 - Employee is not affiliated to a **social security schemes related to that job or**
 - Employee is not entitled to certain employment benefits, i.e. **paid vacation, paid sick leave and contribution to pension funds.**

As proxy: The employee **does not pay income tax** from earnings in that job (good measure for excluding people from the measurement of informal employment, **depending on the country context**). **Bad proxies:** type of contract (having a written contract is not a guarantee that the employee is in the formal sector or has a formal job, it is not linked to enforcement of labour legislation, should not be used); only social security for employees if social security is universal in the country.

- b. **Entrepreneurs:**
 - Employers;
 - Own account workers;
 - Members of producers' cooperatives

If the unit of production is informal ('ilo_job1_ife_prod' == 1)

- c. **Contributing family workers and other unpaid workers:** no condition needed, they have informal jobs.
- **Formal job:** if the person is in employment and not in informal job ('ilo_lfs' == 1 and 'ilo_job1_ife_nature' != 1)

For more information refer to the Manual: [Measuring informality: A statistical manual on the informal sector and informal employment](#), ILO, Geneva, 2013

Working time in main job

Following the [Resolution concerning the measurement of working time Adopted by the Eighteenth International Conference of Labour Statisticians \(November-December 2008\)](#)

Data on Weekly hours of work are presented, whenever possible, on the basis of the mean number of hours of work per week, and with reference to hours worked in all jobs of employed persons and in all types of working time arrangements (e.g. full-time and part-time).

1. Weekly hours actually worked in main job: 'ilo_job1_how_actual'

- It includes:
 - a. direct hours or the time spent carrying out the tasks and duties of a job;
 - b. related hours, or the time spent maintaining, facilitating or enhancing productive activities;
 - c. down time, or time when a person in a job cannot work due to machinery or process breakdown, accident, lack of supplies or power or Internet access;
 - d. resting time, or time spent in short periods of rest, relief or refreshment, including tea, coffee or prayer breaks, generally practised by custom or contract according to established norms and/or national circumstances.

- It excludes, for paid employment (even when paid by the employer), time not worked during activities such as:
 - a. Annual leave, public holidays, sick leave, parental leave or maternity/ paternity leave, other leave for personal or family reasons or civic duty;
 - b. Commuting time between work and home when no productive activity for the job is performed; for paid employment, even when paid by the employer;
 - c. Time spent in certain educational activities; for paid employment, even when authorized, paid or provided by the employer;
 - d. Longer breaks distinguished from short resting time when no productive activity is performed (such as meal breaks or natural repose during long trips).

and

2. Weekly hours usually worked in main job: 'ilo_job1_how_usual'

- Hours usually worked is the typical value of hours actually worked in a job for short reference period such as one week, over a long observation period of a month, quarter, season or year that comprises the short reference measurement period used. Hours usually worked applies to all jobs.

- The short reference period for measuring hours usually worked should be the same as the reference period used to measure employment or household service and volunteer work

Monthly Labour related income

Following the [Resolution concerning the measurement of employment-related income adopted by the Sixteenth International Conference of Labour Statisticians \(October 1998\)](#)

1. Monthly earnings of employees in main job; 'ilo_job1_lri_ees'

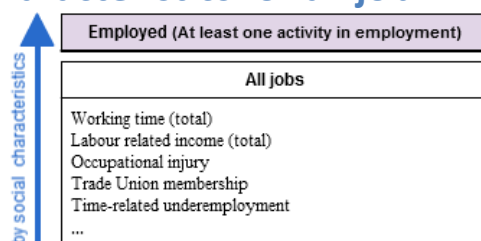
- The earnings of employees relate to the gross remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done together with remuneration for time not worked, such as annual vacation, other type of paid leave or holidays.
- Earnings exclude employers' contributions in respect to their employees paid to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay.
- Statistics of earnings relate to the gross remuneration of employees, i.e. the total before any deductions are made by the employer.

and

2. Monthly Labour related income of self-employed in main job 'ilo_job1_lri_slf'

- Income related to self-employment is defined as the income which is received, over a given reference period, by individuals, for themselves or in respect of their family members, as a result of their current or former involvement in self-employment jobs.
- Statistics of employment-related income should relate to the gross remuneration of self-employed workers.
This concept includes:
 - a. the profit (or the share of profit) which is generated by the self-employment activity;
 - b. where relevant, the remuneration received by owner-managers of corporations and quasi-corporations; and
 - c. the amount of employment-related social security benefits received by self-employed persons through schemes recognizing the status in employment as a specific condition for membership.
- The value of gross output may be defined as the value of all goods and services produced for the market as well as for own final use.
- It excludes income derived from other sources such as property, social assistance, transfers, etc., not related to employment.

ii. Employment: characteristics for all job



Employment: characteristics for all job

Employment: Economic characteristics for all Jobs variables

label	variable	type	nb
Time-related underemployment	ilo_joball_tru	categorical	1
Occupational injury	ilo_joball_inj	numeric	2

Working time	ilo_joball_how	numeric	2

Time-related underemployed

1. Time-related underemployed 'ilo_joball_tru'

Following the [Resolution concerning statistics of work, employment and labour underutilization Adopted by the Nineteenth International Conference of Labour Statisticians \(October 2013\)](#)

Persons in time-related underemployment comprise all persons in employment, who satisfy the following three criteria during the reference period:

- a. **want to work** additional hours **and**
- b. **currently available** to work additional hours i.e., are ready, within a specified subsequent period, to work additional hours, given opportunities for additional work **and**
- c. **worked less than a threshold** relating to working time i.e., persons whose hours usually worked in all jobs during the reference period were below a threshold.

The hour's threshold has to be chosen according to national circumstances. In the absence of nationally defined threshold, the most widely used practice of 35 hours per week could be applied or the threshold could be based on the median of usual hours worked in all jobs.

Occupational injury

Following the [Resolution concerning statistics of occupational injuries \(resulting from occupational accidents\)](#), adopted by the Sixteenth International Conference of Labour Statisticians (October 1998)

1. Cases of non-fatal occupational injury 'ilo_joball_inj_case'

and

2. Days lost due to cases of occupational injury 'ilo_joball_inj_day'

Working time

Following the [Resolution concerning the measurement of working time Adopted by the Eighteenth International Conference of Labour Statisticians \(November-December 2008\)](#)

Data on Weekly hours of work are presented, whenever possible, on the basis of the mean number of hours of work per week, and with reference to hours worked in all jobs of employed persons and in all types of working time arrangements (e.g. full-time and part-time).

1. Weekly hours actually worked for all job: 'ilo_joball_how_actual'

- It includes:
 - a. direct hours or the time spent carrying out the tasks and duties of a job;
 - b. related hours, or the time spent maintaining, facilitating or enhancing productive activities;
 - c. down time, or time when a person in a job cannot work due to machinery or process breakdown, accident, lack of supplies or power or Internet access;
 - d. resting time, or time spent in short periods of rest, relief or refreshment, including tea, coffee or prayer breaks, generally practised by custom or contract according to established norms and/or national circumstances.

- It excludes, for paid employment (even when paid by the employer), time not worked during activities such as:
 - a. Annual leave, public holidays, sick leave, parental leave or maternity/ paternity leave, other leave for personal or family reasons or civic duty;
 - b. Commuting time between work and home when no productive activity for the job is performed; for paid employment, even when paid by the employer;
 - c. Time spent in certain educational activities; for paid employment, even when authorized, paid or provided by the employer;
 - d. Longer breaks distinguished from short resting time when no productive activity is performed (such as meal breaks or natural repose during long trips).

and

2. Weekly hours usually worked for all job: 'ilo_joball_how_usual'

- Hours usually worked is the typical value of hours actually worked in a job for short reference period such as one week, over a long observation period of a month, quarter, season or year that comprises the short reference measurement period used. Hours usually worked applies to all jobs.

- The short reference period for measuring hours usually worked should be the same as the reference period used to measure employment or household service and volunteer work

Monthly Labour related income

Following the [Resolution concerning the measurement of employment-related income adopted by the Sixteenth International Conference of Labour Statisticians \(October 1998\)](#)

iii. Unemployment: economic characteristics

Unemployment: Economic characteristics variables

label	variable	type	nb
Category of unemployment	ilo_une_cat	categorical	1
Duration of unemployment	ilo_une_dur	categorical	2
Previous economic activity	ilo_une_preeco	categorical	3
Previous occupation	ilo_une_preocu	categorical	3
-----	-----	-----	-----
General social protection	ilo_une_gsp	categorical	1

Category of unemployment

1. Category of unemployment: 'ilo_une_cat'

Unemployed previously employed

Unemployed seeking their first job

if non response, check previous situation (status on employment, economic activity or occupation)

Duration of unemployment

For a structural analysis of unemployment it may be useful to collect information on the duration of the search for employment, measured from when unemployed persons began carrying out activities to "seek employment", or from the end of their last job, whichever is shorter.

For how long did the persons seek work.

For international comparability ILO proposed 2 types of classification:

1. Duration of unemployment (Details): 'ilo_une_dur_details'

and

2. Aggregate duration of unemployment: 'ilo_une_dur_aggregate'

The most aggregated category and is used for recoding categorical variables into fewer categories.

Previous economic activity

For international comparability, ILO suggested 3 types of international classifications:

1. ISIC, Rev.4: 'ilo_une_preveco_isic4' or
2. ISIC, Rev.3.1: 'ilo_une_preveco_isic3' and
'ilo_une_preeco_aggregate'

3. Aggregate category of economic activity: 'ilo_une_preveco_aggregate'

The most aggregated category and is used for recoding categorical variables into fewer categories.

Previous occupation

For international comparability ILO suggested 3 types of international classification:

1. ISCO, Rev.2008: 'ilo_une_prevocu_isco08' or
2. ISCO, Rev.1998: 'ilo_une_prevocu_isco88' and
3. Aggregate category of occupation: 'ilo_une_prevocu_aggregate'

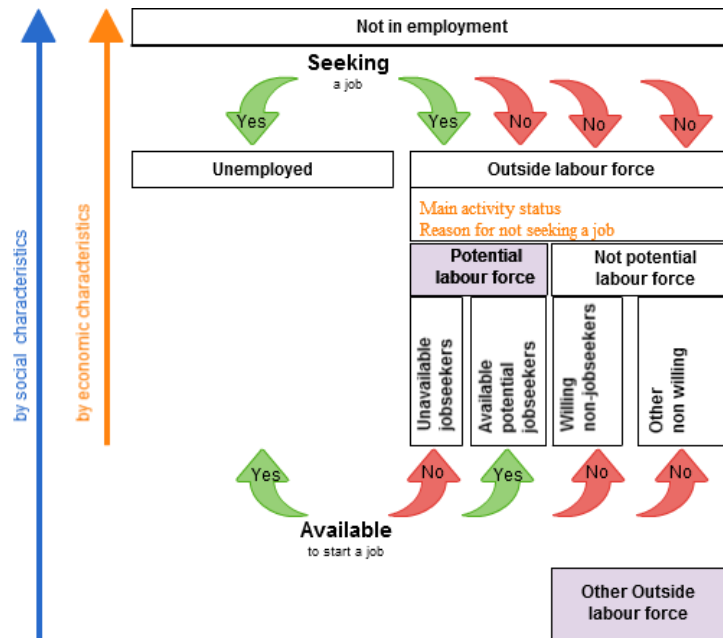
The most aggregated category and is used for recoding categorical variables into fewer categories.

General social protection (UNDER DEVELOPMENT)

1. Unemployment benefits schemes: 'ilo_une_gsp_uneschemes'

From insurance or assistance

iv. Outside labour force: economic characteristics



Outside labour force: Economic characteristics

Outside labour force: Economic characteristics variables

label	variable	type	nb
Descriptions	ilo_olf	categorical	3
Discouraged job seeker	ilo_dis	categorical	1
Youth not in education, employment or training	ilo_neet	categorical	1

Following the [Resolution concerning statistics of work, employment and labour underutilization Adopted by the Nineteenth International Conference of Labour Statisticians \(October 2013\)](#)

Outside labour force description

1. Degree of labour market attachment: 'ilo_olf_dlma'

Degree of labour market attachment of persons outside the labour force

- **Seeking, not available (Unavailable jobseekers)**
- **Not seeking, available (Available potential jobseekers)**
- **Not seeking, not available, willing (Willing non-jobseekers)**
- **Not seeking, not available, not willing**

Potential labour force is defined as all persons of working age who, during the short reference period, were neither in employment nor in unemployment and:

- a. carried out activities to "seek employment", were not "currently available" but would become available within a short subsequent period established in the light of national circumstances (i.e. unavailable jobseekers); **or**
- b. did not carry out activities to "seek employment", but wanted employment and were "currently available" (i.e. available potential job seekers)

and

2. Reasons for not seeking a job: 'ilo_olf_reason'

Persons outside the labour force by reason for not seeking employment.

- **Labour market** (past failure to find a suitable job, lack of experience, qualifications or jobs matching the person's skills, lack of jobs in the area, considered too young or too old by prospective employers, does not know how/where to find a job, waiting for an answer after an application, seasonal break, bad weather);
- **Personal / Family-related** (own illness, disability, studies, social exclusion, pregnancy, presence of small children, refusal by family);
- **Does not need/want to work** (retired, other sources of income: pensions, rents);
- **Not elsewhere classified** (other, lack of infrastructure).

Labour market reasons relate to discouraged jobseekers

Discouraged job-seekers

Following the [Resolution concerning statistics of work, employment and labour underutilization Adopted by the Nineteenth International Conference of Labour Statisticians \(October 2013\)](#)

Discouraged job-seekers refer to all persons of working age who, during the short reference period, were:

1. Discouraged job-seekers 'ilo_dis'

- a. **neither in employment nor in unemployment;** and
- b. **currently available;** and
- c. **did not seek employment** in the recent past period for labour market related reasons (as listed under 'ilo_olf_reason' == 1).

Youth not in education, employment or training (NEETs)

1. Youth not in education, employment or training: 'ilo_neet'

Youth (defined as persons aged 15 - 24 years) who were, during a specified reference period (e.g., one week):

- a. not employed; and
- b. not enrolled in school or not in a formal training program (e.g. vocational training).