

## ZFA Microdata Pre-processing

### Geographical coverage ('ilo\_geo')

Created from variable Geo\_type, which distinguishes 1 Urban (set to urban), and 2, 3, 4, Traditional Farms and Mining (set to rural).

### Labour Force Status ('ilo\_lfs')

Temporary absent, only seasonal waiting and future job starters are set to unemployment.

### Education ('ilo\_edu')

The criteria used corresponds to completed education, following the ISCED 97 criteria. Doctoral degree and Master's degree cannot be distinguished in the ZAF data, both categories are set to Master's or equivalent. Completing a higher or equal educational level is assumed to validate the lack of lack of completion for an inferior or equal level. The following table describes the detailed definitions used.

ISCED11 code of the educational program	ZAF LFS Data	ISCED 11 Code assigned to individual with completed level	Notes
2	0 Grade R/0	2	
3	1 Grade 1/Sub A	2	
3	2 Grade 2/Sub B	2	
3	3 Grade 3/Standard 1	2	
3	4 Grade 4/Standard 2	2	
3	5 Grade 5/Standard 3	2	
3	6 Grade 6/Standard 4	2	
3	7 Grade 7/Standard 5	3	
4	8 Grade 8/Standard 6/Form 1	3	
4	9 Grade 9/Standard 7/Form 2	4	
5	10 Grade 10/Standard 8/Form 3	4	
5	11 Grade 11/Standard 9/Form 4	4	
5	12 Grade 12/Standard 10/Form 5/Matric	5	
5	13 NTC I/N1/NIC/(v) Level 2	4	
5	14 NTC II/N2/NIC/(v) Level 3	4	
5	15 NTC III/N3/NIC/(v) Level 4	5	
5	16 N4/NTC 4	5	note this level is not considered as lower secondary education, even if it is just a bridge course to N5, it requires N3, therefore it corresponds to higher secondary education
5	17 N5/NTC 5	5	
6	18 N6/NTC 6	6	Completing a superior or equal level is assumed to validate lack of inferior or equal
6	19 Certificate with less than Grade 12/Std 10	6	Completing a superior or equal level is assumed to validate lack of inferior or equal
7	20 Diploma with less than Grade 12/Std 10	7	
6	21 Certificate with Grade 12/Std 10	6	
7	22 Diploma with Grade 12/Std 10	7	
8	23 Higher Diploma	8	
8	24 Post Higher Diploma (Masters; Doctoral Diploma)	8	
8	25 Bachelors Degree	8	
8	26 Bachelors Degree and Post Graduate Diploma	8	
8	27 Honours Degree	8	
9	28 Higher Degree (Masters/Phd)	9	Note: it includes doctoral degree, therefore the 10 <sup>th</sup> ISCED category is left empty
11	29 Other	11	
11	30 Do not know	11	
1	98 No schooling	1	

## Occupation ('ilo\_job1\_ocu\_isco88\_2digits')

(Previous occupation ('ilo\_prevocu\_isco88') follows from the same procedure)

The underlying data is broadly consistent with ISCO-88, nonetheless some discrepancies arise.

The method to achieve the correspondence is the following:

- 1 When possible a direct mapping is established.
- 2 When the 4 digit categories coincide in the content but not in the code the latter is adjusted.
- 3 When the ZAF data presents 4 digit categories non-existent in the ISCO 88 the code is reduced to two digit.

Additionally there are several 4 digit ISCO88 categories not present in ZAF data. The resulting correspondence can be seen in the table below, with perfect correspondences not shown.

ISCO 88 Assigned 2 digit code	ISCO 88		ZAF data	
	4 digit code	description	4 digit code	description
62	6210	Subsistence agricultural and fishery workers	6211	Subsistence farmers
1	0110	Armed forces	5164	Armed forces
12	.	.	1211	Rectors/principals of universities/colleges
12	.	.	1290	Corporate managers not elsewhere classified
21	.	.	2159	Physical sciences technologists
21	.	.	2190	Physical, mathematical and engineering science professionals not elsewhere classified
22	.	.	2210	Scientist
24	.	.	2490	Other professionals not elsewhere classified
32	.	.	3220	Optometrists' assistants
33	.	.	3391	Teaching associate professionals not elsewhere classified
34	.	.	3461	Social work researcher
34	.	.	3479	Art, entertainment and sport associate professionals not elsewhere classified
34	.	.	3490	Other associate professionals not elsewhere classified
42	.	.	4290	Customer services clerks not elsewhere classified
51	.	.	5124	Tavern and shebeen operators
52	.	.	5231	Spaza shop owner
71	.	.	7114	Diamond diver
71	.	.	7190	Extraction and building trades workers not elsewhere classified (including apprentices/trainees)
72	.	.	7290	Metal, machinery and related trades workers not elsewhere classified (including apprentices/trainees)
74	.	.	7490	Other craft and related trades workers not elsewhere classified (including apprentices/trainees)
83	.	.	8320	Taxi drivers, informal
91	.	.	9190	Elementary sales and services occupations not elsewhere classified
.	2229	Health professionals (except nursing) not elsewhere classified	.	.
.	2359	Other teaching professionals not elsewhere classified	.	.
.	3122	Computer equipment operators	.	.
.	3139	Optical and electronic equipment operators not elsewhere classified	.	.
.	5142	Companions and valets	.	.
.	5151	Astrologers and related workers	.	.

.	5152	Fortune-tellers, palmists and related workers	.	.
.	6124	Mixed-animal producers	.	.
.	6142	Charcoal burners and related workers	.	.
.	7342	Stereotypers and electrotypers	.	.
.	7434	Furriers and related workers	.	.
.	8154	Chemical-plant and reactor operators (except petroleum and natural gas)	.	.

## Economic activity ('ilo\_eco')

(Previous economic activity ('ilo\_preveco') follows the same procedure)

Since the ZAF data is only partly compatible with ISIC 3, the table below describes the used mapping of ZAF data to ISIC 3.1 division. The 2 digit level ISIC 3.1 is not obtained due to compatibility issues.

Description ZAF category	2 digit ZAF data	Assigned ISIC 3.1 Division
Agriculture, hunting and related services	11	A
Forestry, logging and related services	12	A
Fishing, operation of fish hatcheries and fish farms	13	B
Mining of coal and lignite	21	C
Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction excluding surveying	22	C
Mining of gold and uranium ore	23	C
Mining of metal ores, except gold and uranium	24	C
Other mining and quarrying	25	C
Service activities incidental to mining of minerals	29	X
Manufacture of food products, beverages and tobacco products	30	D
Manufacture of textiles, clothing and leather goods	31	D
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials; manufacture of paper and paper products; publishing, printing and reproduction of recorded media	32	D
Manufacture of coke, refined petroleum products and nuclear fuel; manufacture of chemicals and chemical products; manufacture of rubber and plastic products	33	D
Manufacture of other non-metallic mineral products	34	D
Manufacture of basic metals, fabricated metal products, machinery and equipment and of office, accounting and computing machinery	35	D
Manufacture of electrical machinery and apparatus n.e.c.	36	D
Manufacture of radio, television and communication equipment and apparatus and of medical, precision and optical instruments, watches and clocks	37	D
Manufacture of transport equipment	38	D
Manufacture of furniture; manufacturing n.e.c.; recycling	39	D
Electricity, gas, steam and hot water supply	41	E
Collection, purification and distribution of water	42	E
Construction	50	F
Wholesale and commission trade, except of motor vehicles and motor cycles	61	G
Retail trade, except of motor vehicles and motor cycles; repair of personal and household goods	62	G
Sale, maintenance and repair of motor vehicles and motor cycles; retail trade in automotive fuel	63	G
Hotels and restaurants	64	H
Land transport; transport via pipelines	71	I
Water transport	72	I
Air transport	73	I
Supporting and auxiliary transport activities; activities of travel agencies	74	I
Post and telecommunication	75	I
Financial intermediation, except insurance and pension funding	81	J
Insurance and pension funding, except compulsory social security	82	J
Activities auxiliary to financial intermediation	83	J
Real estate activities	84	K
Renting of machinery and equipment, without operator and of personal and household goods	85	K
Computer and related activities	86	K
Research and development	87	K
Other business activities	88	K

Public administration and defence activities	91	L
Education	92	M
Health and social work	93	N
Other community, social and personal service activities	94	O
Activities of membership organisations n.e.c.	95	O
Recreational, cultural and sporting activities	96	O
Other service activities	99	O
Private households with employed persons	1	P
Exterritorial organisations	2	Q
Representatives of foreign governments	3	X
Other activities not adequately defined	9	X

## Formal / Informal Economy ('ilo\_job1\_ife\_prod' 'ilo\_job1\_ife\_nature')

The variables used to compute the formality of both sector and employment are: institutional sector of the unit of production, business registration for national tax purposes, contribution of the employer to a social security scheme or pension fund, availability of paid holiday leave and availability of paid sick leave. These are the variables available from ZAF data that are included in the framework to determine formality<sup>1</sup>.

With respect to formal or informal sector. Employed respondents working for the public sector (including government controlled business) are considered to be working in the formal sector. So do persons employed at businesses registered for tax purposes, finally, employees working in businesses that are not registered but that provide access to a social security scheme or pension fund are also considered to be employed in the formal sector. Respondents that report working for a private household are classified as working in the household sector. The informal sector is composed by: employees in unregistered businesses with no access to social security and the rest of workers<sup>2</sup> in unregistered businesses.

With respect to formal or informal employment. Employees and workers without status with access to a social security scheme or a pension fund are considered to be in formal employment, those with no access or no knowledge about such scheme are considered in informal employment<sup>3</sup>. Employers and own account workers are considered to be in formal or informal employment in the measure that they are considered to work in the formal or informal sector respectively. Finally contributing family workers are considered to be informally employed.

## Incomplete or no data

### Disability status ('ilo\_dsb')

Not available as a general population question (only given as a reason of unemployment/not starting a business).

### Monthly labour related income ('ilo\_joball\_lri')

Present in the questionnaire yet not available in the micro data set.

<sup>1</sup> Size of the workplace, in terms of employees, is available as well; nonetheless, it cannot be used due to the lack of information regarding workplace location.

<sup>2</sup> The ones that are not considered employees or with unknown status.

<sup>3</sup> Paid annual and sick leave are not used since there is no missing data on the social security status.

Occupational injury ('ilo\_joball\_inj', 'ilo\_joball\_oi\_case', 'ilo\_joball\_oi\_day')  
Not available.