

# Package ‘iscoCrosswalks’

October 13, 2022

**Title** Crosswalks Between Classifications of Occupations

**Version** 1.0.0

**Description** Allows the user to perform approximate matching between the occupational classifications using concordances provided by the Institute for Structural Research and Faculty of Economics, University of Warsaw, <[doi:10.1111/ecot.12145](https://doi.org/10.1111/ecot.12145)>. The crosswalks offer a complete step-by-step mapping of Standard Occupational Classification (2010) data to the International Standard Classification of Occupations (2008). We propose a mapping method based on the aforementioned research that converts measurements to the smallest possible unit of the target taxonomy, and then performs an aggregation/estimate to the requested degree Occupational Hierarchical level.

**License** MIT + file LICENSE

**Encoding** UTF-8

**LazyData** true

**URL** <https://github.com/eworx-org/iscoCrosswalks>

**BugReports** <https://github.com/eworx-org/iscoCrosswalks/issues>

**RoxygenNote** 7.1.2

**Suggests** knitr, rmarkdown, testthat (>= 3.0.0)

**VignetteBuilder** knitr

**Depends** R (>= 3.1.0)

**Imports** data.table, labourR, Rdpack

**RdMacros** Rdpack

**Config/testthat/edition** 3

**NeedsCompilation** no

**Author** Alexandros Kouretsis [aut, cre],  
Andreas Bampouris [aut]

**Maintainer** Alexandros Kouretsis <[ako@eworx.gr](mailto:ako@eworx.gr)>

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foundation_skills	<i>Foundation Skills</i>
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**Description**

Example dataset for indicator given in ISCO classification.

**Usage**

```
foundation_skills
```

**Format**

A data frame with three columns, encoded in ISCO taxonomy.

**preferredLabel** ISCO official label of occupation

**Occupations** Display label

**Skill** Foundation skills

**Value** Percentage of jobs for which foundation skills are importan

**Source**

<https://www.cedefop.europa.eu/en/tools/skills-intelligence>

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get_isco_code	<i>Get ISCO code</i>
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**Description**

Adds column of ISCO code for a particular job title. Job titles should be given in the preferred label of the ISCO classification.

**Usage**

```
get_isco_code(data, lvl = 3)
```

**Arguments**

data,	data.table with a column named as job
lvl,	numeric value indicating the ISCO taxonomy

**Value**

data.table of input data with one extra column named as code

**Examples**

```
library(iscoCrosswalks)
# add mandatory column
dat <- foundation_skills[, .(job = preferredLabel, Skill, Value)]
res <- get_isco_code(dat, lvl = 1)
head(res[, .(code, Skill, Value)])
```

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get_soc_code	<i>Get SOC code from label</i>
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**Description**

Adds SOC code for a particular job title.

**Usage**

```
get_soc_code(data, lvl = "soc_3")
```

**Arguments**

data,	data.frame or data.table with two columns job and value
lvl,	string that can take values from soc_1 up to soc_4

**Value**

data.frame of input data with one extra column named as code

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isco	<i>ISCO occupations taxonomy</i>
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### Description

A dataset containing the hierarchy of ISCO, with both code and preferred label included.

### Usage

isco

### Format

A data frame with two columns, encoding the ISCO taxonomy.

**code** Code of ISCO occupation. Number of digits indicate the level

**preferredLabel** Preferred label of the ISCO occupation

### Source

<https://esco.ec.europa.eu>

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isco08_soc10	<i>ISCO_08 to SOC_10 crosswalks</i>
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### Description

A table containing the "one to many" crosswalks from ISCO version 08 to SOC10 for the 3rd hierarchical level and detailed occupations respectively.

### Usage

isco08\_soc10

### Format

A table with the following columns.

**isco08** Codes of ISCO 4th level

**soc10** Codes of SOC detailed occupations

**isco\_label** Labels of ISCO 4th level

**soc\_label** Labels of SOC detailed occupations

### Source

<https://ibs.org.pl>

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isco\_soc\_crosswalk      *ISCO to SOC crosswalk*

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### Description

The 2010 Standard Occupational Classification (SOC) and the International Standard Classification of Occupations (ISCO-08) are compared. To make the crosswalk more straightforward and hence more useful, the notion of parsimony was applied. This means that while a task completed in the SOC may appear in numerous ISCOs (or vice versa), the match in some of these instances is just coincidental and adds unneeded complexity. This function allows mapping of data from the top 3 ISCO levels to the 4 SOC groups.

### Usage

```
isco_soc_crosswalk(  
  data,  
  isco_lvl = 3,  
  soc_lvl = "soc_2",  
  brkd_cols = NULL,  
  indicator = FALSE  
)
```

### Arguments

<code>data</code> ,	data.table with mandatory columns job and value
<code>isco_lvl</code> ,	numeric between 1 and 3
<code>soc_lvl</code> ,	character taking values from soc_1 to soc_4
<code>brkd_cols</code> ,	character vector with col names of stratification variables
<code>indicator</code> ,	Boolean indicating if data describe an indicator. If TRUE the mean value is computed, otherwise the sum by each breakdown group.

### Value

data.table with the estimated values for the requested SOC occupational group.

### References

Hardy W, Keister R, Lewandowski P (2018). "Educational upgrading, structural change and the task composition of jobs in Europe." *Economics of Transition*, **26**(2), 201–231.

### Examples

```
library(iscoCrosswalks)  
library(data.table)  
  
#from ISCO level 3 group to soc_1 occupations  
path <- system.file("extdata", "isco_3_brkdwn_example.csv",
```

```

                                package = "iscoCrosswalks")
dat <- fread(path)
isco_soc_crosswalk(dat,
                   isco_lvl = 3,
                   soc_lvl = "soc_1",
                   brkd_cols = "gender")

```

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soc10_isco08	<i>SOC_10 to ISCO_08 crosswalks</i>
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### Description

A table containing the "one to many" crosswalks from SOC version 10 to ISCO version 08 for Detailed occupations and 4th hierarchical level respectively.

### Usage

```
soc10_isco08
```

### Format

A table with the following columns.

**isco08** Codes of ISCO 4th level

**soc10** Codes of SOC detailed occupations

**isco\_label** Labels of ISCO 4th level

**soc\_label** Labels of SOC detailed occupations

### Source

<https://ibs.org.pl>

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soc_groups	<i>SOC groups</i>
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### Description

A table containing the hierarchy of SOC, with both labels and keys included.

### Usage

```
soc_groups
```

**Format**

A table with the following columns.

**soc\_1** Major groups. The first two digits indicate the soc group

**soc\_2** Minor groups. The first 4 digits indicate the soc group

**soc\_3** Broad occupations. The first five digits indicate the soc group

**soc\_4** Detailed occupations. Digits that indicate the soc group

**Source**

<https://ec.europa.eu/esco/portal/occupation>

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soc_isco_crosswalk	<i>SOC to ISCO crosswalk</i>
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**Description**

The 2010 Standard Occupational Classification (SOC) and the International Standard Classification of Occupations (ISCO-08) are compared. To make the crosswalk more straightforward and hence more useful, the notion of parsimony was applied. This means that while a task completed in the SOC may appear in numerous ISCOs (or vice versa), the match in some of these instances is just coincidental and adds unneeded complexity. This function allows mapping of data from the 4 SOC groups to the 4 ISCO levels.

**Usage**

```
soc_isco_crosswalk(
  data,
  soc_lvl,
  isco_lvl,
  brkd_cols = NULL,
  indicator = FALSE
)
```

**Arguments**

<code>data</code> ,	data.table with mandatory columns <code>job</code> and <code>value</code>
<code>soc_lvl</code> ,	character taking values from <code>soc_1</code> to <code>soc_4</code>
<code>isco_lvl</code> ,	numeric between 1 and 4
<code>brkd_cols</code> ,	character vector with col names of stratification variables
<code>indicator</code> ,	Boolean indicating if data describe an indicator. If TRUE the mean value is computed, otherwise the sum by each breakdown group.

**Value**

data.table with the estimated values for the requested ISCO occupational level.

## References

Hardy W, Keister R, Lewandowski P (2018). “Educational upgrading, structural change and the task composition of jobs in Europe.” *Economics of Transition*, **26**(2), 201–231.

## Examples

```
library(iscoCrosswalks)
library(data.table)
#from soc_3 group to ISCO level 1 occupations
path <- system.file("extdata", "soc_3_brkdn_example.csv",
                    package = "iscoCrosswalks")
dat <- fread(path)
soc_isco_crosswalk(dat,
                  soc_lvl = "soc_3",
                  isco_lvl = 1,
                  brkd_cols = "gender")
```



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