

Demographic data sources

30. 11. 2022

Bety Ukolova – ukolovae@natur.cuni.cz

Outline

Exercise from the last week

Introduction to demographic data sources

Working with data (population structures)

Indirect calculation of probabilities: exercise

Calculate age specific probabilities of death for **French females in 2015, single ages**. Apply linear as well as exponential method. Plot the results. Discuss the differences in estimated rates and probabilities and general shape of „mortality curves“.

Data source: Human Mortality Database (**Registration is needed**)

Selected sources of (mortality) data

The Human Mortality Database (HMD) – <http://www.mortality.org>

The Human Life-Table Database (HLD) – <https://www.lifetable.de/cgi-bin/index.php>

The Human Cause-of-Death Database (HCD) – <http://www.causesofdeath.org/>

The WHO mortality database – <https://www.who.int/data/data-collection-tools/who-mortality-database>

Eurostat European statistics – <http://ec.europa.eu/eurostat/data/database>

European mortality database (MBD) – <https://gateway.euro.who.int/en/datasets/european-mortality-database/>

European Health for All database (HFA-DB) – <https://gateway.euro.who.int/en/datasets/european-health-for-all-database/>

Kannisto-Thatcher Database on Old Age Mortality – <http://www.demogr.mpg.de/databases/ktdb/introduction.htm>

Global Cancer Observatory – <https://gco.iarc.fr/>

Selected sources of (mortality) data



The Human Cause-of-Death Database

Directors: Dmitri Jdanov (MPIDR) and France Meslé (INED)

Home	Data by country	Zipped Data	Formats
------	-----------------	-------------	---------

The Human Cause-of-Death Database (HCD) is a joint project of the [French Institute for Demographic Studies](#) (INED) in Paris, France and the [Max Planck Institute for Demographic Research](#) (MPIDR) in Rostock, Germany, based at the MPIDR. We seek to provide free and user-friendly access to coherent time series of cause-specific mortality for researchers, students, journalists, policy analysts, and others interested in analysis of cause-of-death patterns. In contrast to other existing databases on causes of deaths, we provide time series with causes of death classified according to a constant (fixed) list/classification of causes of death. The main goal of the database is to document trends of cause-specific mortality and to facilitate research on their comparative analyses.

Although in each country the original series of vital statistics are based on the currently acting classifications of causes of death, we provide reconstructed data according to the most recent version of the classification in use (see [Background](#) for details). We pay special attention to rigorous data checking and documentation and to warranting data comparability across time and countries by means of universal and standardized methodology. Due to peculiarities of the original national cause-of-death nomenclatures and procedures, computational procedures may be somewhat modified accordingly. Respective country-specific information is given in the Background and Documentation text for the country in question.

At present the database contains continuous data series for the following 16 countries:

Detailed data by country			
Belarus	Czech Republic	England & Wales	Estonia
France	Germany	Japan	Latvia
Lithuania	Moldova	Poland	Romania
Russia	Spain	Ukraine	USA

The HCD data series will be updated regularly. For more information, please begin by reading an overview of the database. If you have any comments or questions, or trouble gaining access to the data, please [write to us](#).

REGISTRATION

[Login](#)

[New User](#)

[Change Password](#)

ABOUT THE PROJECT

[Background](#)

[Overview](#)

[History](#)

[What's New](#)

GUIDELINES

[User Agreement](#)

[Citation Guidelines](#)

[Explanatory Notes](#)

PEOPLE

[Research Team](#)

[Acknowledgements](#)

LINKS


[Human Mortality Database](#)

[French Institute](#)

Causes of death are coded according to International Classification of Diseases (ICD). Analysing long-term trends in mortality by causes of death means crossing different revisions of this classification. The Human-Cause-of-Death Database provides **coherent time series of cause-specific mortality**.

Selected sources of (mortality) data


WHO mortality database

 World Health Organization Health Topics ▾ Countries ▾ Newsroom ▾ Emergencies ▾ Data ▾ About WHO ▾		
Documentation Last update: 01 September 2022 Contains a Word file with information on the WHO Mortality Database, file specifications and list of causes of death. .zip (96kb)	Availability Last update: 01 September 2022 Contains an Excel file with the list of countries-years available for the mortality and population data. .zip (175kb)	Country codes Last update: 01 March 2021 Country codes and names. .zip (2kb)
Notes Last update: 01 September 2022 Notes pertaining to data for some countries-years. .zip (1kb)	Population and live births Last update: 01 September 2022 Reference populations and live births. .zip (623kb)	Mortality, ICD-7 Last update: 18 February 2004 Data file containing the detailed mortality data for the seventh revision of the ICD (International Classification of Diseases). .zip (4.9Mb)
Mortality, ICD-8 Last update: 9 July 2012 Data file containing the detailed mortality data for the eighth revision of the ICD (International Classification of Diseases). .zip (5.4Mb)	Mortality, ICD-9 Last update: 29 March 2017 Data file containing the detailed mortality data for the ninth revision of the ICD (International Classification of Diseases). .zip (13.5Mb)	Mortality, ICD-10 (part 1/5) Last update: 01 September 2022 Data file containing the detailed mortality data for the tenth revision of the ICD (International Classification of Diseases). .zip (11Mb)

Provides datasets on (cause-specific) mortality by age, sex, year, country (see Documentation file). Datasets for 10th revision of ICD (so far, the most recent one) are splitted to 5 parts, therefore they might even be analysed in MO Excel (with some patience).

Selected sources of (mortality) data

The screenshot shows the Eurostat website interface. At the top, the Eurostat logo is on the left, and a search bar with the text 'Enter search term' and a 'Search' button is on the right. Below the logo, there are links for 'Log in' and 'EN English'. A blue navigation bar contains links for 'Home', 'Data', 'News', 'Publications', 'About us', 'Contact us', and 'Help'. Below this bar, the breadcrumb path 'Home > Data > Database' is displayed. On the left side, there is a 'DATA' section with a list of links: 'DATABASE', 'Information', 'Statistical themes', 'Stats finder A-Z', 'Experimental statistics', 'Data visualisations', 'Education corner', 'Bulk download', 'Web Services', 'GISCO:Geographical Information and maps', 'Microdata', 'Quality', 'Metadata', 'SDMX InfoSpace', and 'Data validation'. On the right side, there is a 'NEW DATA NAVIGATION TREE' section with a 'NEW' tag and a link to 'Explore Eurostat's new data navigation tree using the Data Browser'. Below this is a 'DATABASE' section with a tree structure: 'Data navigation tree' (expanded), 'Database by themes', 'Tables by themes' (expanded), 'General and regional statistics', 'Economy and finance', 'Population and social conditions' (expanded), 'Demography, population stock and balance (t_demo)' (expanded), 'Main population indicators (t_demo_ind)', 'Population (national level) (t_demo_pop)', 'Population (regional level) (t_demopreg)', 'Fertility (national level) (t_demo_fer)', 'Fertility (regional level) (t_demofreg)', 'Mortality (national level) (t_demo_mor)', and 'Mortality (regional level) (t_demomreg)'.

eurostat 

[Log in](#) [EN English](#) [Search](#)

[Home](#) [Data](#) [News](#) [Publications](#) [About us](#) [Contact us](#) [Help](#)


[Home](#) > [Data](#) > Database

DATA



▲ **DATABASE**

- Information
- Statistical themes
- Stats finder A-Z
- Experimental statistics
- Data visualisations
- Education corner
- Bulk download
- ▼ Web Services
 - GISCO:Geographical Information and maps
 - Microdata
 - Quality
- ▼ Metadata
 - SDMX InfoSpace
 - Data validation

NEW DATA NAVIGATION TREE

NEW Explore [Eurostat's new data navigation tree](#) using the Data Browser  .

DATABASE

- 📁 Data navigation tree
 - 📁 Database by themes
 - 📁 Tables by themes
 - 📁 General and regional statistics
 - 📁 Economy and finance
 - 📁 Population and social conditions
 - 📁 Demography, population stock and balance (t_demo)
 - 📁 Main population indicators (t_demo_ind)
 - 📁 Population (national level) (t_demo_pop)
 - 📁 Population (regional level) (t_demopreg)
 - 📁 Fertility (national level) (t_demo_fer) 
 - 📁 Fertility (regional level) (t_demofreg)
 - 📁 Mortality (national level) (t_demo_mor) 
 - 📁 Mortality (regional level) (t_demomreg)

European statistical office offers datasets on national, as well as on regional level. Further, Eurostat publishes statistical yearbooks and provides access to Statistical Atlas (GISCO) and geodata (shapefiles etc.).

Selected sources of (mortality) data

International Agency for Research on Cancer



GLOBAL CANCER
OBSERVATORY

HOME

ABOUT THE GCO

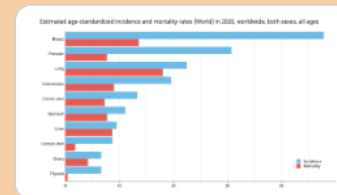
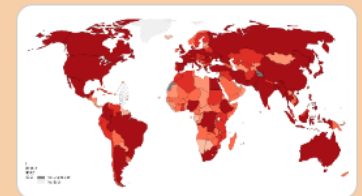
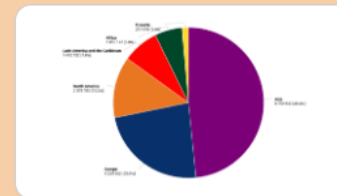
PROJECTS

ABOUT US

HELP

Explore national incidence, mortality, and prevalence for 36 cancer types in 185 countries.

CANCER
TODAY



Country	ISMR (Incidence)	ISMR (Mortality)
France	19.1	15.1
Spain	15.1	10.1
Italy	10.1	8.1
Germany	8.1	7.1
United Kingdom	7.1	6.1
Sweden	6.1	5.1
Denmark	5.1	4.1
Netherlands	4.1	3.1
Belgium	3.1	2.1
Austria	2.1	1.1
Switzerland	1.1	0.1
Luxembourg	0.1	0.1

CANCER
TODAY

CANCER
OVER TIME

CANCER
TOMORROW

CANCER
CAUSES

CANCER
SURVIVAL

CANCER
@CSU

Mortality and morbidity data related to cancer
Publishes .pdf fact sheets about the epidemiology of neoplasms, as well as country profiles.

Selected sources of (mortality) data

OECD.Stat Web Browser – http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT

UN Statistics Division statistical products and databases –
<http://unstats.un.org/unsd/demographic/products/default.htm>

UN Population Division (UNDP) (projekt World Population Prospects) –
<http://esa.un.org/unpd/wpp/>


Population Reference Bureau – <https://www.prb.org/>

- data sheet + glossary of demographic terms


World Bank – <http://data.worldbank.org/>


Selected sources of (mortality) data

[UN Home](#) [Department of Economic and Social Affairs](#) [Economic and Social Development Home](#) [Site Map](#) [Contact Us](#) [About Us](#)



United Nations Statistics Division

[HOME](#) [STATISTICAL DATABASES](#) [PUBLICATIONS](#) [METHODS & CLASSIFICATIONS](#) [MEETINGS & EVENTS](#) [TECHNICAL NEWSLETTERS](#) 


DEMOGRAPHIC AND SOCIAL STATISTICS 

[Demographic and social topics](#)

[Standards and methods](#)

[Statistical products and databases](#)

[Meetings](#)

MAJOR WORK PROGRAMMES 

[Demographic and Social Statistics Collection](#)


[2020 World Population and Housing Censuses](#)

[Improvement of Civil Registration and Vital Statistics](#)

[Advancement of Gender Statistics](#)

[Disability Statistics Programme](#)

Statistical Products and Databases



- [Demographic Yearbook](#)
- [Population Censuses' Datasets](#)
- [Tabulations on Households' Characteristics](#)
- [Tabulations on Economic Characteristics](#)
- [Population and Vital Statistics Report: Series A](#)
- [Social Indicators](#)
- [Minimum Set of Gender Indicators](#)
- [The World's Women Reports](#)
- [Compendium of Housing Statistics](#)

(UN DESA)

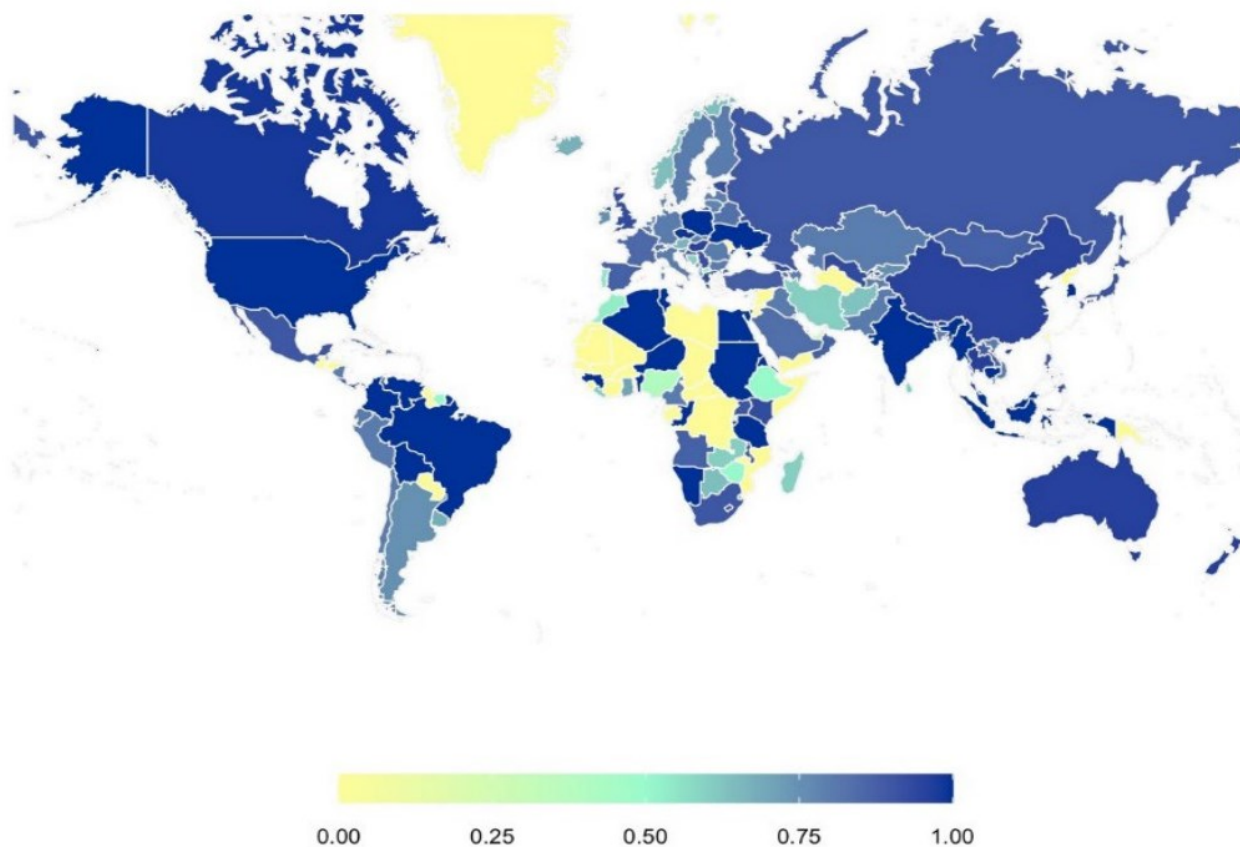
Selected sources of (mortality) data

- Understand the **metadata** of the data you use.
- Control for changes in borders of the countries, in classifications, in methodology of data processing, changes in definitions, updates in the data....

Selected sources of (mortality) data

UN database

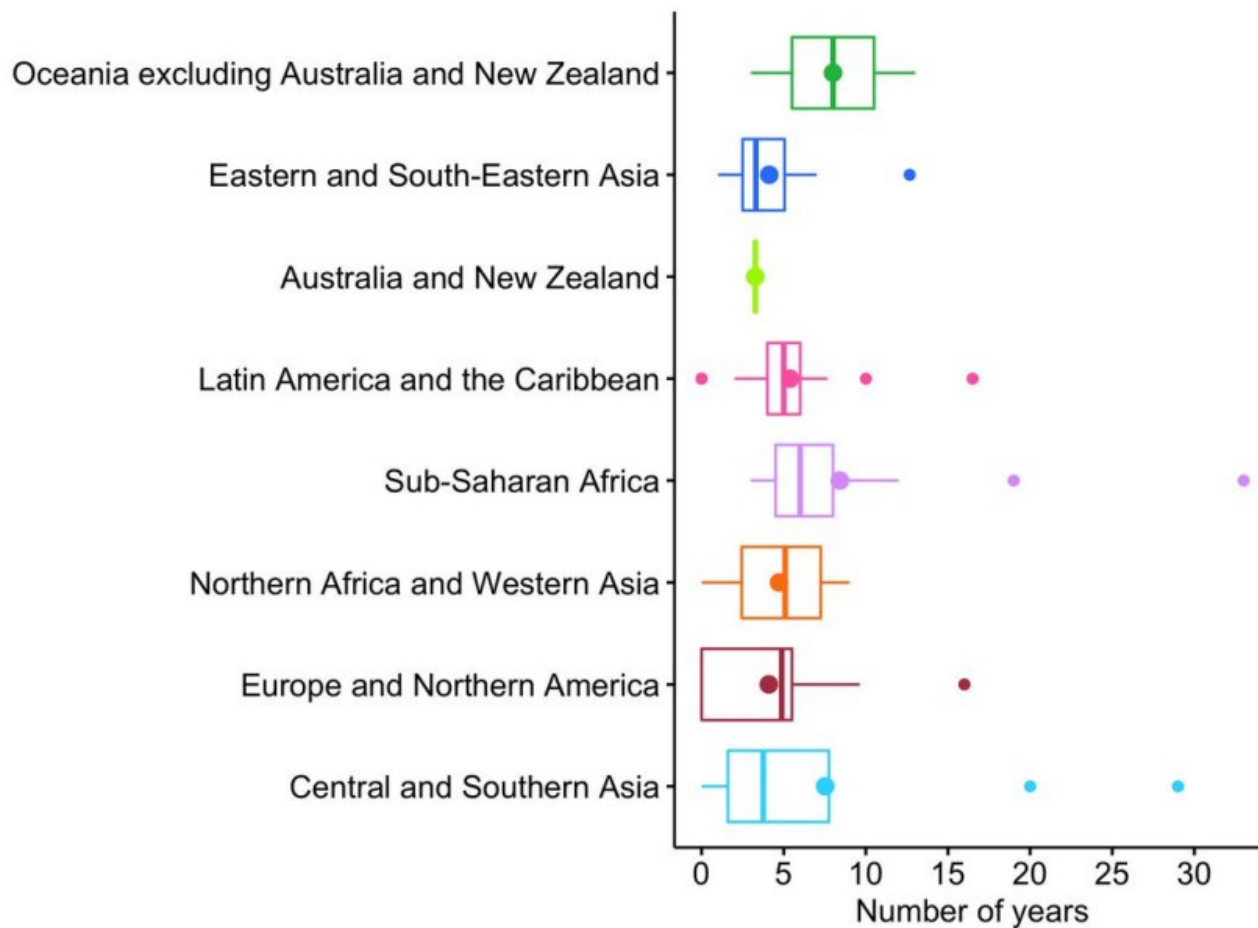
Figure A3. Completeness of the information reported between 2000 and mid-2019 about type of initial population count and method of time adjustment used to derive official population estimates



Selected sources of (mortality) data

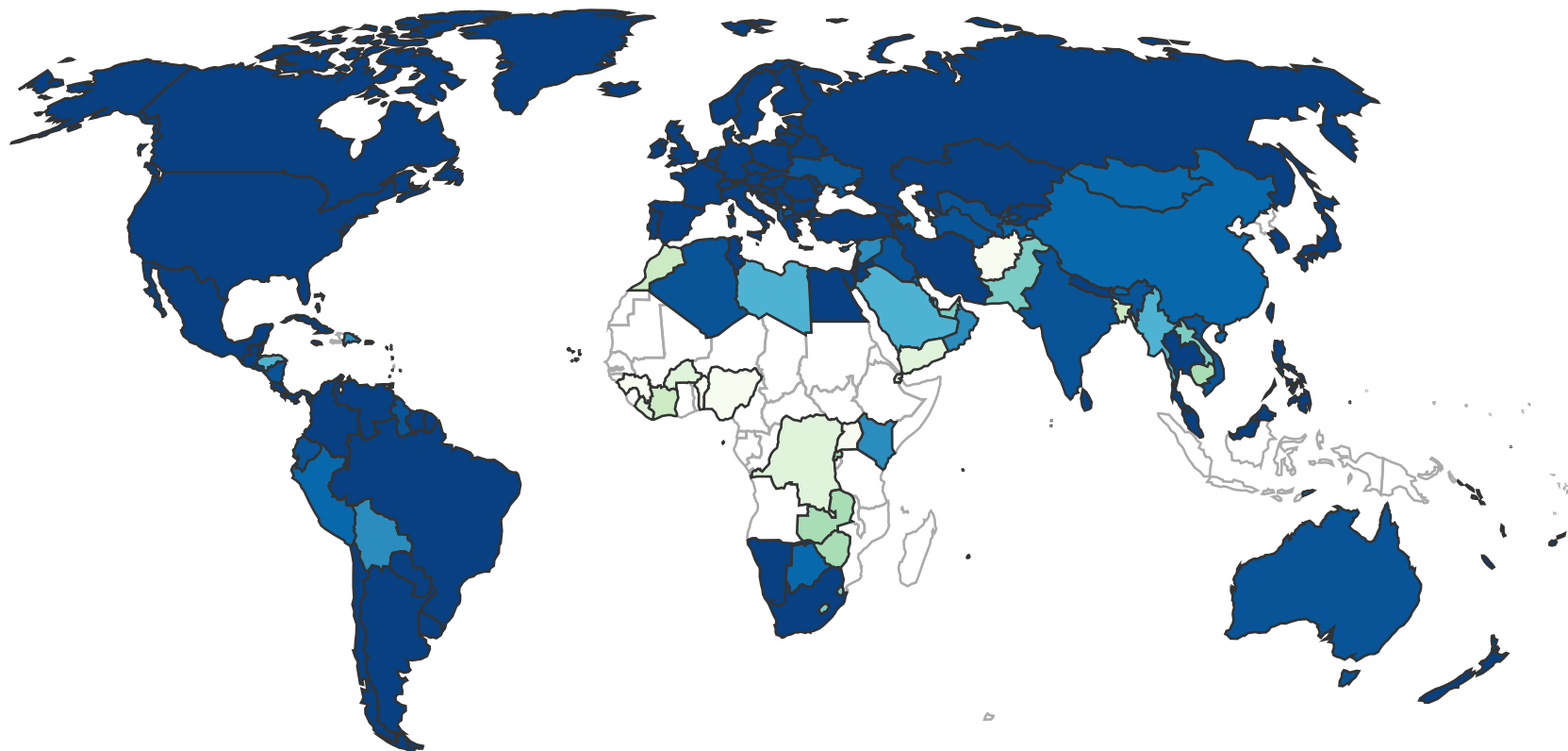
UN database

Figure A5. Time lags (in number of years) between the initial population count and the year in which official population estimates were reported to the United Nations, by region



Estimated completeness of death reporting, 2019

The number of deaths reported in a country's vital registration



Demographic institutes

[Max Planck Institute for Demographic Research \(MPIDR\)](#)

[Netherlands Interdisciplinary Demographic Institute \(NIDI\)](#)

[L'Institut national d'études démographiques \(INED\)](#) etc.

Demographic institutes and associations

- ❑ International Union for the Scientific Study of Population (IUSSP)
- ❑ British Society for Population Studies (BSPS)
- ❑ Australian Population Association
- ❑ Canadian Population Society
- ❑ European Association for Population Studies (EAPS)
- ❑ Population Association of America (PAA)
- ❑ The Southern Demographic Association (SDA)
- ❑ European Society for Population Economics (ESPE)
- ❑ Asian Population Association (APA)
- ❑ International Statistical Institute (ISI)

Virtual library

Internet Resources for Population Studies

<https://www.natur.cuni.cz/geografie/demografie-a-geodemografie/internet-resources-for-population-studies>

- Links to national statistical offices
- List of demographic journals
- Links to data sheets
- Data sources on other topics than mortality (fertility, family, migration....)

etc.....

Population structure: exercise

a. Your task is to visualize age-sex structure of selected population using Excel. Select a country and a year, find the data you need and try to make the population pyramid.

b. For the population you selected in *a.* compute:

1. age-dependency ratio
2. old-age dependency ratio
3. young-age dependency ratio
4. demographic index of masculinity

We will define these indicators next session, try to find their definitions on your own, or simply compute, what you think they might express

c. Voluntary: Compare in a single plot two age structures for two populations, where the size of the second one is at least two times the size of the first one.

Please, submit Excel spreadsheet with data you used for age pyramid and the age pyramid. In *b.*, write down the interpretation of your computations (meaning of the numbers). Thank you.

In addition to this, submit to Moodle the exercise we did during the lecture (indirect estimations of probabilities). Thank you.

Deadline: 7. 12. 2022 4:30 am

Sources

[0] Slides provided by dr. Burcin

[1] SPOORENBERG, T. Data and methods for the production of national population estimates: An overview and analysis of available metadata. UN. 2020. Available online: https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/documents/2020/Sep/un_2020_techpaper1.pdf.

[3] Demographic information systems. Slides from dr. O. Kurtinová. 2019