

**The Russian Fertility and Mortality database
of the Centre of Demographic Research
at New Economic School**

The Russian Fertility and Mortality database (RusFMD) of the Centre of Demographic Research at New Economic School (CDR NES) contains detailed fertility and mortality indicators of the Russia's regions.

The database includes all the fertility and mortality indicators of the Russian Federation and its regions starting from 1959, which can be calculated on the basis of official statistical data. The data presented in the RusFMD are unique. They are not published elsewhere and fully based on the [unpublished] data of the Federal State Statistics Service of the Russian Federation. The RusFMD presents data mainly for Russia's regions. Detailed fertility and mortality data for the whole Russia can be found in the Human Fertility Database at <http://www.humanfertility.org/> and in the Human Mortality Database at <http://www.mortality.org/>.

The RusFMD is made primarily for specialists involved in professional analysis of demographic indicators. The format of data allows its uploading into any system of statistical analysis with an easy access to data files. Therefore we neither provide an interface to set up necessary configuration of data at the website, nor give aggregated indicators.

1. Content of the database

The database contains the following original data:

- Fertility rates by mother's age (five year groups) for Russia for 1959-1988;
- Fertility rates by mother's age (one year groups) for Russia for 1978-1988;
- Fertility rates by mother's age (one year groups) for Russia and its regions for 1989-2012;
- Fertility rates by mother's age (one year groups) and birth order (1, 2, ..., 5+) for Russia and its regions for 1989-2012;
- Fertility rates by mother's age (five year groups) for Russia and its regions for 1989-2012;
- Fertility rates by mother's age (five year groups) and birth order (1, 2, ..., 5+) for Russia and its regions for 1989-2012;
- Mortality rates by age (one year groups) and by sex in Russia and its regions for 1989-2012;
- Mortality rates by age (five year groups) and sex in Russia and its regions for 1989-2012;
- Mortality rates by cause of death, age (five year groups) and sex for Russia and its regions for 1969-70, 1978-79, 1988-89, 1989-2010.

All coefficients are given per 1000000 of population

In addition, the RusFMD includes mid-year population estimates used for calculation of fertility and mortality rates:

- Mid-year population estimates across regions of Russia and Russia as a whole starting from 1989 by one and five year groups for the calculation of fertility and mortality rates;
- Population as of dates of censuses of 1970, 1979 and 1989 by five year age groups for the calculation of mortality indicators by cause of death.

2. Territorial dimension

The indicators for 1989-2012 are related to the territorial units of Russia in accordance with its administrative territorial division as of the beginning of 2012. The regions of Russia are indicated with territorial codes (so called COATO codes) presented in the Annex 1.

Mortality rates by causes of death for 1969-70, 1978-79, 1988-89 are calculated for the Russian regions in accordance with its administrative territorial division as of early 1989 and are indicated with COATO territorial codes. The regions whose borders changed after the collapse of the USSR are indicated with COATO codes where the first digit “1” is replaced by “2”. (Annex 2).

For a range of years, the data on some territories are not available:

- The data on the Nenets, Khanty-Mansy and Yamal-Nenets autonomous districts are available starting from 1990.
- The data on the Republic of Adygeya and Karachaevo-Cherkessya for 1989 are included in the data on the Krasnodar and Stavropol regions respectively.
- The data on births and deaths of the Ingush Republic are available starting from 1995.
- Before 1992 inclusive, the data of the Chechen and Ingush Republics are presented as data for Chechen-Ingush Republic with the territorial code 1196.
- The data of the Chechen and Ingush Republics for 1993-1994 and of the Chechen Republic for 1995-2002 are not available, whereas for 2003 there is no fertility and mortality data by cause of death. For the mentioned years the population data of Russia and of the North Caucasus Federal district used for the calculation of demographic coefficients for 1993-1994 don't include population of the Chechen and Ingush Republics, for 1995-2002 – population of the Chechen Republic. The same applies to the population data for 2003 when fertility and mortality indicators by cause of death were calculated.

According to the law on civil registration of 1997, the birth-order field was excluded from Russian civil registration birth records beginning from 1999 and tabulations of births by birth order were excluded from the official statistical tables. However, the part of regions have continued to produce tables of births by birth order. The list of regions producing these statistics varied with time. In Russia overall, the birth order is indicated only for some per cent of births as presented below:

Percent of births with indicated birth order

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Percent	34	50	43	44	42	44	41	44	43	43	32	27

For the period after 1999, fertility rates by birth order were calculated and included in the RusFMD only for regions where birth order is indicated for more than half of all births.

3. Distribution of unknowns

The calculation of fertility coefficients is preceded by the distribution of a number of births with an unknown mother's age and/or birth order by age and order groups.

The following algorithm of calculation was adopted. (1) Births of all birth orders along with the unknown mother's age were proportionately distributed between age groups. (2) In each age group, births of unknown birth orders were proportionally distributed between all birth orders. A given algorithm of calculation is based on the premise that if the mother's age is unknown, then birth order is also unknown.

Deaths at unknown age are distributed proportionately between all age groups regardless of the cause of death.

4. Causes of death

Prior 1999, causes of death are classified according to the Soviet classification of causes of death based on the 9th edition of the International Classification of Diseases (ICD). The Soviet classification was introduced in 1981 and has been partially revised in 1988. Prior to 1981, the data were originally classified according to the Soviet classification of causes of death of 1965 and 1970, and later revised to comply with classification of 1981/1988¹. The list of causes of death and their codes are available in the Annex 3. Brief classification of causes of death introduced in 1999 and based on the ICD-10 is available in the Annex 4. "All causes of death" has a code 0.

Starting from 2006, the Brief classification of causes of death based on the ICD-10 was a subject of significant change related to the classification of transport incidents. As such, the code 241 changed its content and codes 272-274 were added.

Beside it, the following four causes of death were distinguished: degeneration of the nervous system induced by alcohol, alcoholic cardiomyopathy, chronic pancreatitis of alcohol aetiology, accidental intoxication by drugs and psycholeptics.

5. Data files

Database includes 16 files. File names and their short descriptions are given in the Table 1. All data files in the RusFMD are comma separated text files. Each line in the file contains all the

¹ This work is fulfilled in the framework of the project INTAS № 1722 "Expectation of life and causes of death in different republics of the ex-USSR: long term trends and recent changes" Main results are published in (Meslé et al, 2003). Details of the methodology are described in (Meslé et al., 1996).

necessary information for identification of data included; hence it is an independent unit of information. The order of entries in the files is irrelevant.

Each record (entry) in data files corresponds to a territory in a calendar year and (in the case of mortality rates by cause of death) a cause of death. First elements of the entry contains a general information about time period and subpopulation: year, code of a territory, category of population (T - total population, U – urban, R – rural), sex (for mortality data), cause of death and ICD revision (for mortality data by cause of death), etc.. Next fields present age-specific indicators (mortality rates, fertility rates, population estimates) located in the order presented in the Table 2. If some indicator cannot be calculated, then a related position in the file has a meaning ".". If all indicators for specific year and subpopulation cannot be calculated, then the respective line is not included in the file.

Table 1. Data files

№	File name	File content
1	BRa1989-2012.txt	Fertility rates by mother's age (one year groups) for 1989-2012
2	BR5a1989-2012.txt	Fertility rates by mother's age (five year groups) for 1989-2012
3	BRaO1989-2012.txt	Fertility rates by mother's age (one year groups) and birth order (1,2,...,5+) for 1989-2012
4	BR5aO1989-2012.txt	Fertility rates by mother's age (five year groups) and birth order (1,2,...,5+) for 1989-2012
5	DRa1989-2012.txt	Mortality rates by age (one year groups) and sex for 1989-2012
6	DR5a1989-2012.txt	Mortality rates by age (five year groups) and sex for 1989-2012
7	DRc5a1969-1989.txt	Mortality rates by causes of death, age (five year groups) and sex for 1969-1970, 1978-79, 1988-89 (Soviet brief classification of causes of death of 1981)
8	DRc5a1989-1998.txt	Mortality rates by causes of death, age (five year groups) and sex for 1989-1998 (Soviet brief classification of causes of death of 1981)
9	DRc5a1999-2005.txt	Mortality rates by causes of death, age (five year groups) and sex for 1999-2005 (Russian brief classification of death based on ICD 10)
10	DRc5a2006-2012.txt	Mortality rates by causes of death, age (five year groups) and sex for 2006-2012 (Russian brief classification of death based on ICD 10)
11	PopBa1989-2012.txt	Mid-year population for the calculation of fertility indicators by one year age groups, 1989-2012.
12	PopB5a1989-2012.txt	Mid-year population for the calculation of fertility indicators by five year age groups, 1989-2012.
13	PopDa1989-2012.txt	Mid-year population for the calculation of mortality indicators by one year age groups, 1989-2012.
14	PopD5a1989-2012.txt	Mid-year population for the calculation of mortality indicators by five year age groups, 1989-2012.
15	PopDC5a2003.txt	Mid-year population for the calculation of mortality coefficients by causes of death by five year age groups, 2003.
16	PopDC5a1969-1989.txt	Population as of date of censuses of 1970, 1979, 1989 by five year age groups for calculation of mortality indicators by causes of death.

Table 2. Structure of one record

Indicator (data file)	Fields
1. Fertility coefficients by mother's age (one year groups) for the period prior to 1989.	Year, region, type of population. Age-specific coefficients for ages 15 and younger, 16, ..., 54, 55 and older.
2. Mid-year population for the calculation of fertility indicators by one year age groups.	Year, region, type of population. Population estimates by age groups: 15, 16, ..., 54, 55.
3. Fertility coefficients by mother's age (five year groups) for the period prior to 1989.	Year, region, type of population. Age-specific coefficients for ages 20 and younger, 20-24, ..., 50 and older.
4. Mid-year population for the calculation of fertility indicators by five year age groups for the period prior to 1989.	Year, region, type of population. Population estimates by age groups: 15-19, 20-24, ..., 50-54.
5. Fertility coefficients by mother's age (one year groups), 1989 and later.	Year, region, type of population. Age-specific fertility rates by birth order (all birth orders, 1,2,3,4,5+). Age scale: 15 and younger, 16, ... , 54, 55 and older.
6. Fertility coefficients by mother's age (five year groups).	Year, region, type of population. Age-specific fertility rates by birth order (all birth orders, 1,2,3,4,5+). Age scale:: 19-, 20-24, ... , 44-49, 50 and older.
7. Mortality coefficients by age (five year groups) and sex. Mid-year population for the calculation of mortality indicators by five year age groups	Year, region, type of population, sex, age-specific data by age groups: 0, 1-4, 5-9, ... , 80-84, 85 and older.
8. Mortality coefficients by age (one year groups) and sex. Mid-year population for the calculation of mortality indicators by one year age groups	Year, region, type of population, sex, age-specific data by age groups: 0, 1,2, , ... , 99, 100 and older.
9. Mortality coefficients by causes of death, age (five year groups) and sex.	Year, region, type of population, sex, ICD revision, age-specific data by age groups: 0, 1-4, 5-9, ... , 80-84, 85 and older.
10. Mortality coefficients by causes of death, age (five year groups) and sex for census years	Year, type of population, sex, ICD revision, age-specific data by age groups: 0, 1-4, 5-9, ... , 80-84, 85 and older.
11. Population as of date of censuses of 1970, 1979, 1989 by five year age groups.	Year, type of population, sex, age-specific data by age groups: 0, 1-4, 5-9, ... , 80-84, 85 and older.

References:

Meslé F., Vallin J., Hertrich V., Andreev E., Shkolnikov V. (2003) Causes of death in Russia: assessing trends since the 50s. // Population of Central and Eastern Europe. Challenges and Opportunities. Ed. by I. Kotowska and J. Józwiak. Statistical Publishing Establishment. Warsaw 2003 p. 389-414.

Meslé F., Shkolnikov V., Hertrich V., Vallin J. (1996) Contemporary mortality trends by causes of death in Russia 1965-1994. Serie: Données Statistiques, 2, INED, Paris, 1996. (In Russian and French).