

AGE-SPECIFIC FERTILITY RATE

Definition

The age-specific fertility rate measures the annual number of births to women of a specified age or age group per 1,000 women in that age group. Unless otherwise specified, the reference period for the age-specific fertility rates is the calendar year.

Method of computation

An age-specific fertility rate is generally computed as a ratio. The numerator is the number of live births to women in a particular age group during a period of time, and the denominator is an estimate of the number of person-years lived by women in that same age group during the same period of time. It is expressed as births per 1,000 women.

Statistical system generating the data

Data on age-specific fertility rates can be obtained from three sources: civil registration systems, sample surveys and censuses. Civil registration systems are considered the best source of information on age-specific fertility rates. However, some countries, especially those in the less developed regions, either lack a civil registration system or have a registration system whose coverage is too incomplete to be utilized for statistical purposes. Civil registration systems are considered to be complete if they cover 90 per cent or more of all live births taking place within a country or area.

In countries where civil registration systems are lacking, surveys and censuses can be utilized to estimate age-specific fertility rates. Such information is generally obtained from questions regarding the number of live births that occurred in the household in the 12 months preceding the census or survey enumeration, questions on the date of birth of the last child born alive in the household or, in the case of surveys, retrospective birth histories. Compared to data from complete civil registration, such direct retrospective questions tend to yield less reliable estimates since they rely on the ability of individuals to recall with accuracy an event that took place several months or years before. Furthermore, while civil registration systems tend to generate annual estimates, the availability of survey and census data depends on the existence of adequate survey or census programmes. Censuses are generally conducted every 10 years. Surveys are undertaken at different intervals in different countries. In developing countries they typically take place every three to five years.

Criteria for estimate selection

In *World Fertility Report 2009* direct estimates produced by the national statistics office are given priority. When the direct estimates are unavailable, age-specific fertility rates are computed based on available data.

- a. For civil registration systems, age-specific fertility rates are obtained from country data reported by national statistical offices to the United Nations Statistics Division, the United Nations regional commissions or other regional statistical

units. The data are also taken from reports and other analytical publications produced by national statistical offices.

- b. For surveys, whenever the estimates are available in the survey report they are directly taken from the report. The main surveys utilized are the Demographic and Health Surveys (DHS), the Reproductive Health Surveys (RHS), the World Fertility Survey (WFS), the Multiple Indicator Cluster Surveys (MICS), the Contraceptive Prevalence Surveys (CPS) and other nationally sponsored surveys.
- c. For censuses, preference is given to data from census reports and other analytical publications produced by national statistics offices. Adjusted estimates are only used when reported by the national statistical office.

Criteria for data source selection and reporting

Generally, only one source is provided per year for a country. When more than one source is available for the same period, preference is given to estimates based on civil registration. However, where such estimates are unavailable or incomplete, survey or census estimates are used. Registration data regarded as less than 90 per cent complete are used for countries where alternative sources are either not available or present problems of comparability, and where registration data can provide an assessment of trends. In countries with multiple survey programmes, sample surveys conducted on an annual or biennial basis are used where they exist. When such surveys are not available, other surveys using retrospective birth histories, censuses and other surveys are selected, in that order.

For each data point, information is provided on the source type (registration, census, survey or sample registration system) and the source (usually denoted by an acronym). A description of each acronym is given in the table labelled "Sources". For surveys that are not part of an international survey programme, the full name is provided in a footnote. When the numerator and denominator come from different sources, a note is provided. Notes are also used to indicate adjusted estimates and estimates based on the own-children method. Start and end years for the reference period covered by the data are reported when they differ from the calendar year.

Comments and limitations

Limitations depend on the data source utilized to produce the estimates:

- a. For civil registration, estimates are subject to limitations that depend on the completeness of birth registration. Comparability of data is also affected by the treatment of infants born alive but who died before registration or within the first 24 hours of life, the quality of the reported information relating to age of the mother, and the inclusion of births from previous periods. The population estimates may suffer from limitations connected to age misreporting and coverage.

- b. For survey and census data, the main limitations concern age misreporting, birth omissions, misreporting of the date of birth of the child and, in the case of surveys, sampling variability.

Notes are used to indicate any differences between the data presented and the definition of age-specific fertility rate given above.

Discrepancies between estimates presented in *World Fertility Report 2009* and other estimates

Generally, there is no discrepancy between estimates presented in *World Fertility Report 2009* and the age-specific fertility rates reported by national statistical offices. Estimates of age-specific fertility rates reported in *World Fertility Report 2009*, however, may differ from those calculated by the United Nations Population Division and published in the *World Population Prospects*. The latter are best estimates based on all available demographic data. Age-specific fertility rates presented in *World Fertility Report 2009* are direct estimates from country data.

Treatment of missing values

There is no attempt to provide estimates when country data are not available.

Data coverage and periodicity

World Fertility Report 2009 contains data on the age-specific fertility rate for 195 countries or areas of the world with the total population of 100,000 or more inhabitants in 2009. When available, data are provided for three reference dates: the closest years to 1970 (period 1965-1989), 1995 (period 1990-1999) and the most recent available year after 1999. Data are available for all three reference dates for 163 countries or areas. The detailed distributions by number of observations by development regions and reference dates are presented in the table labelled "Data availability".