

Birth rate

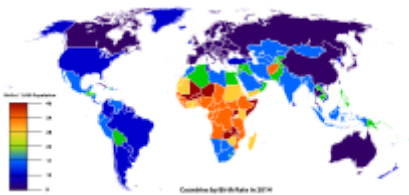
The **birth rate** (technically, births/population rate) is the total number of live births per 1,000 of a population in a year or period.^[1] The rate of births in a population is calculated in several ways: live births from a universal registration system for births, deaths, and marriages; population counts from a census, and estimation through specialized demographic techniques. The birth rate (along with mortality and migration rate) are used to calculate population growth

The *crude birth rate* is the number of live births per year per 1,000 midyear population^{[2][3]} Another term used interchangeably with *birth rate* is *natality*.^[4] When the crude death rate is subtracted from the crude birth rate, the result is the rate of natural increase(RNI).^[5] This is equal to the rate of population change (excluding migration).^[5]

The total (crude) birth rate (which includes all births)—typically indicated as births per 1,000 population—is distinguished from an age-specific rate (the number of births per 1,000 persons in an age group).^[6] The first known use of the term "birth rate" in English occurred in 1859.^[7]

The average global birth rate is 18.5 births per 1,000 total population in 2016.^[9] The death rate is 7.8 per 1,000 per year. The RNI is thus 1.06 percent. In 2012 the average global birth rate was 19.611 according to the World Bank ^[10] and 19.15 births per 1,000 total population according to the CIA,^[11] compared to 20.09 per 1,000 total population in 2007.^[12]

The 2016 average of 18.6 births per 1,000 total population is estimated to be about 4.3 births/second or about 256 births/minute for the world.^[9]



Countries by crude birth rate (CBR) in 2014

World historical and projected crude birth rates (1950–2050)
UN, normal variant, 2009 rev^[8]

Years	CBR	Years	CBR
1950–1955	37.2	2000–2005	21.2
1955–1960	35.3	2005–2010	20.3
1960–1965	34.9	2010–2015	19.4
1965–1970	33.4	2015–2020	18.2
1970–1975	30.8	2020–2025	16.9
1975–1980	28.4	2025–2030	15.8
1980–1985	27.9	2030–2035	15.0
1985–1990	27.3	2035–2040	14.5
1990–1995	24.7	2040–2045	14.0
1995–2000	22.5	2045–2050	13.4

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Political issues

The birth rate is an issue of concern and policy for national governments. Some (including those of Italy and Malaysia) seek to increase the birth rate with financial incentives or provision of support services to new mothers. Conversely, other countries have policies to reduce the birth rate (for example, China's one-child policy which was in effect from 1978 to 2015). Policies to increase the crude birth rate are known as pro-natalist policies, and policies to reduce the crude birth rate are known as anti-natalist policies. Measures such as improved information on birth control and its availability have achieved similar results in countries such as Iran.

There has also been discussion on whether bringing women into the forefront of development initiatives will lead to a decline in birth rates. In some countries, government policies have focused on reducing birth rates by improving women's rights, sexual and reproductive health. Typically, high birth rates are associated with health problems, low life expectancy, low living standards, low social status for women and low educational levels. Demographic transition theory postulates that as a country undergoes economic development and social change its population growth declines, with birth rates serving as an indicator.

At the 1974 World Population Conference in Bucharest, Romania, women's issues gained considerable attention. Family programs were discussed, and 137 countries drafted a World Population Plan of Action. As part of the discussion, many countries accepted modern birth control methods such as the birth control pill and the condom while opposing abortion. Population and the need to incorporate women into the discourse were discussed; it was agreed that improvements in women's status and initiatives in defense of reproductive health and freedom, the environment, and sustainable socioeconomic development were needed.

Birth rates ranging from 10–20 births per 1,000 are considered low, while rates from 40–50 births per 1,000 are considered high.^[13] There are problems associated with both extremes. High birth rates may stress government welfare and family programs. Additional problems faced by a country with a high birth rate include educating a growing number of children, creating jobs for these children when they enter the workforce, and dealing with the environmental impact of a large population. Low birth rates may stress the government to provide adequate senior welfare systems and stress families who must support the elders themselves. There will be fewer children (and a working-age population) to support an aging population.

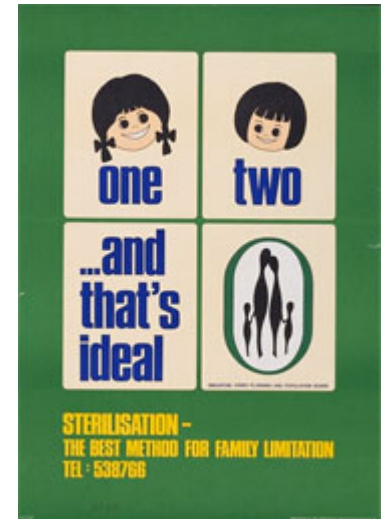
National birth rates

According to the CIA's The World Factbook, the country with the highest birth rate is Niger (at 51.26 births per 1,000 people). The country with the lowest birth rate is Monaco, at 6.72 births per thousand.

Compared with the 1950s (when the birth rate was 36 per thousand),^[14] the birth rate has declined by 16 per thousand. In July 2011, the U.S. National Institutes of Health announced that the adolescent birth rate continues to decline.^[15]

Birth rates vary within a geographic area. In Europe as of July 2011, Ireland's birth rate is 16.5 per 1000 (3.5 percent higher than the next-ranked country the UK). France has a birth rate of 12.8 per thousand, while Sweden is at 12.5.^{[16][17]}

In July 2011, the UK's Office for National Statistics (ONS) announced a 2.4 percent increase in live births in the UK in 2010.^[18] This is the highest birth rate in the UK in 40 years.^[18] However, the UK record year for births and birth rate remains 1920 (when the ONS reported over 957,000 births to a population of "around 40 million").^[19] In contrast, the birth rate in Germany is only 8.3 per



In the 1970s the Singaporean government encouraged small families.



Placard showing negative effects of lack of family planning and having too many children and infants (Ethiopia)

thousand—so low that the UK and France (which have smaller populations) had more births in the past year^[20]

Birth rates also vary in a geographic area among demographic groups. For example, in April 2011 the U.S. Centers for Disease Control and Prevention announced that the birth rate for women over age 40 in the U.S. rose between 2007 and 2009 and fell in every other age group during the same period.^[21]

In August 2011 Taiwan's government announced that its birth rate declined in the previous year, despite the fact that the government implemented approaches to encourage fertility^[22]

Niger has the highest birth rate in the world with 49.443 per thousand people.^[23] Japan has one of the lowest birth rates in the world with 8 per thousand people.^[24] While in Japan there are 126 million people^[25] and in Niger 21 million,^[26] both countries had around 1 million babies born in 2016.

Sub-Saharan Africa

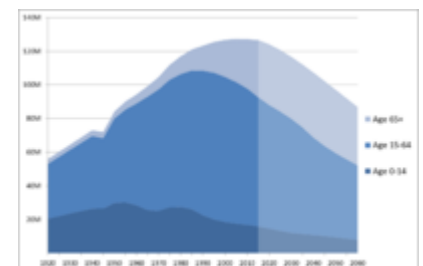
The region of Sub-Saharan Africa has the highest birth rate in the world. As of 2016, Niger, Mali, Uganda, Zambia, and Burundi have the highest birth rates in the world.^[27] This is part of the fertility-income paradox as these countries are very poor, and it may seem counter-intuitive for families there to have so many children. The inverse relationship between income and fertility has been termed a *demographic-economic "paradox"* by the notion that greater means would enable the production of more offspring as suggested by the influential Thomas Malthus^[28]

Afghanistan

Afghanistan has the 11th highest birth rate in the world, and also the highest birth rate of any non-African country (as of 2016).^[27] The rapid population growth of Afghanistan is considered a problem by preventing population stabilization, and affecting maternal and infant health.^{[29][30]} Reasons for large families include tradition, religion, the low status of women and the cultural desire to have several sons.^{[29][31]}

Japan

Japan has the third lowest birth rate in the world (as of 2016), with only Saint Pierre and Miquelon and Monaco having lower births rates.^[27] Japan has to deal with an unbalanced population with many elderly but few youth, and the situation is estimated to get worse in the future, unless there are major changes. The situation in Japan is also aggravated by the fact that unlike other East Asian countries (such as Singapore) it does not have a programme of immigration or foreign guest workers to help increase its young population and workforce. An increasing number of Japanese people are staying unmarried: between 1980 and 2010, the percentage of the population who had never married increased from 22% to almost 30%, even as the population continued to age, and by 2035 one in four people will not marry during their childbearing years.^[32] The Japanese sociologist Masahiro Yamada coined the term "parasite singles" for unmarried adults in their late 20s and 30s who continue to live with their parents.^[33]



Historic population of Japan (1920-2010) with projected population (2011-2060).

Australia

Historically, Australia has had a relatively low fertility rate, reaching a high of 3.14 births per woman in 1960.^[34] This was followed by a decline which continued until the mid-2000, when a one off cash incentive was introduced to reverse the decline. In 2004, the then Howard government introduced a non-means tested 'Maternity Payment' to parents of every newborn as a substitute to maternity leave. The payment known as the 'Baby Bonus' was A\$3000 per child. This rose to A\$5000 which was paid in 13 instalments.^[35]

At a time when Australia's unemployment was at a 28-year low of 5.2%, the then Treasurer Peter Costello stated there was opportunity to go lower. With a good economic outlook for Australia, Costello held the view that now was a good time to expand the population, with his famous quote that every family should have three children "one for mum, one for dad and one for the country".^[36] Australia's fertility rate reached a peak of 1.95 children per woman in 2010, a 30-year high,^[34] although still below replacement rate.

Phil Ruthven of the business information firm IBISWorld believes the spike in fertility was more about timing and less about monetary incentives. Generation X was now aged 25 to 45 years old. With numerous women putting pregnancies off for a few years for the sake of a career, many felt the years closing in and their biological clocks ticking.^[37]

On 1 March 2014, the baby bonus was replaced with Family Tax Benefit A. By then the baby bonus had left its legacy on Australia.^[38]

In 2016, Australia's fertility rate has only decreased slightly to 1.91 children per woman.^[34]

Coercive population control

In the 20th century, several authoritarian governments have sought either to increase or to decrease the birth rates, often through forceful intervention. One of the most notorious natalist policies is that which occurred in communist Romania in the period of 1967-1990 during communist leader Nicolae Ceaușescu, who adopted a very aggressive natalist policy which included outlawing abortion and contraception, routine pregnancy tests for women, taxes on childlessness, and legal discrimination against childless people. This period has later been depicted in movies and documentaries (such as *4 Months, 3 Weeks and 2 Days*, *Children of the Decree*). These policies temporarily increased birth rates for a few years, but this was followed by a later decline due to an increased use of illegal abortion.^{[39][40]} Ceaușescu's policy resulted in over 9,000 women who died due to illegal abortions,^[41] large numbers of children put into Romanian orphanages by parents who couldn't cope with raising them, street children in the 1990s (when many orphanages were closed and the children ended on the streets), and overcrowding in homes and schools. The irony of Ceaușescu's aggressive natalist policy was a generation that may not have been born would eventually lead the Romanian Revolution which would overthrow and have him executed.^[42]

In stark opposition with Ceaușescu's natalist policy was China's one child policy, in effect from 1978 to 2015, which included abuses such as forced abortions.^[43] This policy has also been deemed responsible for the common practice of sex selective abortion which led to an imbalanced sex ratio in the country. Given strict family-size limitations and a preference for sons, girls have become unwanted in China because they are considered as depriving the parents of the possibility of having a son. With the progress of prenatal sex-determination technologies and induced abortion, the one-child policy gradually turned into a one-son policy.^[44]

In many countries, the steady decline in birth rates over the past decades can be greatly attributed to the significant gains in women's freedoms, such as tackling the phenomenon of forced marriage and child marriage, education for women and increased socioeconomic opportunities. Women of all economic, social, religious and educational persuasions are choosing to have less children as they are gaining more control over their own reproductive rights. Apart from more children living into their adult years, women are often more ambitious to take up work, education and living their own lives rather than just a life of reproduction.^[45] Birth rates in third world countries have fallen due to the introduction of family planning clinics.

In Bangladesh, one of the poorest countries in the world, women are on average having two children less than they did since 1999, according to Australian demographer Jack Caldwell. Bangladeshi women eagerly took up contraceptives, like condoms and the pill, on offer from a foreign population agency in a study by the World Bank carried out in 1994. The study proved that family planning could be carried out and accepted practically anywhere. Caldwell also believes that agricultural improvements led to the need for less labour. Children not needed to plough the fields would be of surplus and require some education, so in turn, smaller families, and with smaller families, women are able to work and have greater ambitions.^[46]

Burma, a country which until recently was controlled by an austere military junta, intent on controlling every aspect of its population lives. The military generals wanted the country's population doubled. The women's job was to produce babies to power the country's labour force so family planning was vehemently opposed. The women of Burma opposed this policy, and Peter McDonald of the

Australian National University argues this gave rise to a black market trade in contraception, all smuggled from neighbouring Thailand.^[47]

In 1990, five years after the war ended, Iran saw the fastest recorded drop in fertility in world history. Revolution gave way to consumerism and westernisation. With TVs and cars came condoms and the pill. A generation of women expected to produce soldiers in the fight against Iraq was met by the next generation of women who had a choice to enjoy some new found luxuries. In the years during the Iran/Iraq war, the women of Iran averaged about 8 children each, a ratio the hard line Islamic President Mahmoud Ahmadinejad wanted to revive. As of 2010, the birth rate of Iran is 1.7 babies per woman. Some may say this is a triumph of western values, which give women more freedoms, over an Islamic ruled state.^[48]

Islam clerics are having less influence over women in other Muslim countries also. In the past 30 years Turkey's fertility rate of children per woman has dropped from 4.07 to 2.08. Tunisia has dropped from 4.82 to 2.14 and Morocco from 5.4 to 2.52 children per woman.^[49]

Latin America, of predominately catholic faith, has seen the same trends in falling fertility rates. Brazilian women are having half the children they were 25 years ago with a rate of 2.2 children per woman. The Vatican is having less influence over women in other hard-line Catholic countries also. Mexico, El Salvador, Ecuador, Nicaragua, Colombia, Venezuela and Peru have all seen significant drops in fertility in the same period, all going from over six to less than three children per woman. Forty percent of married Brazilian women are choosing to get sterilised after having children but this may be a compromise as it is only one confession of sin to the church. Some may say this is a triumph of western values, which give women more freedoms, over a Catholic state.^[50]

United States

According to U.S. federal-government data released in March 2011, births fell four percent from 2007 to 2009 (the largest drop in the U.S. for any two-year period since the 1970s).^[51] Births have declined for three consecutive years, and are now seven percent below the 2007 peak.^[52] This drop has continued through 2010, according to data released by the U.S. National Center for Health Statistics in June 2011.^[53] Experts have suggested that this decline is a reflection of unfavorable economic conditions.^[54] The connection between birth rate and economic conditions stems from the fact that US birth rates have fallen to levels comparable to those during the Great Depression during the 1930s.^[55] A state-level look at fertility, based on a report published by the Pew Research Center in October 2011, points out the strong correlation between lower birth rates and economic distress. In 2008, North Dakota had the nation's lowest unemployment rate (3.1 percent) and was the only state to show an increase (0.7 percent) in its birth rate. All other states either remained the same or declined.

The research center's study also found evidence of a correlation between economic difficulties and fertility decline by race and ethnicity. Hispanics (particularly affected by the recession) have experienced the largest fertility decline, particularly compared to Caucasians (who have less economic hardship and a smaller decline in fertility). In 2008–2009 the birth rate declined 5.9 percent for Hispanic women, 2.4 percent for African American women and 1.6 percent for white women. The relatively large birth rate declines among Hispanics mirror their relatively large economic declines, in terms of jobs and wealth. According to the statistics using the data from National Centre for Health Statistics and U.S. Census Bureau, from 2007 to 2008, the employment rate among Hispanics declined by 1.6 percentage points, compared with declines of 0.7 points for whites. The unemployment rate shows a similar pattern—unemployment among Hispanics increased 2.0 percentage points from 2007 to 2008, while for whites the increase was 0.9 percentage points. A recent report from the Pew Hispanic Center revealed that Hispanics have also been the biggest losers in terms of wealth since the beginning of the recession, with Hispanic households losing 66% of their median wealth from 2005 to 2009. In comparison, black households lost 53% of their median wealth and white households lost only 16%. In fact, Hispanics, who have been hit the hardest in terms of employment and wealth, have also experienced the largest fertility declines since the onset of the recession because the birth rate declines of Hispanic women is the highest while comparing to the White women. Since the unemployment rate has been increasing, the birth rate decline has been decreasing.^[56]

Other factors (such as women's labor-force participation, contraceptive technology and public policy) make it difficult to determine how much economic change affect fertility. Research suggests that much of the fertility decline during an economic downturn is a postponement of childbearing, not a decision to have fewer (or no) children; people plan to "catch up" to their plans of bearing

children when economic conditions improve. Younger women are more likely than older women to postpone pregnancy due to economic factors, since they have more years of fertility remaining.^[57]

In 2013, teenage birth rates in the U.S. were at the lowest level in U.S. history.^[58] Teen birth rates in the U.S. have decreased from 1991 through 2012 (except for an increase from 2005–2007).^[58] The other aberration from this otherwise-steady decline in teen birth rates is the six percent decrease in birth rates for 15- to 19-year-olds between 2008 and 2009.^[58] Despite the decrease, U.S. teen birth rates remain higher than those in other developed nations.^[58] Racial differences affect teen birth and pregnancy rates: American Indian/Alaska Native, Hispanic, and non-Hispanic black teen pregnancy rates are more than double the non-Hispanic white teenage birth rate.^[59]

Current

States strict in enforcing child support have up to 20 percent fewer unmarried births than states that are lax about getting unmarried dads to pay, the researchers found. Moreover, according to the results, if all 50 states in the United States had done at least as well in their enforcement efforts as the state ranked fifth from the top, that would have led to a 20 percent reduction in out-of-wedlock births.^[60]

The United States population growth is at an historical low level as the United States current birth rates are the lowest ever recorded.^[61] The low birth rates in the contemporary United States can possibly be ascribed to the recession, which led women to postpone having children and fewer immigrants coming to the US. The current US birth rates are not high enough to maintain the size of the U.S. population, according to The Economist.^{[62][63]}

Illicit drugs

Sigmund Freud introduced theories which concerned aspects of the human libido being responsible for sex drive. In the United States, Amphetamines such as Methamphetamine have attributes that greatly reduce ones sexual interests, which may or may not have effects on birth rate.^[64] Opioid usage has resulted in an 80% increase of biological damage in Denver, Colorado, as the vast majority of these newborn Americans are born addicted to these substances and suffer opioid withdraws upon entering the world.^[65]

Factors affecting birth rate

There are many factors that interact in complex ways, influencing the births rate of a population. Developed countries have a lower birth rate than underdeveloped countries (see Income and fertility). A parent's number of children strongly correlates with the number of children that each person in the next generation will eventually have.^[66] Factors generally associated with increased fertility include religiosity,^[67] intention to have children,^[68] and maternal support.^[69] Factors generally associated with decreased fertility include wealth, education,^[70] female labor participation,^[71] urban residence,^[72] intelligence, increased female age and (to a lesser degree) increased male age. Many of these factors however are not universal, and differ by region and social class. For instance, at a global level, religion is correlated with increased fertility, but in the West less so: Scandinavian countries and France are among the least religious in the EU, but have the highest TFR, while the opposite is true about Portugal, Greece, Cyprus, Poland and Spain. (see Religion in the European Union).^[73]



Human Development Indexmap. Darker is higher. Countries with a higher HDI usually have a lower birth rate, known as the fertility-income paradox.

Reproductive health can also affect the birth rate, as untreated infections can lead to fertility problems, as can be seen in the "infertility belt" - a region that stretches across central Africa from the United Republic of Tanzania in the east to Gabon in the west, and which has a lower fertility than other African regions.^{[74][75]}

Child custody laws, affecting fathers' parental rights over their children from birth until child custody ends at age 18, may have an effect on the birth rate. U.S. states strict in enforcing child support have up to 20 percent fewer unmarried births than states that are lax about getting unmarried fathers to pay, the researchers found. Moreover, according to the results, if all 50 states in the United States had done at least as well in their enforcement efforts as the state ranked fifth from the top, that would have led to a 20 percent reduction in out-of-wedlock births.^[60]

See also

- Death rate
- Human overpopulation
- Human population control
- Population aging
- Population decline
- Total fertility rate

Case studies

- Aging of Europe
- Aging of Japan

Lists

- List of sovereign states and dependent territories by birth rate
- List of sovereign states and dependent territories by fertility rate

Organizations

- Population Matters(formerly known as the Optimum Population Trust)

Notes

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