United Nations

Department of Economic and Social Affairs

World Fertility 2024

Department of Economic and Social Affairs
Population Division

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United Nations Department of Economic and Social Affairs, Population Division

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Back cover: "Esther White, a member of a group of mothers and mentors supported by UNFPA, talks with students during a meeting in 2020 on gender issues at Mpapa Primary School in Mangochi", Malawi, UNFPA East and Southern Africa.

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Acknowledgements

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Explanatory notes

The following symbols have been used in the tables throughout this report:

A minus sign (-) before a figure indicates a decrease or negative number.

A full stop (.) is used to indicate decimals.

Unless otherwise stated, years given refer to 1 July.

Use of a dash (–) between years, for example, 1995–2000, signifies the full period involved, from 1 July of the first year to 1 July of the second year.

Numbers and percentages in this table do not necessarily add to totals because of rounding.

References to region, development group, country or area:

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In this publication, data for countries and areas are often aggregated in six continental regions: Africa, Asia, Europe, Latin America and the Caribbean, Northern America and Oceania. Further information on continental regions is available from: https://unstats.un.org/unsd/methodology/m49/. Countries and areas have also been grouped into geographic regions based on the classification being used to track progress towards the Sustainable Development Goals of the United Nations (see: https://unstats.un.org/sdgs/indicators/regional-groups/).

The designation of "more developed" and "less developed", or "developed" and "developing", is intended for statistical purposes and does not express a judgment about the stage in the development process reached by a particular country or area. More developed regions comprise all countries and areas of Europe and Northern America, plus Australia, New Zealand and Japan. Less developed regions comprise all countries and areas of Africa, Asia (excluding Japan), Latin America and the Caribbean, and Oceania (excluding Australia and New Zealand).

The group of least developed countries (LDCs) includes 44 countries, located in sub-Saharan Africa (32), Northern Africa and Western Asia (1), Central and Southern Asia (3), Eastern and South-Eastern Asia (4), Latin America and the Caribbean (1), and Oceania (3). Further information is available at: https://www.un.org/ohrlls/.

The classification of countries and areas by income level is based on gross national income (GNI) per capita as reported by the World Bank (May 2024). These income groups are not available for all countries and areas. Further information is available at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups.

List of abbreviations

ABR   Adolescent birth rate

AIDS   Acquired immune deficiency syndrome

ARTs   Assisted reproductive technologies

ASFR   Age-specific fertility rate

COVID-19   Coronavirus disease 2019

CRVS   Civil registration and vital statistics

DHS   Demographic and Health Survey

GCC   Cooperation Council for the Arab States of the Gulf

GDP   Gross domestic product

HIV   Human immunodeficiency virus

ICPD   International Conference on Population and Development

IHME   Institute of Health Metrics and Evaluation

ILO   International Labour Organization

LAC   Latin America and the Caribbean

LIMCs   Low- and middle-income countries

MAC   Mean age at childbearing

MICS   Multiple Indicator Cluster Survey

NRR   Net reproductive rate

SAR   Special Administrative Region

SDGs   Sustainable Development Goals

TFR   Total fertility rate

UN DESA   United Nations Department of Economic and Social Affairs

UNFPA   United Nations Population Fund

UNICEF   United Nations Children's Fund

WHO   World Health Organization

WIC   Wittgenstein Center for Demography and Human Capital

WRA   Women of reproductive age

Key messages

Global fertility is just above 2 births per woman, after falling for several decades.

- The global fertility rate in 2024 was 2.2 births per woman on average, down from around 5 in the 1960s and 3.3 in 1990.
- Although this historic reduction in fertility has been experienced worldwide, its timing differs substantially across countries and regions.
- The global fertility rate is projected to continue to decline, reaching the replacement level[1] of 2.1 in 2050 and falling further to 1.8 births per woman in 2100.
- Trends in fertility, together with trends in life expectancy and international migration, determine the speed and duration of population growth or decline as well as the direction and magnitude of changes in the population age distribution, including population ageing.

Fertility levels of less than 2 births per woman are becoming the global norm.

- In over half of all countries and areas (55 per cent),[2] with more than two thirds of the global population, the fertility level is below 2.1 births per woman. This group crosses all regions and income groups and includes some of the world's most populous nations, such as India, China, the United States of America, Brazil and the Russian Federation.
- One in six countries and areas (17 per cent) had fertility levels above 2.1 in 2024 but are projected to fall below this level within the next 30 years. The most populous countries in this group are Indonesia and Bangladesh.

Very low fertility leads to population decline and a much older population.

- In more than 1 in 10 countries and areas globally, fertility is now below 1.4 births per woman. In four countries – China, the Republic of Korea, Singapore and Ukraine – it is below 1.0.
- If sustained over decades, fertility levels below 1.4 births per woman result in rapid population decline and a pronounced shift in the population age distribution towards older ages.
- In the United Nations projections of future population for countries and areas with very low fertility, the number of births per woman is assumed to increase slightly above current levels while remaining very low. A return to fertility levels of 2.1 or higher within the next 30 years seems very unlikely.

Fertility has been falling also in countries with higher birth rates.

- Today, fertility levels are at or above 2.1 births per woman in 45 per cent of countries and areas globally, which are home to roughly a third of the global population.
- Over 1 in 10 countries and areas (13 per cent) still have fertility levels of 4.0 or higher. This group is found mostly in sub-Saharan Africa but also includes Afghanistan, Sudan and Yemen. The largest country in this group is Nigeria.
- In 1994, 4 in 10 countries and areas had fertility levels of 4.0 or higher. Among these, one third now have fertility levels below 2.1, while another one third continue to have levels above 4.0 births per woman.
- Fertility is expected to continue to fall in countries with high fertility levels today. No country or area is projected to have a fertility level greater than 4.0 in 2054 and fewer than one third (30 per cent) will still have fertility above 2.1 births per woman.

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[1] A fertility level of around 2.1 births per woman yields a growth rate of zero in the long run for a population with low mortality and no migration. At this level, known as the "replacement level", each generation is followed or "replaced" by another generation of roughly the same size. Fertility that stays above or below the replacement level over decades leads to population growth or decline, respectively, unless countered by a sufficient net outflow or inflow of migrants.

[2] The term "countries and areas", as used here, refers to a collection of 237 distinct geographic units, including the 193 Member States of the United Nations and a variety of other territories. The size of the global population is the sum of population size across the 237 countries and areas.

Early childbearing has declined everywhere.

- Globally, between 1994 and 2024, the adolescent birth rate declined from 74 to 38 births per 1,000 girls and young women aged 15–19 years. For girls aged 10–14, the adolescent birth rate fell from 4 births per 1,000 girls aged 10–14 years in 1994 to 1 per 1,000 in 2024.

- Early childbearing is concentrated in high-fertility countries, with more than two thirds of global adolescent births in 2024 occurring in countries and areas still far from completing the fertility transition (where fertility is expected to remain above 2.1 until at least 2054). In this group, the adolescent birth rate declined from 118 births per 1,000 girls and young women aged 15–19 in 1994 to 79 per 1,000 in 2024; a similar trend was observed among girls aged 10–14, with the birth rate decreasing from 8 per 1,000 in 1994 to 2 per 1,000 in 2024.

- Increasing the average age of marriage and of first childbirth in countries where they often occur early would improve the health of women and their children and raise women's educational attainment and labour force participation, while also slowing growth and moving towards population stabilization.

In countries and areas with low fertility, women start childbearing later in life.

- Low fertility has been accompanied by a gradual postponement of parenthood, as reflected in the widespread rise of the mean age of childbearing.

- In 1994, all countries and areas with fertility level below 2.1 had a mean age of childbearing below 30 years. By 2024, two thirds of them had a mean age of childbearing above 30 years, and one fifth above 32 years.

The global number of births has fluctuated for decades and will soon begin a steady decline.

- Today, there are around 132 million births per year, the same as in the early 1980s. The global number of births peaked in 2012 at 146 million, and a second peak is expected around 2040 at 136 million. After that, the number of births worldwide is projected to undergo a steady decline to around 111 million in 2100.

- For the group of countries and areas still far from completing the fertility transition, the number of births continues to increase and is expected to peak in 2066 at a level 21 per cent higher than in 2024. Over the coming decades, a significant increase in public expenditures will be required in these locations just to maintain current levels of spending per child for health and education programmes.

The number of women of reproductive age influences the number of births.

- Globally, the number of women in the reproductive age range is projected to grow through the late 2050s, when it will peak at around 2.2 billion, up from 2 billion in 2024.

- Countries and areas still far from completing the fertility transition have a younger age distribution. The relative youthfulness of the population will contribute to increasing numbers of births, magnifying the impact of the current high levels of fertility. By 2054, the number of women of reproductive age will have increased by 86 per cent, placing additional demands on efforts to achieve universal access to sexual and reproductive healthcare.

- Even if the average number of births per woman drops to, or below, the replacement level, continued growth in the number of women of reproductive age can prolong population growth over the next decades. When fertility remains below the replacement level for an extended period, the number of women of reproductive age eventually starts to drop and becomes a driver of population decline.

- In some countries and areas with low or very low fertility, a net outflow of migrants is expected to further reduce the number of births in the years ahead. In these situations, policies aimed at creating more opportunities for decent work at home and encouraging return migration may be more effective in slowing population decline than policies aimed at increasing fertility levels.

- Immigration of young adults bolsters the number of births by increasing the number of women of reproductive age in the country or area of destination and can offset the effect of low birth rates. In some countries with high immigration levels, including Australia, Canada, the United Kingdom and the United States of America, the number of births is projected to continue increasing due to immigration despite sustained low levels of fertility.

Gender equality and women's empowerment can help to counter high and low fertility levels.

- Discrimination and legal barriers often restrict women's and adolescents' autonomy in making decisions about their sexual and reproductive health. Investing in programmes to end child marriage, empowering women in reproductive decision-making and integrating family planning and reproductive health into primary healthcare can raise women's level of education, facilitate their economic participation and reduce rates of unintended pregnancy and early childbearing.

- In societies with high levels of women's education and labour market participation, eliminating gender gaps in the division of domestic work and childcare within households, negating persistent gender stereotypes and ensuring adequate public support for families and parenting can facilitate childbearing and help individuals and couples to achieve their desired family size.

Supportive, needs-based policies can help people to achieve their desired family size.

- In all countries and areas today, some individuals and couples experience unintended pregnancies while others fail to realize their desires for childbearing. In low-fertility countries, individuals and couples tend to have fewer children than they desire and to remain childless more often than intended. In high-fertility countries, unintended pregnancies among women who wanted to avoid pregnancy remain common.

- In some countries, there are large proportions of sexually active women who want to avoid or postpone pregnancy but are not using a modern method of contraception (SDG 3.7.1).[3] Improved access to sexual and reproductive healthcare and education, especially among economically vulnerable, marginalized women and those living in remote areas, would help to address the challenges associated with early childbearing and unintended pregnancies.

- A variety of policies intended to support families and balance family and work life are available. These include mandating employers to provide paid parental leave and flexible working arrangements, supporting affordable childcare and housing, ensuring the provision of comprehensive care for the older population and encouraging an equal distribution of caregiving and household responsibilities between men and women.

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[3] Sustainable Development Goal (SDG) indicator 3.7.1, "Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods".

A mother and her newborn baby at the Maternal & Child Health Training Institute for medically needy in Dhaka, Bangladesh (2010). United Nations Economic and Social Commission for Asia and the Pacific / Kibae Park.

Introduction

The past several decades have witnessed unprecedented changes in fertility levels. Globally, the average number of births per woman over a lifetime has declined from around five in the 1950s and 1960s to slightly above two in 2024. Current projections from the United Nations indicate that global fertility will reach the replacement level of 2.1 births per woman by 2050. This marks a major change from a decade ago when global fertility was expected to decline more slowly, only reaching replacement by 2073. The present report comes at a time of faster-than-anticipated declines in fertility for some of the world's most populous countries and continuing very low fertility levels in many other countries. Fertility trends are a major contributor to future changes in population size and age distribution, along with changes in life expectancy and international migration. This report summarises fertility trends at the global, regional and national levels, their implications for future population levels, and offer recommendations for appropriate policy responses.

For individuals, decisions around whether to have children, with whom and when are some of the most important and consequential in life. Principle 8 of the Programme of Action of the 1994 International Conference on Population and Development (ICPD) affirms that all couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so.

Understanding fertility trends is essential for the development of policies to promote the achievement of a more inclusive, prosperous and sustainable future, and one which fulfils the life aspirations of current and future generations of young people and families. Fertility trends today differ significantly across countries and areas. In some areas, fertility levels remain relatively high, leading to an increasing number of births. Other areas have historically low fertility, causing declining births, population ageing and overall declines in population size.

While these differences are striking, it is important to understand that all populations follow a similar path towards longer lives and smaller families, a process known as the "demographic transition", of which the transition from high to low birth rates is a critical component. Many of the differences in the demographic situations of countries observed today result from them being at different stages in this process.

While uncertainty remains about likely rates of decline, fertility levels are expected to continue going down through the remainder of the century in countries and areas that currently have relatively high fertility. In contrast, in countries and areas where fertility is currently below the replacement level, future fertility trends are highly uncertain because there are very few historical examples that could form a basis for projections. Similarly, it is difficult to predict how low fertility levels may fall below the replacement level in countries and areas that have only recently reached replacement-level fertility or are expected to do so in the near future.

This report adopts the analytical framework of the fertility transition to explore differences in fertility trends across countries and regions today and to provide insight into their future trajectories. Countries and areas are categorized according to the time at which fertility dropped, or is expected to drop, to below-replacement fertility of 2.1 births per woman.[4] The report also offers a series of policy recommendations to help countries prepare for fertility levels that may differ significantly from those of the recent past.

The analysis presented here is based on *World Population Prospects 2024* (United Nations, 2024a), the twenty-eighth edition of estimates and projections of the global population published by the United Nations since 1951. The report is organized into four parts, each describing the current situation, estimated trends since 1994 and projected trends from 2024 to 2054. Each part also discusses the determinants of fertility levels in a population, including the size and age structure of the female population in the reproductive age range (15–49 years), the impact of international migration, preferences regarding family size, and the timing of childbearing.

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[4] See footnote 1 for the definition of replacement fertility.

Chapter I presents estimates of global trends from 1950 to 2024 and projections to 2100.[5] It also introduces the concept of the fertility transition, using the time at which fertility falls below the replacement level to approximate the timing of the final stage. Chapter II focuses on countries and areas with a long history of low fertility – those where fertility fell below 2.1 births per woman in 1994 or before. This group includes China, Germany, Japan, the Russian Federation and the United States of America, among others. Chapter III examines the situation in countries and areas recently or soon completing the fertility transition – where total fertility fell below 2.1 births per woman between 1995 and 2024 or is expected to reach that level by 2054. Brazil, India, Mexico, the Philippines and Viet Nam are examples of countries and areas in the former group, while Bangladesh and Indonesia are examples in the latter. Chapter IV covers countries and areas that are still far from completing the fertility transition. In these locations, fertility is likely to remain above 2.1 births per woman through 2054, potentially reaching below-replacement fertility later in the century or beyond 2100. This group includes many populous countries with rapidly growing populations, such as the Democratic Republic of the Congo, Egypt, Ethiopia, Nigeria and Pakistan.

Each chapter of the report includes policy recommendations for its respective group. Because the fertility transition unfolds in a series of sequential stages, the policy recommendations for countries that have had low fertility levels for more than three decades are relevant also for those that entered the last stage of the fertility transition in recent years as well as those that will do so with a time lag of years or decades.

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[5] This report primarily uses the medium scenario projections from *World Population Prospects 2024*, unless specified otherwise. Projections under other scenarios are available from United Nations (2024a).

Chapter I. Global fertility decline

Global fertility rates have declined almost continuously over the past half-century, from 4.8 births per woman in 1970 to 2.2 in 2024.[6] Women today bear one child fewer, on average, than they did in 1990 when the global fertility rate stood at 3.3. The decline is projected to continue until the end of the century, reaching 1.8 births per woman by 2100 (figure 1.1).[7]

Projecting fertility rates so far into the future is subject to considerable uncertainty. For example, there is a 95 per cent probability that the global total fertility rate in 2100 could be anywhere between 1.6 and 2.2 births per woman. Importantly, however, the probability that the global total fertility rate will exceed 2.1 in 2100 is less than 10 per cent. This continued reduction in global fertility is a consequence of all countries moving through their fertility transitions (box 1.1).

Figure 1.1

Global total fertility, according to United Nations (*World Population Prospects*) in 2013 and 2024, 1950–2100
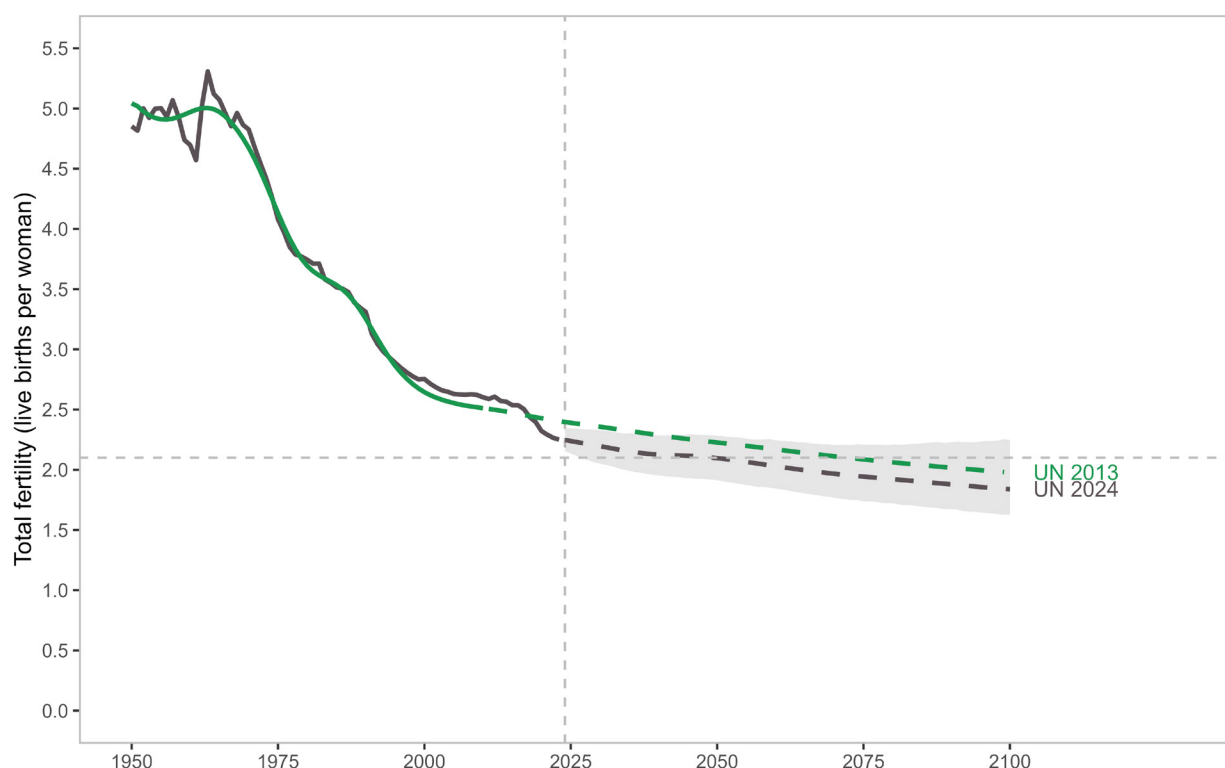
Sources: United Nations (2013; 2024a).

Notes: Estimates correspond to the period from 1950 to 2023 in United Nations (2024a) and from 1950 to 2010 in United Nations (2013); projections correspond to the period from 2024 to 2100 (with 95 per cent prediction intervals represented by grey shaded area) in United Nations (2024a) and from 2011 to 2100 in United Nations (2013). United Nations has been abbreviated as UN. The dashed grey horizontal line indicates the level of replacement fertility. The dashed grey vertical line indicates the year 2024.

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[6] In this report, the terms "fertility rate", "fertility level" and "total fertility" all refer to the total fertility rate (TFR); see box 1.2. The term "births" in this report always refers to "live births".

[7] This report primarily uses the medium scenario projections from World Population Prospects 2024, unless specified otherwise. Projections under other scenarios are available from United Nations (2024a). The medium scenario of the United Nations assumes, based on historical experience, continued fertility transition in countries and areas with high fertility and slight increase in fertility levels in countries and areas with currently very low fertility.

The most recent estimate of the global total fertility rate for 2024 is 2.2 births per woman, lower than the value of 2.4 births per women projected for the same year in 2013 (figure 1.1).[8] This is due to lower-than-expected levels of fertility observed in recent years in some of the world's largest countries, particularly China; continued very low fertility levels with no sign of reversal in many low-fertility countries; and slightly faster-than-anticipated fertility declines in some parts of sub-Saharan Africa.[9] Additionally, the recent trends in total fertility also impact the fertility projections to the end of the century. They suggest that, by 2100, global fertility rates are expected to decline to lower levels than previously projected.

Box 1.1

Fertility transition

The term "fertility transition" refers to the process whereby, over time, a population transitions from a high to a low fertility level, with a period of sustained decline in between. The transition is generally considered complete when fertility declines cease and the fertility rate is below the replacement level (usually taken to be 2.1 births per woman; see box 1.2). The fertility transition is itself part of the broader theory of the "demographic transition".

When fertility transitions start and how fast they proceed differ substantially across countries and regions. In Europe and Northern America, for example, fertility transitions began in the nineteenth century and lasted until the early or mid-twentieth century. Many countries in Latin America and the Caribbean and in Eastern Asia began to experience fertility declines in the second half of the twentieth century, progressing at a much faster pace than those in Europe and Northern America. These, too, are mostly complete. Fertility transitions in other regions of the world started later and, in some cases, are progressing more slowly compared to countries of Latin America and the Caribbean and Eastern Asia (box 4.1). Nevertheless, all countries and areas have now entered at least the phase in which fertility is declining.

The underlying drivers of fertility transitions are diverse. However, available evidence supports the hypothesis that two concurrent and complimentary population-level processes are key factors in all countries and regions. First, as societies develop and transition from agrarian to industrial and then, eventually, to post-industrial economies, the socioeconomic benefits of large families recede. Mortality declines, meaning more children survive infancy, and the costs of rearing children increase as parents invest more in their development, including through education, nutrition and healthcare. The second process involves the diffusion of new ideas and attitudes towards family formation and desired family size, and the adoption of new behaviours, including the use of contraception.

While the links between fertility and various socioeconomic development indicators, such as income and education levels, are robust, these effects are indirect. Changes in these variables act on fertility through specific, intermediate mechanisms most closely linked to fertility in human populations called "proximate determinants" (Bongaarts, 1978, 2015). These are marriage and union formation (as the variable of exposure to pregnancy), postpartum infecundability, contraception, infertility and abortion.

Despite global fertility rates continuously falling over the past half a century, fertility has continued to contribute to global population growth through an excess of births over deaths. The global number of births has fluctuated for decades and will soon begin a steady decline. In 2024, there were 132 million births, the same as in the early 1980s. The global number of births peaked in 2012 at 146 million, and a second peak is expected around 2040 at 136 million. After that, the number of births worldwide is projected to steadily decline to around 111 million in 2100. There is considerable uncertainty around the number of births in the future; with a 95 per cent probability, it could be anywhere between 85 million and 155 million in 2100.

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[8] Linear interpolation based on the original estimates for five-year averages.

[9] These include Kenya, Niger, Nigeria, Uganda and Zambia. Conversely, some countries, including Afghanistan, the Central African Republic, Chad, the Democratic Republic of the Congo, Kazakhstan, Pakistan, Turkmenistan, Uzbekistan, Yemen and Zimbabwe have experienced slower declines than previously expected.

The total annual number of births depends not just on the average number of births per woman but also on the number of women of reproductive age and the distribution of births over the reproductive age range. The number of women in the reproductive age range (15–49 years) increased from 621 million to 1.99 billion between 1950 and 2024 (figure 1.2). It is projected to reach a peak of 2.21 billion in 2058 before declining to 2.09 billion in 2100 (but it could be between 1.80 billion and 2.43 billion, with a 95 per cent probability). The projections of the number of women of reproductive age are largely certain for the coming two or three decades, since the women in these cohorts are already born.

Box 1.2

What indicators to use when describing fertility trends?

There are many ways in which fertility trends of a population can be measured. The simplest is the total number of births occurring in a population over a period of time. This number can be divided by the total population to obtain the crude birth rate (usually expressed per 1,000 persons). These indicators are often compared to the total number of deaths and the crude death rate to establish the balance of births and deaths in the population. In the absence of international migration, more births than deaths would indicate that the population is growing, while more deaths than births would indicate the opposite.

A more detailed indicator of fertility is the age-specific fertility rate (ASFR). The ASFR measures fertility in a given year by mothers' age. Combining ASFRs for all ages produces the total fertility rate (TFR), the most commonly used measure of fertility of a population, which reflects the expected number of births a woman would have throughout the reproductive age range were she to experience, at each age, the fertility rates in the population in that year. The mean age at childbearing (MAC) indicates the average age of mothers at childbirth. The TFR and MAC are often the preferred measures of fertility because they are independent of the population age distribution. Therefore, they can be used to compare fertility levels among different populations and over time.

A refinement of the total fertility rate is the net reproduction rate (NRR). It is the average number of daughters born to women of reproductive age, taking into account childhood and early adulthood mortality. This measure is the basis of the concept of "replacement fertility", the level at which a population would replace itself over successive generations, thereby remaining the same size over time. To achieve this, an NRR of 1.0 would be required. This value is almost always expressed on the TFR scale. For example, in populations with low levels of mortality, replacement fertility (an NRR of 1.0) is equivalent to a TFR of approximately 2.1 births per woman.

All these measures are called period measures; they summarize the fertility characteristics of a population in a fixed window of time, typically one calendar year. Another approach is to describe fertility characteristics by cohorts of women (i.e., those born in the same calendar year). These are called cohort measures (see chap. II).

Figure 1.2

Global total births (top) and the number of women of reproductive age (15–49 years) (bottom), estimates, 1950–2023, and projections (medium scenario) with prediction intervals, 2024–2100
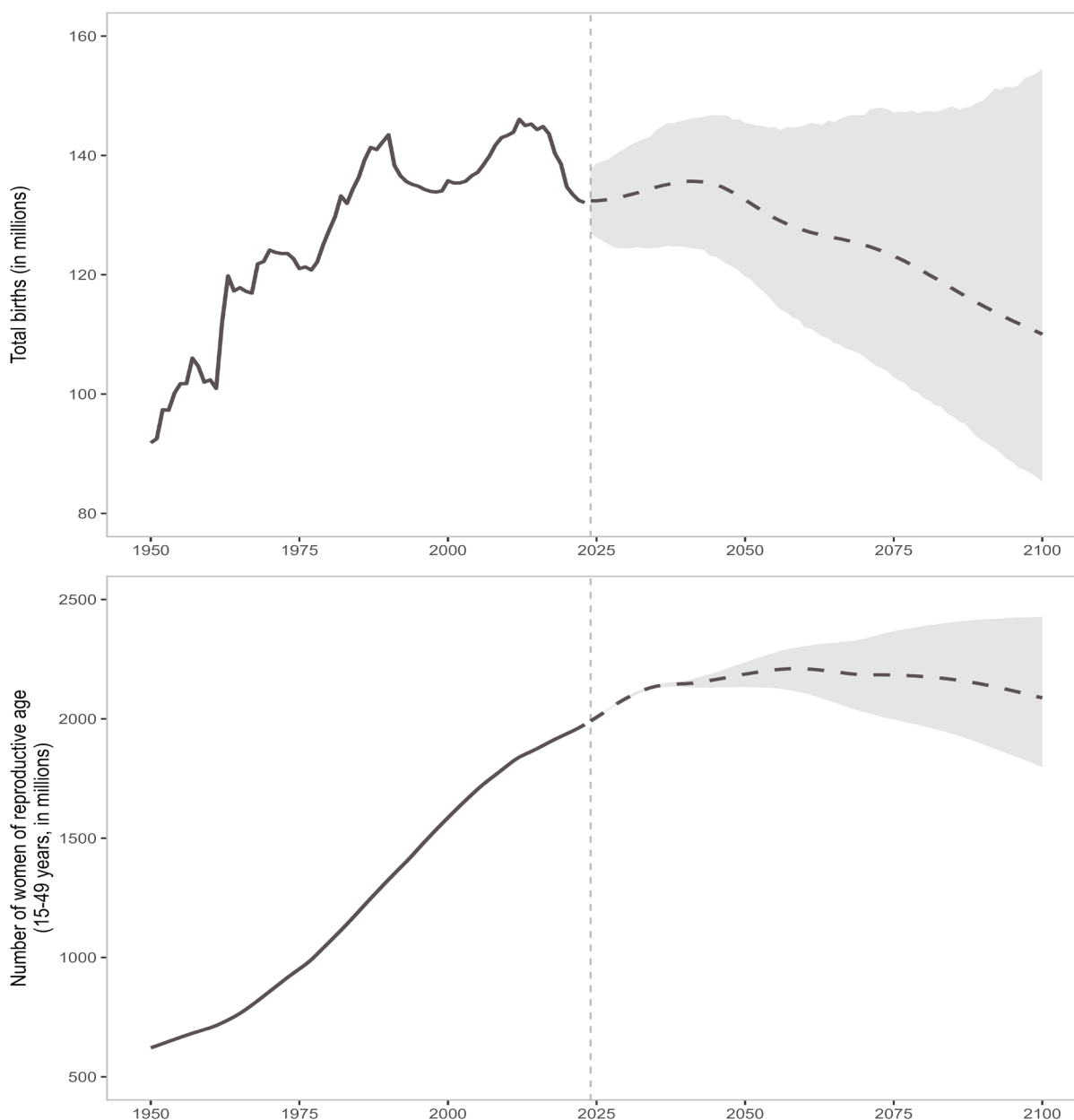
Source: United Nations (2024a).

Notes: Prediction intervals are represented as shaded areas around a projected trend. For a given year, the future trend is expected to lie within the predicted range with an estimated probability of 95 per cent. The dashed grey vertical line indicates the year 2024.

By 2024, of the 237 countries and areas in *World Population Prospects 2024*, 131 (55 per cent) had fertility rates below 2.1 births per woman, the approximate level of fertility required for successive cohorts to produce enough births to replace themselves (box 1.2). These countries represent all regions and income groups (figure 1.3) and account for 68 per cent of the total global population.

Figure 1.3

Total fertility by gross national income (GNI) per capita, countries and areas, by region, 2024
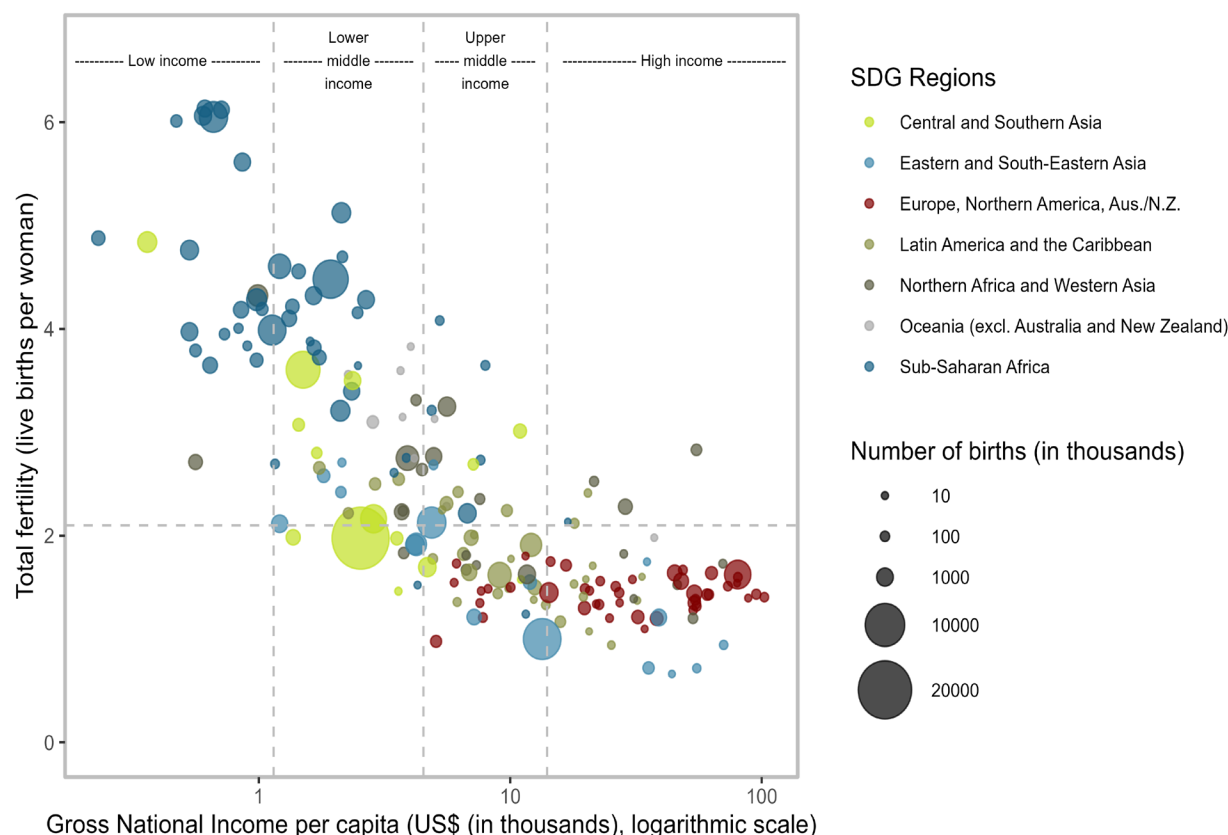
Sources: United Nations (2024a), World Bank (2024).

Notes: Countries and areas with at least 90,000 inhabitants in 2024 are represented on the figure. The size of the bubbles is determined by the number of births in 2024. The regional grouping that comprises Australia and New Zealand has been abbreviated as Aus./N.Z. The dashed gray horizontal line indicates the level of replacement fertility. The dashed grey vertical lines indicate the cut-off data points of GNI per capita used in the World Bank country classifications by income level for 2024–2025.

An important reference point for determining the impact of fertility levels on national population trends is the time at which replacement-level fertility is reached. This reference point is used to structure the remainder of this report. Using a time window of width 30 years, each country and area is placed into one of three groups according to when they reached, or are projected to reach, replacement-level fertility (figure 1.4; table 1.1; map 1.1; table A2 in Annex 2). Thirty years is used because it represents the average length of a human generation in 2024.[10] It has been 30 years since the landmark International Conference on Population and Development (ICPD) took place in 1994.[11]

The first group consists of 72 countries and areas where fertility rates dropped below 2.1 births per woman in or before 1994. This group accounted for 16 per cent of the estimated global births in 2024 and includes 21 countries or areas where fertility rates were below 2.1 in or before 1970 (figure 1.4). This group will be referred to as the countries and areas with a long history of low fertility. It includes China, Germany, Japan, the Russian Federation and the United States of America, among others (figure 1.4; table 1.1; map 1.1; table A2 in Annex 2).[12]

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[10] The global mean age at childbearing (MAC) in 2024 was 28.2 years.

[11] The International Conference on Population and Development (ICPD) took place in Cairo, Egypt in 1994, where 179 governments adopted a Programme of Action that prioritized women's reproductive health and rights as central to national and global development efforts, marking a significant shift in how population issues were addressed internationally.

[12] Three countries reached below-replacement fertility by 1994 for a limited period – Cyprus (1977), Iceland (1984) and Mauritius (1985) – and rebounded to above 2.1 births per woman by 1994, and only later experienced sustained low fertility. Therefore, all three countries are included in the second group, namely countries and areas recently or soon completing the fertility transition.

In the second group, consisting of 102 countries and areas, which together represented 41 per cent of the world's estimated total births in 2024, fertility levels had already declined to below 2.1 births per woman between 1995 and 2024 or are projected to do so by 2054. This group will be referred to as the countries and areas that have recently or are soon completing the fertility transition. It includes Brazil, India, Mexico, the Philippines and Viet Nam (reached replacement fertility between 1995 and 2024), as well as Bangladesh and Indonesia (expected to reach replacement fertility between 2025 and 2054).

The third group consists of 63 countries where fertility rates are projected to remain above 2.1 births per woman through 2054. In some of these countries, fertility is projected to reach the replacement level before 2100, while in others, this may occur only after 2100.[13] Many countries in this group are in the early or intermediate stages of their fertility transitions, with fertility levels having started to decline but remain above the replacement level. This group will be referred to as the group of countries and areas still far from completing the fertility transition. It includes several of the world's most populous countries with high population growth, such as the Democratic Republic of the Congo, Egypt, Ethiopia, Nigeria and Pakistan. It represented 43 per cent of the world's total births in 2024.

Figure 1.4

Number of countries and areas by period of reaching total fertility below 2.1 births per woman, by region, estimates, 1950–2023, and projections (medium scenario), 2024–2100
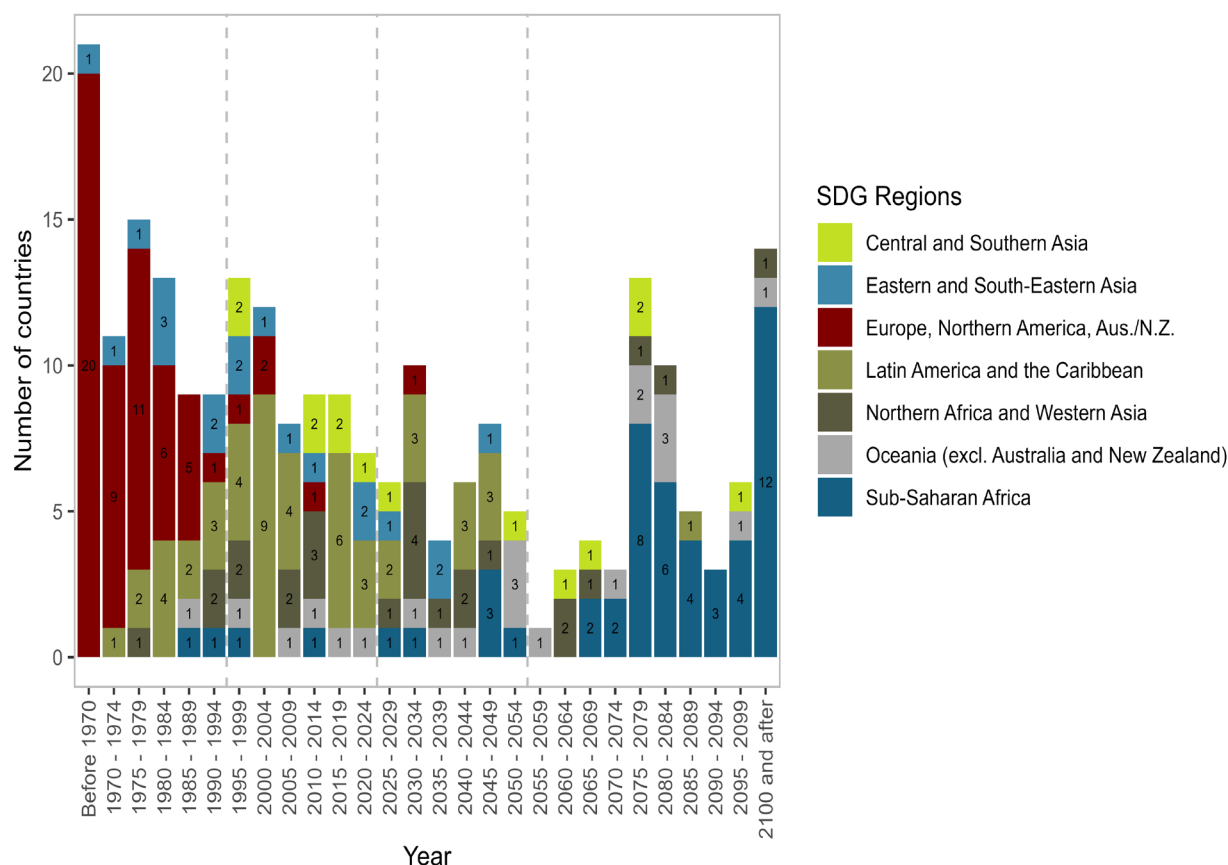
Source: United Nations (2024a).
Notes: The regional grouping that comprises Australia and New Zealand has been abbreviated as Aus./N.Z. The dashed grey vertical lines indicate the years 1994, 2024, and 2054, respectively.

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[13] Kazakhstan is included in this group, though for a short period (1996–2003) the country experienced a total fertility rate below 2.1 births per woman. Afterwards, total fertility increased to more than 3.0 births per woman (2020 to 2023) and is projected to reach below 2.1 again in 2076, according to the medium scenario.

Table 1.1

Number of countries and areas, total population in 2024 and the number of births in 2024 by country groupings based on total fertility rate (TFR) levels in 1994 (30 years ago) and 2054 (30 years in the future)

Grouping based on TFR levels	*Criterion*	*Number of countries and areas*	*Number of births in 2024 (Proportion of world births)*	*Total population in 2024 (Proportion of world total population)*
Countries and areas with a long history of low fertility	TFR below 2.1 by 1994	72	21.4 million (16 per cent)	2.88 billion (35 per cent)
Countries and areas recently or soon completing the fertility transition	TFR below 2.1 between 1995 and 2054	102	54.2 million (41 per cent)	3.46 billion (42 per cent)
Countries and areas still far from completing the fertility transition	TFR at or above 2.1 in 2054	63	56.8 million (43 per cent)	1.82 billion (22 per cent)

Source: United Nations (2024a).

Map 1.1

Countries and areas by timing of the observed or projected total fertility reaching below 2.1 births per woman

Before 1994   1994-2054   After 2054   No data
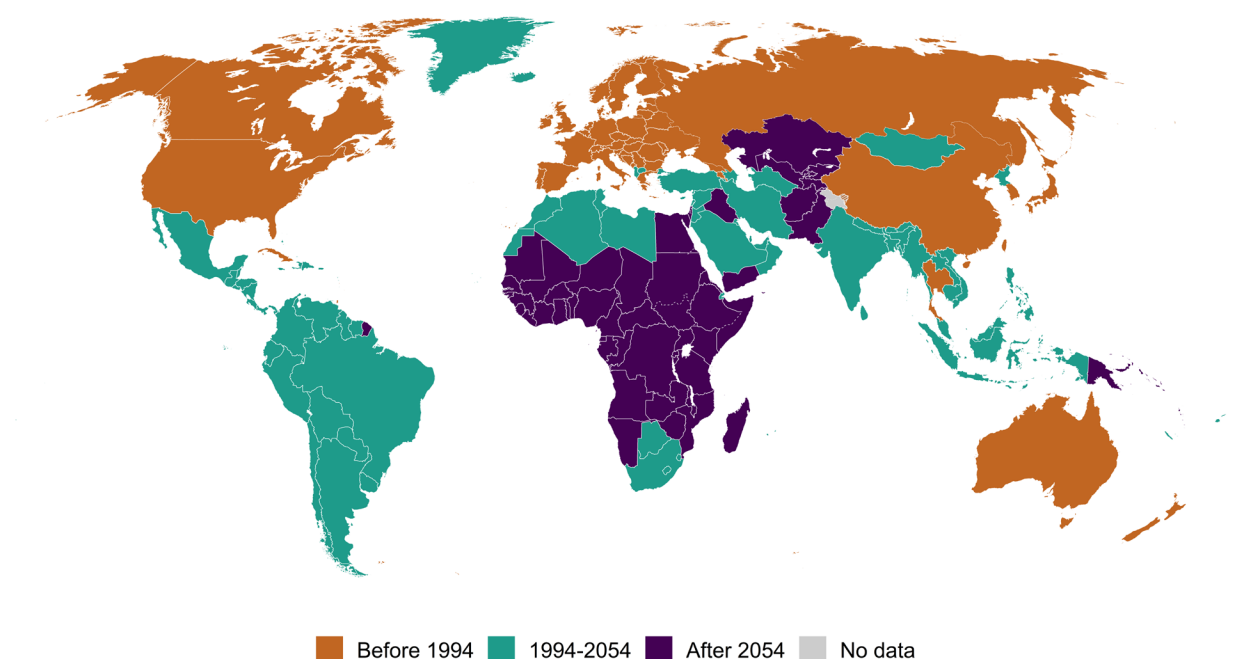
Source: United Nations (2024a).

Disclaimer: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

Trends in the number of births differ across the three groups (figure 1.5, top panel). In the group of countries and areas with a long history of low fertility and the group of countries and areas recently or soon completing the fertility transition, the total number of births had begun to decline before 2024. In contrast, the number of births in the group of countries and areas still far from completing the fertility transition continues to increase and is expected to peak around 2066 at a level 21 per cent higher than that in 2024. Rapid increases in the number of births make it difficult for governments to ensure access to quality healthcare, including neonatal and child healthcare, care related to pregnancy and delivery, vaccinations for newborns, quality nutrition and education for children and youth. A significant increase in public expenditures will be required just to maintain current levels of per capita funding for such programmes in many of the countries with births that are projected to grow rapidly over the coming decades.

The global distribution of births among countries and areas is changing. Before 2022, the group of countries and areas recently or soon completing the fertility transition accounted for the most births at 55 per cent globally. However, by 2054, this is projected to decline to 44 per cent, while the 63 countries and areas still far from completing the fertility transition are projected to account for 52 per cent of global births.

The global distribution in the number of women of reproductive age is also changing. In the group of countries and areas with a long history of low fertility, this number began to decline in the 2010s (figure 1.5, bottom panel). In the group of countries and areas recently or soon completing the fertility transition, a decline is projected to begin in the 2030s. In contrast, the number of women of reproductive age will continue to rise in the group of countries and areas still far from completing the fertility transition, increasing by 86 per cent in the next 30 years. As with increases in births, larger cohorts of women of reproductive age will place greater demands on the resources needed to achieve universal access to sexual and reproductive healthcare services, including ensuring access to a wide range of contraception.

National populations grow or decline in size as a function of the balance between the number of births, the number of deaths and net international migration. Depending on their direction and size, each of these components can contribute to changes in the population size in different ways. They can add to each other, compounding growth or decline, or they can counterbalance each other, cancelling out each other's effects. Populations that have grown due to above-replacement fertility in the recent past have youthful age structures, as a greater share of the population is concentrated in younger age groups relative to older age groups. Even if fertility rates were to fall below the replacement level rapidly, the youthful age structure would cause the number of births, and thus also the total population size, to continue increasing for some time. Only after this transient period would the effect of falling fertility eventually cause total population size to decrease. On the other hand, populations with a long history of low fertility have an older age structure and declining numbers of women of reproductive age. Even if fertility rates were to increase above the replacement level, the momentum due to the older age structure would cause the size of the total population to continue declining for some time before an eventual increase began.

The separate and competing contributions of changes in births, deaths, international migration and the age distribution of the population to total population growth between 2024 and 2054, and between 2024 and 2100, are shown in figure 1.6. Since global fertility is projected to be close to the replacement level for the next 30 years (2024–2054), it will make little or no contribution to population growth at the global level throughout this period (figure 1.6, left panel). Over the longer period 2024–2100, the relative contribution of fertility will be negative because global fertility is projected to fall below the replacement level by 2050 (figure 1.6, right panel). The global population will continue to grow through the mid-2080s, however, due to the positive effects of declining mortality and a youthful global age structure.

Figure 1.5

Total births (top) and the number of women of reproductive age (15-49 years) (bottom), for countries and areas in three groups by timing of reaching total fertility below 2.1 births per woman, estimates, 1995–2023, and projections (medium scenario), 2024–2100
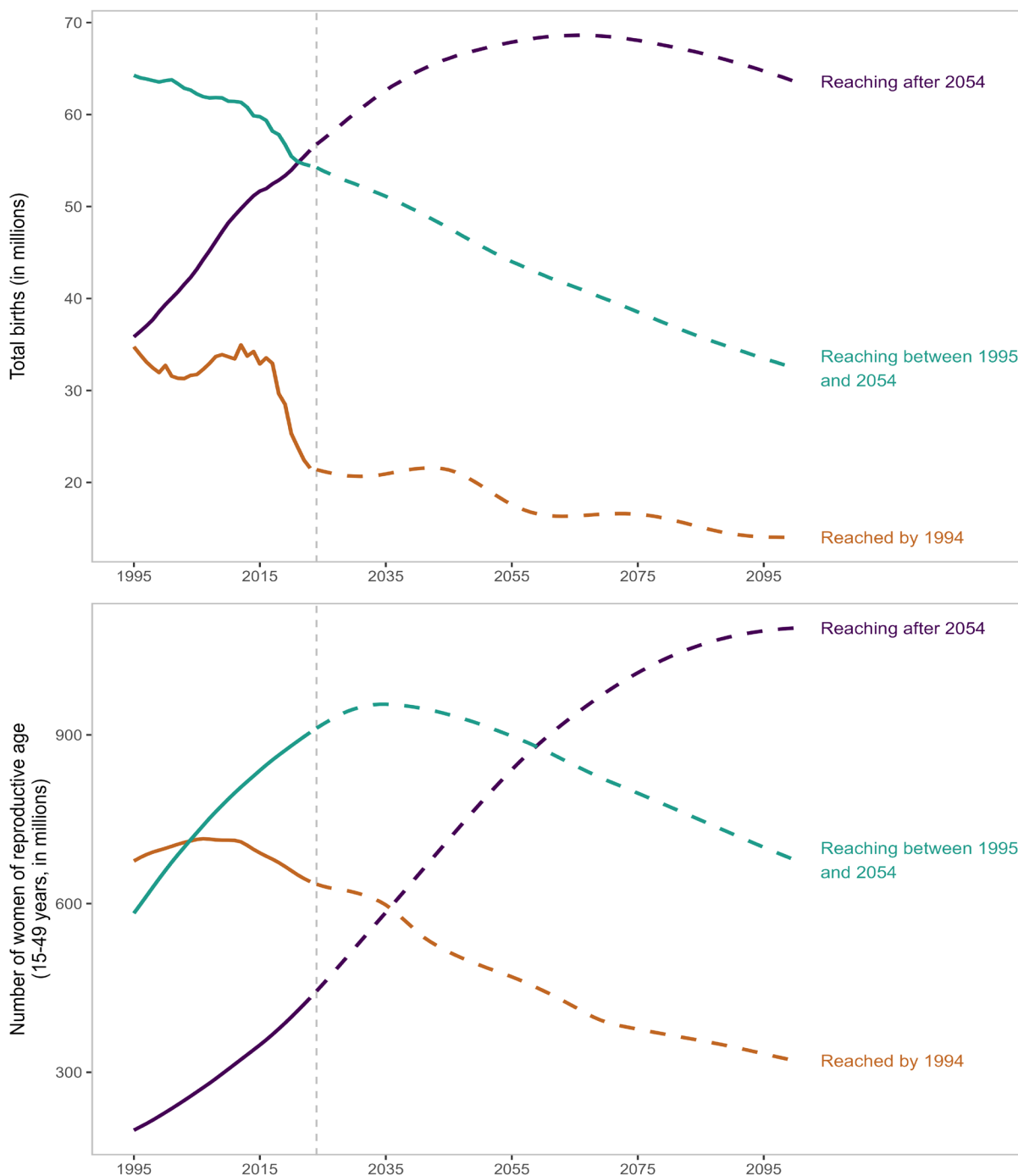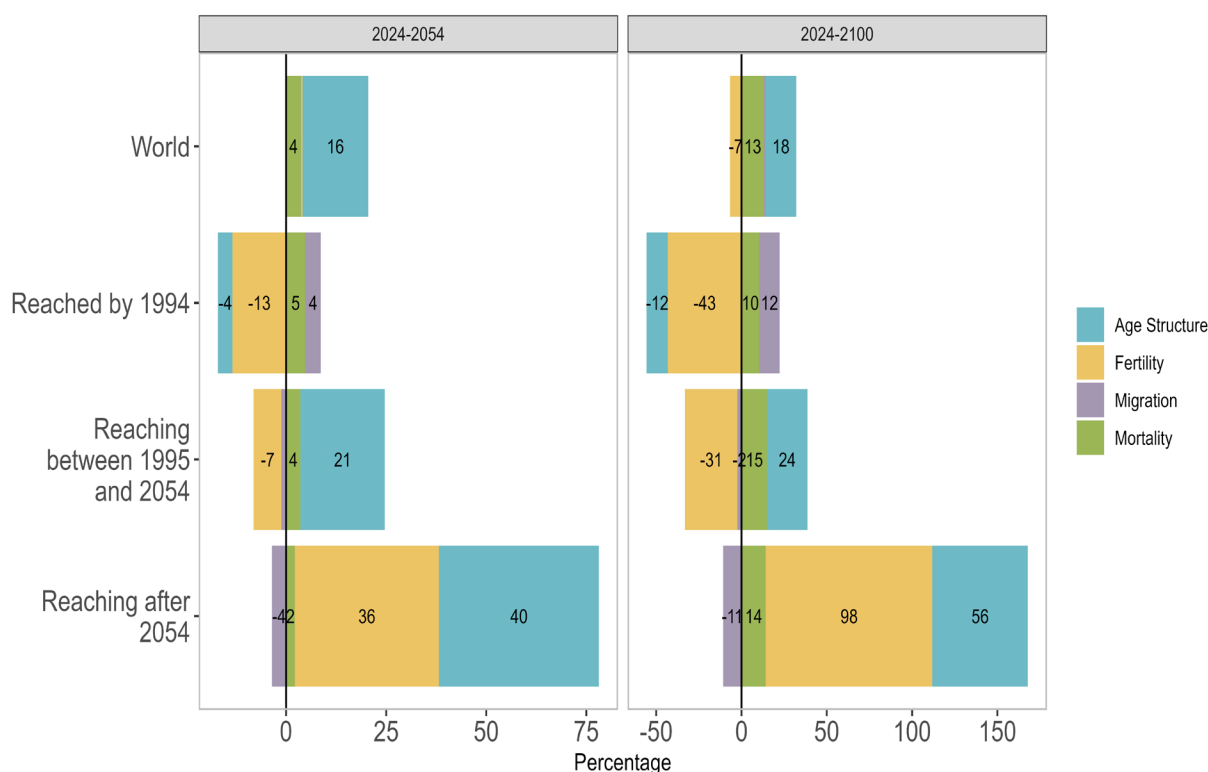

Source: United Nations (2024a).
Notes: The dashed grey vertical line indicates the year 2024.

Figure 1.6

Relative contributions of the components of population change between 2024 and 2100 to future population size, globally and for countries and areas in three groups by timing of reaching total fertility below 2.1 births per woman, projections (medium scenario), 2024–2054 and 2024–2100 (percentage)

Source: Calculations using data from United Nations (2024a), based on comparison of different projection scenarios.

Note: The figure refers to population growth in the period specified, in percentage, by component. For further details on the use of different projection scenarios to decompose the projected change in future population size into the four components of change, see Definition of Projection Scenarios and section II.F of the methodological report (United Nations, 2024b).

The contributions of the four components to population change in the three fertility groups will differ. Globally and separately in all three groups, mortality is expected to decline through 2054 and 2100, leading to longer lives on average. The impact of the mortality component on total population size is, therefore, positive in all cases, but it is also smaller than the contributions of fertility and migration.

Among both the group of countries and areas with a long history of low fertility and the group of countries and areas recently or soon completing the fertility transition, the contribution of fertility to population change will be negative over both the 2024–2054 and 2024–2100 periods due to below-replacement fertility levels. In the first group, population momentum will act in the same direction as low fertility, decreasing population size further. Mortality declines and international migration will act in the opposite direction, but their effects will be relatively small. In the group of countries and areas recently or soon completing the fertility transition, the combined effects of a youthful age structure and declining mortality will more than compensate for the effects of low fertility through 2054 and through 2100.

In the group of countries and areas still far from completing the fertility transition, above-replacement fertility rates and a youthful age structure are expected to have substantial positive effects on population size over both the 2024–2054 and 2024–2100 periods. Mortality will also contribute to population growth while international migration is expected to have the opposite effect, although these effects will both be relatively small.

The link between fertility and the pace of population growth or decline is profound, as documented above, although having fertility below replacement level does not necessarily mean a declining population. In 132 countries and areas, fertility rates had reached, or are expected to reach, replacement level at some point between 1994 and 2100. However, in two thirds of these locations, population growth continued for at least another 30 years (figure 1.7).[14] In only seven locations did population size peak in the same year fertility reached the replacement level.

Figure 1.7

Year of peak population size by year of reaching total fertility below 2.1 births per woman, by region, estimates, 1950–2023, and projections (medium scenario), 2024–2100
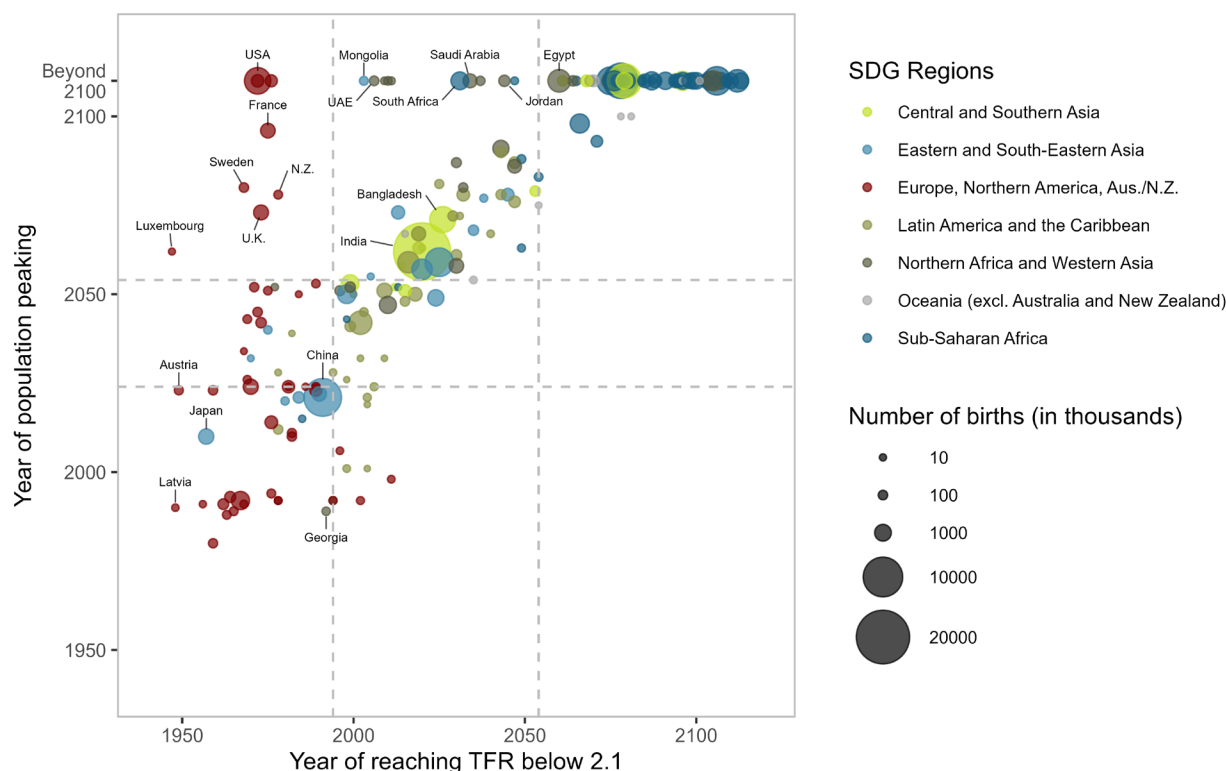
Source: United Nations (2024a).

Notes: Countries and areas with at least 90,000 inhabitants in 2024 are represented in the figure. The size of bubbles is according to the number of births in 2024. The regional grouping that comprises Australia and New Zealand has been abbreviated as Aus./N.Z. The country label of New Zealand has been abbreviated as N.Z. The country label of the United Arab Emirates has been abbreviated as UAE. The dashed grey horizontal lines indicate the years 2024 and 2054, respectively. The dashed grey vertical lines indicate the years 1994 and 2054, respectively.

Fifty-six countries and areas had reached replacement-level fertility by 1994 (table A2 in Annex 2). Future population growth in these locations depends heavily on past fertility trends and expected future trends in international migration. Thirty-four of these countries and areas had reached their peak size by 2024, and a further 14 are expected to reach it by 2054. In many of these locations, low and very low fertility rates sustained over decades are the major drivers, causing declines in the number of births and, consequently, in the number of women of reproductive age. At the extreme, the populations of Armenia, Georgia and the Republic of Moldova all reached their peak sizes around 1990. This was due to substantial net negative international migration and despite fertility remaining above the replacement level until two or three years after 1990. In contrast, the populations of eight countries in this group

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[14] All figures presenting individual countries and illustrative examples in the report are for countries and areas with at least 90,000 inhabitants in 2024.

— Australia, Canada, France, Luxembourg, New Zealand, Sweden, the United Kingdom and the United States of America — are expected to continue growing beyond 2054. This is mainly due to projected net positive international migration which will increase the number of women of reproductive age and, consequently, the number of births (United Nations, 2024a). Since many individuals and couples in these populations want to have more children than the average number of births per woman observed (see box 2.2), policies should support people to form families and have children when they desire to have them (see chap. II).

Fertility levels in 84 countries reached, or are expected to reach, replacement level between 1994 and 2054. Population sizes have already peaked in 10 of these locations mainly due to high levels of net negative international migration. Populations in a further 26 are expected to peak by 2054, while populations in the remaining 48 countries and areas in this group are projected to continue growing beyond 2054, and beyond 2100 in 10 of these. Many of these latter locations are members of the Cooperation Council for the Arab States of the Gulf (GCC) which are expected to continue to experience net positive international migration through the end of the century. It is uncertain how low fertility will fall in this group of countries and areas. However, policy implications are similar to those for countries and areas with a long history of low fertility, in particular, implementing family-friendly policies and making further advances in all domains of gender equality and women's empowerment. Moreover, large, and in some cases increasing, cohorts of young people will need education and employment opportunities to realize their aspirations for better lives for themselves and their children (see chap. III).

Among the 63 countries and areas still far from completing the fertility transition, all have populations that are expected to grow beyond 2054, and 14 are projected to continue to grow after 2100. In these countries, high levels of fertility are among the main drivers of rapid population growth, leading to youthful age structures and large numbers of births. These will add to the challenges of achieving social and economic development and magnifying the scale of the investments and effort required to ensure that no one is left behind (see chap. IV).

In all three groups of countries, advances in gender equality and women's empowerment can help to create societies where all couples and individuals are able to fulfill their intentions about whether to have children, with whom and when, and potentially help to counter the rapid growth or decline of populations caused by very low or high fertility rates at the population level.

Chapter II. Countries and areas with a long history of low fertility

Global fertility decline entered a new stage in the 1990s among the 72 countries and areas[15] with a long history of low fertility. In countries and areas that had experienced below-replacement fertility for decades, many in Europe and Northern America, fertility fell further. By 1994, for example, fertility rates had dropped to 1.2 births per woman in Italy and Spain, and below 1.4 in six other locations (figure 1.2). In other regions, fertility dropped below replacement level for the first time. Thailand saw sub-replacement levels in 1990, and China in 1991. Fertility in this group had reached even lower levels by 2024. The number of countries and areas with fewer than 1.4 births per woman increased to 24, and 7 had fertility rates below 1.0 (China, Hong Kong SAR of China, Macao SAR of China, Taiwan Province of China, the Republic of Korea, Singapore and Ukraine). Recent declines in fertility levels in Europe, Northern America, Australia and New Zealand came in the wake of the global financial crisis in 2008, the COVID-19 pandemic, and other crises and the changes in society they caused (box 2.1).

Under the medium scenario of *World Population Prospects 2024*, fertility rates in most countries and areas with a long history of low fertility are projected to rise slightly by 2054 relative to 2024 levels. Only 14 of the 72 in this group are projected to have fertility rates below 1.4 in 2054 under this scenario. The rise will be modest, however, with no locations expected to have rates above 1.8 births per woman (figure 1.2). Even after accounting for projection uncertainty, which increases as the projection horizon lengthens, the probability is negligible that fertility rates in any of the countries in this group will increase to, or above, 2.1 children per woman (figure 2.2). The spread of below-replacement fertility and the emergence of very low fertility have been accompanied by a widely observed rise in mean age at childbearing (figure 2.1, right panel).[16] In 1994, among the countries and areas with a long history of low fertility, the mean age at childbearing was below 25 years in 8 countries and below 30 in the rest. By 2024, it had risen above 30 years in more 38 countries or areas (over two thirds), including 12 with a mean age above 32 years. By 2054, the mean age at childbirth is expected to exceed 32 years in 22 countries and areas.

In the absence of net positive international migration, sustained low fertility will reduce the number of births and, consequently, the cohort sizes of women of reproductive age. Fewer women of reproductive age will, in turn, accelerate reductions in annual births. In 1994, the number of women of reproductive age and number of births in countries and areas with a long history of low fertility were 669 million and 36 million, respectively. In 2024, these had declined to 634 million and 21 million and, by 2054, they are projected to have declined further to 474 million and 18 million, respectively (figure 1.5 in chap. I).

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[15] This group includes 15 countries and areas with population less than 90,000 in 2024, including Andorra, Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Falkland Islands (Malvinas), Guernsey, Isle of Man, Liechtenstein, Monaco, Montserrat, Saint Barthélemy, Saint Helena, San Marino and Sint Maarten (Dutch part). In this chapter, they are included in the general discussion, but not in illustrative examples or figures.

[16] Note that in low-fertility settings, the mean age at childbearing is highly correlated with the mean age at first birth.

Figure 2.1

Total fertility and mean age at childbearing, countries and areas reaching total fertility below 2.1 births per woman by 1994, by region, estimates for 1994, and projections (medium scenario), 2024 and 2054
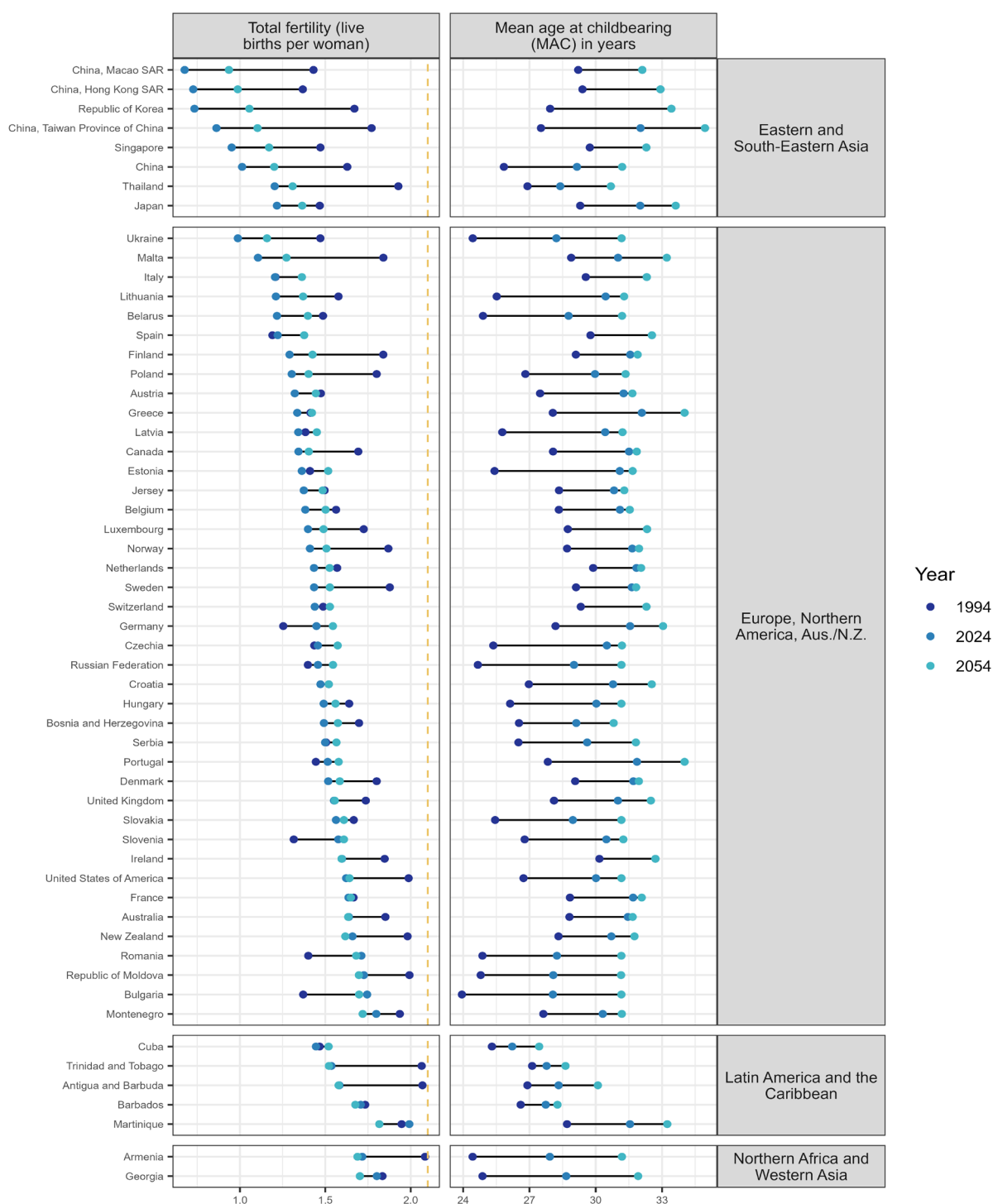
Box 2.1

Understanding the post-transitional fertility decline

Various explanations have been proposed to explain the continuous fertility decline in low fertility countries (see comprehensive reviews, for example, in Balbo and others, 2013; Rindfuss and others, 2016; Wilkins, 2019). The theory of the "Second Demographic Transition" holds that ideational changes in society were responsible for long-term below-replacement fertility. According to this theory, shifts from traditional family norms to individual autonomy and self-actualization caused significant changes in union formation and childbearing behaviour (Lesthaeghe, 2010). Alternative explanations based on a gender perspective hold that it was the incoherence between increasing gender equity in education and the workplace and persistent gender inequity in family roles that led many women to delay childbearing and have fewer children (McDonald, 2000). While women's participation in education and employment has significantly increased, the share of responsibilities in the private sphere of home and family assumed by men remains low (Goldscheider, Bernhardt and Lappegard, 2015).

A continuous rise in mean age at childbearing has been widely observed in all low-fertility countries (figure 2.1). Some researchers believed that many births would simply be shifted to older ages, i.e., that women who delayed the start of childbearing would later "catch up" and periods of very low fertility could be temporary. Indeed, some low fertility countries, mainly in Europe, saw fertility rates increase slightly in the 2000s, lending support to this idea. However, it now seems certain that sustained, very low fertility will translate into smaller completed family sizes in the long run.

The global financial crisis in 2008 precipitated an economic downturn and a rise in uncertainty. It also marked the end of small rebounds in fertility levels in most low fertility countries, as well as the beginning of fertility declines in countries which, previously, had had only slightly below-replacement fertility for decades (e.g., Australia and the United States). Nordic countries, long regarded as exemplary for their progress in increasing gender equity and enacting family-friendly welfare policies, also reported decreases in fertility rates (Hellstrand and others, 2021). In addition, it has been proposed that the broader impacts of globalization, uncertainty related to technological advancement, concerns about economic prospects and job insecurity and the climate crisis have all negatively affected fertility levels and trends (Mills and Blossfeld, 2013; Vignoli and others, 2020). Notably, the COVID-19 pandemic does not appear to have had a significant impact on fertility rates (United Nations, 2021). However, perceived uncertainty related to the pandemic's aftermath, and other ongoing and new crises do seem to be contributing to more recent, post-COVID fertility declines in many European countries (Winkler-Dworak, Zeman and Sobotka, 2024).

While all countries and areas in this group have a long history of low fertility, future trajectories differ. This is illustrated by the four examples presented in figure 2.2. China had maintained a moderately below-replacement level of fertility from the early 1990s until the mid-2010s, followed by a temporary rise in fertility after the repeal of the "one-child" policy in 2013, but this was in turn followed by a quick and deep decline resulting in a fertility rate of 1.0 by 2022. Projections indicate that this could increase to 1.2 births per woman by 2054, but there is a 95 per cent probability that it could be anywhere between 0.6 and 1.7. The fertility rate in the United States of America reached its lowest level of just above 1.6 births per woman in 2023, following a continuous fertility decline in the wake of the global financial crisis in 2008. It is projected to remain above 1.6 through 2054, although it could be anywhere between 1.2 and 2.1 with 95 per cent probability. France, reaching 1.6 births per woman by 2024, is projected to maintain this fertility level through 2054, with the 95 per cent prediction interval ranging from 1.2 to 2.1 births per woman. Italy already had a fertility rate of 1.2 births per woman in the early 1990s and maintained this level through the early 2000s. Despite a slight rebound to around 1.4 just before the outbreak of the COVID-19 pandemic, its fertility level declined again to 1.2 in 2024. Projections suggest a gradual rise to 1.4 births per woman in 2054 (between 0.8 and 1.9 with 95 per cent uncertainty).

Figure 2.2

Total fertility (top) and total births (bottom) for selected countries and areas reaching total fertility below 2.1 births per woman by 1994, estimates, 1995–2023, and projections (medium scenario) with prediction intervals and constant fertility scenario (dash-dotted line), 2024–2100
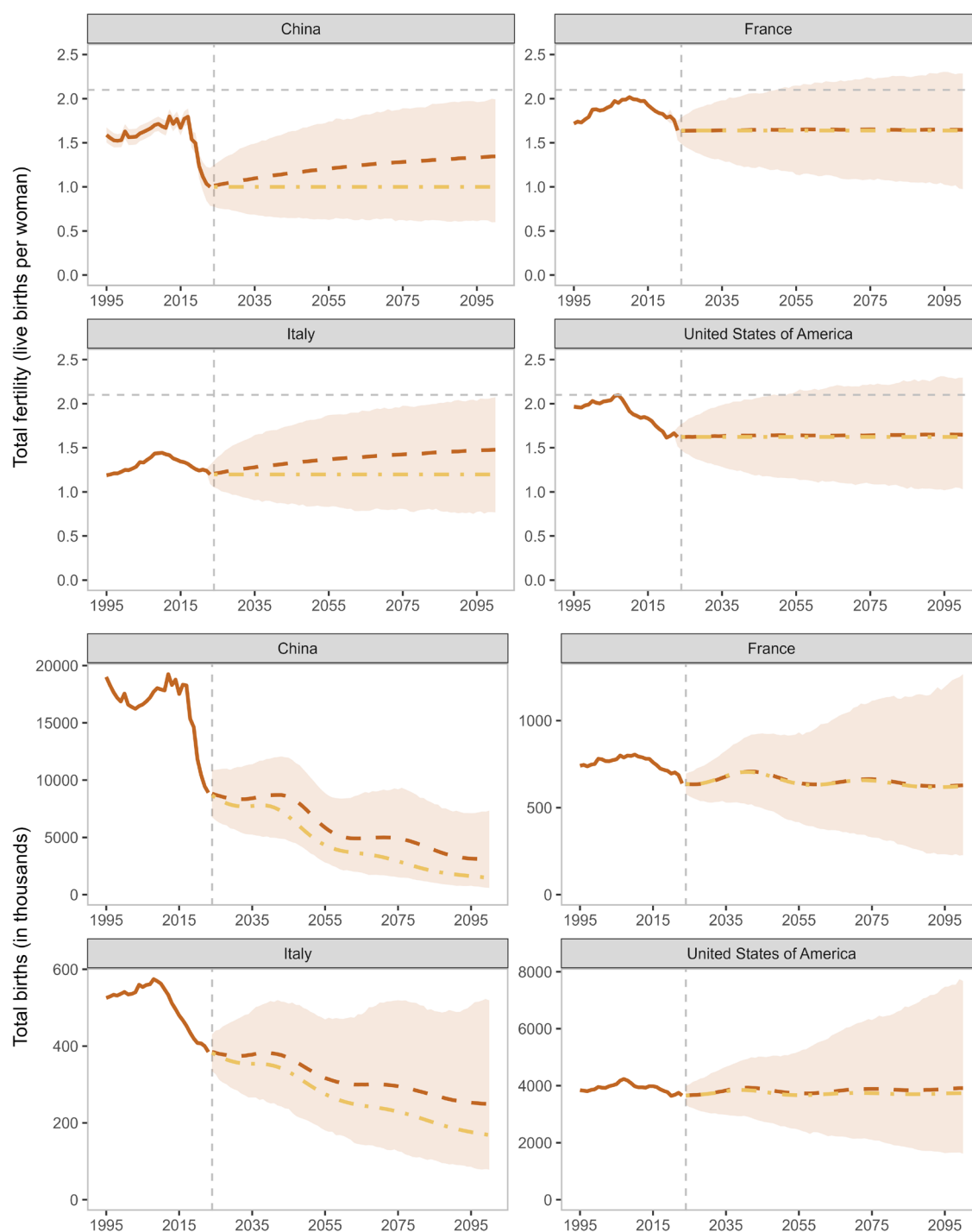
The annual number of births in China is projected to decline to 6.1 million in 2054, 30 per cent lower than that of 8.8 million in 2024. The 95 per cent probability interval ranges from 3.0 to 9.1 million, which suggests the chance that births in 2054 will recover to 2024 levels is minimal. If, instead of the projected increase, China's fertility remained at its 2024 level, the projected number of births in 2054 would be 4.5 million, nearly half of that in 2024 and significantly lower than the 6.1 million projected under the medium scenario. In Italy, the projected annual number of births is expected to be 0.32 million in 2054, lower by 16 per cent relative to the 2024 estimate of 0.38 million. In contrast, the numbers of births in the United States of America and France are projected to remain stable, a result of fertility rates stabilizing around 1.6 births per woman and the contributions of net positive international migration to the cohorts of women of reproductive age (figure 2.3).

International migration drives population change in destination countries through two pathways, namely by contributing to the size of women of reproductive ages; and through differences in fertility rates between migrant and native women (box 2.2). In most countries with a long history of low fertility, including Germany, Japan, Italy, the Russian Federation and Thailand, net immigration is expected to reduce the magnitude of declines in the numbers of women of reproductive age (figure 2.3). In a small number of countries and areas, including Australia, Canada, the United Kingdom and the United States of America, the number of women of reproductive age is projected to increase by 2054. These increases are due entirely to international migration; without it, these numbers would be projected to decline. International migration alone, however, cannot offset population decline and population ageing in the long term. At most, it can only delay these trends, which ultimately arise as countries and areas pass through the demographic transition.

Generally, emigration has not had a major impact on population sizes. However, it is expected to contribute to reducing the number of births by 2054 in several countries and areas already experiencing very low fertility. In many low fertility countries in Eastern Europe, such as Bulgaria, the Republic of Moldova and Romania, and in the Caribbean, the emigration of young women is projected to contribute to further declines in the number of women in reproductive age (figure 2.3). In such countries, creating more local opportunities for decent work and promoting return migration may be approaches to explore, and could be more effective at slowing population decline in the short run than policies aimed at raising fertility levels.

Contemporary debates about low fertility are based mostly on period total fertility rates, even though changes in the timing of births can heavily distort them. In countries and areas with a long history of low fertility, the postponement of childbearing has had a profound impact on these measures. The average number of lifetime births per woman can only be computed accurately for cohorts that have reached the end of the reproductive age range and completed their childbearing. Applying a technique developed by the Human Fertility Database (Human Fertility Database, 2024) to the estimates and projections of fertility rates from *World Population Prospects 2024* provides cohort fertility estimates and projections for women born between the 1930s and the 2050s. Results for cohorts of women that are still within their childbearing years, or are not yet born, are based on projected fertility rates. Figure 2.4 compares period and cohort fertility trends for selected countries and areas that have experienced low fertility for more than three decades.[17]

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[17] The fertility rate declined below 2.1 for the first time since 1950 in 1957 in Japan, in 1959 in Czechia, in 1968 in Sweden and in 1981 in Spain.

Figure 2.3

Relative change in the number of women of reproductive age (15–49 years), countries and areas reaching total fertility below 2.1 births per woman by 1994, by region, projections (medium scenario) and zero net migration scenario (light blue), 2024-2054
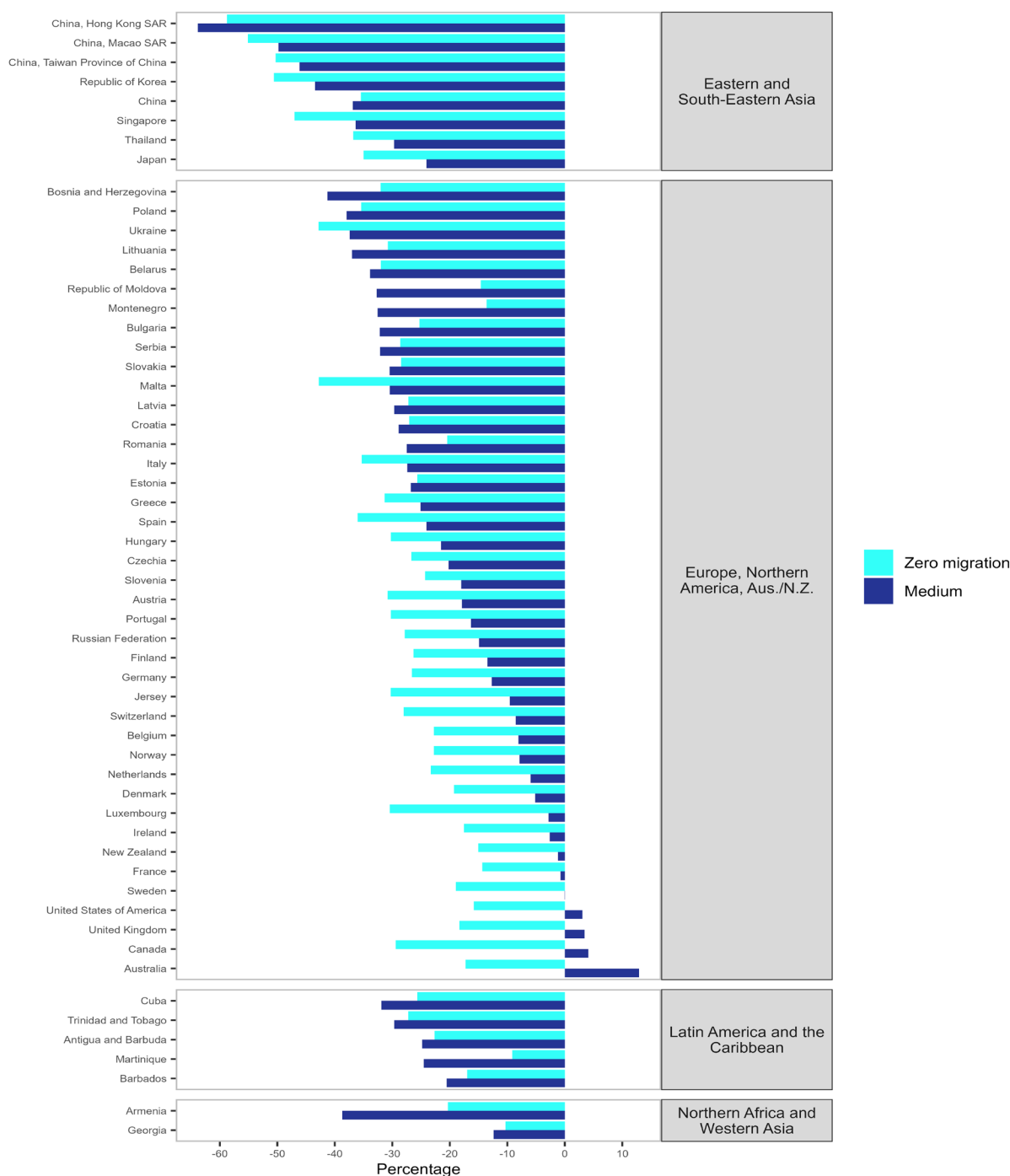
Source: United Nations (2024a).

Notes: Countries and areas with at least 90,000 inhabitants in 2024 are represented in the figure, ordered by the medium variant within regions. The regional grouping that comprises Australia and New Zealand has been abbreviated as Aus./N.Z.

Box 2.2

Impact of international migration on fertility in countries and areas with a long history of low fertility

The fertility behaviour of migrant women appears to be driven by several interacting factors. These include their early experience in countries of origin, norms and institutions to which they have been exposed in countries of destination, disruptions caused by the migration process, common features as selective population groups and interconnectedness of life-course events, such as marriage, migration, and labour force participation (Kulu, 2005). In general, migrant women tend to have higher fertility than non-migrant women in their countries of destination, but lower than the non-migrant women in their countries of origin (Adsera and Valdivia, 2023).

The overall impact of international migration on national fertility rates has varied. For example, it was estimated that, in 2015, international migration reduced fertility rates in Australia and Denmark (by 1 per cent and 2 per cent, respectively), had a negligible effect in the Netherlands (0.3 per cent change), and increased fertility rates in the United States and France (by 6 per cent and 10 per cent, respectively) (Bagavos, 2019). Although migrant women's fertility tended to be higher than average fertility rates in destination countries, they often made up only a small share of the total population. In France, for instance, migrant women contributed only about 0.1 births per woman to the national fertility rate of 1.9 in 2017 despite having an estimated fertility rate of 2.6, compared to 1.8 among the non-migrant French population at the time (Volant, Pison and Héran, 2019).

International migration does have a noticeable impact on the size of cohorts of women of reproductive age and, in some countries with a long history of low fertility, these now constitute a significant share of the population in this age group (figure 2.3).

In Czechia, the period fertility rate declined from 1.9 births per woman in 1970 to a low of nearly 1.1 in 1999. It then increased to about 1.8 in 2021 before declining sharply in 2022 and again in 2023. In contrast, trends in cohort fertility were much smoother and reached higher levels. The fertility rate of the 1984 cohort is projected to reach nearly 1.7 births per woman. For the cohorts born after 2000, the cohort fertility rates are projected to stay around 1.6 births per woman. In Japan, the period fertility rate reached 1.2 in 2023 before a projected modest rebound to around 1.4 births per woman over the next 30 years. In contrast, cohort fertility declined gradually from slightly more than 2.0 births per woman for those born in 1935 to 1.5 for those born in 1984. Younger cohorts are projected to have lower cohort fertility rates. In Spain, after rapid fertility declines to below 1.2 in the mid-1990s, the period fertility rate fluctuated between this level and 1.5 births per woman. Cohort fertility declined more slowly, with the average number of births estimated to be 1.4 for the 1984 cohort, followed by a further decline and a slight recovery for future generations. In Sweden, period fertility fluctuated in the past several decades in response to the implementation of various family-oriented policies. However, from the cohort perspective, the average number of births per woman was estimated at nearly 1.9 for the 1984 cohort and after further decline is projected to remain slightly above 1.5 births per woman for future cohorts born after 2000.

Across all these countries, fertility patterns show a clear move toward delayed childbearing and reduced fertility overall. As shown by the age distribution of fertility rates in 1994, 2024 and 2054 (figure 2.4), there was a slow shift in modal age at childbearing[18] from ages 29 to 31 years in Japan and from 28 to 30 years in Sweden. Czechia experienced a more dramatic shift, moving from 23 years in 1994 to 30 in 2024. In Spain, the modal age shifted by 4 years over the same time period, reaching 33 years in 2024. These trends are expected to continue in the future (figure 2.1).

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[18] Modal age at childbearing is the age with the highest number of births per 1,000 women in a population.

Figure 2.4

Age-specific fertility rates (ASFR), estimates for 1994, and projections (medium scenario), 2024 and 2054 (top) and total fertility, estimates,1970–2023 and projections (medium scenario), 2024–2060 with cohort fertility rates (bottom), for selected countries reaching total fertility below 2.1 births per woman by 1994

Among the countries and areas with a long history of low fertility, the subset of countries in Eastern and South-Eastern Asia had a sex ratio at birth[19] of 110 boys per 100 girls in 2024. This is high compared to both the global average (105) and the biological norm (between 102 and 106) and indicates a gender bias skewed towards males (WHO, 2011). Countries such as the Republic of Korea have been successful in rebalancing sex ratios at birth, decreasing them from about 115 in the early 1990s to about 105 in the early 2010s, while in China, the sex ratio at birth, though declining in recent years, was still about 110 in 2024. Addressing gender-based sex selection is crucial to the achievement of SDG 5 on gender equality.

In the absence of large-scale immigration, countries with sustained low fertility will eventually experience population ageing and population decline (United Nations, 2024a). A growing number of governments have adopted policies, explicitly or implicitly, aimed at raising the fertility level in recent decades. According to the World Population Policies Database (with the latest data collected during 2019), of the 82 countries and areas with a long history of low fertility that have data available, half of their Governments had put such policies in place (United Nations, 2021).

At the population level, a better understanding of historical trends in low fertility contexts, as well as their determinants and the effectiveness of policy responses, will provide insights for other countries or areas and aid in preparation for their own future demographic challenges. In countries and areas with a long history of low fertility, individuals and couples have had on average, fewer children than they had desired, and some have remained childless more often than intended (box 2.3). Therefore, policies supporting people to form families and have children when desired could increase fertility levels.

Box 2.3

Fertility intentions in countries and areas with a long history of low fertility

Over the years, research and surveys in countries with long-term low fertility have consistently found a gap between fertility intentions and the actual number of children women have. A review of 168 surveys conducted during 1979–2012 in 37 European countries where fertility had been low for decades found that most people still considered a two-child family as ideal (Sobotka and Beaujouan, 2014). Even in countries such as Italy and Spain with sustained, very low fertility, the reported mean ideal family size by both women and men was still well above the replacement level. A more recent study confirmed the existence of a gap between fertility intentions in early adulthood and ultimate completed fertility within a birth cohort of women in 19 European countries and the United States of America (Beaujouan and Berghammer, 2019). Women in all countries, in each cohort, went on to eventually have fewer children, on average, than they intended.

A similar phenomenon has been observed in other low-fertility countries, including Australia, China and Japan. An Australian study in 2004 reported that the average ideal family size was 2.4 children for men and 2.5 children for women. The national fertility rate had, in fact, been around 1.8 births per woman for over a decade (Qu and Weston, 2004). In China, a meta-analysis of 152 studies from a total of 113 surveys during the last two decades found that more than half of the respondents still preferred two children, while fewer than 10 per cent preferred three or more and 30 per cent preferred one child only (Lu, Gauthier and Stulp, 2023). In Japan, the 2021 Japanese National Fertility Survey reported women's average desired number of children to be 1.8, a decline from the 2.0 children found by the previous 2016 survey (National Institute of Population and Social Security Research, 2022).

A recent study found that some of the reasons why individuals and couples did not realize their stated fertility intentions were perceived uncertainties about economic prospects, such as rising inflation rates or job insecurity. Additionally, less generous welfare spending and family support appeared to be negatively associated with the realization of fertility intentions (Spéder and Bálint, 2024).

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[19] The sex ratio at birth is defined as the ratio of the number of male births per 100 female births in a given year.

Family policies have a diverse set of goals, with only a small share explicitly aimed at increasing fertility rates. Other goals include poverty reduction and income maintenance, direct compensation for the economic cost of children, fostering employment, improving gender equality and providing support for early childhood development (Thévenon, 2011). Even if not explicitly stated, each of these aspects can be critical components in decisions about whether to have children and when. Policy options for achieving these goals include: 1) financial transfers, such as tax credits, child and family allowances, "baby bonuses" and childcare subsidies; 2) employment-related support, such as maternity leave and parental leave, and flexible working hours; and 3) service provision, such as the availability of childcare services. Extensive reviews conducted recently have found that where such policies have been adopted, the impacts on childbearing have been positive but limited (see, for example, Sobotka, Matysiak and Brzozowska, 2019; Bergsvik, Fauske and Hart, 2021; Gray and others, 2022).

Financial transfers, such as child and family allowances aimed at reducing poverty and maintaining the living standards of families with children, appear to have a positive but weak effect on fertility. Short-term baby bonus payments also seem to have a limited effect, mostly affecting the timing of childbearing. Overall, the effect of all kinds of financial transfers seems limited as they can only compensate for a fraction of the costs of childrearing. The availability of paid maternity and parental leave, flexible employment arrangements and, in particular, the provision of accessible and affordable childcare services can help parents balance their work and family lives and, in general, have been found to positively affect fertility rates. Also, as more individuals and couples postpone childbearing to later in life in low-fertility countries, many are finding it difficult to conceive without assisted reproductive technologies (ARTs). Increasing access to information about female or male infertility or subfertility, and providing quality and affordable ART treatments, including psychological support, could be beneficial in many contexts.

Countries and areas with higher levels of public spending on families and which have made good progress towards achieving gender equality, such as France, Norway and Sweden, tend to have higher fertility levels than others. During the past two decades, other countries, such as Japan and the Republic of Korea in Eastern Asia, have also adopted various policy measures to increase fertility, including increased public spending on families. However, they have not reported much change in their fertility levels. It has been argued that slow progress in achieving gender equality and a lack of policies to support work-life balance are partly to blame (Rindfuss and others, 2016). Lessons learned from policy responses in low fertility countries suggest that governments need to increase public spending on families support parents to balance their work and family duties, and achieve greater gender equality both in the workplace and the household. All these factors play a critical role in decisions about whether, and when, to start family formation (United Nations, 2021).

Chapter III. Countries and areas recently or soon completing the fertility transition

From 1995 to 2024, 63 countries and areas reached a total fertility rate below 2.1 births per woman. An additional 39 are projected to have fertility reach below that level by 2054. More than half of these are in Latin America and the Caribbean (37 countries) or in Northern Africa and Western Asia (16 countries). These include some of the world's most populous such as Viet Nam (reached total fertility below 2.1 in 1998), the Islamic Republic of Iran (1999), Brazil (2002), Mexico (2016), India (2020), the Philippines (2020), Indonesia (2025) and Bangladesh (2026). Several in this group have recorded substantial reductions in fertility levels since 1994. Bhutan, Cabo Verde, Lao People's Democratic Republic, the Maldives, Nepal and Timor-Leste have each experienced a decline of more than three births per woman over the past 30 years (figure 3.1). While in 1994 these were considered high-fertility countries and areas at early or mid-level stages of their fertility transition, they are now among those that have recently completed or will soon complete their fertility transitions. These countries and areas are undergoing a transformation from youthful, growing populations to ageing, stable (or even declining) populations in the future (figure 1.6). Such a transition has broader implications for the sustainability of social and economic structures, with lower fertility alleviating some pressures on resources related to health and education for children and youth, while also introducing challenges related to ageing populations. Whether fertility reductions continue, and for how long, will substantially influence the time at which replacement fertility is reached globally (box 3.1).

In the countries and areas in this group, the question remains whether fertility rates will stabilize at near-replacement level or decline to very low fertility levels following the trajectory of many countries and areas with a long history of low fertility (chap. II). In many, among those that had reached total fertility below 2.1 between 1995 and 2024, total fertility has since declined further and at a fast pace. In 2024, 12 countries and areas in this group already had total fertility below 1.4, including Puerto Rico with less than 1.0 birth per woman, on average, and Chile and Curaçao with around 1.1 births per woman. These substantial and ongoing declines in fertility levels are similar to those observed among countries and areas with a long history of low fertility, but at an accelerated pace.

In 2054, by which time all countries and areas in this group are projected to have reached replacement-level fertility, 174 out of the 237 globally (73 per cent) will have fertility rates below 2.1, an increase from 131 (55 per cent) in 2024. Yet, the proportion of the global population living in these locations will remain the same at 68 per cent in both 2024 and 2054, due to population declines in many countries and areas with low fertility and continued population growth in some that are still far from completing their fertility transitions.

Growth in the number of women of reproductive age is conducive to continued population growth in the short term, even when the number of births per woman drops to, or below, the replacement level (figure 3.3). For some countries and areas in this group, an increasing number of women of reproductive age attenuates the immediate impact of fertility decline, delaying and slowing the decline in the number of births. However, as the size of successive cohorts of women of reproductive age inevitably begins to shrink over time and the influence of low fertility rates becomes more dominant, the number of births will start to decline. Some of the countries and areas, especially those that have already completed the transition to below-replacement fertility, are already experiencing declines in births. By 2054, nearly all countries and areas in this group will have declining numbers of births.

Migration generally has a limited impact on total births in this group. However, in Albania, Jamaica and Puerto Rico, the number of births between 2024 and 2054 is expected to be halved, which is the largest decline in this group, due to both low fertility levels and emigration of young people.

Figure 3.1

Total fertility and adolescent birth rates (15–19 years), countries and areas reaching total fertility below 2.1 births per woman between 1995 and 2054, by region, estimates for 1994, and projections (medium scenario), 2024 and 2054
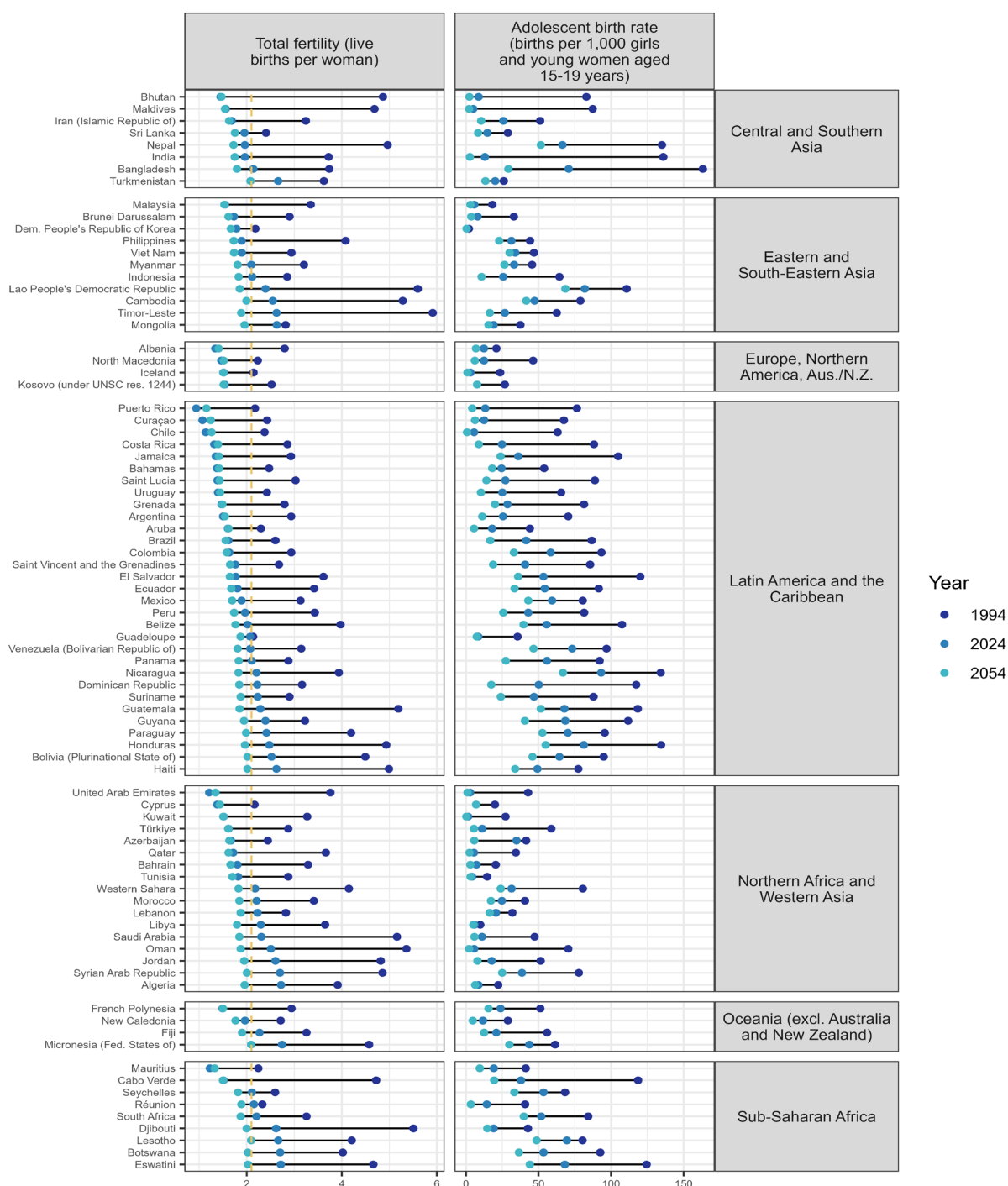
Source: United Nations (2024a).

Notes: Countries and areas with at least 90,000 inhabitants in 2024 are represented in the figure, ordered by the level of fertility in 2024 within regions. The regional grouping that comprises Australia and New Zealand has been abbreviated as Aus./N.Z. The dashed orange vertical line indicates the level of replacement fertility.

Box 3.1

Fertility projections are highly uncertain due to assumptions made about future trends in fertility

Long-term global population projections are crucial for planning and policymaking, but they can vary significantly due to differences in methodologies, assumptions, data sources and when they were produced. Three leading institutions currently produce global population projections: (a) the United Nations, (b) the Wittgenstein Center for Demography and Human Capital (WIC), and (c) the Institute for Health Metrics and Evaluation (IHME). Major differences in fertility projections are due to the application of different models that are based on distinct assumptions (figure 3.2). The methodology used by the United Nations to produce its projections of total fertility and age-specific fertility rates is described in a specific report (United Nations, 2024b).

Figure 3.2

Total fertility projections, according to the United Nations (UN), the Wittgenstein Center for Demography and Human Capital (WIC), and the Institute for Health Metrics and Evaluation (IHME)
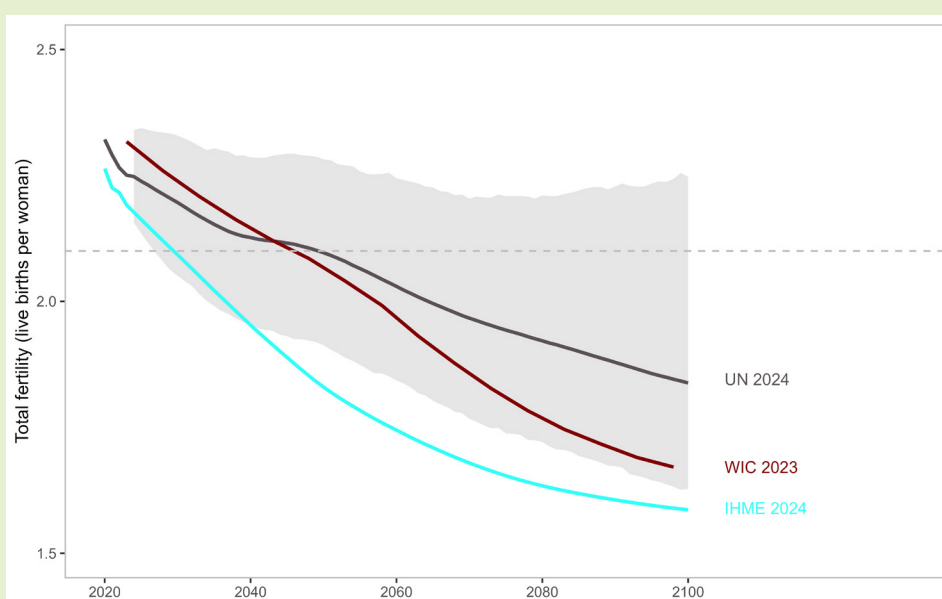
Source: United Nations (UN) (2024a); Wittgenstein Centre for Demography and Global Human Capital (WIC) (2023); Institute for Health Metrics and Evaluation (IHME) (2024).
Notes: Prediction intervals of UN 2024 are represented as shaded areas around a projected trend. For a given year, the future trend is expected to lie within the predicted range with an estimated probability of 95 per cent. The dashed gray horizontal line indicates the level of replacement fertility at 2.1 births per woman. The IHME estimates shown are from their "reference scenario".

In their most recent assessments (United Nations 2024a; WIC, 2023; IHME, 2024), the projections of global fertility levels by the United Nations and WIC depict similar future trajectories, with projections reaching below 2.1 between 2045 and 2050 according to WIC, and in 2050 according to the United Nations. Nevertheless, there are some differences, particularly towards the end of the century, as global fertility in 2100 is projected to be 1.8 (ranging from 1.6 to 2.2, with a probability of 95 per cent) by the United Nations and 1.7 by WIC. IHME projects that a total fertility of 2.1 will be reached globally in 2030, some 20 years earlier than the United Nations and WIC projections. IHME further projects a global total fertility of 1.6 (ranging from 1.3 to 2.0, with a probability of 95 per cent) in 2100 – almost 0.3 children per woman, or 14 per cent, lower than that projected by United Nations.

The approach taken by the United Nations to project future fertility levels is based on historical fertility trends. These projected fertility trajectories implicitly consider past progress made in development, education and contraceptive use, among others. The medium scenario of the United Nations is in line with the assumptions of continued progress towards gender equality and women's empowerment and sustainable development, which means that

as time progresses, individuals will be better able to realize their childbearing intentions and fertility levels will continue to decline in countries with high fertility and will eventually increase in countries with very low fertility. While uncertainty remains about the likely rates of decline, fertility levels in countries and areas that, today, have relatively high fertility are likely to continue declining through the remainder of the century. In contrast, in countries and areas where fertility is currently below the replacement level, future fertility trends are highly uncertain because there are very few historical examples to inform the projections. Similarly, in countries and areas that have only recently achieved replacement-level fertility, or are expected to do so in the near future, it is difficult to predict how low fertility levels may fall below the replacement level. The models of fertility projections developed by IHME and WIC are based on explicit assumptions about women's future educational attainment and, in the case of IHME, on the demand satisfied for contraception. Moreover, there is limited possibility of rebounds in fertility in the countries currently experiencing very low fertility levels in the WIC and IHME projections.[20] The differences in fertility projections from the different institutions have a small impact on the projected global population size for next couple of decades, but result in substantial differences by the end of the century (United Nations, 2024c).

Figure 3.3

The number of births (top) and the number of women of reproductive age (15–49 years) (bottom) relative to 2024, countries and areas reaching total fertility below 2.1 births per woman between 1995 and 2024 (left panel) and between 2025 and 2054 (right panel), projections (medium scenario), 2024–2100
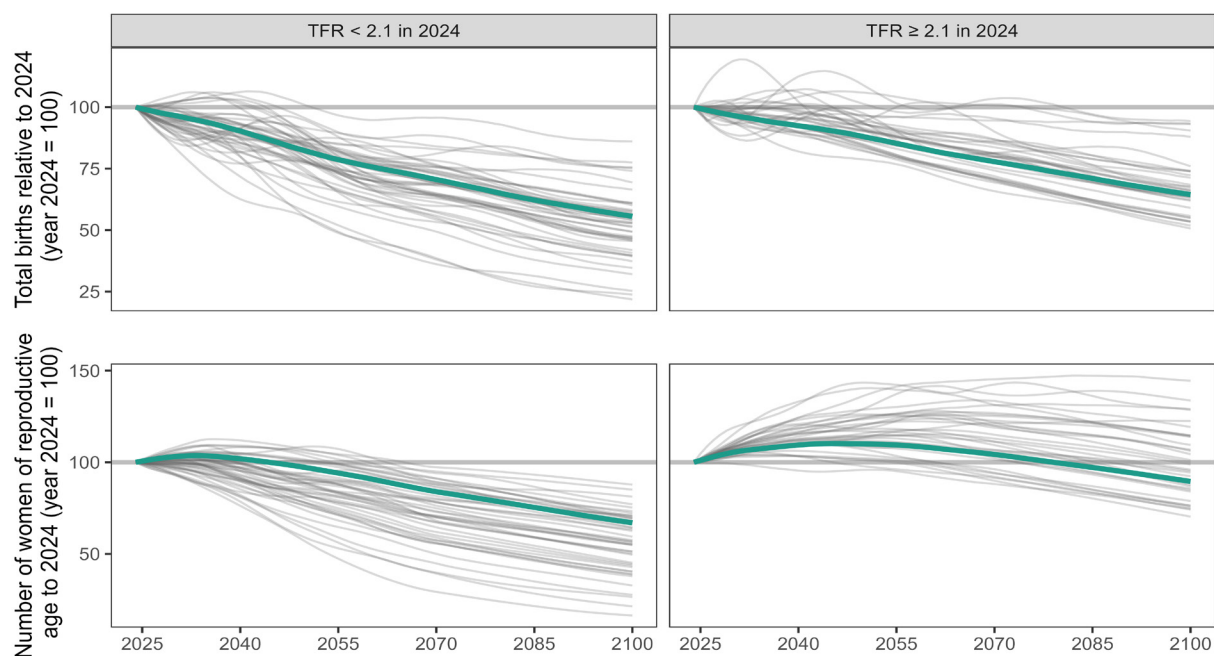
Source: United Nations (2024a).

Notes: Grey lines represent countries and areas with at least 90,000 inhabitants in 2024. Cooperation Council for the Arab States of the Gulf countries (Bahrain, Kuwait, Iraq, Oman, Qatar, Saudi Arabia, and the United Arab Emirates) are not shown. The scale of the y axis differs between the two indicators.

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[20] WIC assumes that, starting in 2050, total fertility for all countries will converge and reach 1.75 births per woman by 2200. IHME's reference scenario, which is the most likely fertility trajectory, predicts a continued decline worldwide throughout this century with some recovery after mid-century. Additionally, a scenario that explicitly leads to a slower decrease in total fertility or rebounds is produced for a few countries and areas (i.e., the "pro-natal policy" scenario).

Over the past three decades, it is not only how many births women have had, on average, that has profoundly changed, but also when women have given birth during their lives. The global adolescent birth rate (SDG 3.7.2) nearly halved between 1994 and 2024 from 73 to 38 births per 1,000 girls and young women aged 15–19 years (figure 3.4). In sub-Saharan Africa, despite declines, it remained above 90 per 1,000 (chap. IV).

Figure 3.4

Adolescent birth rates (10–14 years and 15–19 years), globally and by region, estimates for 1994 and projections (medium scenario), 2024
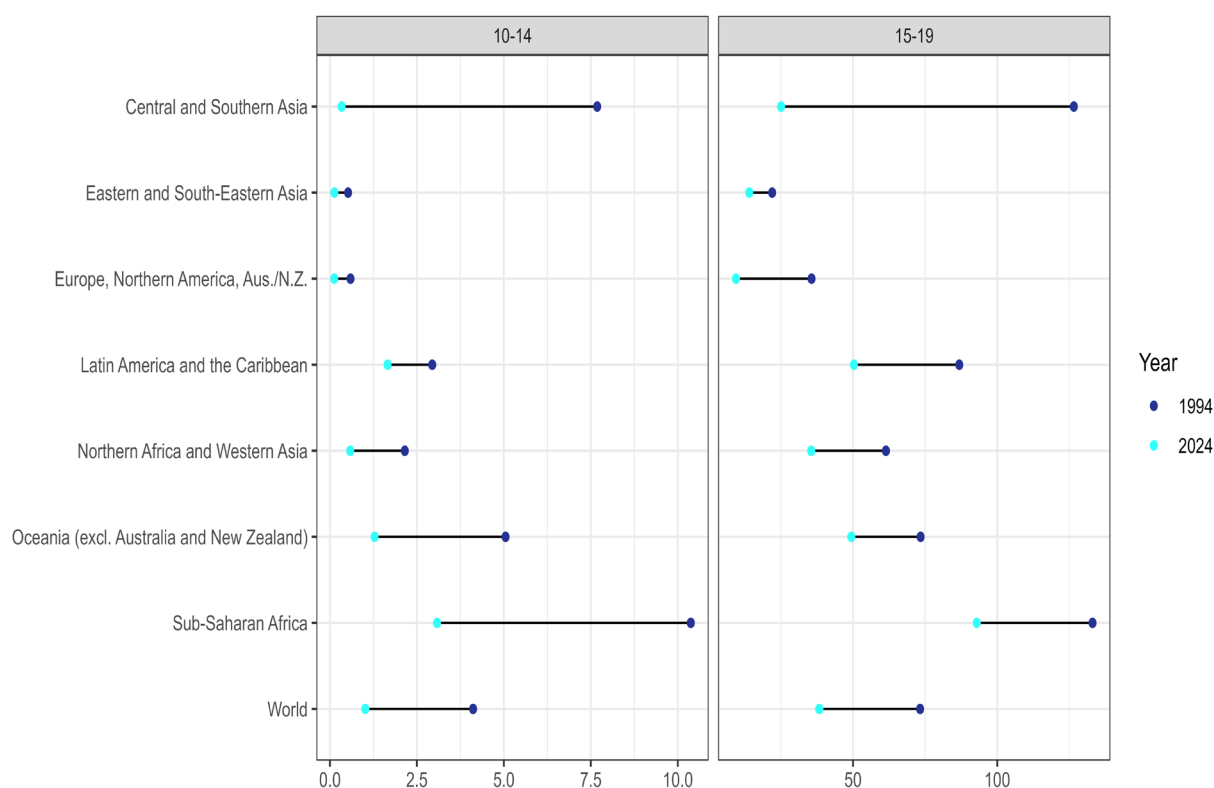
Source: United Nations (2024a).
Note: The regional grouping that comprises Australia and New Zealand has been abbreviated as Aus./N.Z.

Some of the most rapid declines in adolescent childbearing since 1994 occurred in Central and Southern Asian countries recently or soon completing the fertility transition. For example, the adolescent birth rate decreased between 1994 and 2024 in India from 136 to 13 births per 1,000 girls and young women aged 15–19 years and in the Maldives from 87 to 5 (figure 3.1). Still, despite major declines, the adolescent birth rates are estimated to be 71 and 66 per 1,000 in Bangladesh and Nepal, respectively.

Early childbearing remains prevalent in some countries and areas in this group, particularly in Latin America and the Caribbean, including Colombia, Mexico, Nicaragua and Venezuela (Bolivarian Republic of), where, in 2024, total fertility was below 2.1 but adolescent birth rates remained above 50 births per 1,000 girls and young women aged 15–19 years (figure 3.5). Cultural and socioeconomic factors, such as entrenched norms and unequal access to reproductive health services, contribute to the persistence of adolescent childbearing despite overall fertility decline. However, promising developments can be seen in some countries and areas in Latin America and the Caribbean such as Chile, Costa Rica, Curaçao, Guadeloupe and Puerto Rico, where adolescent birth rates have declined by more than two thirds over the past three decades.

Figure 3.5

Adolescent birth rates (15–19 years) by total fertility, by region, 2024

Source: United Nations (2024a).

Notes: Countries and areas with at least 90,000 inhabitants in 2024 are represented in the figure. The size of the bubbles is determined by the number of women aged 15–19 year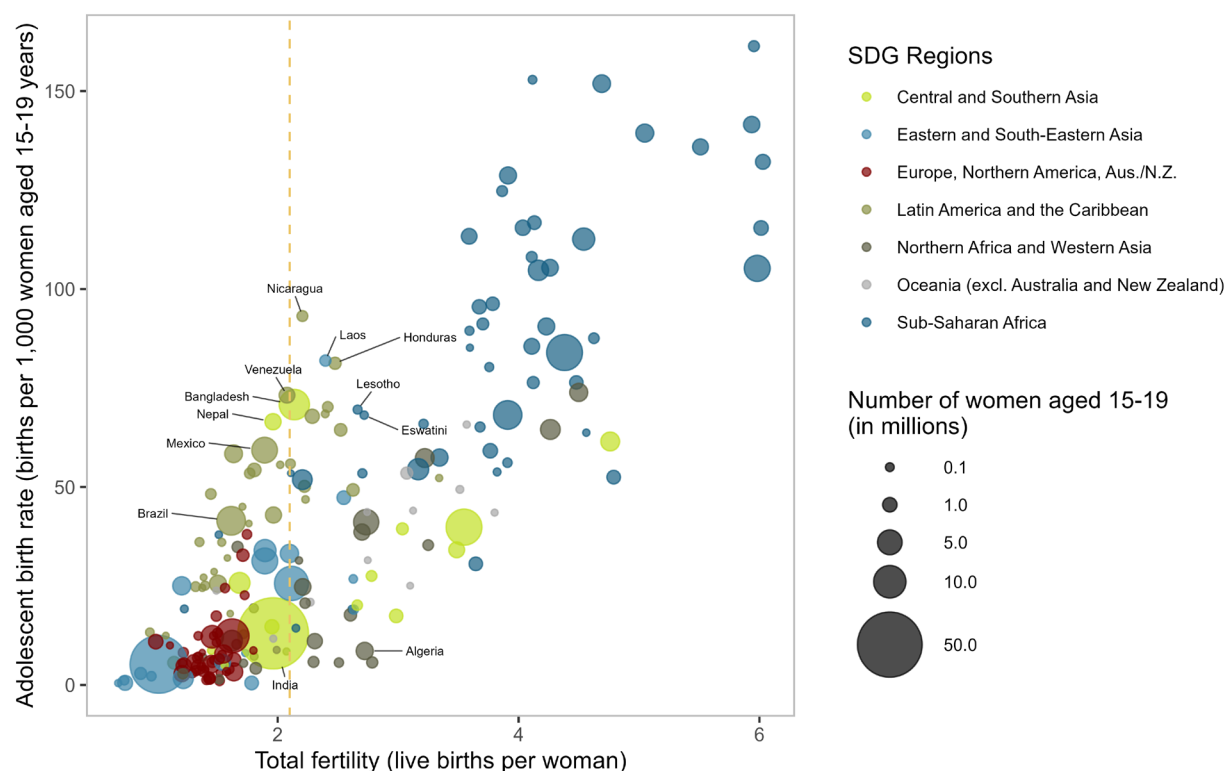s in 2024. The regional grouping that comprises Australia and New Zealand has been abbreviated as Aus./N.Z. The country label of Venezuela (Bolivarian Republic of) has been abbreviated as Venezuela. The country label of Lao People's Democratic Republic has been abbreviated as Laos. The dashed orange vertical line indicates the level of replacement fertility.

Future fertility trends are difficult to predict, especially over long time periods (see box 3.1), with an increase in uncertainty over time shown by widening prediction intervals for years further in the future (figure 3.7). By 2054, only 6 out of 102 countries and areas recently or soon completing the fertility transition are projected to experience fertility rates below 1.4 births per woman under the medium scenario (figure 3.1), but, looking at the whole range of prediction intervals, there is in every location a possibility that fertility declines much faster and drops to below 1.4 or even close to 1.0 over the next 30 years. If actual fertility levels are close to either the lower or the upper bound of the prediction intervals, it will have markedly different implications in terms of future population growth (or decline) and changes in age structures.

Apart from decreasing average numbers of births per woman, there is also a pronounced shift towards rising mean ages at childbearing among this group of countries and areas, as illustrated by the selected countries in figure 3.8. Argentina, Bangladesh, India and Mexico all show significant shifts in fertility peaks from younger age groups (early 20s) in 1994 to older ones (late 20s or early 30s) by 2054. This pattern is well established in countries with a long history of low fertility (see chap. II). The increasing mean age at childbearing, driven by factors like improved education, greater gender equality and rising workforce participation, highlights the growing trend of later family formation and its influence on fertility patterns.

Box 3.2

The challenge of estimating fertility trends

The quality of fertility estimates and projections hinges on the availability of reliable and timely demographic data. *World Population Prospects 2024* (United Nations, 2024a) takes into consideration the full range of available demographic evidence, using data from sample surveys and censuses, as well as information on births from civil registration and vital statistics systems or sample registration systems (see Annex 1). However, data availability, timeliness and coverage remain a challenge for many countries. These gaps, as well as potential biases, incomplete coverage and errors observed in specific data sources, can impact fertility estimates. For example, different data sources for the adolescent birth rate in India in 2019 suggest very different values: 43 births per 1,000 girls and young women aged 15–19 years (National Health Survey 2019–2020) and 12 (Sample Registration System 2019). Since India has the largest population of adolescents in the world, its estimate has a large impact on the evaluation of progress made towards reduction of adolescent childbearing not only in the country itself but also in the region and globally. Improving the reliability, coverage, timeliness and accessibility of demographic data should be a central focus of efforts to strengthen statistical systems for monitoring progress towards the Sustainable Development Goals, including for SDG indicator 3.7.2.

Figure 3.6

Adolescent birth rates (age 15–19 years), estimates, 1970–2023 (black line), and empirical data available from various data sources, India
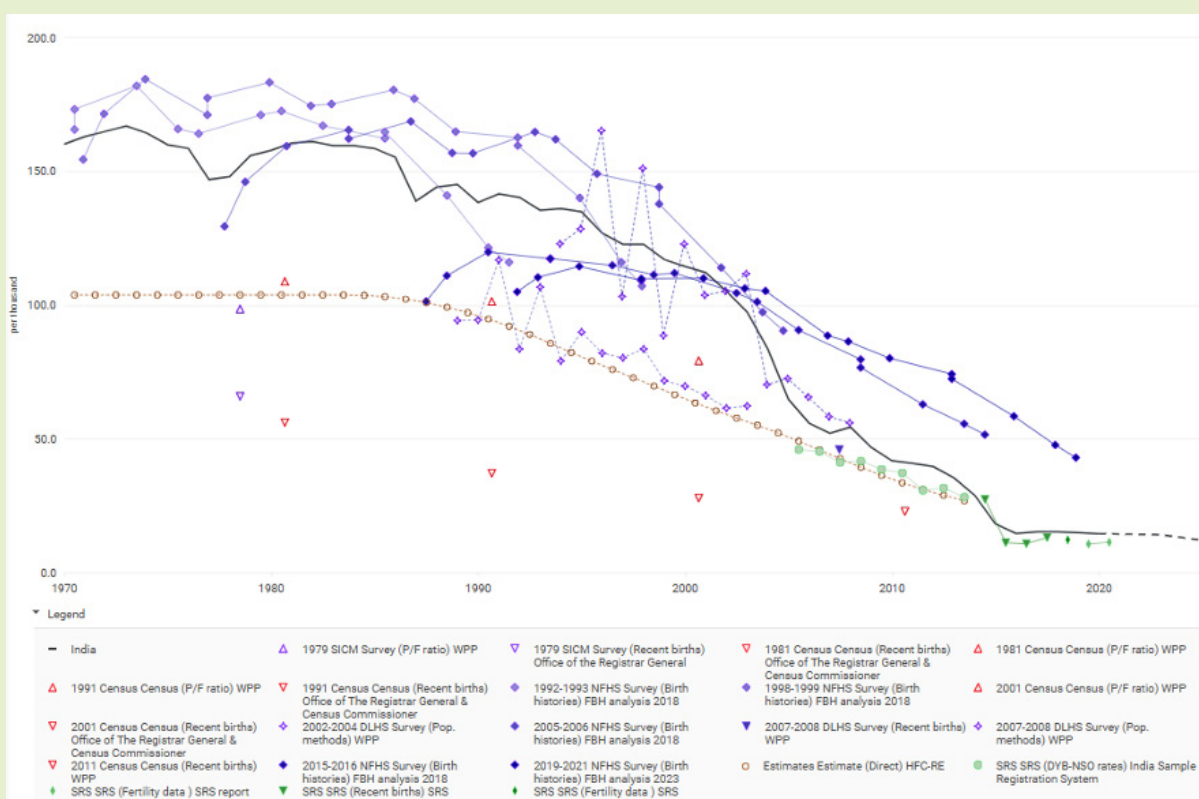
Source: United Nations (2024a). See interactive version of the figure at https://population.un.org/dataportal/.
Note: The blue markers present estimates calculated from birth histories from sample surveys, while the green markers represent estimates from the sample registration system.

Figure 3.7

Total fertility (top) and total births (bottom) for selected countries reaching total fertility below 2.1 births per woman between 1995 and 2054, estimates, 1995–2023, and projections (medium scenario) with prediction intervals and the scenario of the accelerated adolescent birth rate decline with recuperation (dash-dotted line), 2024–2100
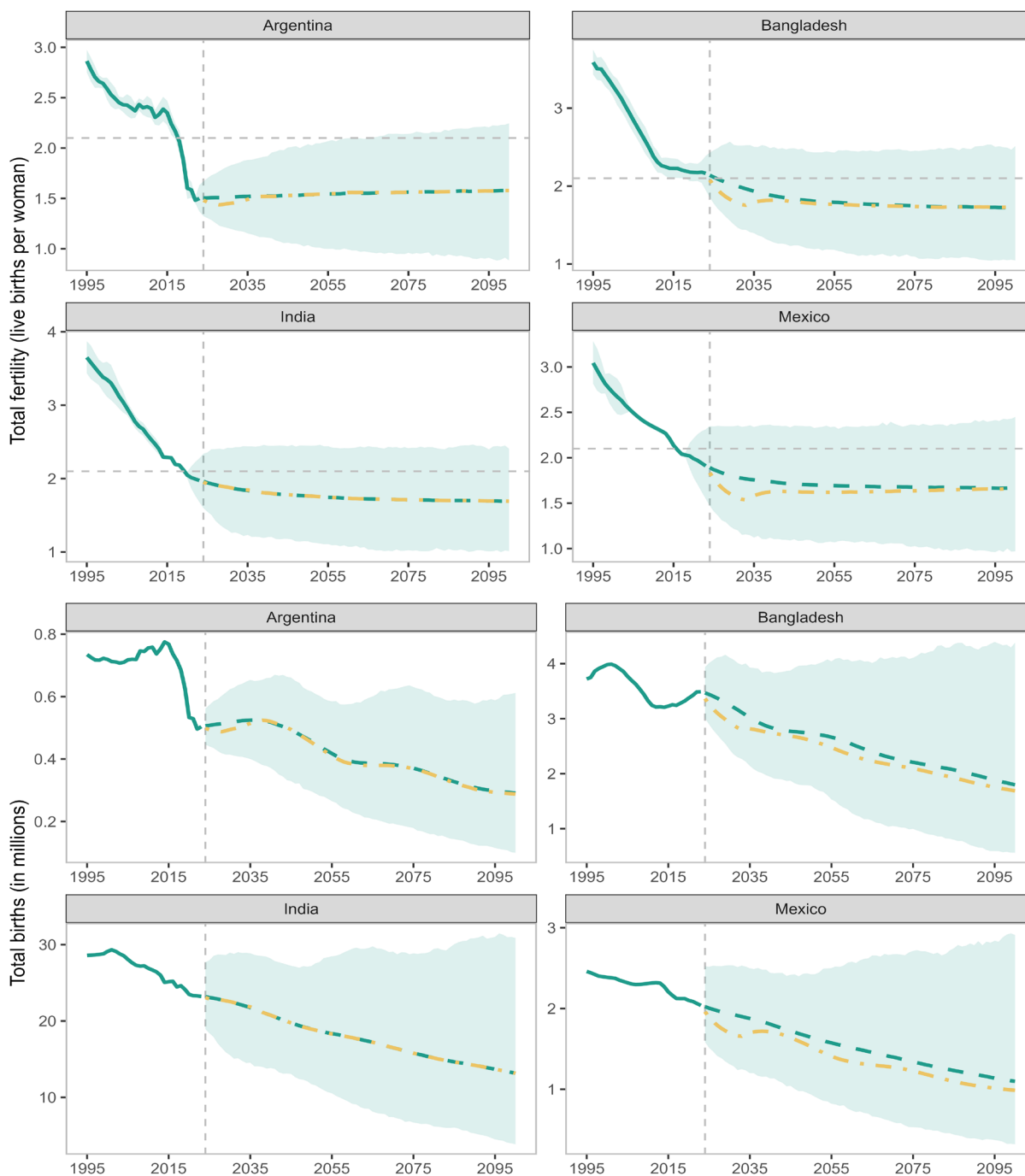
Rapid reductions in early childbearing have impacted total fertility rates. Further declines in adolescent birth rates in countries and areas where these are currently still high might lead to lower fertility levels, as is shown by the scenario of an accelerated adolescent birth rate decline (figure 3.7).[21] For example, in Argentina, Bangladesh and Mexico, where adolescent childbearing remains common, a steep decline in adolescent childbearing could drive total fertility to even lower levels. However, some of this impact will be temporary, as some of the births may simply be delayed and occur at older ages. These dynamics are less pronounced in countries where the adolescent birth rate is already low.

Figure 3.8

Age-specific fertility rates (ASFR) for selected countries reaching total fertility below 2.1 births per woman between 1995 and 2054, estimates for 1994, and projections (medium scenario), 2024 and 2054
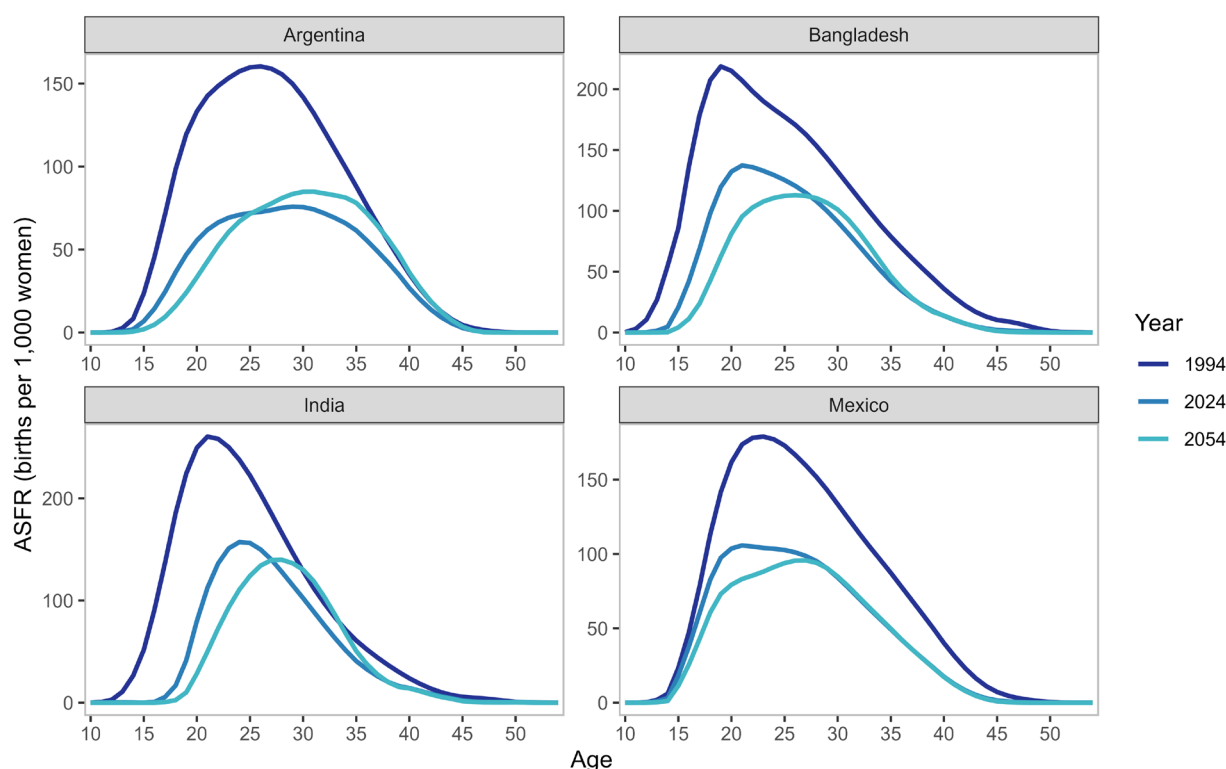
Source: United Nations (2024a).
Notes: The scale of the y axis differs between locations.

While low fertility levels were primarily a concern in high-income countries until recently, many middle-income countries have now also reached low fertility (figure 1.3). Countries and areas recently and soon completing the fertility transition need to prepare for sustained low fertility levels similar to the experiences of locations with long histories of low fertility, albeit with a time lag and potentially at an accelerated pace. Lessons drawn from countries and areas in Eastern Asia and Europe, and others with long histories of low fertility, emphasize the need to advance gender equality in all aspects of life, and to implement comprehensive family-friendly policies, such as subsidized childcare, parental leave and affordable housing, to mitigate the socioeconomic challenges that lead to very low fertility.

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[21] The scenario considers that fertility rates at ages below 20 years decline by 20 per cent annually, beginning in 2024 until the adolescent birth rate falls below 10 births per 1,000 girls and young women aged 15–19 years. Additionally, half of the reduction in fertility among girls and women younger than 20 years is recovered once those cohorts have aged 10 years (i.e., half of the reduced fertility among women aged 17 is recovered 10 years later among women aged 27) (United Nations, 2024b).

Countries and areas recently and soon completing the fertility transition have large, and in some cases still growing, populations of youth and young adults. For these locations, investing in quality education and creating meaningful employment opportunities is critical to make the most of this "demographic dividend". This will require policies that foster skills development, entrepreneurship and labour market reforms that enable young people to participate actively in the economy (ILO, 2024). Prioritization of quality education, use of technology and promotion of decent employment for youth are urgent to ensure prosperity and enable governments to finance social services and family-friendly policies and to reform pension systems.

Fertility levels within countries often vary significantly among population subgroups, such as those defined by education, geographic region, ethnicity, race or wealth. While rates of unintended pregnancy and early childbearing have been declining, they might become increasingly concentrated among economically vulnerable and other disadvantaged groups. For example, Indigenous women often live in remote areas with limited access to healthcare and education, intensifying the challenges associated with early childbearing and unintended pregnancies for them. In India, according to the latest nationally representative survey, adolescent birth rates differ by place of residence; adolescents in rural areas have on average 49 births per 1,000 girls and young women aged 15–19 years, while urban areas have 27, and these rates range from 2 to 91 among the different states and union territories of India (IIPS, 2021). Addressing these disparities requires targeted interventions to create education and employment opportunities for young people and to improve healthcare access in underserved regions and marginalized communities.

Advancing gender equality and women's empowerment can help create societies where all couples and individuals are able to achieve their desired family size, and can potentially help avoid extremely low fertility rates. In countries with low fertility, imbalanced sex ratios at birth may arise as a result of gender-biased cultural practices, as has been observed over the past three decades in Albania, Azerbaijan, India and Viet Nam with sex ratios of 110 or more boys per 100 girls as compared to the global average of 105 in 2024 and the biological norm (between 102 and 106). Advancing gender equality and empowering women is essential for fostering inclusive societies and addressing demographic challenges.

Completing the fertility transition and, especially, reducing unintended pregnancies and early childbearing are signs of success in improving access to sexual and reproductive healthcare services, including for family planning, information and education. Still, adolescent childbearing and unintended pregnancies continue to be common in some countries, and continued investments in family planning programmes, with special attention to adolescents, youth and marginalized and disadvantaged groups, are therefore crucial, especially in countries with still-growing populations of women of reproductive age.

Chapter IV. Countries and areas still far from completing the fertility transition

In 2024, approximately 1.8 billion people, or 22 per cent of the global population, lived in 63 countries and areas that are projected to reach low fertility after 2054. In these locations there is high population growth driven by a decline in mortality rates, particularly among infants and children, and declining fertility levels that remain significantly above the replacement level (box 1.1). Countries and areas in this group include 42 in sub-Saharan Africa, 10 in Oceania, 5 in Central and Southern Asia, 5 in Northern Africa and Western Asia, and 1 in Latin America and the Caribbean (figure 4.1). The total fertility rate has declined since 1994 in this group from an average of 5.9 births per woman to 4.1 in 2024. In 1994, 54 of these countries and areas had a fertility level above 4.0 births per woman. By 2024, women still had on average 4.0 or more births in Afghanistan, Yemen and 24 countries in sub-Saharan Africa (box 4.1).

Box 4.1

Fertility transition: Is sub-Saharan Africa exceptional?

Fertility transitions in sub-Saharan Africa exhibit distinctive characteristics compared to other low- and middle-income countries. The fertility decline started later, and the pace of fertility decline has been markedly slower in sub-Saharan Africa than in Asia and Latin America and the Caribbean. Furthermore, both men and women in sub-Saharan Africa continue to express a preference for larger families, in contrast to other regions where desired family sizes have converged to around two children. According to the latest Demographic and Health Surveys (conducted between 2010 and 2022), the average ideal family size is around 2.5 children in countries in Southern Africa and between 3.5 and 4 children in Burundi, Kenya, Malawi, Rwanda and Zimbabwe. In other countries, the mean ideal family size is still above 4 children, exceeding 6 children in Chad, the Democratic Republic of the Congo, Mali, Niger and Nigeria (DHS Statcompiler, 2024).

The distinctive characteristics of fertility transitions in sub-Saharan Africa were previously thought to be explained by unique African cultural contexts (Caldwell and Caldwell, 1987). However, more recent research has highlighted structural and developmental factors, emphasizing the influence of lower socioeconomic development, weaker family planning programs (Bongaarts and Casterline, 2013), and lower contraceptive prevalence in the region (box 4.3). Disruptions in female education during the late 1990s and early 2000s have also been linked to slower fertility declines (Kebede, Goujon and Lutz, 2019) and stalls in fertility decline (see box 4.2). Also, distinct patterns in the timing and pace of contraceptive use and fertility transitions have emerged across sub-Saharan Africa (Dasgupta and others, 2022). Fertility declines and increases in contraceptive use have progressed slowly in Middle and Western Africa, while in Eastern and Southern Africa they have been comparable to the changes in Asia and Latin America, albeit starting later.

Figure 4.1

Total fertility and adolescent birth rates (15–19 years), countries and areas reaching total fertility below 2.1 births per woman after 2054, by regions, estimates for 1994, and projections (medium scenario), 2024 and 2054
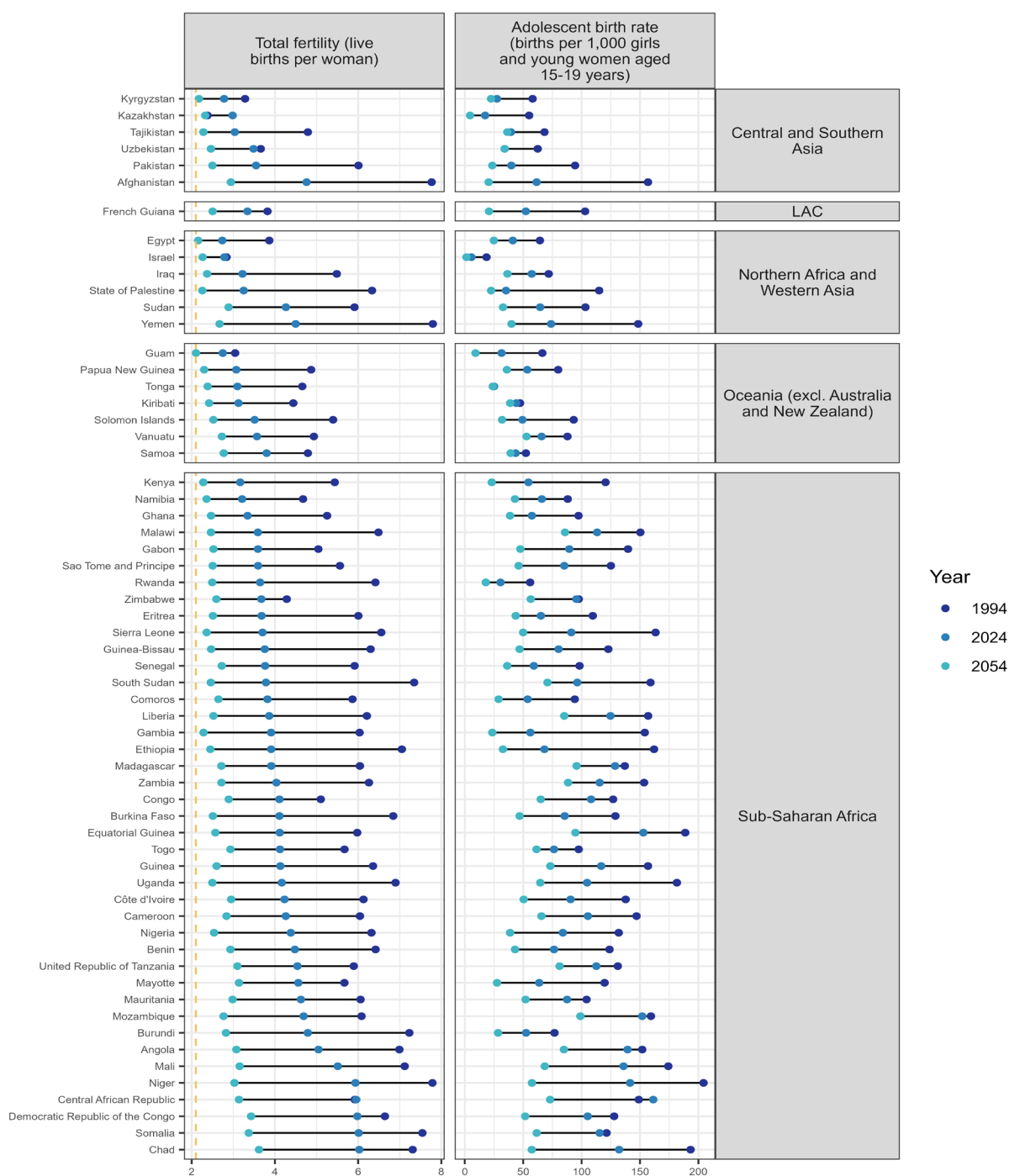
Source: United Nations (2024a).

Notes: Countries and areas with at least 90,000 inhabitants in 2024 are represented in the figure, ordered by the level of fertility in 2024 within regions. The regional grouping of Latin America and the Caribbean has been abbreviated as LAC. The dashed orange vertical line indicates the level of replacement fertility.

Over the past three decades, significant reductions in fertility levels have been observed across various countries and areas in this group. In Afghanistan, Ethiopia, the State of Palestine and Yemen, fertility declined by more than 3.0 births per woman. In contrast, fertility reductions were minimal in countries such as the Central African Republic and the Democratic Republic of the Congo, where total fertility rates remain above 5.0 births per woman. Countries and areas in Central Asia experienced only moderate reductions or even increases in fertility levels (box 4.2). These variations reflect the diversity in fertility trajectories, influenced by socioeconomic, cultural and policy contexts.

Box 4.2

Caught in transit: Countries and areas with recent experiences of stalls or reversals in fertility decline

While the transition from high to low fertility is a universal phenomenon (box 1.1), its trajectory and speed have varied considerably across countries and regions. Instances of fertility stalls or reversals – temporary decelerations or increases in fertility after the onset of the fertility transition but before completing it – are particularly evident in sub-Saharan Africa, Central Asia and Northern Africa and Western Asia.

In Central Asia, fertility declined rapidly following the collapse of the Soviet Union, but since the late 1990s and early 2000s, the trend has reversed or stalled. These trends can be linked to significant cultural, social and economic changes in these post-Soviet states. In Kazakhstan, for example, total fertility dropped from 3.0 births per woman in 1980 to 1.9 in 1999, then rebound to 3.3 by 2021. Kazakhstan's economic resurgence, driven by rising oil prices and foreign investment, changes in population composition resulting from the emigration of the ethnic Russian population that had lower fertility rates, and changes in the timing of births have contributed jointly to fertility increases (Spoorenberg, 2015).

In several countries of Northern Africa and Western Asia, fertility levels have fluctuated in the two most recent decades. For example, Egypt's total fertility rate declined from 3.9 births per woman in 1994 to 3.3 in 2011. However, in the wake of the Arab Spring in 2011, the total fertility increased to 3.5 in 2015. Since then, the fertility level has begun to decline again and was estimated to be 2.7 in 2024, with projections suggesting that Egypt may reach replacement-level fertility by 2059 (figure 4.5). Similar trends were observed in Algeria and Jordan.

Sub-Saharan Africa presents a unique case where fertility declines started later than in other low- and middle-income countries (box 4.1), and in a number of countries, the fertility decline progressed very slowly or even stalled, such as in Congo, Kenya, Namibia, Zambia and Zimbabwe (Schoumaker, 2019). Zimbabwe's total fertility reached 3.6 births per woman in 2006, before slightly increasing to 4.1 in 2012. The slow fertility decline resumed in recent years, reaching 3.7 in 2024.

These slow or stalled fertility declines have challenged the assumptions of a steady decline of fertility during the fertility transition and have impacted projections of fertility and population size.

Despite uncertainties surrounding future fertility trends, projections suggest that all countries in this group will eventually reach replacement-level fertility. According to the medium scenario, the average fertility level for the group of countries and areas still far from reaching replacement-level fertility is expected to decline to 2.7 births per woman in 2054. In eight of these – Chad, Côte d'Ivoire, the Democratic Republic of the Congo, Mayotte, Somalia, Sudan, Togo and the United Republic of Tanzania – fertility rates are expected to exceed 2.1 births per woman even by 2100. In all countries and areas in this group, high fertility levels will continue to drive substantial population growth, resulting in large cohorts of children and young people in the coming decades.

A key demographic component of future population growth is the youthful age structure of the population (see chap. I). Projections suggest that, in this group of countries and areas, the number of women of reproductive age (15–49 years) will rise from 438 million in 2024 to 821 million in 2054 (an 86 per cent increase), eventually

reaching 1.1 billion by 2100 (figure 1.6). The near doubling of the number of women of reproductive age in the next 30 years requires the expansion of sexual and reproductive healthcare services, including for family planning, to meet the needs of growing populations that still have substantial proportions of women not using any form of modern contraception among those who want to avoid pregnancy (box 4.3).

The total number of births is projected to peak in 2066 at a level 21 per cent higher than in 2024 (figure 4.2). Such a rapid increase in the number of births can increase the burden on governments to ensure access to quality healthcare, including maternal and neonatal care, child healthcare and vaccinations, and adequate nutrition and education for children.

Figure 4.2

The number of births and the number of women of reproductive age (15–49 years) relative to 2024, countries and areas reaching total fertility below 2.1 births per woman after 2054, projections (medium scenario), 2024–2100
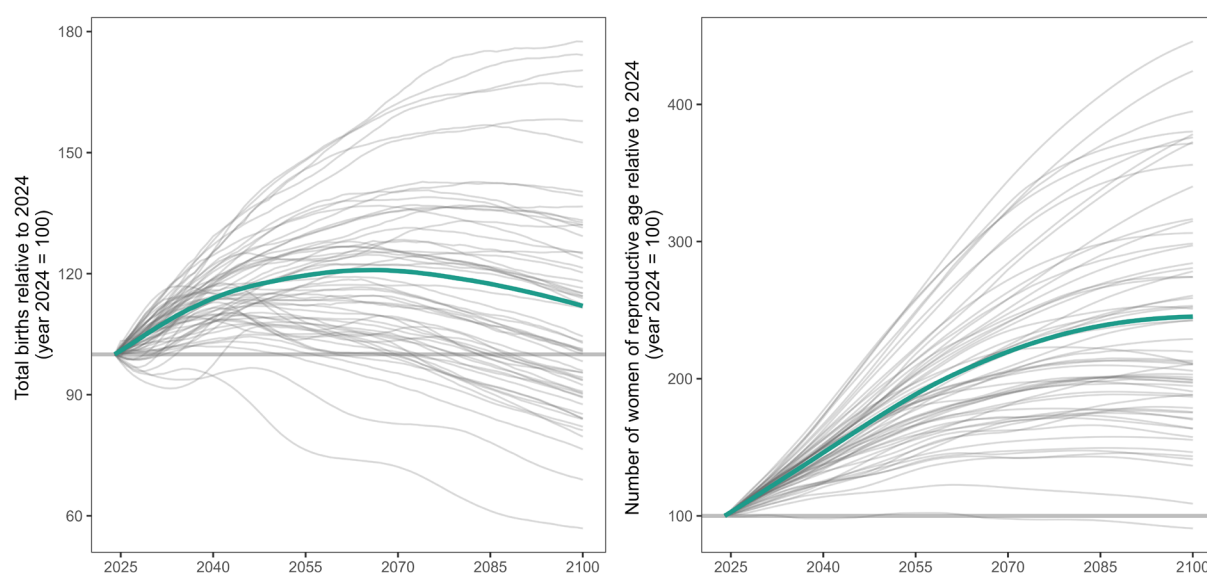
Sources: United Nations (2024a).
Notes: Grey lines represent countries and areas with at least 90,000 inhabitants in 2024. The scale of the y axis differs between the two indicators.

Box 4.3

The role of contraceptive use in fertility declines

Modern contraceptive use is one of the primary determinants of fertility at the population level (box 1.1) with higher rates of contraceptive use strongly associated with lower levels of fertility (figure 4.3).

Figure 4.3

Total fertility and contraceptive prevalence among women of reproductive age in countries and areas reaching replacement-level fertility after 2054, estimates for 1994, and projections (medium scenario), 2024
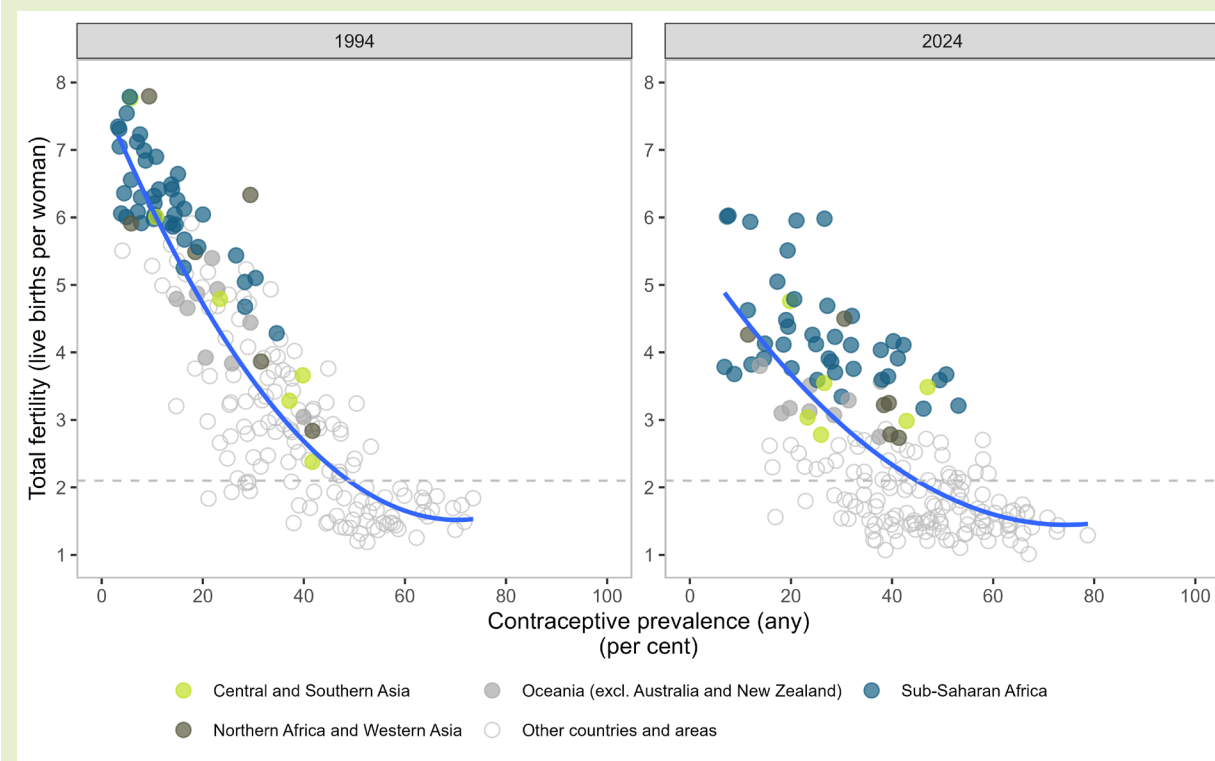
Source: United Nations (2024a; 2024d).

Notes: The 63 countries and areas still far away from completing the fertility transition are coloured according to SDG region. "Other countries and areas" shown as grey circles are countries and areas that already had fertility levels below 2.1 births per woman in 2024 or will reach this level by 2054 (discussed in chaps. II and III). The blue lines represent linear regression between the two indicators in 1994 and 2024. The dashed gray horizontal line indicates the level of replacement fertility.

In countries still far from completing the fertility transition, the population of women of reproductive age has increased at an even faster rate, from 191 million to 444 million (a 132 per cent increase) between 1994 and 2024. However, so too has the number of users of modern contraception, which increased more than five-fold from 21 million to 109 million over the same period, equivalent to the increase of contraceptive use from 11 to 24 per cent of women of reproductive age between 1994 and 2024.

The large increases in contraceptive use that have taken place over the past decades are primarily due to improvements in women's ability to implement their fertility intentions, arising from improved access to, and availability of, contraception. In countries and areas still far from completing the fertility transition, the percentage of women who use modern contraceptive methods to avoid pregnancy (SDG 3.7.1) has nearly doubled from 31 per cent in 1994 to 58 per cent in 2024, which is still significantly lower than at the global level (78 per cent).

Early childbearing leads to significant adverse consequences for the health and well-being of both young mothers and their children. Adolescent mothers face higher risks of eclampsia, puerperal endometritis and systemic infections compared to women aged 20–24 years, and babies of adolescent mothers face higher risks of low birth weight, preterm birth and severe neonatal conditions (WHO, 2024). Early childbearing is prevalent in countries with high fertility rates (figure 3.4) and, despite the declines observed in the past three decades, it continues to be high. Among the countries and areas still far from completing the fertility transition, there is significant variation between countries in current levels and trends of adolescent childbearing (figure 4.1). In 1994, 38 countries and areas in this group had an adolescent birth rate above 100 births per 1,000 girls and young women aged 15–19 years, including 15 countries with more than 150. In 2024, three countries – the Central African Republic, Equatorial Guinea and Mozambique – still had more than 150 births per 1,000 girls and young women aged 15–19 years, and another 15 countries and areas, all in sub-Saharan Africa, had more than 100. At the same time, there are some countries in sub-Saharan Africa where adolescent childbearing is less common, for example Rwanda, which had an adolescent birth rate of 31 in 2024. Some reductions in adolescent childbearing have also happened surprisingly quickly. Countries with the largest reductions in adolescent birth rates between 1994 and 2024 include Afghanistan (from 157 to 62), Ethiopia (from 162 to 68) and Gambia (from 154 to 56).

Early childbearing is largely concentrated in countries and areas that are still far from completing the fertility transition. Globally, there were 12.4 million births among adolescents in 2024, nearly two thirds of them (7.8 million) among adolescents from these 63 countries and areas, although they account for less than one third of all girls aged 10–19 years, globally. Efforts to reduce adolescent childbearing should remain a priority, especially because the number of female adolescents aged 10–19 will continue to increase in these countries from 204 million in 2024 to 297 million in 2054 (an increase of 45 per cent).

Addressing adolescent childbearing requires a comprehensive approach that tackles its root causes such as child marriage, gender inequality and limited access to sexual and reproductive healthcare services. Expanding access to modern contraceptive methods is essential, as only 61 per cent of sexually active adolescents who wish to avoid pregnancy use modern contraception, compared to 78 per cent of all women of reproductive age (United Nations, 2022). Child marriage continues to be a major pathway towards early childbearing, particularly in countries with growing numbers of adolescents. Globally, 76 per cent of first births to mothers below age 18 occur within marriage, although there are large regional differences. While nonmarital adolescent childbearing in Central and Southern Asia nonmarital adolescent childbearing is rare, in sub-Saharan Africa and Latin America and the Caribbean it is substantially more common (Molitoris and others, 2023). Over the past three decades, the incidence of child marriage has declined globally in all regions (UNICEF, 2023), and this trend, if continued, will likely result in fewer births to adolescents. Over the same period, however, child marriage and early childbearing became increasingly concentrated among economically vulnerable and other disadvantaged groups.

Increasing the age at first childbirth offers significant socioeconomic benefits, enabling young women to complete their education, join the workforce and achieve economic independence. These changes contribute to reducing dependency ratios, fostering economic growth and harnessing the demographic dividend. The demographic impact of reducing adolescent birth rates is illustrated by the scenario of accelerated decline of adolescent birth rate in *World Population Prospects 2024*. This scenario assumes a gradual decline in the adolescent birth rate, with rates decreasing by 20 per cent annually starting in 2024 until they fall below 10 births per 1,000 girls aged 10–14 years. Under this scenario, the total number of births in sub-Saharan Africa, which has the highest adolescent birth rate among all regions, would increase slightly by 5 per cent from 40.1 million in 2023 to 42.1 million by 2054, as compared to the increase of 24 per cent projected in the medium scenario (to 49.7 million in 2054) (figure 4.4).

Figure 4.4

Total births in sub-Saharan Africa, estimates, 1995–2023, and projections (medium scenario, dashed blue line) with accelerated adolescent birth rate decline scenario (dotted grey line), 2024–2100
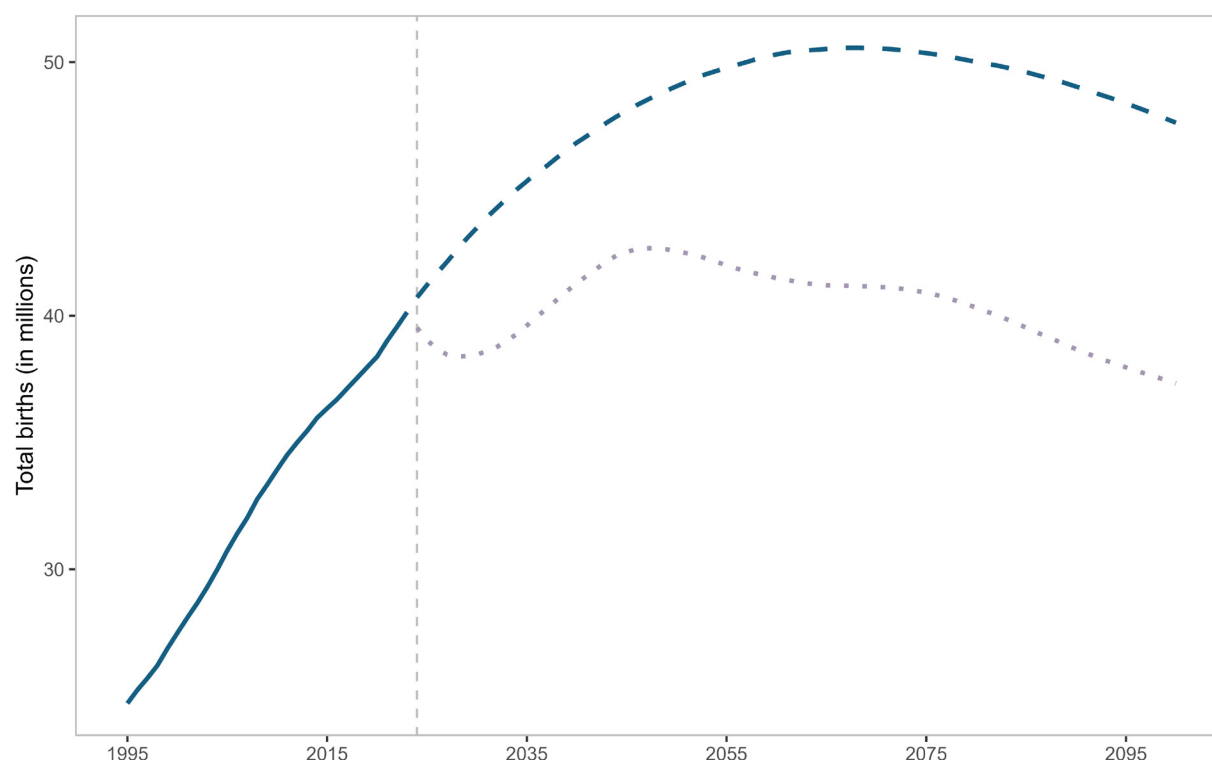
Source: United Nations (2024a).

Notes: The dashed grey vertical line indicates the year 2024.

Past fertility trends, and therefore future projections, including the impact of the scenario of the accelerated decline of adolescent birth rates, differ by country (figure 4.5). Over the past three decades, Egypt has experienced significant fluctuations in its fertility rates, increasing to a peak in total fertility in the wake of the Arab Spring at 3.5 births per woman in 2015, which also marked its highest number of births (2.8 million). After 2015, the fertility rate resumed its previous decline, although the number of births is expected to increase again to nearly 2.8 million around 2040 due to an increased number of women of reproductive age from the cohorts born around 2015. Under the scenario of the accelerated decline of adolescent birth rates, the total fertility rate is projected to decrease slightly faster over the next 30 years resulting in lower numbers of births — as much as 191 thousand (or 7.5 per cent) fewer compared to the medium scenario in 2054.

The three other country examples in figure 4.5 had fertility levels still above 6.0 births per woman in 1994, declining by 2024 to 3.6 in Pakistan, 3.9 in Ethiopia and 4.4 in Nigeria. In Ethiopia, adolescent childbearing is still common (68 per 1,000 girls and young women aged 15–19 in 2024) and, under the scenario of the accelerated decline of adolescent birth rate, the number of births would be lower by 10 per cent in 2054 (4.4 million in this scenario compared to 4.9 million under the medium scenario). In Nigeria, where the adolescent birth rate is estimated to be 84 per 1,000 in 2024, the number of births would be lower by 18 per cent (or 0.9 million births). In Pakistan, because early childbearing is less common compared to the other countries (39 per 1,000), the accelerated decline of adolescent birth rate has a smaller reducing effect on the future number of births, which would only be lower by 6 per cent in 2054.

Figure 4.5

Total fertility (top) and total births (bottom) for selected countries reaching total fertility below 2.1 births per woman after 2054, estimates, 1995–2023, and projections (medium scenario, dashed purple line) with accelerated adolescent birth rate decline scenario (dotted grey line), 2024–2100
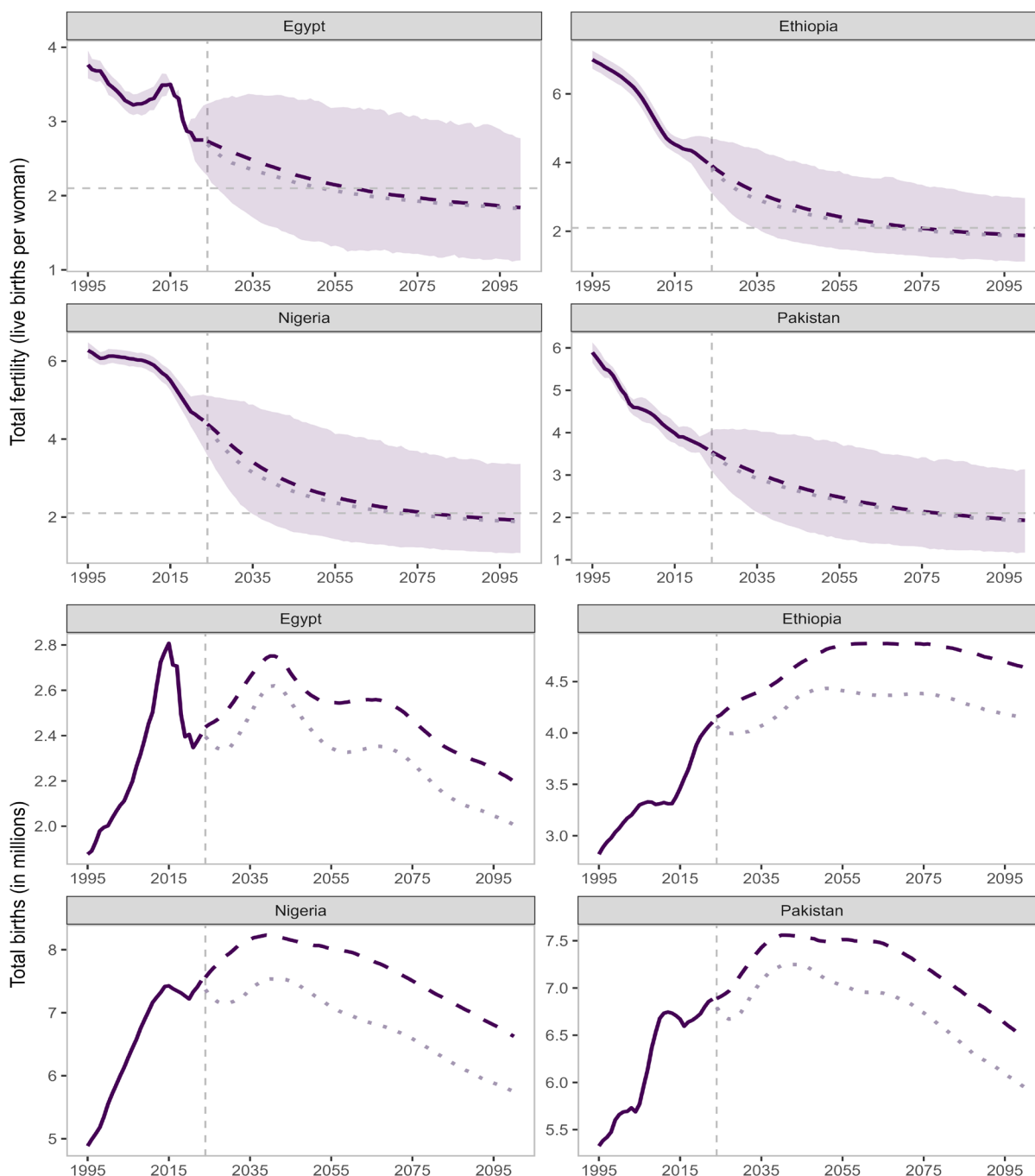
Source: United Nations (2024a).

Notes: Prediction intervals are represented as shaded areas around a projected trend. For a given year, the future trend is expected to lie within the predicted range with an estimated probability of 95 per cent. The scale of the y axis differs between locations. The dashed gray horizontal line indicates the level of replacement fertility. The dashed grey vertical line indicates the year 2024.

Reducing adolescent birth rates through targeted interventions offers profound socioeconomic benefits, which can also further accelerate fertility declines. Reducing growth in the number of births in the future would allow governments and families to allocate resources more efficiently and to invest in children's and adolescents' health and well-being. In the lives of individual girls and young women, avoiding very early childbearing might also open opportunities for further education, employment and fulfillment of other life aspirations.

Efforts to end child marriage, improve access to sexual and reproductive healthcare services, eliminate gender-based violence and improve maternal care for young mothers are all critical to achieving the Sustainable Development Goals. Governments should also strengthen laws and enforcement mechanisms to protect the rights of girls and women, including laws to ban child marriage, as well as laws and regulations that guarantee full and equal access to sexual and reproductive healthcare, information and education. For countries already grappling with economic, social and environmental challenges, effectively managing population growth will be critical. By addressing these issues comprehensively, countries can create healthier, more productive populations, enhance quality of life and ensure a sustainable future for the next generation.

A doctor explains contraceptives to a young girl at the Sukhbaatar District Health Center, Ulaanbaatar, Mongolia (2010). United Nations Population Fund / Andrew Cullen.

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Annex 1: Data and methods for estimating fertility trends

The 2024 Revision of *World Population Prospects* provides the latest update of the global population estimates and projections of the United Nations, including the fertility indicators used in this report.

Data availability

The models used to estimate and project fertility trends make use of the available empirical evidence. The preferred source of fertility data is counts of births by age of the mother collected through vital registration. For countries and areas with lacking or incomplete vital registration, fertility data are complemented with direct estimates from household surveys. In particular, the Demographic and Health Survey (DHS) and the Multiple Indicators Cluster Survey (MICS) collect detailed full birth histories which allow retrospective estimation of fertility by age of the mother. Some countries and areas also conduct their own national demographic surveys and have established sample vital registration systems, which serve as additional sources of information together with population censuses. Estimates of fertility rates are another source of empirical data, and they can be derived also from the application of indirect methods, such as reverse survival, cohort completed fertility and own children method to census and survey data. Table A1.1. shows the availability of data for adolescent birth rate by specific data source.

Table A1.1

Availability of empirical data for adolescent birth rates (births per 1,000 girls and young women aged 15– 19 years) by source

Data Source	Number of countries	Total number of observations	Proportion of total number of observations
Vital registration	135	50155	40.4
Survey	130	41990	33.8
Estimate	75	28603	23
Census	111	3261	2.6
Sample registration system	2	175	0.1

Source: United Nations (2024a).

Table A1.2

Availability of empirical data for adolescent birth rates (births per 1,000 girls and young women aged 15– 19 years) by time

Last year with ABR data available	Number of countries with ABR available	Proportion of global adolescent births in 2024 covered by the available data
2014 and earlier	22	7.0
2015–2019	53	31.8
2020	19	29.1
2021	57	16.7
2022	46	14.0
2023	4	1.3

Source: United Nations (2024a).

The empirical data were not evenly available for the most recent periods. Only 15 per cent (table A1.2) of total births to girls and young women aged 15–19 years estimated for 2024 were based on recent empirical data either for 2023 or 2022, while in most cases countries had their last available data in 2020 (representing 32 per cent of adolescent births estimated for 2024) or between 2015 and 2019 (29 per cent).

Estimation methods

In the context of *World Population Prospects 2024*, annual series of fertility indicators were estimated from 1950 and 2023 using Bayesian hierarchical models, which estimated total fertility rates and age-specific fertility rates using the available empirical evidence as inputs.

Total fertility rates for each country were compiled using a Bayesian hierarchical model accounting for the uncertainty of the underlying empirical data (Liu and Raftery, 2020). The model used the data from the previous revision as a baseline reference and took into account a set of time-invariant categories and time-dependent covariates that describe the empirical data.

Age-specific fertility rates were estimated by single year of age for women between 10 and 54 years old. The procedure entailed three main steps. First, the 5-year age group fertility rates from age 15 to 49 years were estimated though a Bayesian hierarchical model (Chao and others, 2023) fitted to empirical fertility rates from various sources (vital registration, surveys, official estimates) using female educational attainment and the estimated total fertility as time-dependent covariates. The estimated 5-year fertility rates were then graduated into single age rates using the Calibrated Spline method (Schmertmann, 2014). The graduated series were finally adjusted to be consistent with the estimated total fertility rates in each year.

Projection methods

The fertility projections were compiled for the period 2024–2100 using probabilistic methods (Alkema and others, 2011; Raftery and others, 2009 and 2014) that accounted for the uncertainty the past historical estimates and made use of the estimated series for the period 1950–2023. The methods distinguished countries based on the phase of the fertility transition they were in as of 2023. The model for phase II of the transition used a double-logistic function to capture the decline in total fertility, with the assumption that the pace of decline is rapid at first, slows down when fertility reaches intermediate levels, and eventually slows further when fertility approaches replacement level. Phase III of the fertility transition was modelled using a time-series model, with the underlying assumption that fertility would approach a county-specific level and then continue to fluctuate around it.

The age-specific fertility rates were then derived from projected total fertility using the projected proportionate age-specific fertility rates. For those countries where the estimated mean age at childbearing was greater than 32 years in 2023, the age patterns estimated for 2023 were kept constant throughout the projection interval. For all other countries, the age patterns were projected based on country-specific trends in the estimation period, converging towards a global model age pattern of fertility (Ševcíková and others, 2016).

Annex 2: Selected indicators

Table A2

Total fertility and adolescent birth rates (15–19 years) for the world, groups by timing of reaching total fertility below 2.1 births per woman, countries and areas, estimates for 1994, projections (medium scenario), 2024 and 2054, and specific year of reaching total fertility below 2.1 births per woman

Groups, countries and areas	Total fertility rate (births per woman)			Adolescent birth rate, 15-19 (births per 1,000 girls and young women)			Year of TFR < 2.1
	1994	2024	2054	1994	2024	2054	Year
World	2.93	2.25	2.07	73	38	27	2050
Central and Southern Asia	3.92	2.24	1.95	127	25	12	2033
Eastern and South-Eastern Asia	1.98	1.34	1.48	22	14	11	1993
Europe, Northern America, Australia and New Zealand	1.63	1.48	1.56	36	9	4	1973
Latin America and the Caribbean	2.98	1.80	1.68	87	50	31	2014
Northern Africa and Western Asia	3.96	2.71	2.19	61	36	23	2062
Oceania (excluding Australia and New Zealand)	4.46	3.00	2.30	73	49	34	2071
Sub-Saharan Africa	6.06	4.26	2.74	133	93	54	2092
Total fertility rates below 2.1 in 1994 or before	1.67	1.20	1.38	20	7	4	1991
Eastern and South-Eastern Asia	1.66	1.01	1.20	10	6	4	1991
China	1.63	1.01	1.20	9	5	4	1991
China, Hong Kong SAR	1.37	0.73	0.99	7	1	2	1980
China, Macao SAR	1.43	0.68	0.94	7	0	1	1970
China, Taiwan Province of China	1.77	0.86	1.10	16	3	2	1984
Japan	1.47	1.22	1.36	4	2	1	1957
Republic of Korea	1.67	0.73	1.06	4	1	1	1984
Singapore	1.47	0.95	1.17	7	2	3	1975
Thailand	1.93	1.20	1.31	51	25	11	1990
Europe, Northern America, Australia and New Zealand	1.62	1.48	1.56	36	9	4	1973
Australia	1.85	1.64	1.63	21	6	5	1976
Austria	1.47	1.32	1.44	20	4	3	Before 1950
Belarus	1.49	1.22	1.40	41	8	4	1976
Belgium	1.56	1.38	1.50	10	4	3	1972
Bosnia and Herzegovina	1.70	1.49	1.57	32	11	5	1978
Bulgaria	1.37	1.75	1.70	60	38	6	1965
Canada	1.69	1.34	1.40	25	5	3	1972
Croatia	1.52	1.47	1.52	20	6	3	1968
Czechia	1.44	1.46	1.57	33	6	5	1959
Denmark	1.80	1.52	1.58	10	1	1	1969

Groups, countries and areas	Total fertility rate (births per woman)			Adolescent birth rate, 15-19 (births per 1,000 girls and young women)			Year of TFR < 2.1
	1994	*2024*	*2054*	*1994*	*2024*	*2054*	*Year*
Estonia	1.41	1.36	1.52	40	5	3	1956
Finland	1.84	1.29	1.43	10	3	3	1969
France	1.67	1.64	1.65	10	3	3	1975
Germany	1.25	1.45	1.54	13	5	2	1970
Greece	1.41	1.34	1.42	15	7	4	1982
Hungary	1.64	1.49	1.56	35	17	5	1959
Ireland	1.85	1.60	1.60	15	4	4	1989
Italy	1.21	1.21	1.36	8	3	3	1976
Jersey	1.50	1.37	1.48	24	8	6	1951
Latvia	1.38	1.34	1.45	35	7	5	Before 1950
Lithuania	1.58	1.21	1.37	41	6	4	1978
Luxembourg	1.73	1.40	1.49	12	4	4	Before 1950
Malta	1.84	1.11	1.27	11	10	6	1968
Montenegro	1.94	1.80	1.72	24	9	6	1986
Netherlands	1.57	1.43	1.53	7	2	2	1973
New Zealand	1.98	1.66	1.62	32	10	4	1978
Norway	1.87	1.41	1.51	15	1	1	1975
Poland	1.80	1.30	1.40	25	6	2	1989
Portugal	1.44	1.51	1.58	22	7	2	1982
Republic of Moldova	1.99	1.73	1.70	69	23	6	1994
Romania	1.40	1.71	1.68	45	33	6	1962
Russian Federation	1.40	1.46	1.55	48	12	5	1967
Serbia	1.50	1.50	1.57	28	13	5	1963
Slovakia	1.67	1.56	1.61	38	24	6	1989
Slovenia	1.32	1.58	1.61	14	3	3	1981
Spain	1.19	1.22	1.38	8	5	6	1981
Sweden	1.88	1.43	1.53	10	2	2	1968
Switzerland	1.49	1.44	1.53	6	1	2	1971
Ukraine	1.47	0.99	1.16	57	11	4	1964
United Kingdom	1.74	1.55	1.56	29	8	2	1973
United States of America	1.99	1.62	1.64	57	12	6	1972
Latin America and the Caribbean	**1.56**	**1.47**	**1.53**	**59**	**45**	**38**	**1978**
Antigua and Barbuda	2.07	1.58	1.58	63	32	19	1982
Barbados	1.73	1.71	1.68	58	45	38	1978
Cuba	1.47	1.45	1.52	62	48	42	1978
Martinique	1.95	1.99	1.82	30	9	2	1985
Trinidad and Tobago	2.06	1.54	1.52	49	36	26	1994
Northern Africa and Western Asia	**1.92**	**1.75**	**1.70**	**78**	**16**	**4**	**1993**
Armenia	2.08	1.72	1.69	78	13	5	1994
Georgia	1.83	1.80	1.70	78	19	4	1992

Groups, countries and areas	Total fertility rate (births per woman)			Adolescent birth rate, 15-19 (births per 1,000 girls and young women)			Year of TFR < 2.1
	1994	2024	2054	1994	2024	2054	Year
Total fertility rates below 2.1 between 1995 and 2054	**3.42**	**1.97**	**1.75**	**99**	**28**	**14**	**2020**
Central and Southern Asia	3.70	1.98	1.75	132	21	7	2020
Bangladesh	3.74	2.14	1.79	163	71	29	2026
Bhutan	4.87	1.45	1.47	83	9	2	2012
India	3.72	1.96	1.75	136	13	3	2020
Iran (Islamic Republic of)	3.24	1.68	1.63	51	26	10	1999
Maldives	4.69	1.56	1.54	87	5	2	2014
Nepal	4.96	1.96	1.72	135	66	52	2019
Sri Lanka	2.41	1.95	1.75	29	15	8	2015
Turkmenistan	3.62	2.66	2.08	26	20	13	2053
Eastern and South-Eastern Asia	**3.17**	**2.00**	**1.78**	**53**	**28**	**18**	**2021**
Brunei Darussalam	2.90	1.73	1.62	33	8	4	2005
Cambodia	5.28	2.55	2.00	79	47	42	2045
Dem. People's Republic of Korea	2.18	1.78	1.67	2	1	0	1996
Indonesia	2.85	2.11	1.83	64	26	11	2025
Lao People's Democratic Republic	5.60	2.40	1.86	111	82	69	2035
Malaysia	3.35	1.54	1.53	18	6	3	2013
Mongolia	2.82	2.63	1.96	38	19	16	2003
Myanmar	3.20	2.10	1.81	46	33	27	2024
Philippines	4.08	1.89	1.73	44	31	23	2020
Timor-Leste	5.91	2.63	1.88	63	27	16	2038
Viet Nam	2.94	1.89	1.73	47	34	30	1998
Europe, Northern America, Australia and New Zealand	**2.55**	**1.45**	**1.49**	**29**	**10**	**7**	**2002**
Albania	2.80	1.34	1.41	21	12	7	2002
Iceland	2.14	1.52	1.51	24	3	1	2011
Kosovo (under UNSC res. 1244)	2.52	1.54	1.52	27	8	8	2011
North Macedonia	2.23	1.47	1.52	46	12	6	1996
Latin America and the Caribbean	**3.02**	**1.81**	**1.68**	**87**	**50**	**31**	**2015**
Argentina	2.94	1.50	1.54	70	26	11	2018
Aruba	2.30	1.61	1.62	44	18	6	1998
Bahamas	2.47	1.37	1.42	54	25	18	2000
Belize	3.97	2.02	1.76	108	56	40	2020
Bolivia (Plurinational State of)	4.49	2.52	2.02	95	64	46	2047
Brazil	2.60	1.61	1.56	87	41	17	2002
Chile	2.38	1.14	1.26	63	6	1	1999
Colombia	2.94	1.63	1.58	93	58	33	2009
Costa Rica	2.86	1.32	1.40	88	25	9	2003
Curaçao	2.43	1.07	1.24	67	12	6	2004

Groups, countries and areas	Total fertility rate (births per woman)			Adolescent birth rate, 15-19 (births per 1,000 girls and young women)			Year of TFR < 2.1
	1994	2024	2054	1994	2024	2054	Year
Dominican Republic	3.16	2.22	1.84	117	50	17	2030
Ecuador	3.42	1.81	1.68	92	54	34	2019
El Salvador	3.61	1.77	1.65	120	53	36	2015
Grenada	2.79	1.47	1.49	81	29	20	2009
Guadeloupe	2.13	2.07	1.87	36	8	7	2017
Guatemala	5.19	2.29	1.85	118	68	52	2032
Guyana	3.23	2.39	1.94	112	68	41	2040
Haiti	4.99	2.63	2.02	77	49	34	2047
Honduras	4.93	2.48	1.96	134	81	55	2043
Jamaica	2.93	1.35	1.42	105	36	24	2006
Mexico	3.13	1.89	1.69	81	59	43	2016
Nicaragua	3.94	2.21	1.83	134	93	67	2029
Panama	2.88	2.11	1.83	92	56	27	2025
Paraguay	4.20	2.42	1.99	96	70	53	2043
Peru	3.43	1.96	1.74	81	43	26	2019
Puerto Rico	2.18	0.94	1.15	76	13	4	1998
Saint Lucia	3.03	1.39	1.43	89	27	14	2002
Saint Vincent and the Grenadines	2.68	1.76	1.65	86	41	19	2004
Suriname	2.90	2.23	1.87	88	47	24	2031
Uruguay	2.42	1.40	1.44	66	25	10	2004
Venezuela (Bolivarian Republic of)	3.15	2.08	1.81	97	73	47	2022
Northern Africa and Western Asia	**3.46**	**2.11**	**1.81**	**45**	**16**	**10**	**2025**
Algeria	3.91	2.72	1.96	22	9	6	2043
Azerbaijan	2.45	1.67	1.64	41	35	6	1996
Bahrain	3.29	1.80	1.66	21	7	3	2009
Cyprus	2.16	1.38	1.43	20	7	7	1995
Jordan	4.82	2.60	1.95	51	18	8	2044
Kuwait	3.27	1.51	1.51	27	1	0	2010
Lebanon	2.82	2.23	1.87	32	21	16	2032
Libya	3.65	2.30	1.80	10	6	5	2030
Morocco	3.41	2.21	1.85	41	25	17	2030
Oman	5.36	2.51	1.87	71	6	2	2037
Qatar	3.66	1.72	1.62	34	5	2	2011
Saudi Arabia	5.16	2.31	1.85	47	11	6	2034
Syrian Arab Republic	4.86	2.70	2.00	78	39	25	2047
Tunisia	2.87	1.82	1.70	15	4	3	1999
Türkiye	2.87	1.62	1.61	59	11	5	2010
United Arab Emirates	3.76	1.21	1.34	43	3	1	2006
Western Sahara	4.15	2.18	1.83	81	31	24	2028

Groups, countries and areas	Total fertility rate (births per woman)			Adolescent birth rate, 15-19 (births per 1,000 girls and young women)			Year of TFR < 2.1
	1994	2024	2054	1994	2024	2054	Year
Oceania (excluding Australia and New Zealand)	**3.29**	**2.15**	**1.85**	**56**	**24**	**14**	**2027**
Fiji	3.26	2.27	1.90	56	21	13	2035
French Polynesia	2.94	1.49	1.50	51	24	16	2011
Micronesia (Fed. States of)	4.58	2.74	2.09	61	44	30	2054
New Caledonia	2.71	1.96	1.76	29	12	5	2015
Sub-Saharan Africa	**3.33**	**2.23**	**1.89**	**83**	**51**	**39**	**2033**
Botswana	4.02	2.70	2.03	93	53	37	2049
Cabo Verde	4.72	1.51	1.50	119	38	19	2013
Djibouti	5.51	2.62	2.00	43	19	15	2047
Eswatini	4.66	2.72	2.03	125	68	44	2049
Lesotho	4.21	2.66	2.09	80	70	49	2054
Mauritius	2.24	1.23	1.33	41	19	10	1985
Réunion	2.33	2.15	1.89	41	14	3	2027
Seychelles	2.60	2.11	1.82	68	53	33	1998
South Africa	3.26	2.20	1.87	84	52	40	2031
Total fertility rates above 2.1 through 2054	**5.87**	**4.07**	**2.69**	**119**	**79**	**46**	**2090**
Central and Southern Asia	**5.35**	**3.59**	**2.53**	**91**	**41**	**24**	**2082**
Afghanistan	7.77	4.76	2.94	157	62	20	2096
Kazakhstan	2.38	2.98	2.33	55	17	5	2075
Kyrgyzstan	3.28	2.78	2.17	58	28	23	2061
Pakistan	6.01	3.55	2.50	94	40	24	2079
Tajikistan	4.79	3.04	2.28	68	39	36	2068
Uzbekistan	3.66	3.49	2.46	62	34	34	2079
Latin America and the Caribbean	**..**	**..**	**..**	**..**	**..**	**..**	**..**
French Guiana	3.82	3.34	2.50	103	52	21	2087
Northern Africa and Western Asia	**4.86**	**3.37**	**2.45**	**83**	**53**	**31**	**2080**
Egypt	3.87	2.74	2.16	64	41	25	2060
Iraq	5.49	3.22	2.37	72	57	37	2075
Israel	2.84	2.78	2.26	19	6	1	2069
State of Palestine	6.33	3.25	2.26	115	35	23	2064
Sudan	5.91	4.26	2.89	103	65	33	Beyond 2100
Yemen	7.80	4.50	2.67	148	74	40	2081
Oceania (excluding Australia and New Zealand)	**4.84**	**3.12**	**2.34**	**78**	**53**	**36**	**2073**
Guam	3.04	2.75	2.10	66	32	9	2055
Kiribati	4.44	3.12	2.42	47	44	39	2081
Papua New Guinea	4.87	3.07	2.30	80	54	36	2070
Samoa	4.79	3.80	2.77	52	44	39	2096
Solomon Islands	5.40	3.51	2.52	93	49	32	2083

Groups, countries and areas	Total fertility rate (births per woman)			Adolescent birth rate, 15-19 (births per 1,000 girls and young women)			Year of TFR < 2.1
	1994	2024	2054	1994	2024	2054	Year
Tonga	4.66	3.10	2.38	24	25	24	2078
Vanuatu	4.94	3.57	2.73	88	66	53	Beyond 2100
Sub-Saharan Africa	**6.37**	**4.41**	**2.78**	**137**	**95**	**55**	**2094**
Angola	6.99	5.05	3.07	152	139	85	Beyond 2100
Benin	6.42	4.48	2.93	124	76	43	Beyond 2100
Burkina Faso	6.84	4.11	2.51	129	86	47	2080
Burundi	7.23	4.79	2.82	77	52	29	2095
Cameroon	6.04	4.26	2.84	147	105	66	2100
Central African Republic	5.92	5.95	3.14	149	161	73	2094
Chad	7.31	6.03	3.62	193	132	57	Beyond 2100
Comoros	5.86	3.82	2.64	94	54	29	2087
Congo	5.10	4.11	2.89	127	108	65	Beyond 2100
Côte d'Ivoire	6.13	4.23	2.95	138	91	50	Beyond 2100
Democratic Republic of the Congo	6.64	5.98	3.43	128	105	52	Beyond 2100
Equatorial Guinea	5.98	4.12	2.57	189	153	95	2078
Eritrea	6.00	3.68	2.51	110	65	44	2080
Ethiopia	7.05	3.91	2.45	162	68	33	2075
Gabon	5.04	3.59	2.52	140	89	48	2084
Gambia	6.03	3.91	2.28	154	56	24	2065
Ghana	5.25	3.34	2.47	97	57	39	2079
Guinea	6.36	4.13	2.60	157	117	73	2088
Guinea-Bissau	6.30	3.76	2.47	123	80	47	2079
Kenya	5.44	3.17	2.28	120	54	23	2066
Liberia	6.21	3.86	2.52	157	125	85	2084
Madagascar	6.04	3.91	2.71	137	129	96	2096
Malawi	6.49	3.59	2.46	150	113	86	2081
Mali	7.12	5.51	3.15	174	136	68	2099
Mauritania	6.06	4.63	2.98	104	88	52	Beyond 2100
Mayotte	5.67	4.56	3.14	120	64	28	Beyond 2100
Mozambique	6.08	4.69	2.77	159	152	99	2087
Namibia	4.68	3.21	2.36	88	66	43	2074
Niger	7.79	5.94	3.03	204	142	58	2091
Nigeria	6.32	4.38	2.54	132	84	39	2078
Rwanda	6.42	3.64	2.49	56	31	18	2077
Sao Tome and Principe	5.56	3.60	2.51	125	85	46	2084
Senegal	5.92	3.77	2.72	98	59	36	2094
Sierra Leone	6.56	3.70	2.36	163	91	50	2071
Somalia	7.54	6.01	3.37	121	115	62	Beyond 2100
South Sudan	7.35	3.79	2.46	159	96	71	2076
Togo	5.67	4.12	2.93	98	76	61	Beyond 2100
Uganda	6.90	4.16	2.50	182	105	65	2076

Groups, countries and areas	Total fertility rate (births per woman)			Adolescent birth rate, 15-19 (births per 1,000 girls and young women)			Year of TFR < 2.1
	1994	*2024*	*2054*	*1994*	*2024*	*2054*	*Year*
United Republic of Tanzania	5.89	4.54	3.10	131	113	81	Beyond 2100
Zambia	6.26	4.04	2.72	153	115	88	2098
Zimbabwe	4.28	3.67	2.59	98	96	56	2085

World Fertility 2024 presents the levels, trends and prospects of fertility between 1994 and 2054, both globally and for three groups of countries currently at different stages of the historic transition to lower fertility. The report analyses age-specific and total fertility rates, numbers of births and the mean age of childbearing using data from the latest edition of the United Nations' population estimates and projections, *World Population Prospects 2024*. Understanding how fertility trends are likely to unfold is critical for achieving a more inclusive, prosperous and sustainable future, reminding us of both the challenges and the importance of fulfilling the life aspirations of current and future generations.

This report examines the impacts of future fertility trends on population growth or decline and on changes in the population age distribution for countries facing a variety of demographic situations and prospects. The report offers a series of policy recommendations to help individuals and families achieve their aspirations for childbearing and to help countries prepare for fertility levels and demographic trends that may differ appreciably from those of the recent past.