United Nations | Department of Economic and Social Affairs

World Population Prospects 2024

Summary of Results

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United Nations Department of Economic and Social Affairs, Population Division

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Front cover: "Children play on a newly constructed playground by the community nutrition site in the village of Soavina in Madagascar", World Bank / Sarah Farhat.

Back cover: "Families enjoying an afternoon in Simon Bolivar Park in Bogotá, Colombia on January 11, 2016". World Bank / Dominic Chavez.

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Acknowledgements

Contents

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.

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:

The designations employed in this publication and the material presented in it do not imply the expression of any opinions whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The term "country" as used in this report also refers, as appropriate, to territories or areas.

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 North-ern 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 45 countries, as of 8 May 2024, located in sub-Saharan Africa (32), Northern Africa and Western Asia (2), 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.

List of abbreviations

AIDS	acquired immune deficiency syndrome
COVID-19	coronavirus disease 2019
CRVS	civil registration and vital statistics
DALY	disability-adjusted life expectancy
GBD	Global Burden of Diseases
GCC	Cooperation Council for the Arab States of the Gulf
GDP	gross domestic product
HALE	healthy life expectancy
HIV	human immunodeficiency virus
ICPD	International Conference on Population and Development
IHME	Institute of Health Metrics and Evaluation
IIASA	International Institute for Applied Systems Analysis
ISCED	International Standard Classification of Education
SDGs	Sustainable Development Goals
TFR	total fertility rate
UN DESA	United Nations Department of Economic and Social Affairs
UN IGME	United Nations Inter-Agency Group for Child Mortality Estimation
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Key messages

The world's population is likely to peak within the current century.

- The world's population is expected to continue growing over the coming fifty or sixty years, reaching a peak of around 10.3 billion people in the mid-2080s, up from 8.2 billion in 2024.
- After peaking, the global population is projected to start declining gradually, falling to 10.2 billion people by the end of the century.
- The estimated likelihood that the world's population will peak within the current century is very high (probability of 80 per cent).
- This represents a major change compared to projections produced by the United Nations a decade ago, when the estimated probability that global population growth would end during the twenty-first century was around 30 per cent.
- The size of the world's population in 2100 is now expected to be 6 per cent smaller – or about 700 million people fewer – than anticipated a decade ago.
- The earlier occurrence of a peak in the projected size of the global population is due to several factors including lower than-expected levels of fertility in recent years in some of the world's largest countries, particularly China.

One in four people globally lives in a country whose population has already peaked in size.

- In 63 countries and areas, containing 28 per cent of the world's population in 2024, the size of their population peaked before 2024. This group includes China, Germany, Japan and the Russian Federation.
- The number of people living in those locations is projected to decline by 14 per cent over the next thirty years, with Albania, Bosnia and Herzegovina, Lithuania, Puerto Rico and Republic of Moldova recording the largest relative reductions by 2054 among the countries and areas that had at least 90,000 inhabitants in 2024.
- In 48 countries and areas, representing 10 per cent of the world's population in 2024, population size is projected to peak between 2025 and 2054. This group includes Brazil, the Islamic Republic of Iran, Türkiye and Viet Nam.
- The size of the population in these locations is projected to increase by 5.3 per cent over the next thirty years, with Bhutan, Colombia, Cyprus and the Islamic Republic of Iran among the countries recording the largest relative increases by 2054.
- In the remaining 126 countries and areas, the population is likely to continue growing through 2054, potentially reaching a peak later in the century or beyond 2100. This group includes several of the world's most populous countries: India, Indonesia, Nigeria, Pakistan and the United States of America.
- The number of people living in these locations is projected to increase by 38 per cent through 2054. In nine of these countries and areas, including Angola, the Central African Republic, the Democratic Republic of the Congo, Niger and Somalia, population growth is likely to be very rapid, with populations doubling between 2024 and 2054.
- The trajectory of population change in this last group of countries and areas will have a major influence on the size and timing of the population peak at the global level.

Women today bear one child fewer, on average, than they did around 1990.

- Currently, the global fertility rate stands at 2.25 live births per woman,[1] down from 3.31 births in 1990.
- More than half of all countries and areas globally have fertility below the replacement level of 2.1 live births per woman. This is the level required for a population to maintain a constant size in the long run (without migration), with each generation being followed by another of roughly equal size.
- Currently, nearly one fifth of all countries and areas, including China, Italy, the Republic of Korea and Spain, are experiencing what is sometimes referred to as "ultra-low" fertility, with fewer than 1.4 live births per woman over a lifetime.
- A return to 2.1 births per woman within the next 30 years is highly unlikely (0.1 per cent) in the 24 countries with ultra-low fertility in 2024 that have already peaked.
- By the late 2030s, half of the women in countries with populations that have already peaked will be too old to have children by natural means. Because the share of women in the reproductive age range (roughly, between 15 and 49 years) is projected to decline rapidly in such countries, the impact on population size of policies aimed at raising fertility levels is likely to diminish over time.

Early childbearing has harmful effects on young mothers and their children.

- Today, average fertility levels are at or above 2.1 live births per woman in 45 per cent of countries and areas globally. Over one in ten countries and areas — mostly in sub-Saharan Africa — have fertility levels of four births or more per woman. This group includes the Central African Republic, Chad, the Democratic Republic of the Congo, Niger and Somalia.
- Fertility levels above replacement are projected to contribute over one fifth of the population increase through 2054 in the countries and areas where population size is likely to continue growing through 2054.
- In 2024, 4.7 million babies, or about 3.5 per cent of the total worldwide, were born to mothers under age 18. Of these, some 340,000 were born to girls under age 15, with serious adverse consequences for the health and well-being of both the young mothers and their children.
- Investing in the education of young people, especially girls, and increasing the ages at marriage and first childbearing in countries where these milestone events tend to occur early will have positive effects on women's health, educational attainment and labour force participation.
- Increasing the age at first childbearing contributes to slowing population growth, reducing the scale of the investments and effort required to achieve sustainable development while ensuring that no one is left behind. If there were no births to girls under age 18, the population of countries in sub-Saharan Africa in 2054 would be 3.8 per cent smaller than it would have been otherwise.

Following the COVID-19 pandemic, global life expectancy is rising once again.

- Globally, life expectancy at birth reached 73.3 years in 2024, an increase of 8.4 years since 1995. Further reductions in mortality are projected to result in an average longevity of around 77.4 years globally in 2054.

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[1] In this report, births refer to live births.

- Since 2022, life expectancy has returned to levels observed before the emergence of the coronavirus disease (COVID-19) in nearly all countries and areas. At the height of the pandemic (during 2020 and 2021), global life expectancy at birth fell to 70.9 years, down from 72.6 in 2019.
- By the late 2050s, more than half of all deaths globally will occur at age 80 or higher, compared to 17 per cent in 1995.
- In 2023, the number of deaths among children under age 5 fell below 5 million for the first time in recent history. However, 95 per cent of such deaths took place in the 126 countries with populations that are still growing including the Democratic Republic of the Congo, India, Nigeria and Pakistan.
- Dedicating more resources to critical, low-cost treatments and interventions, such as ensuring access to antenatal and postnatal care, skilled birth attendants, vaccinations and nutritional supplements, would save millions of lives worldwide over the next decade.
- Increasing levels of life expectancy at birth are expected to contribute to population growth or to help mitigate population decline in nearly all countries over the coming decades. Among countries with populations that have already peaked, the drop in mortality is projected to be the main factor, alongside immigration, slowing the population decline caused by fertility below the replacement level.

The main driver of global population increase through mid-century will be the momentum created by growth in the past.

- Globally, the number of women in the reproductive age range (roughly, between 15 and 49 years) is projected to grow through the late 2050s, when it will likely peak at around 2.2 billion, up from nearly 2.0 billion in 2024. Growth in the number of women of reproductive age is conducive to continuing population increase even when the number of births per woman falls to the replacement level.
- The momentum of past growth that is embedded in the youthful age structure of today's global population is projected to contribute 79 per cent of the total increase through 2054, or around 1.4 billion people.
- In a population that is closed to migration, when fertility remains below the replacement level for an extended period, the number of women of reproductive age starts to decline as successive cohorts become smaller and smaller. In countries with populations that have already peaked, the number of women in the reproductive age range is projected to shrink by 33 per cent between 2024 and 2054.
- For some populations, the negative momentum generated by a history of population decline has resulted in an age distribution that is significantly older than in the past. The older age distribution is likely to be the main driver of population decline in 18 countries and areas between now and 2054. Even assuming a substantial rebound in the fertility level, these populations are likely to continue declining in size because of the momentum of past decline.
- Countries with populations that are projected to peak by 2054 tend to have younger age structures, which are conducive to continued growth. In 25 such countries and areas, including Brazil, the Islamic Republic of Iran and Viet Nam, the momentum of past growth is projected to be the main driver of population growth in the next decades.
- In countries with populations that are projected to continue growing through 2054, the relative youthfulness of the population is likely to be the main driver of population growth through that

date for 88 of the 126 countries in the group, further magnifying the impact of current high levels of fertility.

Countries with youthful populations and declining fertility have a limited time to benefit economically from an increasing concentration of population in the working ages.

- For nearly all countries and areas with populations that peaked in size by 2024, and for three quarters of those with populations projected to peak between 2025 and 2054, the time-bound window of opportunity for accelerated economic growth associated with a youthful population and declining fertility has already closed.
- In around 100 countries and areas, however, the share of population at the working ages (between 20 and 64 years) will continue to increase more rapidly than the total population between now and 2054, providing a window of opportunity, known as the demographic dividend.
- The demographic dividend presents an opportunity to accelerate sustainable development, when a substantial and sustained decline in fertility leads to an increased concentration of the population at working ages. To amplify and prolong this opportunity, however, sound economic and social policies are needed.
- In countries with youthful populations, substantial investments in education, health care and infrastructure, while also implementing reforms to support the creation of decent job opportunities and more transparent and efficient government institutions are needed to ensure that this time-bound opportunity is not wasted.

By 2080, persons aged 65 or older will outnumber children under 18.

- By the late 2070s, the number of persons at ages 65 years and higher globally is projected to reach 2.2 billion, surpassing the number of children (under age 18). By the mid-2030s, it is projected that there will be 265 million persons aged 80 years or older, more than the number of infants (1 year of age or less).
- In countries where the size of their populations has already peaked or is projected to peak in the coming decades, the crossover between the number of children and persons aged 65 or older will occur sooner.
- Even in countries with populations that are still growing rapidly and have relatively youthful populations, the number of persons aged 65 or older is expected to rise over the next 30 years.
- Countries, especially those with populations that have already peaked or will peak in the next decades, should consider leveraging technology, including automation, to improve productivity at all ages. They should also design more opportunities for lifelong learning and retraining, support multigenerational workforces and create opportunities to extend working lives for those who can and want to continue working.
- For countries with populations that are still growing rapidly, in addition to the policies listed above, foresight will be required to prepare for a society with an age structure that will be very different from the one they have today. This includes by strengthening systems of health and long-term care, improving the sustainability of social protection systems, and investing in new technologies.
- Because women live longer than men on average, they outnumber men at older ages in almost all populations. Policies should address women's longer life expectancy by ensuring equitable access

to retirement benefits, prioritizing gender-specific health care needs, and strengthening social support systems to mitigate potential caregiving burdens.

For some populations, immigration will be the main driver of future growth.

- In 50 countries and areas, immigration is projected to attenuate the decline in population size caused by sustained low levels of fertility and an older age structure.
- For countries such as Italy, Germany or the Russian Federation where population size has already peaked, that peak would have occurred sooner in the absence of immigration.
- Immigration is projected to be the main driver of population growth in 52 countries and areas through 2054 and in 62 through 2100. This group includes Australia, Canada and the United States of America.
- Emigration generally does not have a major impact on the population size of countries, but in 14 countries and areas already experiencing ultra-low fertility, emigration is likely to contribute to reducing population size between now and 2054 in a sizable manner.
- In countries where fertility levels are already below the replacement level, the emigration of people in the reproductive age range can further depress population growth. In such countries, creating more 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.

Gender equality and women's empowerment help to counter rapid population growth or decline.

- Discrimination and legal barriers often prevent women and adolescents from making autonomous decisions about their sexual and reproductive health, including by limiting access to family planning. Such conditions tend to prevent or postpone the reduction of fertility in populations that are growing rapidly.
- Raising the minimum legal age at marriage and integrating family planning and safe motherhood measures into primary health care can help to raise women's levels of education, facilitate their economic participation and reduce the level of early childbearing.
- In countries where populations have peaked already or are likely to peak in the next three decades, gender gaps in the division of domestic work within households and inadequate child and family welfare support can prevent or discourage women and couples from having larger families even when they want them.
- Adopting policies aimed at balancing family and work life, including by providing paid parental leave and flexible working arrangements; supporting affordable, high-quality childcare options and housing; providing comprehensive care for an ageing population; and encouraging an equal distribution of caregiving and household responsibilities between men and women can enhance women's labour force participation. Such policies can also support families and facilitate childbearing and increase economic security for men and women at older ages.

Introduction

Population growth, population ageing, urbanization and international migration are four major demographic trends shaping our world. Changes in the size, age structure and spatial distribution of populations bring both challenges and opportunities. By managing the challenges and taking advantage of the opportunities, we can accelerate efforts to achieve inclusive and sustainable development, create opportunities to eradicate poverty, enhance access to social protection, health care and education, promote gender equality, advance more sustainable patterns of production and consumption, and safeguard the environment.

Conversely, achieving the Goals and targets of the 2030 Agenda for Sustainable Development can help avoid the most extreme demographic outcomes, facilitating a shift towards smaller families in populations that are growing rapidly and where individuals and couples often have more children than they desire, and enabling parents to have larger families in populations that are declining and where people often fail to achieve their desired family size. Understanding how population trends are likely to unfold in the short, medium and long term is critical for achieving a more inclusive, prosperous and sustainable future.

Future population trends are uncertain. Yet, compared to other trends such as of transformation of the global economy or technological advances, the speed and direction of population change, at least in the short and medium terms, is far more predictable. This feature makes population trends an invaluable tool of policy design, including for policies to deliver on the promise and aspirations of the 2030 Agenda and other intergovernmental agreements.

The present report comes at a time when the demographic landscape of many countries is changing rapidly, often creating anxiety and confusion. Due to faster-than-anticipated declines in fertility for some of the world's most populous countries, the size of the global population now appears likely to peak within the current century (probability of 80 per cent). This represents a major shift in perspective compared to the outlook one decade earlier, when the estimated probability that global population growth would end during the twenty-first century was around 30 per cent.

The fact that the world's population is likely to peak sooner and at a lower level than previously anticipated has important implications for the sustainability of our current way of living on this planet. In 1994, the Programme of Action of the International Conference on Population and Development (ICPD) recognized that efforts to slow population growth, reduce poverty, achieve economic progress, improve environmental protection and reduce unsustainable consumption and production patterns are mutually reinforcing.

Today, the demographic outlook of countries is seemingly very diverse. Some still have high levels of fertility and are growing rapidly, while others have historically low levels of fertility. Those that have experienced low levels of fertility for several decades are seeing their populations age rapidly, with some now beginning to decline in size.

While these differences are striking, it is important to understand that all populations are following a similar path towards longer lives and smaller families, a process known as the demographic transition. Many of the differences stem from the fact that countries are at different stages in this process.

A period of unprecedented population growth is a major consequence of the demographic transition, but this period is coming to an end for many countries and, eventually, for the world as a whole. Another major impact of the transition is a shift in the age structure towards older ages, a process known as population ageing.

The report adopts the analytical framework of the demographic transition, proxied here by the timing at which populations peak in size, to explore differences in population trends that characterise countries and regions today and provide insight into their future trajectories. The report also offers a series of policy recommendations to help countries to prepare for a population size, age structure and spatial distribution that may differ appreciably from that of their recent past.

World Population Prospects 2024 is the twenty-eighth edition of estimates and projections of the global population published by the United Nations since 1951. *World Population Prospects* is one of the most authoritative and comprehensive sets of demographic data for assessing population trends at the global, regional and national levels. The United Nations population estimates and projections are used in the calculation of many development indicators used by the United Nations system, including about one-quarter of the indicators used to monitor global progress towards the achievement of the Sustainable Development Goals (SDGs).

For the first time, *World Population Prospects* presents probabilistic projections of net international migration. In addition, it includes all demographic indicators and population estimates and projections by single years of age, sex and calendar year as in the 2022 revision.

The report is organized in four parts, each of which describes the most likely trends in population size, change and age structure from 2024 to 2100. Each part also discusses the components of population change – fertility, mortality and international migration – as well as the momentum of past trends that is embedded in the current age distribution.

Part I presents the global trends and introduces the concept of the population peak, whose timing is used throughout the report to summarize the timing of the demographic transition for different locations. Part II focuses on countries with populations that have already peaked in size. This group includes China, Germany, Japan and the Russian Federation, among others. Part III examines population trends for countries with populations that are projected to peak between 2025 and 2054. This group includes Brazil, the Islamic Republic of Iran, Türkiye and Viet Nam. Part IV provides an overview of countries with populations that are likely to continue growing through 2054, potentially reaching a peak later in the century or beyond 2100. This group includes several of the world's most populous countries: India, Indonesia, Nigeria, Pakistan and the United States of America.
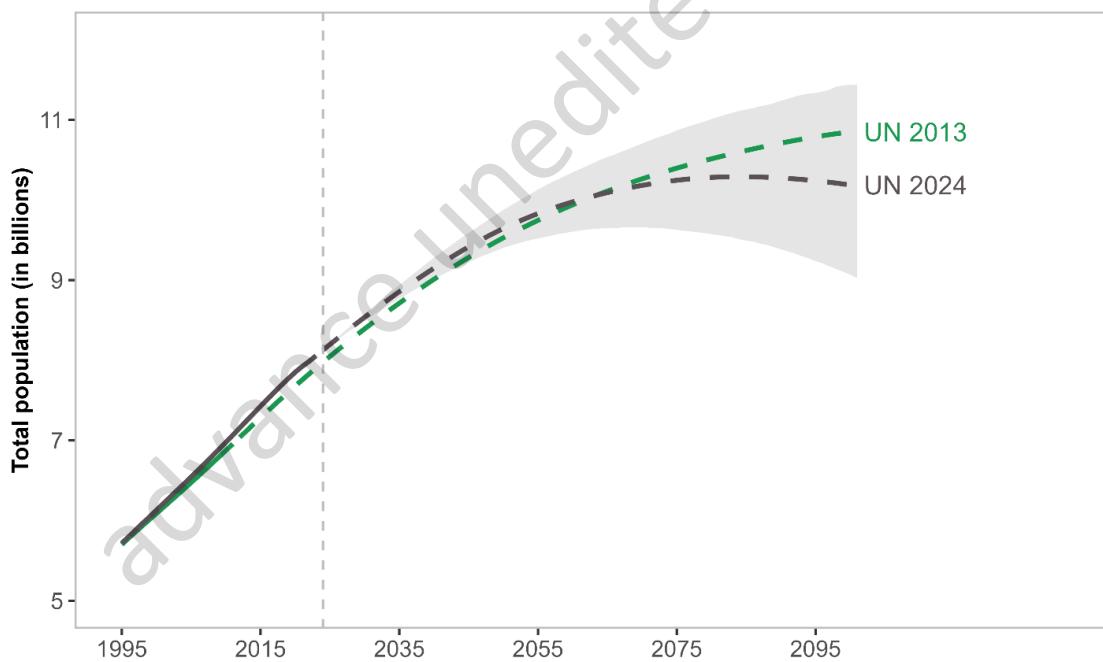
Each part includes key policy recommendations for countries in the group. Because the demographic transition unfolds in a series of sequential stages, the policy recommendations for countries that have already peaked in size are relevant also for those that are still growing, albeit with a time lag of several decades.

I. Awareness of population trends is critical for achieving a sustainable future

The world's population is expected to continue growing over the coming fifty or sixty years, reaching a peak of around 10.3 billion people in the mid-2080s, up from 8.2 billion in 2024. After peaking, the global population is projected to start declining gradually, returning to 10.2 billion people by the end of the century (figure I.1). While there is some uncertainty around the future size of the world's population, the estimated likelihood that it will peak within the current century is 80 per cent, with the peak likely to occur sometime between the mid-2060s and 2100 (box I.1). This represents an important change compared to projections produced by the United Nations a decade ago, when the estimated probability that world population growth would end during the twenty-first century was around 30 per cent (Gerland and others, 2014). The size of the world's population in 2100 is now expected to be 6 per cent smaller – or about 700 million people fewer – than anticipated a decade ago. This earlier occurrence of a peak in the projected size of the global population is due to several factors including lower-than-expected levels of fertility observed in recent years in some of the world's largest countries, particularly China, and slightly faster-than-anticipated fertility declines in some parts of sub-Saharan Africa.[2]

Figure I.1.
Global population, according to United Nations (*World Population Prospects*) in 2013 and 2024, 1995–2100

Sources: United Nations (2013; 2024a).

Notes: Estimates correspond to the period from 1995 to 2023 in United Nations (2024) and from 1995 to 2010 in United Nations (2013); projections correspond to the period from 2024 to 2100 (with 95 per cent prediction intervals) in United Nations (2024) and from 2010 to 2100 in United Nations (2013). United Nations has been abbreviated as UN.

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[2] These include Kenya, Niger, Nigeria, Uganda and Zambia. Conversely, some countries, including Afghanistan, Democratic Republic of the Congo, Ethiopia, Pakistan and Yemen, have experienced slower declines than previously expected.

The fact that the peak in the global population is projected to occur earlier and at a lower level than previously anticipated is important for several reasons. First, it signals the end of the current era of rapid population growth, which began around 1800 in some regions and in the middle of the twentieth century on a global scale (United Nations, 2021). Second, given that population growth tends to amplify[3] environmental pressures by adding to total economic demand, it has implications for progress towards a more sustainable future, since the aggregate demand for food, housing, infrastructure and services, among others, will likely be smaller with the global population peaking earlier and at a lower level.

Box I.1. The challenge of estimating and forecasting population trends

The quality of population estimates and projections hinges on the availability of reliable and timely demographic data. *World Population Prospects 2024* takes into consideration the fullest range of demographic evidence available to date, referencing data from 1,910 censuses as well as information on births and deaths from civil registration and vital statistics systems for 169 countries and demographic indicators from 3,189 surveys (see Annex 1). However, data availability, timeliness and coverage remain a challenge for many countries. These gaps can impact the robustness of the population estimates and the accuracy of projections as reflected in differences in outcomes between revisions (figure I.1). Improving the reliability, coverage, timeliness and accessibility of demographic data needs to be a central focus of any effort to strengthen statistical systems for monitoring the Sustainable Development Goals.

Population trends are highly uncertain, especially in the long run. This increasing uncertainty over time is reflected in the widening band of prediction intervals for projections at dates farther into the future (figure I.1). One of the main sources of uncertainty is the number of children to be born.[4] *World Population Prospects* makes a series of assumptions relating to fertility. For countries where large families are still prevalent, it assumes a continuing decline in fertility. For countries where women are having, on average, fewer than two live births over a lifetime,[5] *World Population Prospects* assumes a slight rebound in fertility levels (see box II.1). When such assumptions are applied to populous high-fertility countries such as Nigeria or low-fertility countries such as China, they can influence the trajectory of global population trends long into the future.

While population trends are difficult to forecast, compared to other trends such as transformation of the global economy or technological advances, the pace and direction of population change, at least in the short and medium terms, is far more predictable. Leveraging the foresight that can be gained from robust estimates and projections is, therefore, critical for accelerating progress towards achieving the SDGs and designing policies that require a longer time horizon such as those relating to macroeconomic planning, social protection, national security and the environment.

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[3] While population growth may exacerbate environmental damage under some circumstances, a sustainable future for all hinges more on human behaviours than on human numbers. For a more detailed discussion, see United Nations (2021).
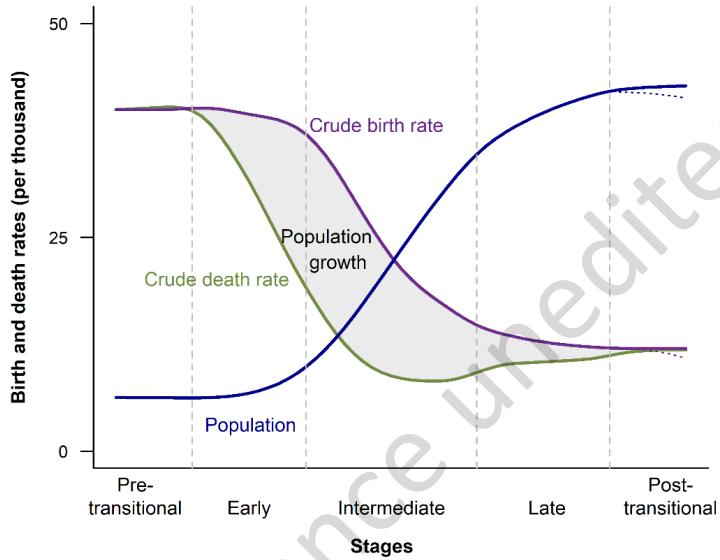
[4] Pandemics, wars, conflicts, natural disasters and economic shocks and crises can also impact population trends in ways that are difficult to predict.

[5] Replacement-level fertility refers to the level of childbearing at which each generation exactly replaces the previous one in terms of size. If fertility remains below this level over the long run, the population will eventually decline in size (assuming that immigration levels will be insufficient to compensate for the decline). For populations at late stages of the demographic transition, the replacement level of fertility is approximated by a total fertility rate of 2.1 births per woman.

Box I.2. Why do populations peak?

The fact that populations grow, peak and plateau or decline is a consequence of the demographic transition—the historic shift towards longer lives and smaller families that has been a universal feature of social and economic development in recent centuries. The transition unfolds in a series of stages. In the early stage, the transition is characterized by accelerated population growth, when mortality rates, especially among infants and children, begin to decline while fertility levels remain high. In an intermediate stage, the population continues to grow rapidly thanks to the large and sustained excess of births over deaths. As the transition moves forward, population growth decelerates as birth and death rates come back into balance at historically low levels. Once a population has peaked and the transition is complete, the population growth rate tends to stabilize, remaining close to zero, or to become negative, resulting in a decline of population size (dashed trend line, figure I.2).

Figure I.2
Schematic representation of the demographic transition

Source: Calculations by the United Nations.
Notes: The crude birth (or death) rate is the annual number of live births (or deaths) divided by the population size at the midpoint of the observation period. Both rates are expressed as the number of births or deaths per 1,000 population per year. The schematic representation of the demographic transition refers to a population that is closed to migration, in which growth is due entirely to the gap between births and deaths.
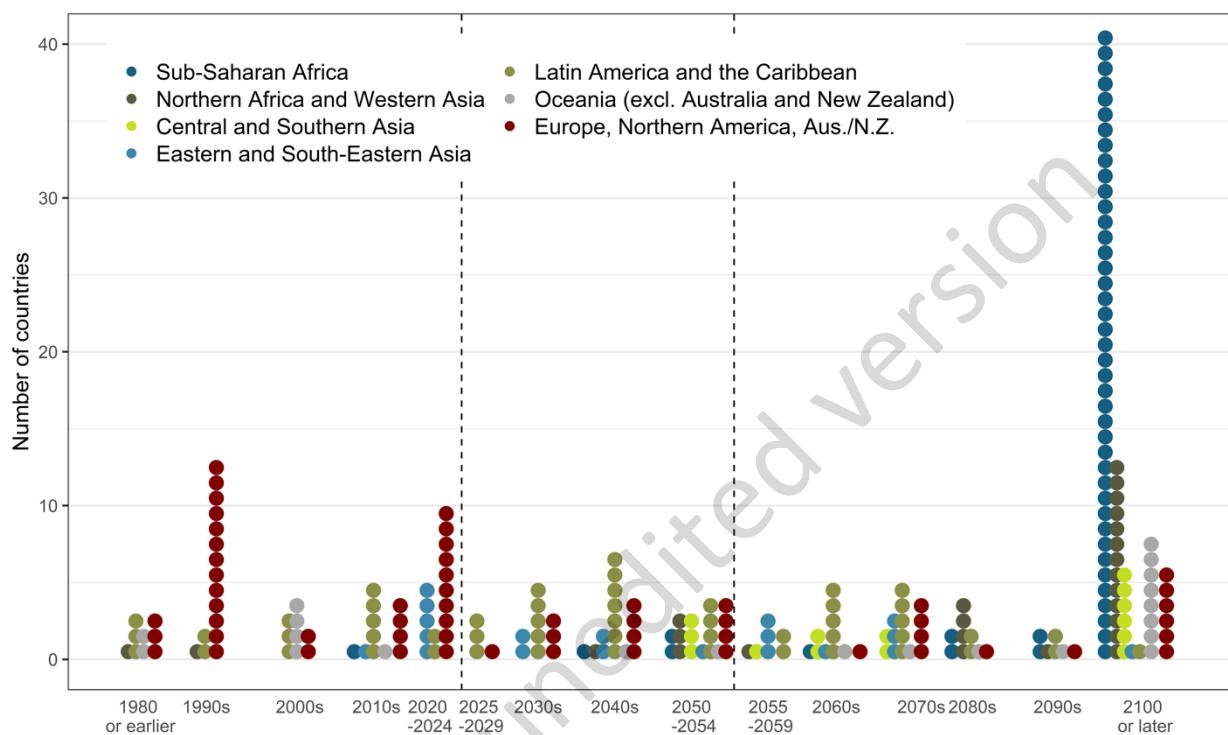
Today, countries are at very different stages of the demographic transition (box I.2). In 63 countries and areas, containing 28 per cent of the world's population in 2024, the population peaked in size during or before 2024, meaning that they are now in a post-transitional stage (figures I.3, I.4). This group, referred

to throughout this report as countries with populations that peaked by 2024 or that already peaked, includes China, Germany, Japan and the Russian Federation.[6]

Figure I.3
Number of countries and areas by period of population peak, by region, estimates, 1950–2023, and projections (medium scenario), 2024–2100

Source: United Nations (2024a).
Notes: Each circle refers to a country or area. In 76 locations the size of the populations may potentially peak in or after 2100. The location Australia and New Zealand has been abbreviated as Aus./N.Z.

In 48 countries and areas, representing 10 per cent of the world's population in 2024, the size of the population is projected to peak between 2025 and 2054. This group, which is in the late stage of the demographic transition and is referred to here as peaking between 2025 and 2054, includes Brazil, the Islamic Republic of Iran and Viet Nam.
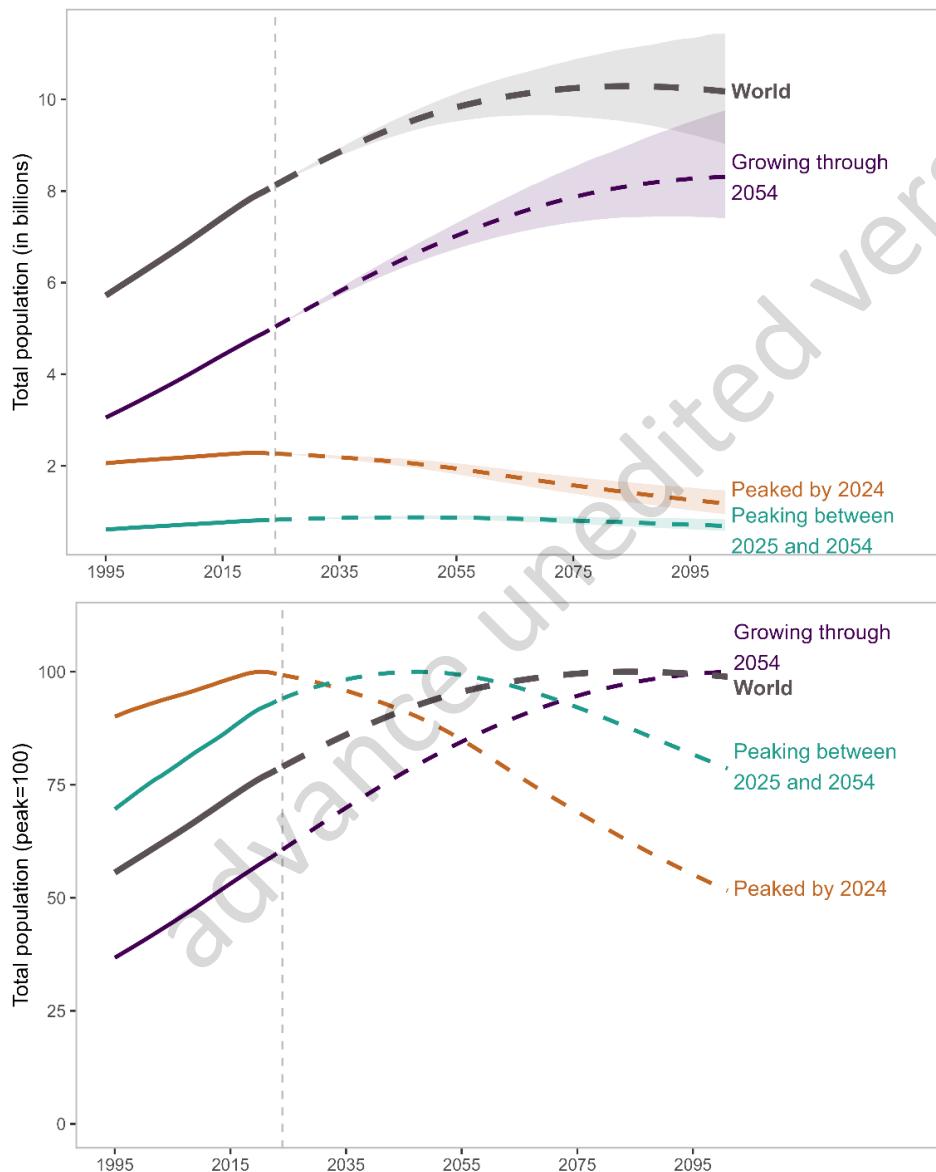
In the remaining 126 countries and areas, the population is likely to continue growing through 2054, potentially reaching a peak later in the century or beyond 2100. Many countries in this group are in the intermediate stage of the transition, when fertility levels have started to decline but remain above the replacement level. These populations continue to grow thanks also to a youthful age structure that is conducive to population growth. This group, referred to as countries growing through 2054, includes several of the world's most populous countries, including India, Indonesia and Nigeria. It also includes

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[6] All figures and illustrative examples in the report are among countries and areas with at least 90,000 inhabitants in 2024.

countries such as Australia, Canada and the United States of America that would be likely to peak much sooner without immigration (see part IV). With more than half of the world's population, the trajectory of population change in this group will have a major influence on the size and timing of the population peak at the global level.

Figure I.4.
Total population in absolute numbers (top) and relative to peak size (bottom), estimates, 1995–2023, and projections (medium scenario), 2024–2100, globally and for countries and areas in three groups by timing of the peak
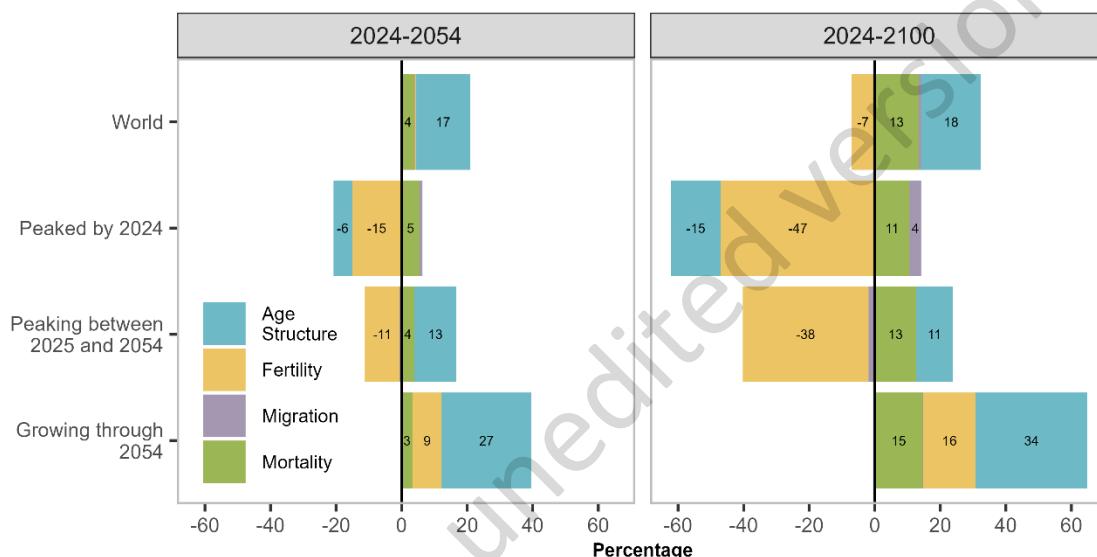
Source: United Nations (2024a).
*Notes*: For total population in absolute numbers (top), prediction intervals are represented as shaded areas around the projected trend. For a given year, the future trend is expected to lie within the prediction interval with a probability of 95 per cent. For total population relative to the maximum (bottom), estimates and projections have been indexed to their maximum value.

National populations grow or decline in size as a function of the balance between three demographic components: fertility, mortality and international migration[7] (figure I.5). In addition, the age structure of a population, resulting from trends in these three variables in the past, can be a major driver of population change. This fourth component is referred to as population momentum. Each of these components, depending on their direction and size, can contribute to population change in different ways. They can add to each other, compounding population growth or decline, or they can counterbalance each other, cancelling out each other's effect (figure I.5).

Figure I.5.
Relative contribution of demographic components of population change to future population size, globally and for countries and areas in three groups by timing of the peak, projections (medium scenario), 2024–2054 and 2024–2100 (percentage)

Source: Calculations using data from United Nations (2024a).
Note: Refers to population growth in the period specified, in percentage, by component.

The fertility level, or the average number of live births per woman over a lifetime, has fallen markedly over recent decades in many countries. Currently, the global fertility rate stands at 2.25 live births per woman, one child fewer than a generation ago (figure I.6). By the late 2040s, the global fertility rate is projected to decline to 2.1. Since fertility will be close to the replacement level worldwide throughout this period, it will make little or no contribution to growth at the global level between now and 2054 (figure I.5 for the world).[8]

Among the three groups of countries, fertility is expected to affect population trends in different ways. For countries and areas with populations that have already peaked, low levels of fertility are one of the major drivers of the continuing population decline. In most of these, the average number of births per woman has, for many decades, been below the level required for zero growth (see part II). Fertility levels

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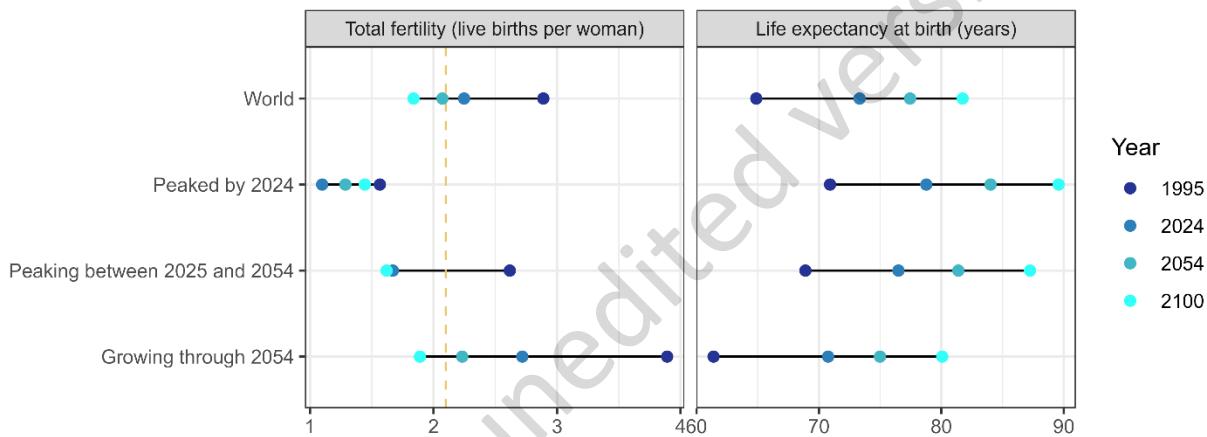
[7] The impact of international migration on population change is only at the national or regional level. At the global level, the direct effect of international migration on population growth is nil.
[8] Fertility has a positive impact to population change when it is above replacement level and a negative one when it is below replacement (Andreev, Kantorová and Bongaarts, 2013).

are also already at or below the replacement level in nearly all the countries with populations that are likely to peak in the next three decades (see part III). In the group of countries with populations that are likely to continue growing through 2054, fertility levels are quite variable. In around one fifth of these countries and areas, nearly all in sub-Saharan Africa, women had on average 4 or more births in 2024. In such countries, high levels of fertility are among the main drivers of rapid population growth, adding 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 part 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 achieve their desired family size, in line with principle 8 of the ICPD Programme of Action,[9] potentially helping to counter the rapid growth or the decline of populations.

Figure I.6.
Total fertility and life expectancy at birth, globally and by timing of the peak, estimates for 1995 and projections (medium scenario), 2024, 2054 and 2100

Source: United Nations (2024a).
Note: The dashed orange vertical line indicates the level of replacement fertility.

Globally, life expectancy at birth reached 73.3 years in 2024, an increase of more than 8.4 years since 1995 (figure I.6). Further reductions in mortality are projected to result in an average longevity of around 77.4 years globally in 2054. By the late 2050s, more than half of all deaths globally will occur at age 80 or higher, compared to 17 per cent in 1995. The substantial lengthening of the average human lifespan, which is due to improvements in public health, nutrition, personal hygiene and medicine, represents one of the great triumphs of social and economic development.
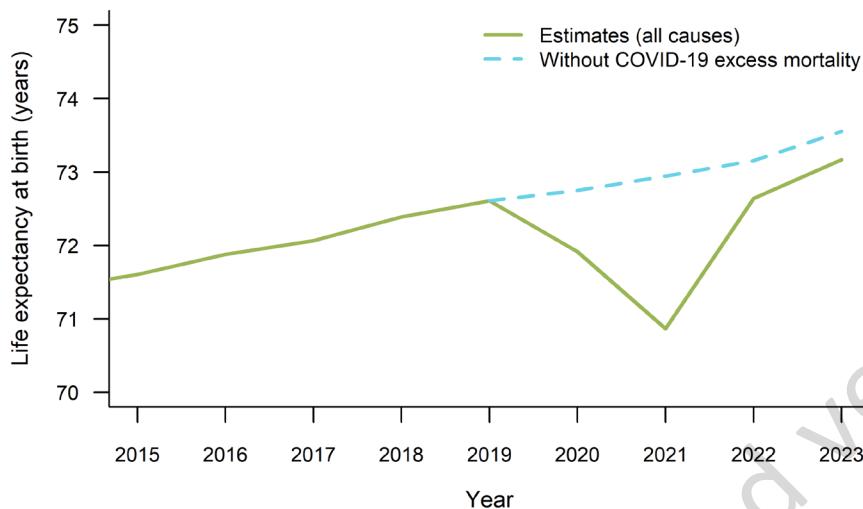
This rise in life expectancy at birth halted during 2020 and 2021 due to the impact of the coronavirus disease (COVID-19) pandemic. Since 2022, life expectancy has returned to levels observed before the

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[9] Principle 8 of the ICPD Programme of Actions states that "Everyone has the right to the enjoyment of the highest attainable standard of physical and mental health. States should take all appropriate measures to ensure, on a basis of equality of men and women, universal access to health-care services, including those related to reproductive health care, which includes family planning and sexual health. Reproductive health-care programmes should provide the widest range of services without any form of coercion. All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and 0to have the information, education and means to do so".

emergence of COVID-19 in nearly all countries and areas. At the height of the pandemic (during 2020 and 2021), global life expectancy at birth fell to 70.9 years, down from 72.6 in 2019 (figure I.7).

Figure I.7.
Global life expectancy at birth (as observed) and counterfactual scenario without COVID-19 excess mortality, 2015–2023

Source: United Nations (2024a) including metadata on mortality crises (see Annex 1).

In 2023, the number of deaths among children under age 5 fell below 5 million for the first time in recent history. However, high levels of child mortality persist in many regions even though such deaths are largely preventable. Nearly all deaths of children under age 5 (95 per cent of the total) take place in 126 countries with populations that are still growing, including the Democratic Republic of the Congo, India, Nigeria and Pakistan (see part IV).

At the global level, 19 per cent of the total population increase through 2054 is likely to be attributable to gains in survival made possible by the reduction of mortality rates.[10] Increasing levels of life expectancy at birth will contribute to population growth or help to mitigate population decline in nearly all locations over the coming decades. For countries with populations that are projected to peak between 2025 and 2054, improvements in life expectancy are expected to contribute 72 per cent of the population growth anticipated through 2054. For countries with populations that have already peaked, reductions in mortality are likely to slow population decline by 5 per cent during the same period.

International migration tends to have a limited effect on population change in most countries.[11] In a small number of countries and areas, immigration is projected to attenuate the decline in population size caused by sustained low levels of fertility and an older age structure. Immigration is projected to be the main driver of population growth in 52 countries and areas through 2054 and in 62 through 2100. This group

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[10] The contribution of mortality to population growth is positive if mortality is declining and negative if mortality is increasing (Andreev, Kantorová and Bongaarts, 2013).

[11] Net migration refers to the net number of migrants, that is, the number of immigrants minus the number of emigrants. When net migration is positive it provides a positive contribution to population change. When it is negative, it has the opposite effect.

includes Australia, Canada, Qatar, Saudi Arabia and the United States of America. Emigration generally does not have a major impact on the population size of countries, but in 14 countries and areas, all with "ultra-low" fertility (fewer than 1.4 live births per woman over a lifetime), emigration is likely to be an additional factor reducing population size between now and 2054 (see part II).

At the global level, the main driver of global population increase through mid-century will be the momentum created by growth in the past.[12] The population growth of recent decades is reflected in today's youthful age structure, which is projected to contribute 79 per cent of the total increase in the global population through 2054, equal to around 1.4 billion people.

The number of women of reproductive age (roughly, between 15 and 49 years) is an important indicator of the potential for future population growth. Globally, the number of women in the reproductive age range is projected to grow through the late 2050s, when it will likely peak at around 2.2 billion, up from nearly 2.0 billion in 2024. A growing number of women of reproductive age is conducive to continuing population increase. Even if global fertility were to drop immediately to the replacement level, the momentum generated by past growth, which is reflected in the youthful age distribution of the current population, ensures that the population would continue to grow for a few decades.

In populations where fertility levels have been low for several decades, the number of women in the reproductive age range tends to decrease. In some situations, the negative momentum generated by a history of low fertility has resulted in an age distribution that is significantly older than in the past. The older age distribution is likely to be the main driver of population decline in 18 countries and areas between now and 2054. Even assuming a substantial rebound in the fertility level, these populations are likely to continue declining in size for several decades because of this momentum.
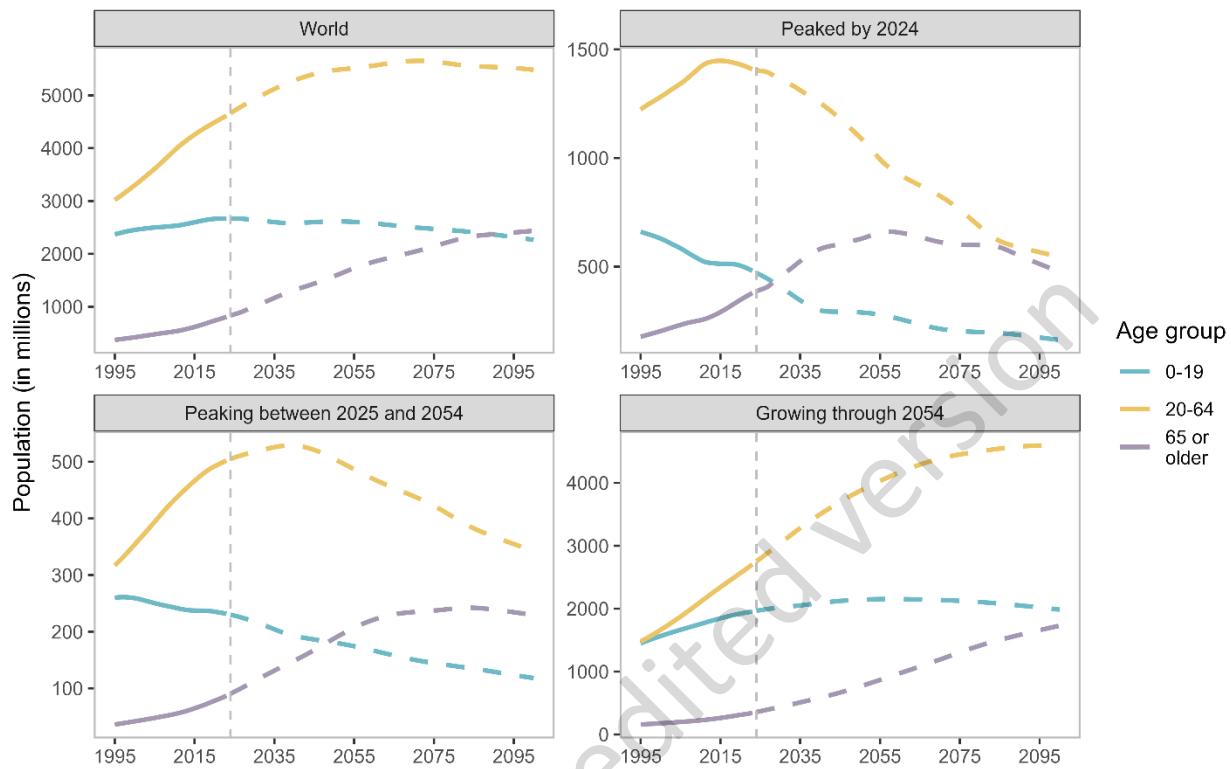
By the late 2070s, the number of persons at ages 65 years and higher globally is projected to reach 2.2 billion, surpassing the number of children (under age 18), while the number of persons aged 80 or older is projected to surpass the number of infants (1 year of age or less) already by the mid-2030s and reach 265 million by then. For the groups of countries and areas where the size of the population has already peaked or is projected to peak in the coming decades, the crossover between the number of children and of persons aged 65 or older will occur by the late 2020s.

These profound changes in age structure are a direct consequence of the demographic transition towards longer lives and smaller families. Specifically, in countries that are in the early stage of this transition, the number of persons at younger ages increases rapidly. Once fertility levels start to fall, in the intermediate stage, the number at younger ages stops growing or grows more slowly. Therefore, the number of persons in the working age range starts to increase relative to that of younger ages, while the number of older persons remains small. In the later stages of the transition, when most people survive to advanced ages, the number of persons at older ages starts to increase. In the post-transitional stage, the age distribution can begin to resemble an inverted pyramid with more persons at older ages than children and youth. Countries that have already peaked in size are beginning to assume this pattern.

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[12] To determine the direct impact of a population's age structure on change it is assumed that net migration equals zero, fertility is at replacement level and mortality is constant (United Nations, 2017).

Figure I.8.
Population by age groups, globally and by timing of the peak, estimates, 1995–2023, and projections (medium scenario), 2024–2100
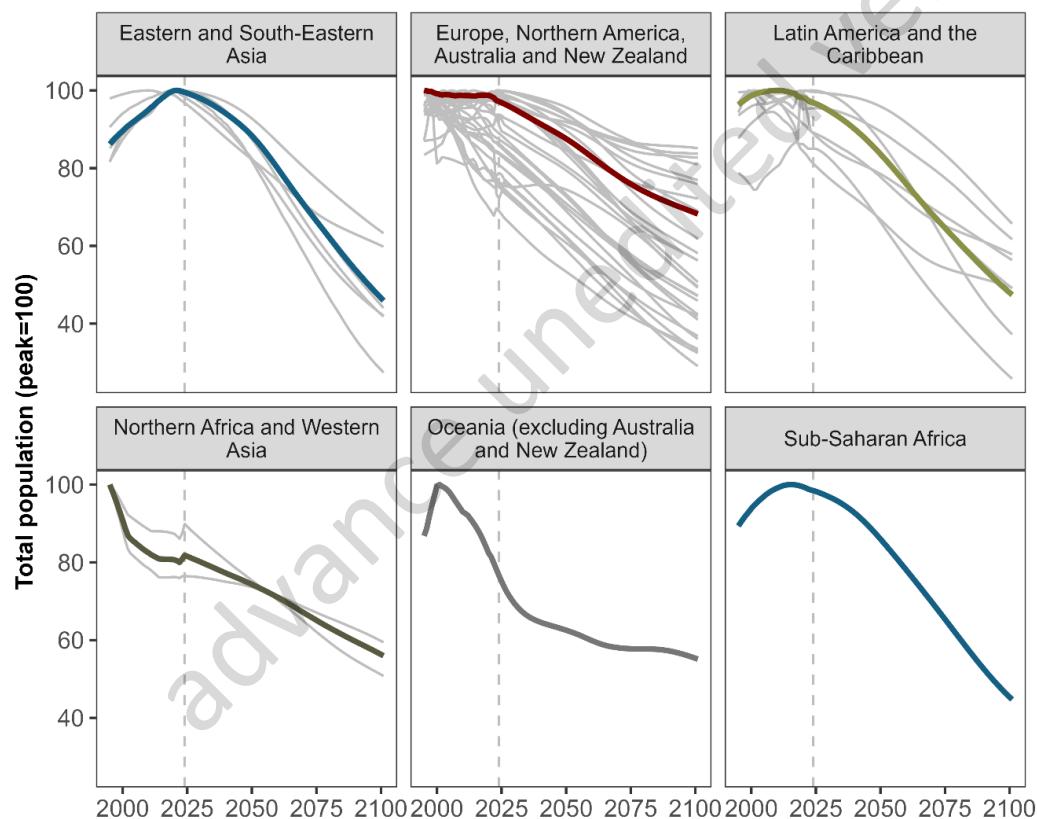

Source: United Nations (2024a).
Note: The scale of the y axis differs between groups.

II. Countries with populations that have already peaked

Over the past decades, there has been growing anxiety about population ageing and decline. The number of countries where fertility has remained at very low levels for several decades and where, as a result, population size has already peaked has been increasing. In the 1980s, only 14 countries, nearly all in Europe and Northern America, had peaked in size (figure I.3). Today, that number stands at 63 countries and areas, and spans a wide geographical area covering Eastern and South-Eastern Asia, Latin America and the Caribbean and Oceania (excluding Australia and New Zealand), in addition to Europe and Northern America. The group of countries that has already peaked in size includes some of the world's most populous: China, Germany, Japan and the Russian Federation.

Figure II.1
Total population relative to peak size, for countries and areas with populations that have already peaked, regional average and selected countries, by region, estimates, 1995–2023, and projections (medium scenario), 2024–2100

Source: United Nations (2024a).
*Note*: Grey lines represent countries or areas with at least 90,000 inhabitants in 2024.
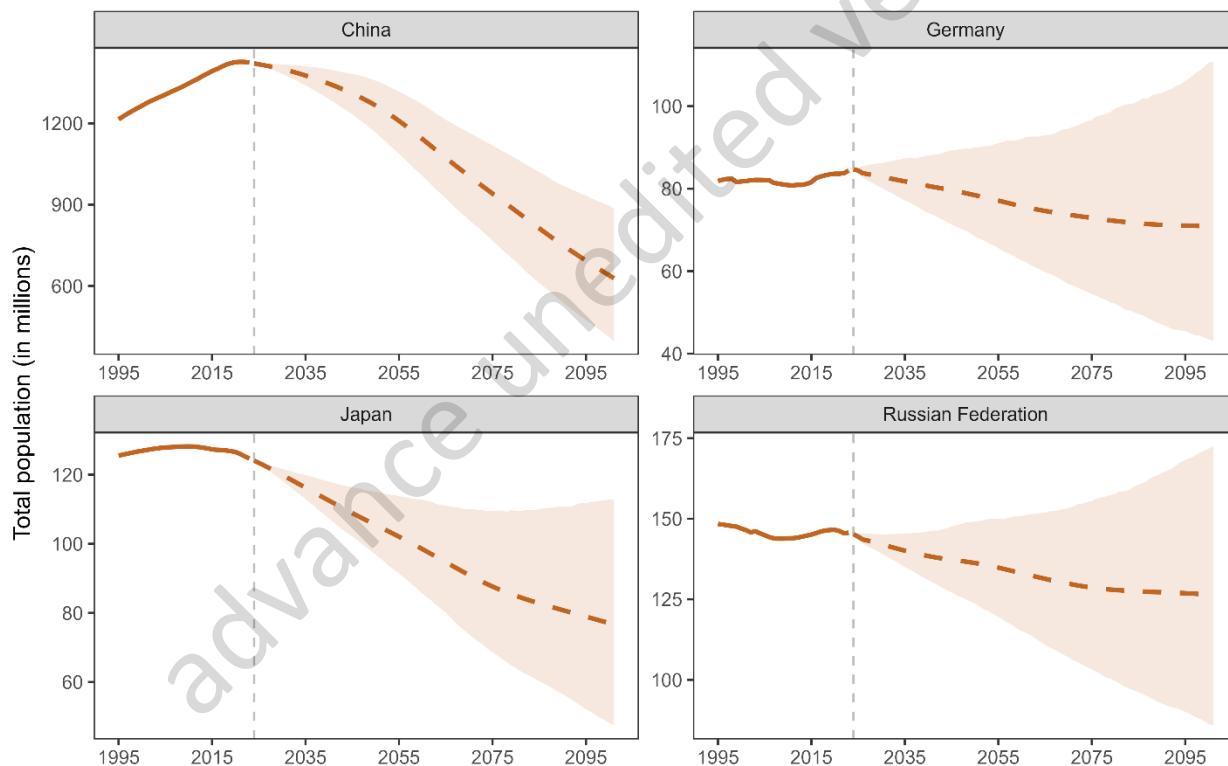
According to the United Nations' medium projection scenario, the number of people living in these locations is projected to decline by 14 per cent over the next 30 years. Eighteen countries and areas in this group are likely to see the size of their population decline by 20 per cent or more in the next three decades

with Albania, Bosnia and Herzegovina, Lithuania and the Republic of Moldova recording some of the largest relative reductions by then (figure II.1). Rapid population decline in some contexts may pose a challenge, requiring innovative policy responses to address potential macroeconomic, labour market, social protection and national security ramifications.

It is anticipated that China, the country currently with the world's second largest population, will likely experience the largest absolute population loss between 2024 and 2054 (204 million), followed by Japan and the Russian Federation (21 and 10 million, respectively) (figure II.2). Longer-range population projections are more uncertain. However, due to its large size and sustained low level of fertility, China is also likely to record the largest population decline of any country through the end of the century (786 million people). By 2100, China is projected to have lost more than a half of its current population and to have returned to a population size comparable to that recorded in the late 1950s (50 per cent probability) (see box II.1).

Figure II.2
Total population for selected countries and areas with populations that have already peaked, estimates, 1995–2023, and projections (medium scenario) with prediction intervals, 2024–2100
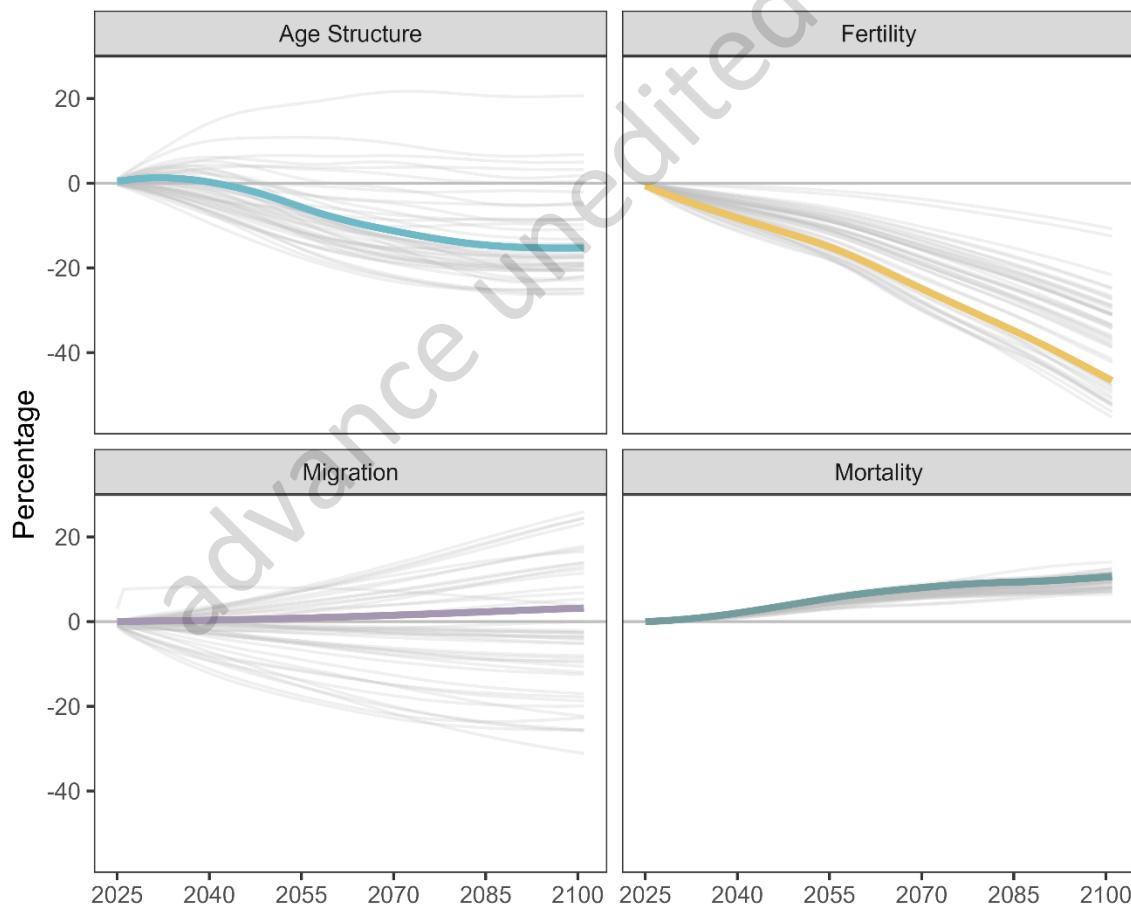

Source: United Nations (2024a).
Notes: Prediction intervals are represented as shaded areas around a projected trend. For a given year, the future trend is expected to lie within the predicted range with a probability of 95 per cent. The scale of the y axis differs between locations.

Not all countries in this group are likely to experience a pronounced population decline through the end of the century. In ten of these countries and areas, the population is likely to experience only a limited decline or may even plateau in size over the coming decades. Among the countries that are expected to remain in close range of their present population size until 2054 are Georgia in Western Asia; Germany, Portugal, the Russian Federation and Spain in Europe; and Uruguay in Latin America. For these countries and areas, population stabilization may create additional opportunities to eradicate poverty, expand access to health care and education, promote gender equality, improve social protection systems, move towards more sustainable patterns of production and consumption, and enact measures to protect the environment and mitigate the negative effects of climate change (see part IV). This, however, will require that appropriate policies be enacted based on the specific circumstances and priorities of each country.

As anticipated in part I, below-replacement fertility and an older age structure are the main reasons that the populations of many countries in this group are projected to decline. However, there are considerable differences among countries in terms of the relative contribution of each of the components (figure II.3).

Figure II.3
Relative contribution of demographic components of population change to future population size, countries and areas with populations that have already peaked, group average and selected countries, by component, projections (medium scenario), 2024–2100 (percentage)
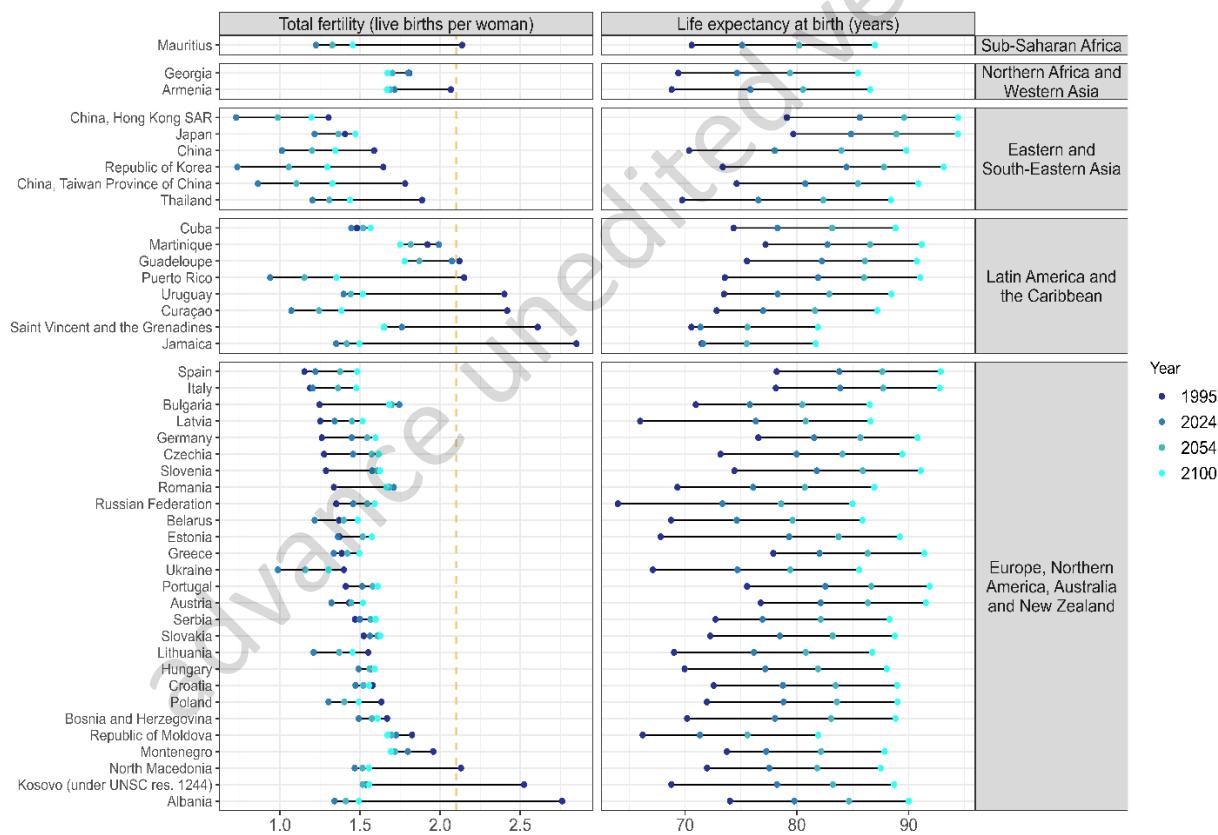
Source: Calculations using data from United Nations (2024a).
Note: Grey lines represent countries or areas with at least 90,000 inhabitants in 2024.

Nearly all of the countries in this group already have fertility levels below replacement as of 2024. The levels of fertility are lowest for countries of the group in Eastern and South-Eastern Asia, with an average of 1.0 births per woman, and highest in Oceania (excluding Australia and New Zealand), with 2.3 births per woman (figure II.4). Twenty-four countries, or 38 per cent of all countries and areas in this group, including China and the Republic of Korea in Eastern Asia and Italy and Spain in Europe, are currently experiencing what is referred to as "ultra-low" fertility levels, with fewer than 1.4 births per woman on average. Among the countries and areas with populations that have already peaked, Hong Kong Special Administrative region (SAR) of China and the Republic of Korea had the lowest levels of fertility in 2024, with an average below 0.75 births per woman. In many of the countries and areas with ultra-low fertility, gender gaps in the division of domestic work within households, challenges to balancing work and family, care responsibilities for ageing parents and inadequate child and family welfare support can prevent or discourage women and couples from having larger families even when they want them.

Figure II.4
Total fertility and life expectancy at birth, countries and areas with populations that have already peaked, by region, estimates for 1995 and projections (medium scenario), 2024, 2054 and 2100

Source: United Nations (2024a).
Notes: Countries and areas are ordered by the level of fertility in 1995 within regions. The dashed orange vertical line indicates the level of replacement fertility.

The levels of fertility for these locations are likely to remain relatively stable in the future, with only limited fertility rebounds anticipated until the end of the century (figure II.4, box II.1). A return to 2.1 births per woman within the next 30 years is highly unlikely in the group of 24 countries with ultra-low

fertility, with estimated probability ranging from 0.1 per cent or less for China and the Republic of Korea to 1.5 per cent for Jamaica.

Among countries where population size has already peaked, the ultra-low fertility levels of countries in Eastern and South-Eastern Asia are likely to contribute to faster population declines in the foreseeable future, compared to other countries in this group. These projected trajectories of future fertility are based on the medium projection scenario of the United Nations, which assumes that, with time, individuals and couples will have more social and economic opportunities that will enable them to realize their childbearing intentions in low-fertility countries (see box II.1).

The total annual number of births in this group is projected to decline rapidly, falling from around 15 million in 2024 to 11 million in 2054. In 2024, 11 per cent of all babies worldwide were born in this group of countries and areas. In the future, the share of newborns in this group is likely to decline to 8.8 per cent by 2054 and 6.7 per cent by 2100. Because only a limited rebound in the level of fertility and continued decline in the number of women of reproductive age are projected for this group of countries and areas, the likely range for future numbers of births is relatively small especially when compared to that of other groups: the size of the birth cohort in 2054 will lie between 8.2 and 14.6 million (with a 95 per cent probability).

The sex ratio at birth, defined as the number of boys born for every girl, is 1.08 among countries that have already peaked in size. This ratio is high compared to both the global average in 2024 (1.05 boys per girl) and the biological norm (between 1.02 and 1.06), indicating a gender-bias skewed towards males (WHO, 2011). The sex ratio at birth is particularly high for the countries in this group in Eastern and South-Eastern Asia (1.1 boys per girl in 2024) and in Oceania (excluding Australia and New Zealand) (1.09 boys per girl). Countries such as the Republic of Korea have been successful in rebalancing sex ratios at birth through programmes aimed at changing cultural norms surrounding son preference (Chung and Gupta, 2007). Addressing gender-based sex selection, which is closely linked to the achievement of SDG 5 on gender equality, might also contribute to increasing the number of births under some circumstances in these societies.[13]

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[13] Addressing sex selection would mean that the number of girls born would increase. Once those girls move into adulthood, they might choose to become mothers.

Box II.1 The assumptions underlying the "rebound" in future fertility for low-fertility countries
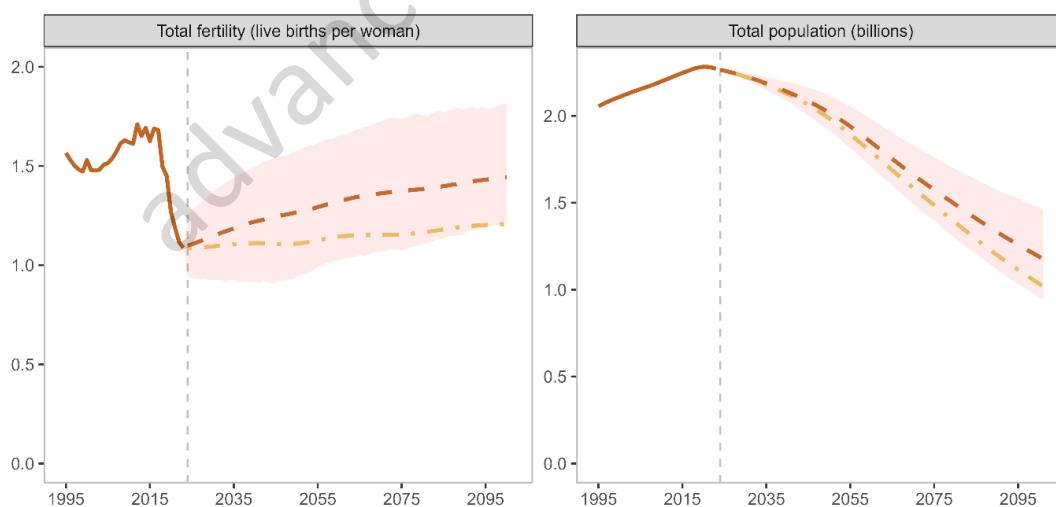
Long-range population projections are highly uncertain, with uncertainty around the number of children to be born being one of the major sources. For countries with fertility below the replacement level, projecting future fertility levels can be particularly challenging, since there is only limited historical precedent that can be used to inform projections.

The medium scenario of *World Population Prospects 2024* assumes that between 2024 and 2100 the level of fertility would gradually increase to 1.4 births per woman for the group of countries with populations that have already peaked (with 95 per cent uncertainty ranging from 1.2 to 1.8 children per woman in 2100). This assumption is informed by trends from 39 countries that have experienced declines in total fertility below two children per woman, followed by a subsequent rebound over at least two consecutive periods of five years (see United Nations, 2024b). The "rebound" in future fertility for low-fertility countries is consistent with an expectation of continued progress towards gender equality and women's empowerment and improving social and economic opportunities for young people and families (box II.2).

The effect of this assumption can be observed by comparing the medium scenario with the constant-fertility scenario, where total fertility of each country is set to remain constant at the level of 2023. For the group of countries with populations that have already peaked, the level of fertility by 2100 would be a quarter of a child less under the constant fertility scenario than under the medium scenario (figure II.5). Assumptions about future fertility and resulting population change have important implications for the sustainable development of countries. Different fertility assumptions can help explain some of differences in the population projections produced by leading demographic research institutions (see box IV.1).

Figure II.5
Total fertility and population, countries and areas with populations that have already peaked, estimates, 1995–2023, projections (medium scenario) with prediction intervals and scenario with constant fertility (dash-dotted 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 a probability of 95 per cent.

The declining number of births in this group is partly explained by the shrinking number of women of reproductive age in these locations, which generates negative population momentum. In countries with populations that have already peaked, the number of women in the reproductive age range is projected to fall by 33 per cent between 2024 and 2054. By the late 2030s, half of the women in countries with populations that have already peaked will be too old to have children by natural means. By the early 2070s, as much as 61 per cent of the women in this group could be aged 50 or older. Hong Kong, SAR of China and Puerto Rico are likely to have the highest share of women aged 50 or older at that time, with values of 80 per cent and 72 per cent, respectively.

In 18 countries and areas that have already peaked in size, the negative population momentum generated by an older age distribution is likely to be the main driver of population decline through 2054. Because the number of women in the reproductive age range is projected to decline rapidly in such countries, the number of children born will decrease even if fertility were to return to replacement level. The impact on population size of policies aimed at raising fertility levels is, therefore, likely to diminish over time. Such trends have wide-ranging implications for reproduction, family planning, and policy formulation (box II.2). Even assuming a substantial rebound in the fertility level, these populations are likely to continue declining in size because of the momentum of past decline.

Box II.2 Policies to support families and facilitate childbearing

Today, two thirds of the global population live in a country or area where average fertility is below 2.1 births per woman. In several low-fertility countries, women have, on average, fewer children than they had expected, and more often than intended, they remain childless (Beaujouan and Berghammer, 2019). Individuals and couples face multiple obstacles to achieving their desired family size, including demands of higher education, high costs of childcare, challenges to work-family balance, unequal division of household tasks between partners, care responsibilities for ageing parents and biological limits to the reproductive life span.

Addressing these constraints will help to ensure that all individuals have the opportunity and means to achieve the family sizes that they desire. Following the principles set out in the 1994 ICPD Programme of Action and implementing policies based on inclusive, rights-based and gender-sensitive approaches is more likely to deliver a sustainable response to low levels of fertility than policies focused on aggregate-level demographic outcomes, which could have harmful effects on the sexual and reproductive health of couples and individuals and accentuate gender inequality (Gietel-Basten and others, 2022).

Many countries have implemented or tested a range of family-friendly and gender-responsive policies that could contribute to stabilising or reversing low fertility rates. While their impact is contingent on many contextual and societal factors, adopting policies aimed at balancing family and work life, including by providing paid parental leave and flexible working arrangements; supporting affordable, high-quality childcare options and housing; providing comprehensive care for an ageing population; and encouraging an equal distribution of caregiving and household responsibilities between men and women can enhance women's labour force participation, support families and facilitate childbearing, and increase economic security for men and women at older ages (Bergsvik and others, 2021; Sobotka and others, 2019).

Making reproductive technologies such as in-vitro fertilization (IVF) more affordable and widely accessible is another policy response that might be considered, given the postponement of childbearing and the evidence that human fertility declines with age (Pino and others, 2020; Te Velde and Pearson, 2002). While each country's approach varies based on its unique cultural, economic and social context, the central principle remains consistent: supporting families and having a holistic and inclusive approach to sexual and reproductive health and rights is key to addressing some of the reasons why individuals and couples might be hesitant to have children in a modern society.

Continuing progress in reducing mortality, the only demographic component projected to contribute positively to population change in this group (figure II.3), has resulted in increasing life expectancy at birth. At the group level, life expectancy increased from 70.9 years in 1995 to 78.8 years in 2024. In 2024, Hong Kong, SAR of China, Japan and the Republic of Korea had the highest levels of life expectancy at birth (at least 84 years) in the group and in the world. Other countries with high life expectancy at birth are Italy, Portugal and Spain in Europe; and Guadeloupe and Martinique in the Caribbean. In contrast, life expectancy at birth is the lowest in Jamaica and Saint-Vincent and the Grenadines in Latin America and the Caribbean, and in the Republic of Moldova in Europe, with levels below 72 years. These differences are projected to narrow, but not disappear, in the coming decades.

For countries and areas that have already peaked in size, gains in life expectancy are projected to contribute positively to population growth in the coming decades, with the effect likely to increase throughout the century (figure II.3). Yet, reductions in mortality will compensate for only one third of the negative effect of fertility and therefore will not be enough to counter the negative effect on population change.

In 2024, life expectancy at birth for women in this group of countries exceeded that for men by 6.4 years, with female and male life expectancies standing at 82.0 and 75.6, respectively. Due to differences linked to gender-associated behavioral factors, as well as biological differences, women outlive men in all countries of the group. It is important to consider gender differences in life expectancy when formulating policies to ensure equitable access to retirement benefits, address gender-specific health-care needs, and strengthen social support systems to mitigate potential caregiving burdens (United Nations, 2023). Future increases in life expectancy at birth are projected to be higher for males than females at similar levels of life expectancy at birth, and as a result the gap between the two will narrow.

Changes in fertility and mortality not only impact a population's size, but also its age structure. For the group of countries with populations that have already peaked, the share of people at younger ages (under 20 years old) is expected to decline from 21 per cent in 2024 to 14 per cent in 2054 and remain at that level until the end of the century (figure I.8). Inversely, the share of persons aged 65 or older is likely to grow rapidly, nearly doubling between 2024 and 2054 from 17 per cent to 33 per cent. By 2100, older persons may comprise 40 per cent of the total population in the group of countries that have already peaked in size (with a 95 per cent probability that the share of persons aged 65 or older will lie between 33 per cent and 49 per cent in 2100).

Under the medium projection scenario, the share of older persons will continue to increase in the countries and areas with populations that have already peaked. In 2054, older persons could comprise one third or more of the population in 16 of these locations, with Hong Kong, SAR of China and the Republic of Korea recording some of the highest values. The number of persons aged 65 or older in the group of countries with populations that have already peaked is projected to reach 409 million by 2027 surpassing the number of children (under age 18). The share of populations aged 80 or older in the group of countries with populations that have already peaked is increasing even faster and is likely to more than triple from 85 million in 2024 to 267 million by 2100 (with a 95 per cent probability that the size of the population aged 80 or older will lie between 203 million and 358 million in 2100). In 2024, the number of persons aged 80 or older is already larger than the number of infants (1 year of age or less).

As populations in this group of countries and areas continue to age, longer-term planning is needed, including to strengthen health care and long-term care systems, improve the sustainability of social protection systems and invest in new technologies. Countries with populations that have already peaked in size and are ageing rapidly (box II.3) should consider leveraging technology, including automation, to improve productivity at all ages. They should also design more opportunities for lifelong learning and retraining, support multigenerational workforces and create opportunities to extend working lives for those who can and want to continue working.

Box II.3. Different approaches to measuring population ageing

Population ageing is a global phenomenon driven by the decline in fertility rates and the continuing improvement in survival to older ages. Understanding and measuring population ageing is crucial to plan and adopt policies and to develop and take appropriate actions to effectively address its implications.

Various measures of population ageing are available. All aim to reflect changes in the distribution of individual characteristics (such as chronological age, health status or functioning capacities) within a population (Skirbekk and others, 2019). A first typology of indicators assesses population ageing from the point of view of changes in the age structure of a population. The proportion of persons above a given age, typically aged 65 or older, or the median age of a population has been traditionally used to measure the shifts in population age structure. Further indicators, such as the ratio of the older population to the working-age population (typically defined as the population between the age of 20 and 64), are also used. This first set of indicators are simple to compute and easily comparable across time and space. These are also the ones referenced in this report.

Alternative approaches measure population ageing by considering the expected time until death (i.e. the prospective old-age dependency ratio) or the ratio of the effective number of consumers aged 65 years or older to the effective number of workers at all ages (i.e. economic old-age dependency ratio) (United Nations, 2019). These indicators were developed to account better for the characteristics and behaviours of the older population, including that not all people stop working at age 65. However, they require more detailed data that are not always available and involve greater computational complexity.

Finally, a last series of indicators, including the disability-adjusted life years (DALYs) or the healthy life expectancy (HALE) at birth, try to capture the diversity and heterogeneity of the older population, including differences in their health, functional ability and socioeconomic status. These approaches focus mostly on assessing specific characteristics of older persons and their application is often limited by data availability.

For nearly all countries and areas with populations that have already peaked in size, the time-bound window of opportunity for accelerated economic growth associated with a youthful population and declining fertility has already closed (see box III.1). However, even in countries where the share of population at the working ages (between 20 and 64 years) is shrinking, there are ways to foster an increase in per capita economic growth. One strategy is to become more inclusive, by bringing into the formal labour market groups that have been traditionally excluded, such as women, older persons and persons with disabilities. Another approach is boosting worker productivity by investing in human capital formation and lifelong training and leveraging the use of technology, including robotics, automation and artificial intelligence (AI) (United Nations, 2023a). Immigration can also help alleviate labour force shortages associated with population ageing, at least in the short term. Enhancing the availability and flexibility of pathways for safe and orderly migration not only protects the human rights of migrants, but also benefits communities at the place of origin, along transit routes and in the final destination.
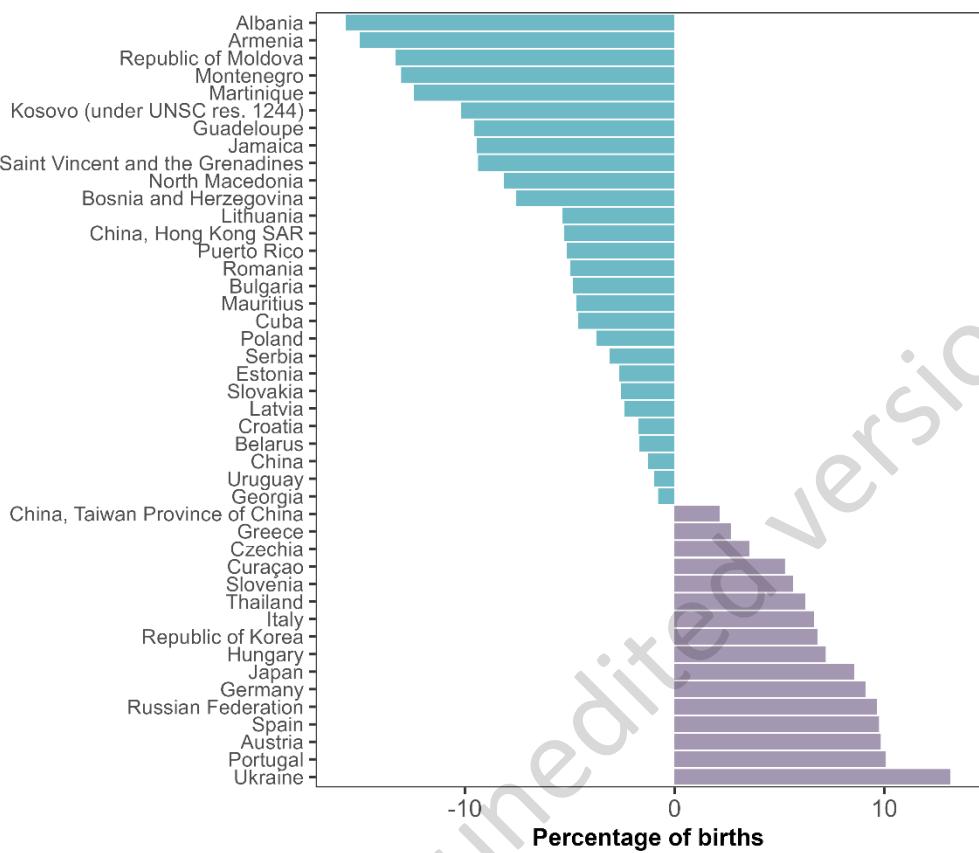
Compared to fertility and mortality, international migration generally does not have a major impact on the population size of countries in the group (figure II.3). Yet, for some countries, net immigration helps counter population decline. The population of some 19 countries in this group, including Germany, Japan, Italy, the Russian Federation and Thailand would have peaked earlier and at a lower level in the absence of immigration. International migration alone, however, cannot offset population decline or population ageing in the long term and should not be seen as a "solution" to what is ultimately a universal and irreversible process: the demographic transition.

In countries where fertility levels are already below replacement, the emigration of people in the reproductive age range can contribute to further population decline. In 62 per cent of the countries and areas of the group already experiencing low levels of fertility, emigration is likely to contribute to reducing further population size between now and 2054. International migration also indirectly impacts the number of births in countries of destination and in countries of origin (figure II.6). In countries and areas such as Albania, Armenia, Guadeloupe or Jamaica, the emigration of large numbers of women of reproductive age ranges can reduce the number of births taking place in those locations, while in countries such as Portugal, the Russian Federation or Spain immigration has the opposite effect. From a demographic perspective, the births "lost to emigration" or "gained through immigration" have both short-term and long-term consequences, since the girls born today are the women of reproductive age of the next generation. In countries with high rates of emigration, creating more 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.

Over the coming century, for many countries with populations that have already peaked by 2024, it is very unlikely that they will renew their population growth. Even if fertility were to return instantly to the level required to replace exactly each generation, the population of the group would only stabilize in the long term, at most. This is due to the negative momentum that is embedded in the age structure in these countries and areas, which will continue to influence their population trajectories for decades to come. Even under the instant replacement scenario, which assumes an immediate return to a fertility level assuring the replacement of the generations, the total population of the countries in the group at the end of the century would remain below its present level (see figure II.5). There is a 100 per cent probability that this group's population will be smaller in 2100 than it is today.

Figure II.6

Projected number of births lost due to emigration (negative values) and gained through immigration (positive values) as percentage of total births in the medium scenario, countries and areas with populations that have already peaked, 2024–2054

Source: United Nations (2024a).

Notes: The percentage of births lost and gained are computed as the relative difference between the total births in the medium scenario and the total births in the zero net migration scenario. Countries and areas are listed by percentage of births in ascending order.

III. Countries with populations that are likely to peak within the next 30 years
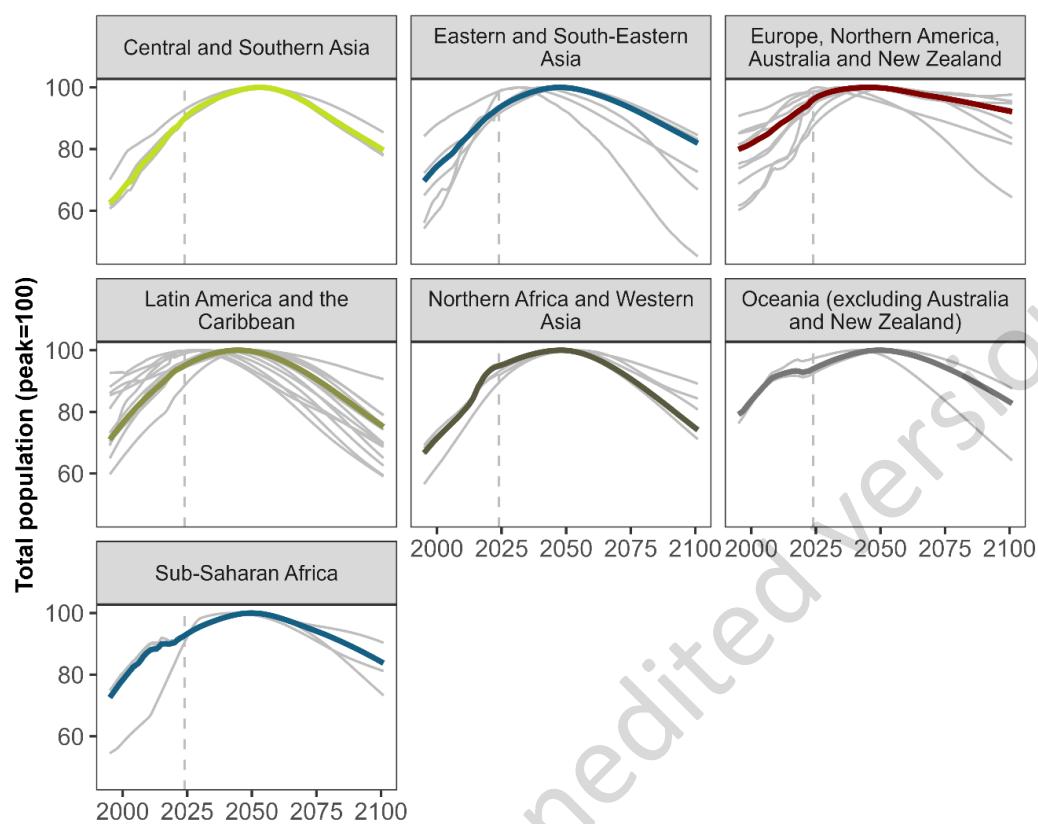
Between 2025 and 2054, 48 countries are projected to see the size of their population peak. Brazil, the Islamic Republic of Iran, Türkiye and Viet Nam are among the most populous countries in this group. While countries with populations that already peaked are predominantly in Europe, the largest number of countries and areas among those that are likely to peak over the course of the next 30 years are in Latin America and the Caribbean—19 countries, or 40 per cent of the total number.

The countries in this group are all in the later stages of the demographic transition, when fertility falls below the replacement level and population growth slows as the population approaches its peak size. They face many of the same challenges and opportunities as countries with populations that have already peaked (part II) and of countries with populations that are likely to continue growing through 2054 (part IV). In the span of just 30 years, countries in this group will have to balance the immediate demands of a population that is still growing with the need to prepare for a population that is older and is likely to be smaller than their present one.

The size of the population in these locations is projected to increase by 5.3 per cent over the next thirty years, with Bhutan, Colombia, Cyprus, the Islamic Republic of Iran and Ireland among the countries recording the largest relative increases by 2054. According to the United Nations' medium projection scenario, the group's population will reach a peak of 875 million by the late 2040s (with a 95 per cent probability that the peak will occur between 2038 and 2059), up from 825 million in 2024, and then start to decline. By 2100, it is projected to have fallen to 690 million (with a 95 per cent probability that the size of the population of the group will lie between 583 million and 834 million), roughly returning to the size it had in 2004. By that date, the group will likely be home to 6.8 per cent of the world's population, down from 10 per cent in 2024. At the end of the century, all but two countries and areas in the group – Ireland and Switzerland – are projected to have a smaller population than they have today (figure III.1).

Figure III.1

Total population indexed to peak size, for countries and areas with populations that are likely to peak within the next 30 years, regional average and selected countries, by region, estimates, 1995–2023, and projections (medium scenario), 2024–2100

Source: United Nations (2024).

Note: Grey lines represent countries or areas with at least 90,000 inhabitants in 2024.
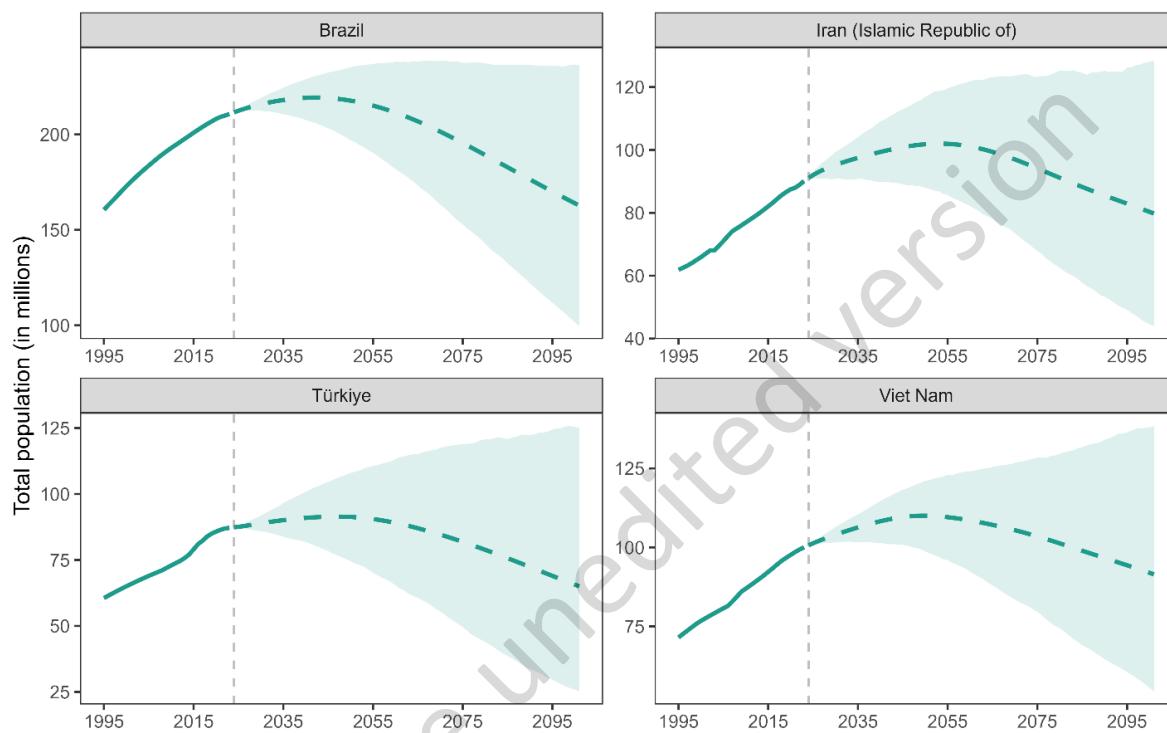
After reaching their peak size between 2025 and 2054, countries in this group are likely to follow somewhat different trajectories. Nineteen of them are likely to see their population decline by 20 per cent or more by the end of the century. The population of Brazil, the largest country in the group and the seventh largest country globally in 2024, is likely to peak in the early 2040s at around 220 million people (figure III.2). After that, the population of Brazil is projected to start to decline, falling to 163 million by 2100. At the end of the century, Brazil's population is projected to be 26 per cent smaller than at its peak and 23 per cent smaller than in 2024 (with a 92 per cent probability that the size of the population of Brazil will have declined by 2100). Because of this decline, and the rapid population growth of other countries, Brazil is likely to see its position in the ranking of the world's most populous countries drop by 2100 (figure IV.4). Other countries with populations that are likely to decline rapidly after reaching their peak size between 2025 and 2054 are the Islamic Republic of Iran in Central Asia; Singapore in Eastern Asia; Argentina, Chile and Colombia in Latin America; and Türkiye in Western Asia. For other countries in the group, the decline is likely to be more gradual.

Based on the United Nations' medium scenario, Belgium, Denmark, Netherlands, Norway and Switzerland have a 50 per cent chance that their population will plateau, remaining within close range of

their peak population size. The policies implemented by countries with populations that have already peaked may be of great interest to countries that are likely to peak in size in the next 30 years (see part II). Leveraging the understanding of how such trends are likely to unfold in the short and longer term is critical to plan for a more inclusive, prosperous and sustainable future, both in the context of rapid population decline and in the context of relative population stabilization.

Figure III.2

Total population for selected countries with populations that are likely to peak within the next 30 years, estimates, 1995–2023, and projections (medium scenario) with prediction intervals, 2024–2100
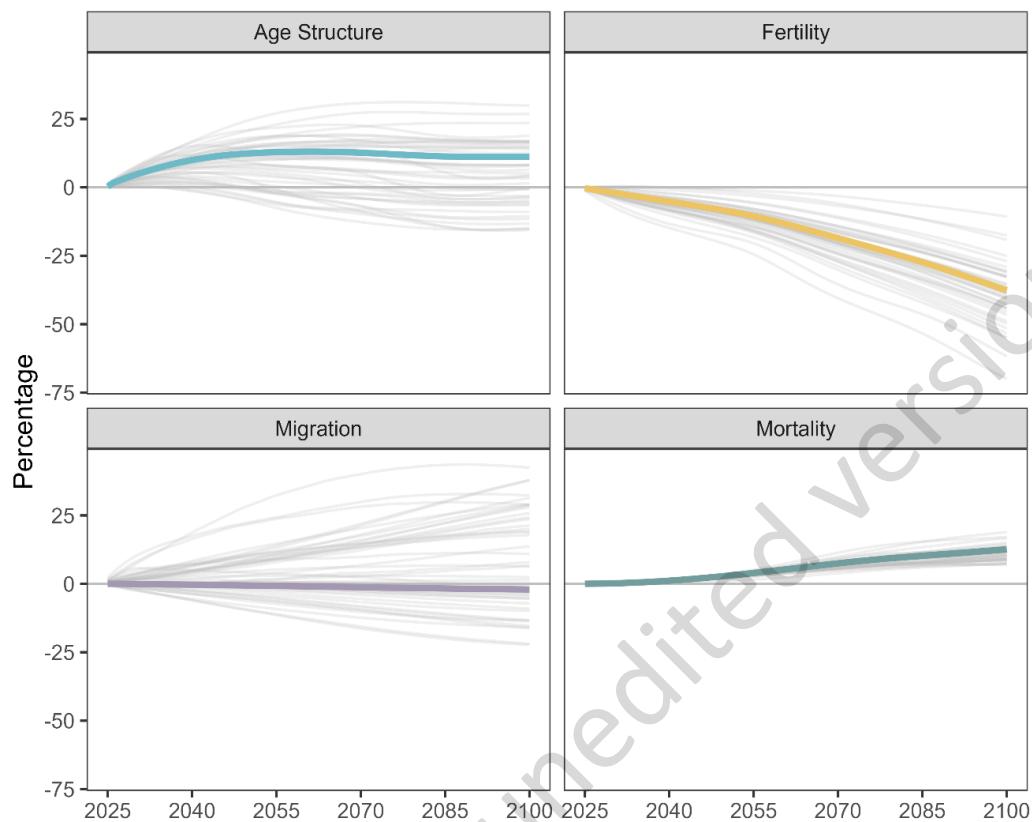

Source: United Nations (2024a).

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 a probability of 95 per cent. The scale of the y axis differs between locations.

The relative contribution of fertility, mortality and international migration to population change in these locations is likely to resemble that of countries with populations that have already peaked, with fertility contributing negatively to population change, mortality positively and international migration having a limited impact (part II). However, because of the momentum of past growth, this group of countries and areas is characterized by a more favourable age structure (figure I.8). In 25 such countries and areas, including Brazil, the Islamic Republic of Iran and Viet Nam, momentum is projected to be the main driver of population growth in the next decades. Over time, the relative contribution of momentum to population growth in these locations is likely to decline and by the 2090s, gains in mortality will overtake momentum as the main driver of positive population change. However, based on the medium projection scenario of the United Nations it is unlikely that the combined effect of these components will be enough to counterbalance the negative effect of the projected decline in fertility through the end of the century (with a 1 per cent probability) which will drive population decline in this group after they peak.

Figure III.3

Relative contribution of demographic components of population change to future population size, countries and areas with populations are likely to peak within the next 30 years, group average and selected countries, by component, projections (medium scenario), 2024–2100 (percentage)
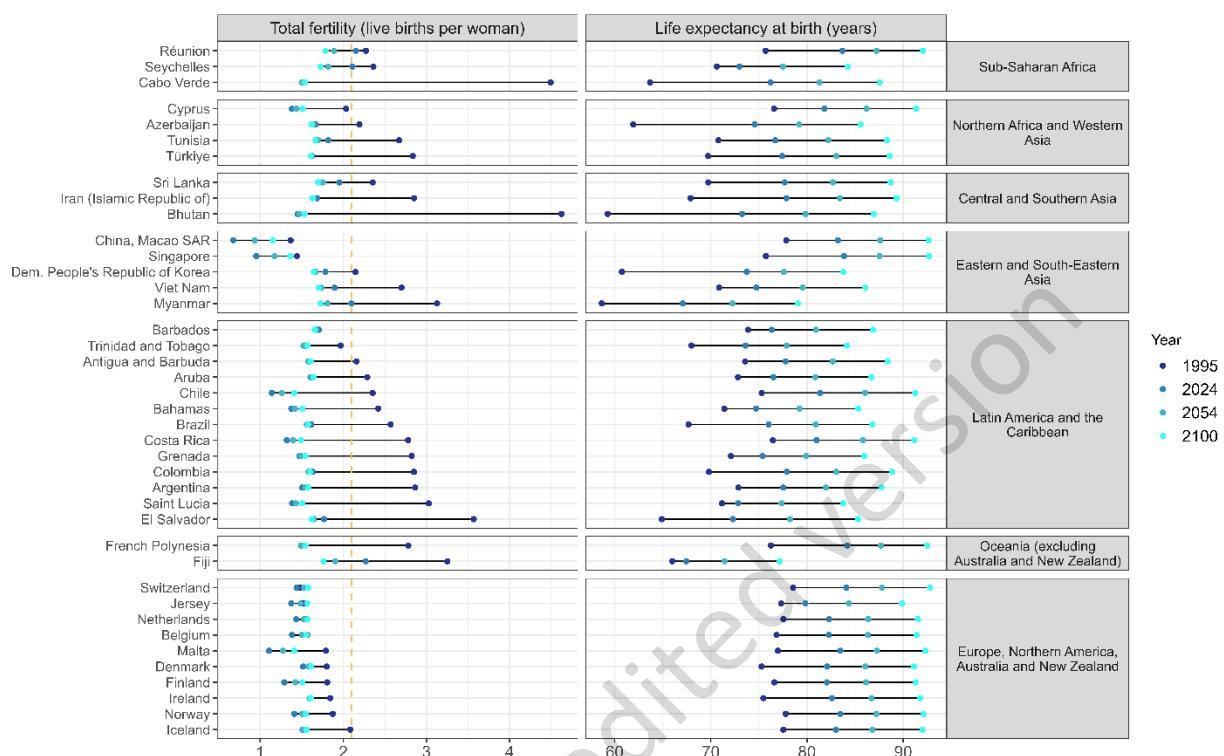
Source: Calculations using data from United Nations (2024a).
Note: Grey lines represent countries or areas with at least 90,000 inhabitants in 2024.

Fertility levels are already at or below replacement in nearly all the countries of the group. In three countries and areas (Fiji, Réunion and Seychelles), however, fertility may play a very small, positive role on population change until the late 2030s. Sixteen countries in the group have an ultra-low level of fertility, corresponding to an average of less than 1.4 births per woman (figure III.4). Macao Special Administrative region (SAR) of China and Singapore, both in Eastern Asia, had the lowest levels of fertility in the group in 2024, at 0.68 and 0.95 births per woman, respectively.

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Figure III.4
Total fertility and life expectancy at birth, countries and areas with populations that are likely to peak in the next 30 years, by region, estimates for 1995 and projections (medium scenario), 2024, 2054 and 2100

Source: United Nations (2024a).
Notes: Countries and areas are ordered by the level of fertility in 1995 within regions. The dashed orange vertical line indicates the level of replacement fertility.

Based on the medium projection scenario, by 2054 the average number of births per woman will range between 0.94 and 1.90 for countries in this group. A slight rebound in fertility levels is assumed by the end of the century, but even with that, total fertility is likely to remain well below two children per woman in all countries in the group, with values ranging between 1.15 and 1.78 births per woman at the end of the century. These levels are not enough to guarantee the replacement of the population. The estimated likelihood that countries and areas in this group with ultra-low fertility today return to 2.1 births per woman in 30 years is low, ranging from 0.0 per cent for Macao, SAR of China to 2.2 per cent for Saint-Lucia.
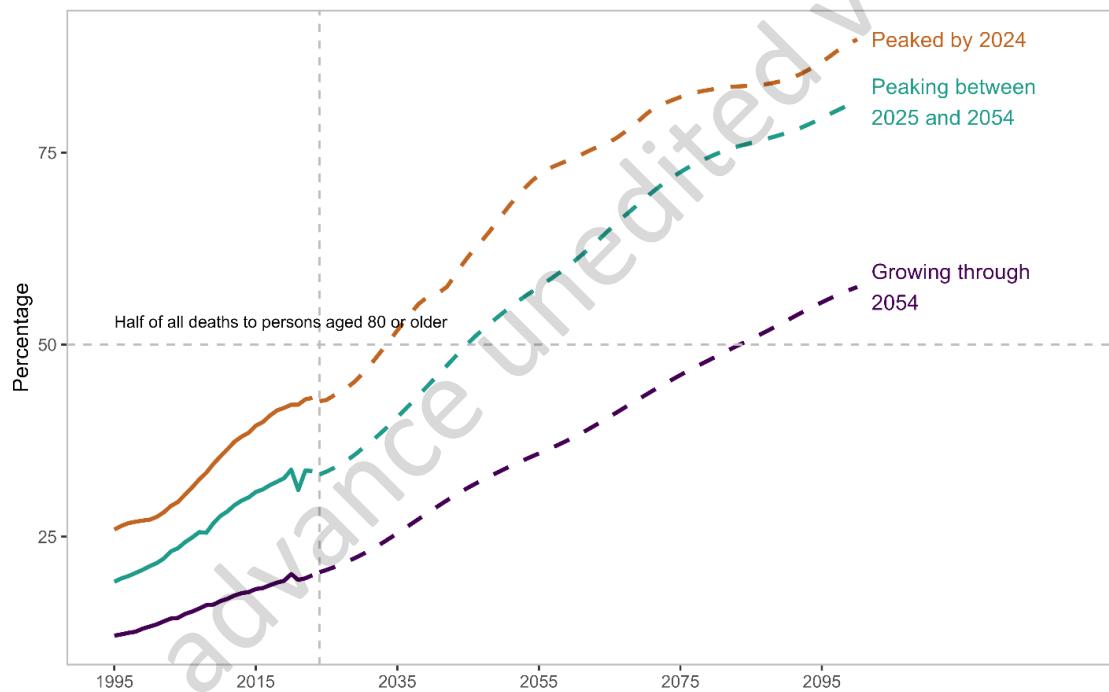
Progress in reducing mortality is likely to contribute positively to population change in all countries in the group (figures III.3, III.4). At the group level, average life expectancy at birth reached 76.5 years in 2024, with a third of countries, including Macao, SAR of China and Singapore in Eastern Asia, and Denmark, Finland, Netherlands, Norway and Switzerland in Europe having levels of life expectancy above 82 years (figure III.4). Due to continuing progress in preventing premature mortality among children and adults, life expectancy in this group of 48 countries is projected to increase to more than 87.2 years by the end of the century.

In all countries of the group, women live longer than men, with female life expectancy exceeding male life expectancy by more than 2.8 years in 2024. By 2100, this gap is likely to narrow slightly, with male and female life expectancy at birth reaching 85.6 and 88.9 years, respectively. Since women live longer than men, promoting income-generating opportunities and financial literacy among women, including at older ages, and strengthening their productive capacities throughout the life course can play a crucial role in improving their autonomy, health and well-being and in enhancing dignity at older ages, with positive effects on overall productivity and economic growth for societies at large.

One of the effects of people enjoying longer lives is that there are fewer people dying at younger ages. By the mid-2040s, over half of all deaths in the countries in this group will be among persons aged 80 or older (figure III.5). In comparison, less than one third of all deaths occurred at ages 80 and higher in 1995. These important gains in human survival will likely increase the demand for health care and long-term care and raise the cost of public pensions (United Nations, 2023).

Figure III.5
Percentage of deaths at age 80 or above by timing of population peak, estimates, 1995–2023, and projections (medium scenario), 2024–2100

Source: United Nations (2024a).

International migration is projected to play a negligible role in shaping population change at the aggregate level of the group (figure III.3). In 19 countries, however, net migration is likely to positively impact population change through 2054. Added to the positive contribution of reductions in mortality, migration will help counteract the negative effect on population growth of below replacement level fertility in some countries. For countries such as Denmark, Finland, Iceland, Ireland, Netherlands, Norway and Switzerland, migration is one of the reasons why their population is projected to continue to grow over the coming decades. Without positive net immigration, the population of these countries would have

peaked earlier. In many countries of the group, migration, in addition to the timing and level of their population peaks, is also likely to influence their age structure. Because immigrants tend to be concentrated in the young adult age ranges (roughly, between 20 and 39 years) they tend to boost the number and proportion of the working-age group in host countries.

Compared to the countries with populations that have peaked already, most countries with populations that are likely to peak in the next 30 years are characterized by an age structure that is more conducive to population growth, with a relatively larger share of the population at working ages. In many of these countries and areas, the decline in fertility occurred later and the share of people at younger ages has not been counterbalanced by an increase in those at older ages yet. As a result, the share of population at working ages in these countries and areas is projected to continue to grow more rapidly than the total population until the late 2080s (figure III.6). The growth in the share of the population at working ages can provide an opportunity for accelerated economic growth and improvements in well-being known as the demographic dividend (box III.1).

Box III.1 The demographic dividend as a window of opportunity to accelerate sustainable development

In most societies, children and older persons consume on average more than they produce.[14] A rapid and sustained reduction in the fertility level results in a population age distribution in which the most highly productive years are temporarily overrepresented relative to the combined shares of people at younger and older ages (Lee and Mason, 2006). The enlarged share of potential workers leads automatically to an increase in income per capita, assuming that output per worker and levels of engagement in the labour force remain unchanged (Mason and Lee, 2018).

The dividend is usually described as a window of opportunity for countries with relatively youthful populations to accelerate their economic and social development by redirecting resources freed up by having fewer children, at both the societal and familial levels, towards improving educational and health outcomes and raising standards of living (Bloom and others, 2003). While the demographic circumstances underlying the dividend are conducive to rapid economic growth on a per capita basis, reaping the maximum potential benefit requires sufficient improvements in education, health, gender equality and gainful employment.
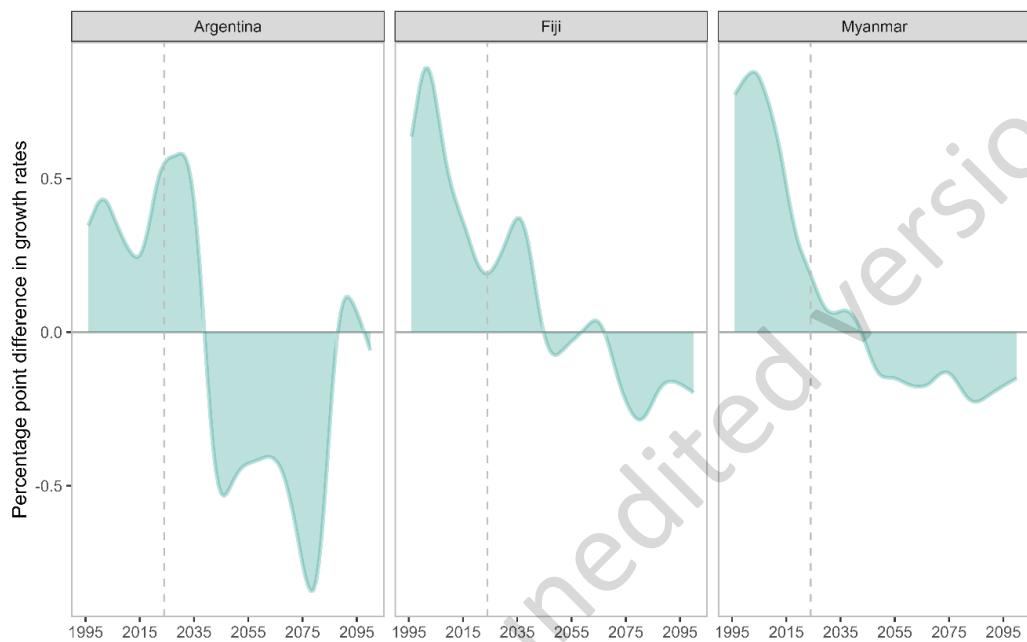
For most countries with populations that are likely to peak over the next 30 years, the share of persons of working ages was already declining in 2024. However, for one quarter of the countries and areas in this group, the demographic window remains. These include Bhutan in Southern Asia; Myanmar in South-Eastern Asia; Argentina, Colombia and El Salvador in Latin America; and Fiji in Oceania. These countries and areas have between 10 and 20 years to realize their demographic dividend. However, many of them will need to urgently increase investments in education, health care, employment and social protection on a per capita basis to fully take advantage of this time-bound opportunity for accelerated

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[14] The following discussion draws on United Nations (2021).

economic growth (see also part IV). By 2054, the share of population at working ages is likely to have declined compared to 2024 in all but 6 of the 48 countries of the group and the window associated with a youthful population and declining fertility will have closed. At the end of the century, all countries with populations that are likely to peak by 2054 will have lower shares of working age population than in 2024.

Figure III.6

Relative difference between population growth rates in working ages and in total population, countries with populations that are likely to peak in the next 30 years, selected countries, estimates, 1995–2023 and projections (medium scenario), 2024–2100

Source: United Nations (2024a).

Notes: For analytical purposes, it is assumed that the working age range extends from 20 to 64 years. The difference between the growth rate of the population of working age and the growth rate of the total population equals the theoretical contribution of changes in the age distribution to the growth of GDP per capita. Such changes can be positive or negative. The shaded areas in the graph represent the dividend, and the vertical dash line indicates the year 2024.

High levels of emigration from some of the countries and areas in the group are expected to contribute to reducing the size of their working-age population, potentially undermining their opportunity to benefit from a demographic dividend. For example, in French Polynesia and El Salvador, two of the locations in the group with the highest emigration rates, the working age population in 2054 would have been more than 11 per cent higher without international migration. For the countries experiencing high levels of emigration, minimizing the adverse drivers and structural factors that compel people to leave their country of origin and promoting return migration could bolster the size of their working-age population and prolong their demographic window of opportunity.[15] This, however, would be contingent on progress

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[15] In countries of origin, the earnings that migrants send home as cash or goods can reduce poverty and improve the educational and health outcomes of members of their families and communities. International migrants also make positive contributions to sustainable development in communities of destination (United Nations, 2024c).

in creating conditions for people to fulfil their personal aspirations and lead peaceful, productive and sustainable lives in their own country.

In countries where the size of the populations is projected to peak in the next 30 years, the crossover between the number of children under age 18 and persons aged 65 or older is likely to occur by the mid-2040s. The number of persons aged 65 years or older in this group is likely to double between 2024 and 2054. At that time, the group of countries is likely to count 203 million persons at ages 65 and higher, representing 23 per cent of their total population. Between 2054 and 2100, the number of persons aged 65 or older is expected to grow by an additional 13 per cent. The share of persons at older ages will increase by 42 per cent and reach one third of the total population in 2100. It is likely that more than one third of the population in 26 countries and areas in this group will be aged 65 or older by 2100. These will include Brazil, Chile and Colombia in Latin America; Tunisia and Türkiye in Northern Africa and Western Asia; and Singapore in South-Eastern Asia. As countries look to a future with rapidly growing numbers and proportions of older persons, they may wish to consider measures to strengthen their health-care and long-term care systems, promote lifelong learning, expand opportunities for those who want to continue to work to do so, address ageism, invest in and explore new industries that cater to this growing population group, and improve the sustainability and equity of their social protection systems (United Nations, 2023).

IV. Countries with populations that are projected to continue growing through 2054, potentially reaching a peak later in the century or beyond 2100

For decades, there has been widespread concern about the impact of rapid population growth on the planet. Today, the global population is still increasing, but at an ever-slowing pace. Yet, the population of 126 countries and areas is likely to continue growing through 2054, potentially reaching a peak later in the century or beyond 2100.[16] This group includes some of the world's most populous countries: India, Indonesia, Nigeria, Pakistan and the United States of America.
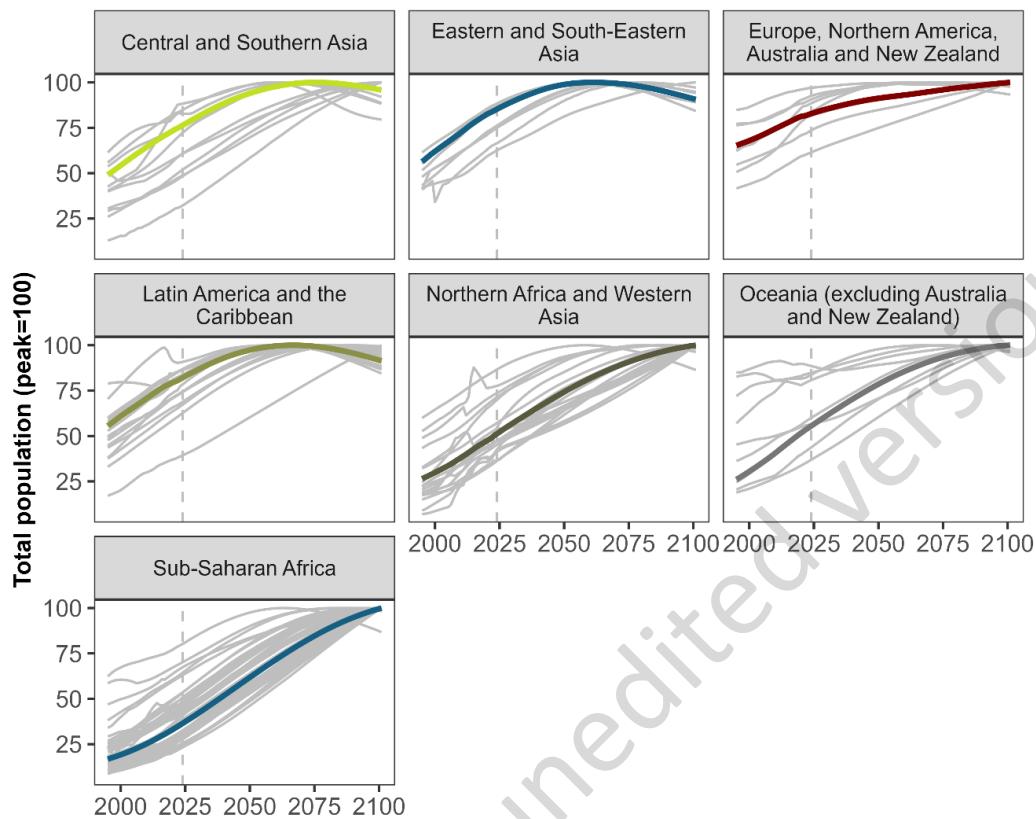
Countries in this group are at different stages of the demographic transition (see box I.1). Nearly half of all countries and areas in this group are in the intermediate stage, when the population grows rapidly thanks to the large and sustained excess of births over deaths. This group includes 46 countries in sub-Saharan Africa, 11 in Oceania (excluding Australia and New Zealand), and 8 in Central and Southern Asia. In addition, the group includes 28 countries and areas, mostly in Europe, Northern America, Australia and New Zealand, but also in Latin America and the Caribbean, and in Northern Africa and Western Asia that are in the later stages of the transition, when fertility approaches and falls below replacement level. In many of these countries and areas, international migration is likely to be the main driver of population growth in the coming decades.

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[16] In 76 of these countries and areas, populations may potentially peak in or after 2100.

Figure IV.1

Total population indexed to peak size, countries and areas with populations that are likely to continue growing through 2054, regional average and selected countries, by region, estimates, 1995–2023, and projections (medium scenario), 2024–2100

Source: United Nations (2024a).
Note: Grey lines represent countries or areas with at least 90,000 inhabitants in 2024.

According to the medium scenario, the total population of countries and areas that are likely to continue growing through 2054 will increase by 38 per cent over the next 30 years, growing from 5.1 billion in 2024 to 7.0 billion in 2054 (with a 95 per cent probability that the size of the population of the group will lie between 6.7 billion and 7.3 billion in 2054). By 2100, the group is projected to be home to 8.3 billion people (ranging from 7.4 billion to 9.7 billion in 2100, with a 95 per cent probability)—a figure 64 per cent higher compared to 2024. After 2054, the growth of the total population of this group is expected to slow, falling to 19 per cent through the end of the century. Because the size of the populations in these locations will still be growing, while the size of the populations of the other groups is projected to decline, by 2100 more than 82 per cent of the global population will live in one of the countries and areas in this group, up from 62 per cent in 2024. The trajectory of population change in this group of countries and areas will have a major influence on the size and timing of the population peak at the global level (see box IV.1).

## Box IV.1 Are global population projections getting closer?
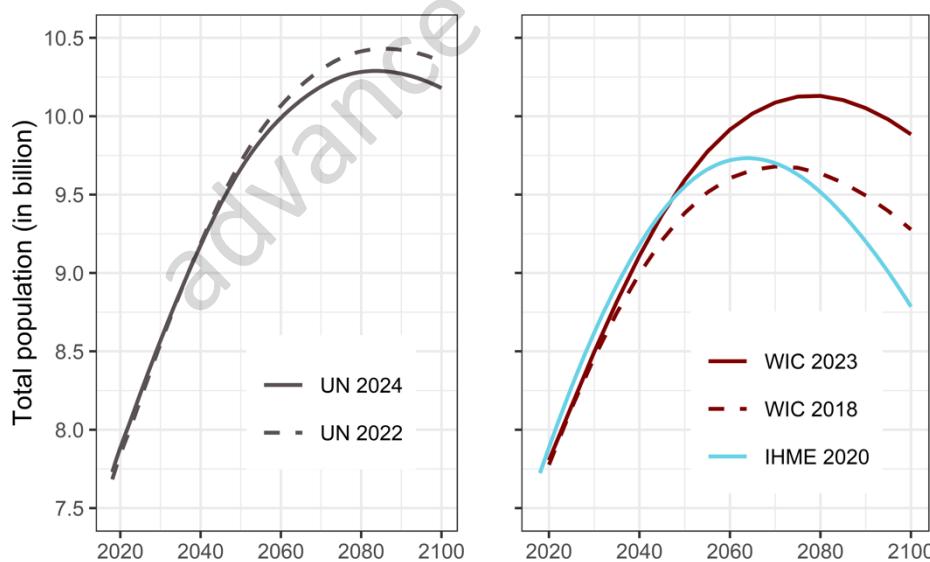
Long-term global population projections are crucial for planning and policymaking, but they can vary significantly due to differences in methodologies, assumptions, data sources and when they were produced. Three leading institutions currently produce global population projections: (a) the United Nations (*World Population Prospects*), (b) the Wittgenstein Center for Demography and Human Capital (WIC), and (c) the Institute for Health Metrics and Evaluation (IHME).

All three sets of global projections use the cohort component method to project future population by age and sex. Under the cohort component method, the population by age and sex in a given year is projected forward by applying mortality, fertility and migration patterns that differ by age and sex. These rates are obtained by the application of different models and/or methods that are based on distinct assumptions. The methodology used by the United Nations is described in a specific report (United Nations, 2024b).

At the global level, the different sets of population projections agree until about 2050; thereafter they diverge progressively (figure IV.2). In their most recent assessments (WPP 2024 and WIC 2023), the projections of the global population by the United Nations and by WIC have become closer and depict a very similar future trajectory until the end of the century when the world could count 10.2 billion (ranging from 9.0 billion to 11.4 billion, with a probability of 95 per cent) (UN 2024) or 9.9 billion (WIC 2023) respectively. In contrast, IHME (2020) projects a future global population of 8.8 billion (ranging from 6.8 billion to 11.8 billion, with a probability of 95 per cent) in 2100—a figure 1.4 billion, or almost 14 per cent, lower than that produced by the United Nations.

Figure IV.2
Global population projections, according to the United Nations, the Wittgenstein Center for Demography and Human Capital (WIC), and the Institute for Health Metrics and Evaluation (IHME)
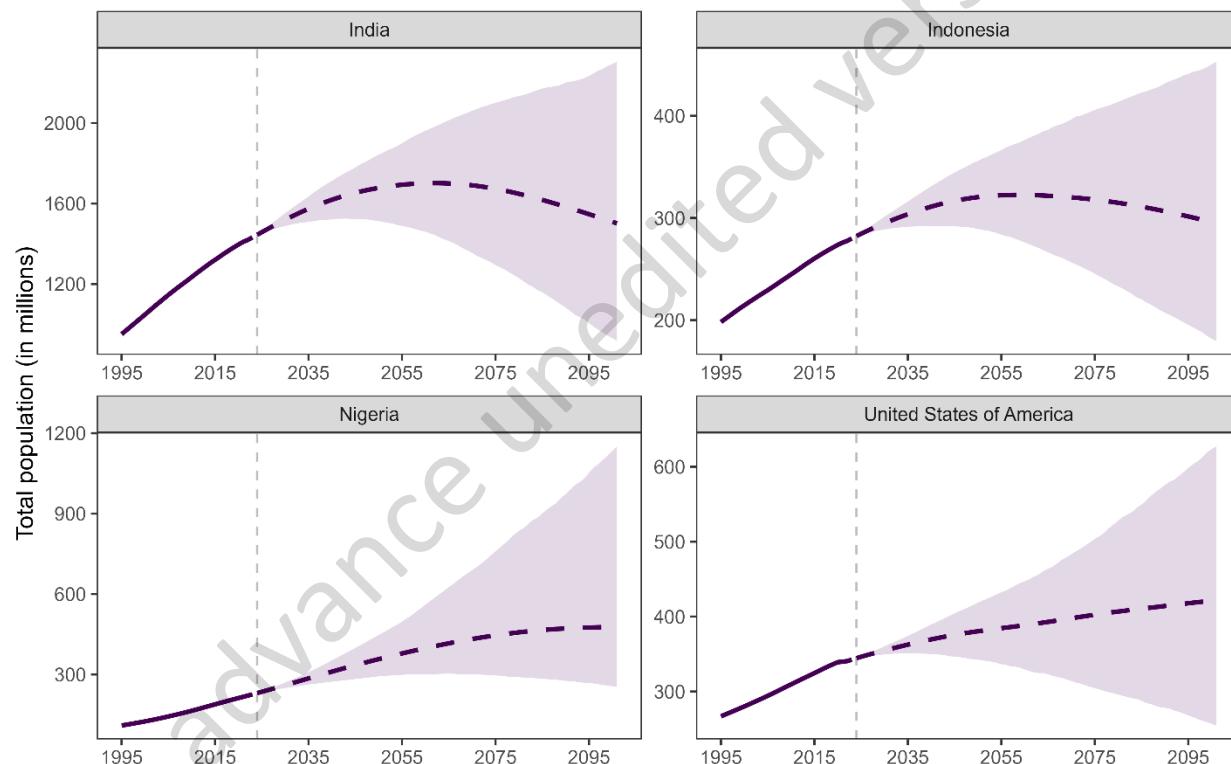

Source: United Nations (2022a; 2024a); Wittgenstein Centre for Demography and Global Human Capital (WIC) (2018, 2023); Institute for Health Metrics and Evaluation (IHME) (2020).

The approach taken by the United Nations to project future fertility trends is based on historical and present fertility levels and trends. These projected fertility trajectories implicitly consider past progress made in development, education, contraceptive use, among others. By contrast, the models of fertility projections developed by IHME and WIC are based on assumptions made on women's future educational attainment and, in the case of IHME, on the satisfied demand for contraception as well.

The medium scenario of the United Nations assumes that continued progress towards gender equity and women's empowerment will mean that as time progresses, individuals will be better able to realize their childbearing intentions (see boxes II.1, II.2).

Figure IV.3
Total population for selected countries with populations that are likely to continue growing through 2054, estimates, 1995–2023, 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 a probability of 95 per cent. The scale of the y axis differs between locations.

Countries and areas with populations that are likely to continue growing through 2054 are likely to follow very different growth trajectories (figures IV.1 and IV.3). Over the next 30 years, the countries of this group that are in sub-Saharan Africa are projected to see their population increase by 79 per cent to reach 2.2 billion (ranging from 2.1 billion to 2.4 billion, with a probability of 95 per cent), with an additional

increase of 51 per cent between 2054 and the end of the century to reach 3.3 billion (ranging from 2.7 billion to 4.5 billion, with a probability of 95 per cent).

The populations of nine countries, including Angola, Central African Republic, Democratic Republic of the Congo, Niger and Somalia are likely to grow exponentially, with populations doubling in size or more between 2024 and 2054. More than one fifth of the projected increase in the global population between 2024 and 2054 is expected to be concentrated in these nine countries. Due to this rapid growth, the ranking of the most populous countries in the world will likely change, with Pakistan and eventually Nigeria and the Democratic Republic of the Congo overtaking the United States of America in terms of population size, and the United Republic of Tanzania likely joining the list of the ten largest countries by the end of the century (figures IV.3 and IV.4).

Figure IV.4
Rankings of the world's ten most populous countries and total population (in parentheses), 2024, 2054 and 2100 (in millions)

Source: United Nations (2024a).
Note: A blue arrow indicates that a country has the same rank in the two given years, a yellow arrow indicates that a country has increased in rank and a green arrow indicates that a country's ranking has fallen.

For many of these countries and areas, such rapid growth is likely to pose a serious challenge to their sustainable development. Specifically, it will magnify the scale of investments and efforts required to eradicate poverty, end hunger and malnutrition, and ensure universal access to health care, education and other essential services in countries that are already facing severe economic, social and environmental impediments (United Nations, 2021, 2023b, 2023c). In countries where the population is growing rapidly, individuals and couples will not be able to make progress towards achieving their desired family size

unless the availability of family planning services, including access to a wide range of effective methods of contraception fulfilling their needs, is urgently stepped up.

Population growth in other regions of this group is likely to unfold at a much slower pace than for sub-Saharan Africa. Many of the countries that are likely to continue growing through 2054 are already in the later stages of the transition, when growth starts to slow as the population size nears its peak. Countries such as France, Sweden and the United Kingdom in Europe are likely to continue to increase in population size through the second half of the century albeit at a relatively slow pace, stabilizing around the size of their peak (figures IV.1 and IV.3).

Other countries where population growth is likely to stabilize after reaching their peak are Cambodia in Eastern and South-Eastern Asia; Plurinational State of Bolivia, Haiti and Honduras in Latin America and the Caribbean; and Algeria in Northern Africa and Western Asia.

In a small number of mostly high-income countries, including Canada and the United States of America in Northern America; Oman, Saudi Arabia, the United Arab Emirates in Northern Africa and Western Asia; and Australia population growth between 2024 and 2100 is likely to be above 20 per cent due, in large part, to international migration.

In addition, the population of 10 countries in this group, mostly in Eastern and South-Eastern Asia and in Latin America and the Caribbean is projected to decline by 10 per cent or more by 2100 after peaking in size. The population of India, which is expected to remain the world's largest throughout the century, will likely decline by 12 per cent after reaching its peak in the early 2060s at about 1.7 billion (figure IV.3). Other countries in this group that are projected to see the size of their populations shrink during the second half of the twenty-first century include Bangladesh, Indonesia, Morocco, Peru and the Philippines.
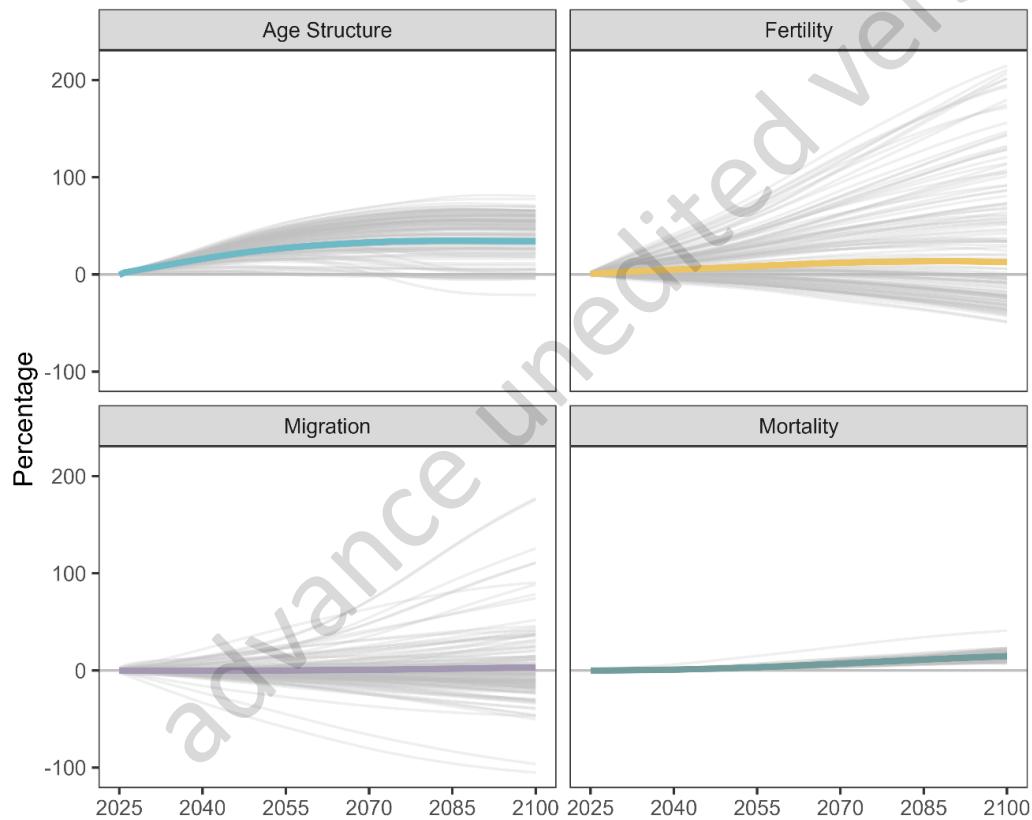
One of the pressing considerations for many of the countries in this group is how to minimize future environmental impacts while meeting the needs of their growing populations. Environmental damage often arises from the economic processes that lead to higher standards of living. Population growth amplifies such environmental pressures by adding to total economic demand. Many of the countries with populations that are likely to grow rapidly are, at present, considered low-income. These countries, which have been responsible until now for only a small share of the global consumption of material resources and emissions of greenhouse gases (GHGs), will need to increase their energy consumption substantially if they are to develop economically and achieve the Goals and targets of the 2030 Agenda (United Nations, 2021).

Promoting sustained economic growth in such countries without further damaging the environment will require support from the international community. The high-income and middle-income countries that have contributed most to unsustainable patterns of resource use bear the greatest responsibility for moving rapidly to achieve net-zero GHG emissions and for implementing strategies to decouple human economic activity from environmental degradation, regardless of whether their populations are growing or not. However, because of the multiplicative effect of population on GHG emissions, the need to decouple economic activity from the current over-reliance on fossil-fuel energy is particularly urgent among countries with populations that are projected to continue growing through the end of the century and beyond.

For countries with populations that are likely to continue growing through 2054, all three demographic components – fertility, mortality and international migration – as well as population momentum make a positive contribution to population growth (figure IV.5). At the group level, the potential for growth that is embedded in the age structure will have the largest influence on the future population growth, contributing 69 per cent of growth through 2054 and 53 per cent through 2100. There is a wide variability within the group in terms of the relative contribution of each of the components. Fertility is likely to have a strong influence in most of the sub-Saharan African countries in the group, while net migration is likely be the main driver of future population growth in many of the members of the Cooperation Council for the Arab States of the Gulf (GCC), as well as in many countries in Europe, Northern America, and Australia and New Zealand.

Figure IV.5
Relative contribution of demographic components of population change to future population size, countries and areas with populations that are likely to continue growing through 2054, group average and selected countries, by component, projections (medium scenario), 2024–2100 (percentage)

Source: Calculations using data from United Nations (2024a).
Note: Grey lines represent countries and areas with at least 90,000 inhabitants in 2024.
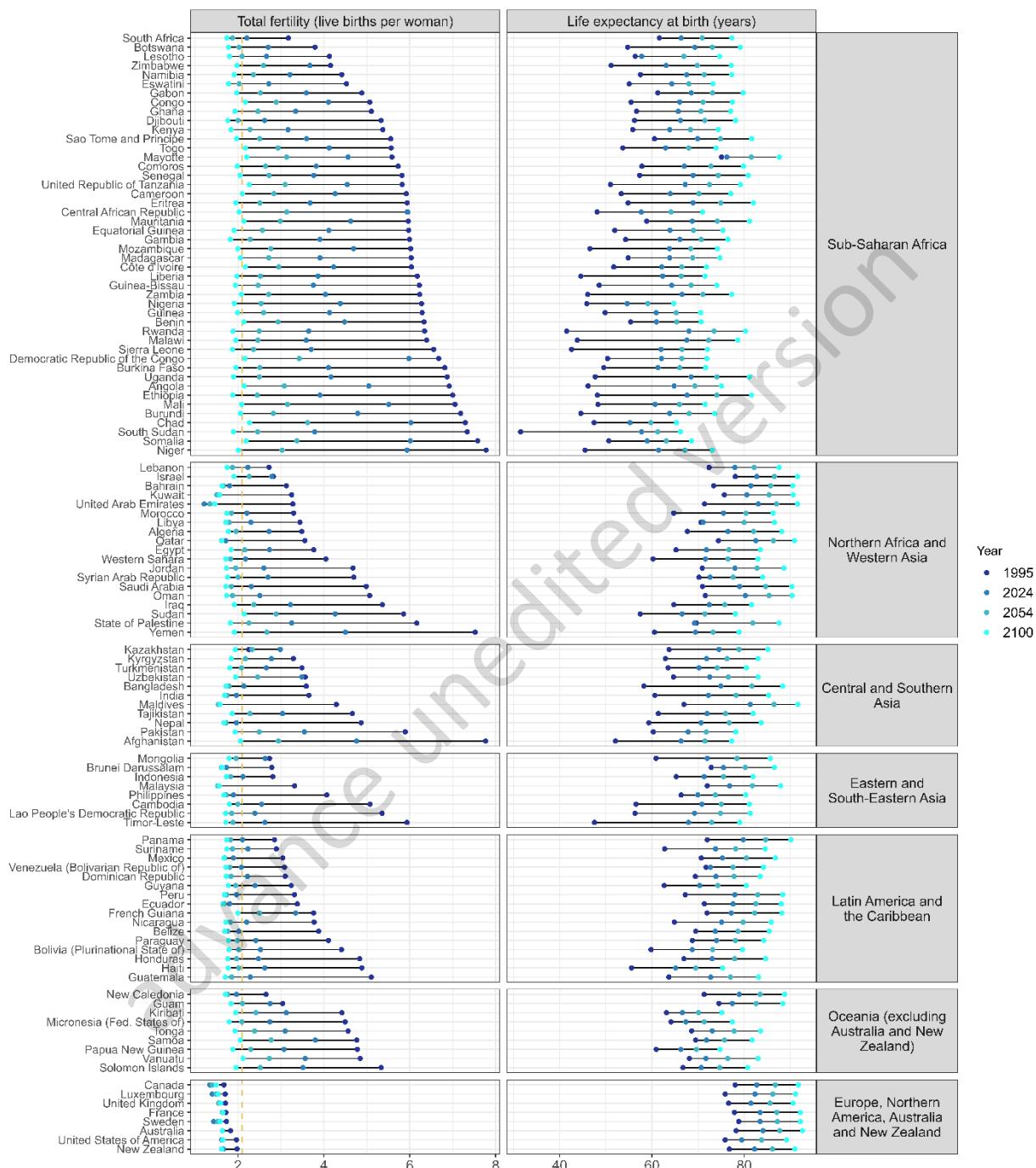
In 2024, the average number of births per woman at the group level for countries with populations that are likely to continue growing through 2054 was 2.72. Three quarters of the countries in the group had fertility at or above replacement level and in one fifth – all in sub-Saharan Africa except for Afghanistan – women had on average 4 or more births in 2024. The high fertility levels in these locations will continue

to drive strong population growth for the rest of the century. In contrast, 28 countries, or 22 per cent of the countries in this group, already had fertility levels below replacement in 2024. Among them, three countries – Canada, Luxembourg and the United Arab Emirates – had ultra-low levels of fertility (below 1.4 births per woman).

Over the next 30 years, fertility is expected to continue to decline in the group (figure IV.6). By the late 2060s, the average level of fertility for these locations is projected to fall below replacement level, further declining to 1.89 by 2100 (ranging from 1.77 birth per woman to 2.47 birth per woman, with a probability of 95 per cent). Although there is a high degree of uncertainty surrounding the future levels of fertility, according to the medium projection, no country in the group will have fertility levels above 3.7 births per woman by 2054, or above 2.3 births per woman by 2100.

Figure IV.6
Total fertility and life expectancy at birth, countries and areas with populations that are likely to continue growing through 2054, by region, estimates for 1995 and projections (medium scenario), 2024, 2054 and 2100

Source: United Nations (2024a).
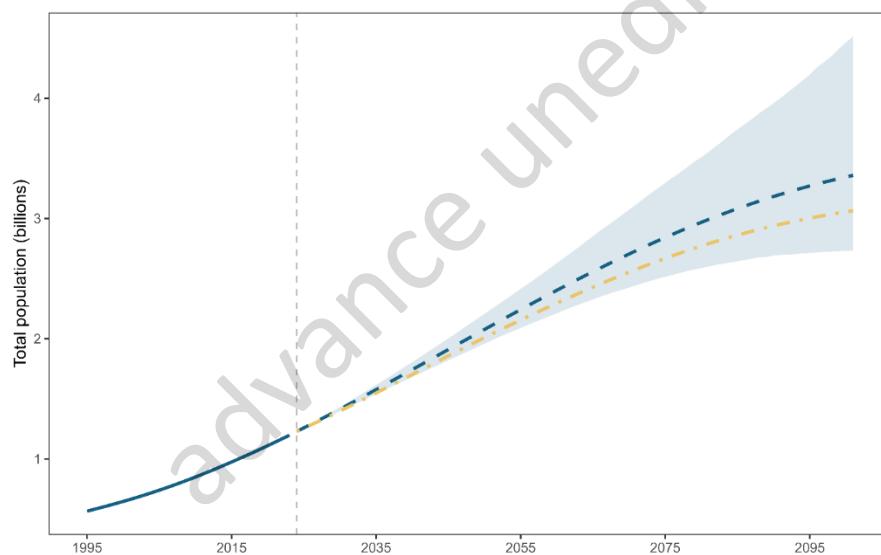
*Notes:* Countries and areas are ordered by level of fertility in 1995 within regions. The dashed orange vertical line indicates the level of replacement fertility.

In most high-fertility countries in this group, early childbearing is prevalent. This has been identified as an important issue to address as reflected by the inclusion of the adolescent birth rate among one of the indicators to monitor SDG target 3.7 on ensuring universal access to sexual and reproductive health-care services, including for family planning, information and education. In 2024, 4.7 million babies globally, or about 3.5 per cent of the total live births worldwide, were born to mothers under age 18. Of these, some 340,000 were to girls under age 15, with serious adverse consequences for the health and well-being of both the young mothers and their children. In low-income countries, the number of births to mothers under age 18 is 21 times as high as in high-income countries. Investing in the education of young people, especially girls, and increasing the ages at marriage and first childbearing in countries where these milestone events tend to occur early will have positive effects on women's health, educational attainment and labour force participation.

Increasing the age at first childbearing contributes also to slowing population growth, reducing the scale of the investments and effort required to achieve sustainable development while ensuring that no one is left behind. If there were no births to girls under age 18, the population of countries in sub-Saharan Africa in 2054 would be 3.8 per cent smaller than it would have been otherwise. Under this scenario, the size of the population of the countries in sub-Saharan Africa would be smaller by 85 million by 2054 and by 292 million by 2100 (figure IV.7).

Figure IV.7

Total population of sub-Saharan Africa, estimates, 1995–2023, projections (medium scenario) with predication intervals and scenario without fertility below age 18 (dash-dotted line), 2024–2100

Source: United Nations (2024a).

Note: 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 a probability of 95 per cent.

Reductions in mortality are also anticipated to contribute to future population growth in this group of countries and areas, though to a smaller extent than fertility. Increasing levels of life expectancy at birth are likely to contribute to population increase in all countries in the group over the coming decades. Among countries with populations that are projected to continue growing through 2054, life expectancy at birth is lowest in sub-Saharan African countries (62.3 years) and highest in Europe and Northern America,
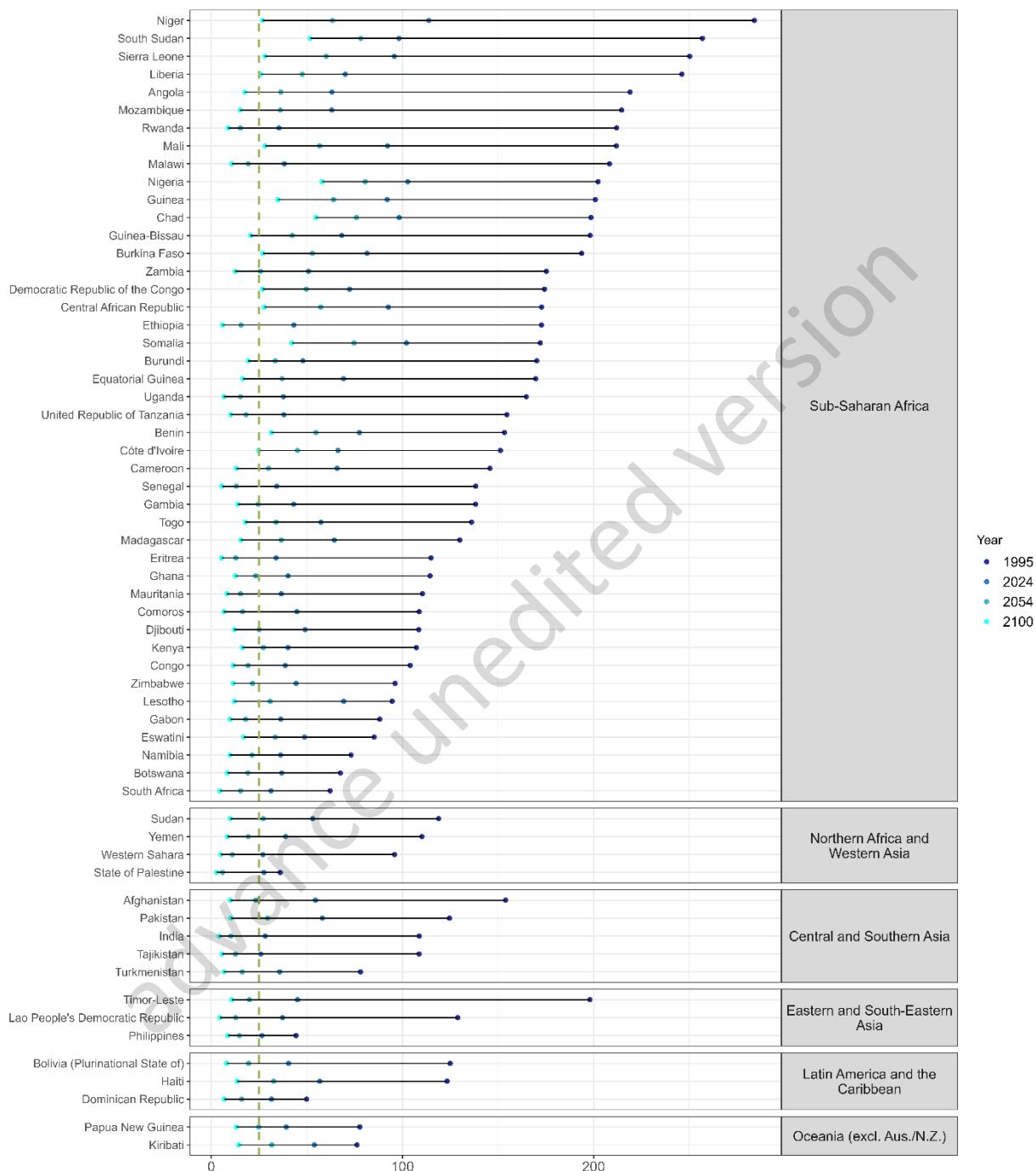
Australia and New Zealand (80.7 years). The group comprises some of the countries with the lowest levels of life expectancy at birth in the world as well as some of the highest. Countries with the lowest levels of life expectancy in 2024, many of which are in sub-Saharan Africa, are projected to experience large gains over the course of the century. Despite these gains, by 2100, life expectancy for these locations in sub-Saharan Africa is still expected to lag 6.3 years behind the average of the group.

For many locations in this group, particularly those in sub-Saharan Africa and in Central and Southern Asia, the increase in longevity projected over the next three decades is contingent on substantial reductions in mortality during childhood. In 2023, the global number of deaths among children under age 5 fell below 5 million for the first time in recent history. However, 95 per cent of such deaths took place in the 126 countries with populations that are still growing, including the Democratic Republic of the Congo, India, Nigeria and Pakistan. While many of these locations have witnessed important reductions in both the number and mortality rates among children under age 5, 57 countries in this group, including Chad, Niger, Nigeria, Somalia and South Sudan, are likely to fall short of the target of reducing under-5 mortality to at least as low as 25 deaths per 1,000 live births by 2030 (SDG target 3.2) (figure IV.8). Dedicating more resources to critical, low-cost treatments and interventions, such as ensuring access to antenatal and postnatal care, skilled birth attendants, vaccinations and nutritional supplements, is imperative and would save millions of lives worldwide over the next decade.

Figure IV.8
Under-5 mortality rate, countries and areas with populations that are likely to continue growing through 2054, by region, estimates for 1995 and projections (medium scenario), 2024, 2054 and 2100
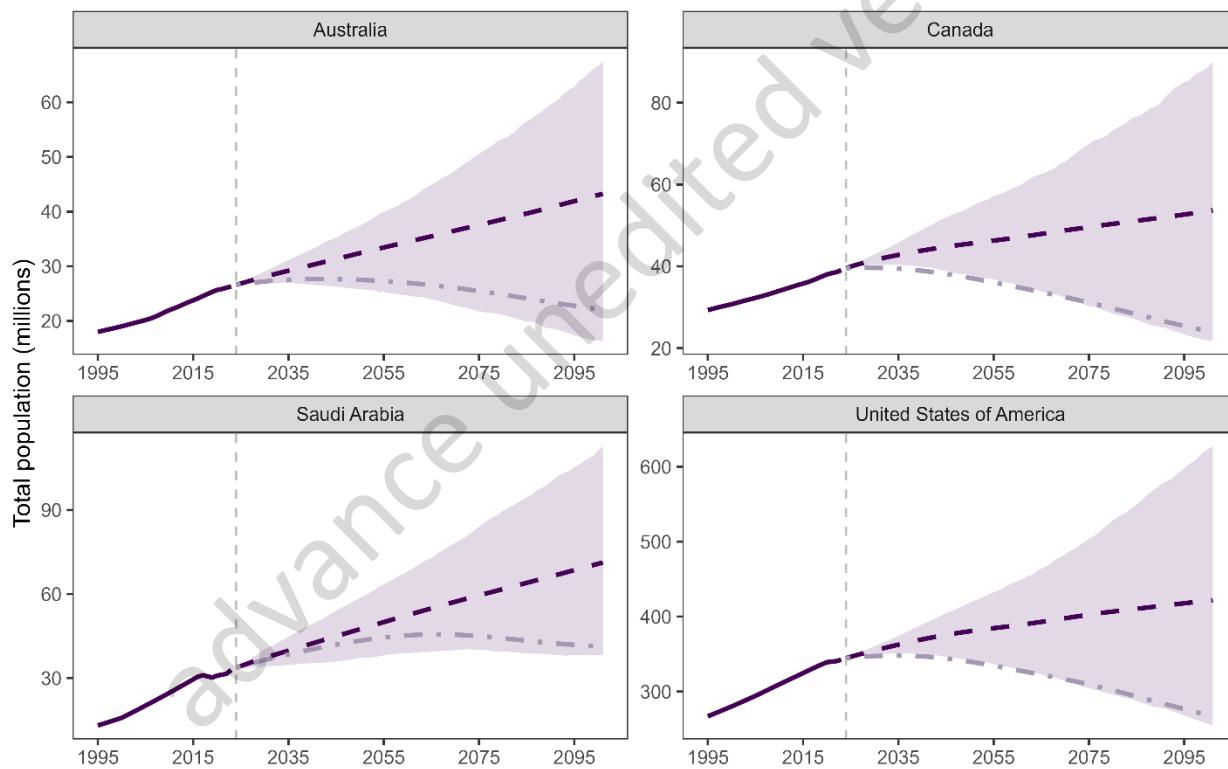
Source: United Nations (2024a).

*Notes:* The under-5 mortality rate represents the probability of dying between birth and exact age 5. Results shown for countries with a rate of 25 deaths under age five per 1,000 live births in 2024. Countries are ordered by level of under-5 mortality rate in 1995 within regions. The dashed green vertical line indicates a rate of 25. Oceania refers to the region excluding Australia and New Zealand.

The contribution of international migration to population change varies across the countries and areas in this group. In most of the countries where the average fertility level is high, emigration is likely to have a limited impact in offsetting the population growth. Conversely, for many of the countries in the group with relatively low levels of fertility, immigration is projected to be the main driver of future population growth. These countries include Australia, Canada, Qatar, Saudi Arabia, the United Arab Emirates and the United States of America. In the absence of migration, the population of these locations would likely peak much earlier and at a lower level (figure IV.9). In the United States of America, for example, the population in 2054 and in 2100 would be, respectively, 13 per cent and 36 per cent smaller without the contribution of immigration. Without immigration, the population of the United States of America would likely peak already in the mid-2030s instead of continuing to grow to the end of the century and its peak would occur at a level that is 17 per cent lower.

Figure IV.9
Total population for selected countries with populations that are likely to continue growing through 2054, estimates, 1995–2023, projections (medium scenario) with prediction intervals, and zero net migration scenario (dash-dotted 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 a probability of 95 per cent. The scale of the y axis differs between locations.

In the countries of the group with high levels of fertility, rapid growth in the past, combined with present and future fertility will result in large cohorts of children and young people in the decades to come, adding to the challenges of ensuring healthy lives and promoting well-being for all at all ages (SDG 3) and ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all (SDG 4) (box IV.2).

Over the coming decades, the global population of youth (generally between 15 and 24 years), which stood at 1.3 billion in 2024, is projected to continue to grow slowly, reaching a peak of 1.4 billion in the early 2030s. However, owing to pronounced differences in population trends across countries, much of this growth is likely to take place in the group of countries with populations that are still growing rapidly, particularly those in sub-Saharan Africa. As a result, an increasing share of young people worldwide will be concentrated in these locations, many of which already confront substantial barriers to sustainable development and lag critically behind in per capita investments in health, education and job creation.

**Box IV.2 Empowering youth and the relevance of population trends
for the Summit of the Future**

The Summit of the Future is a high-level event taking place in September 2024 that will bring together world leaders to forge a new international consensus on how to deliver a better present and safeguard the future. One of its key components is the youth pillar, which emphasizes the crucial role of young people in driving innovation, progress, and positive change. As recognized in the 2030 Agenda for Sustainable Development, leaving a better future for generations to come depends greatly on the full participation of youth in the processes of social, economic and political development. However, inequalities among youth and between generations can critically undermine the capacity of young people to achieve their full potential and play that distinct role, with differences in early life conditions having lasting effects throughout the life course.

The rapid increase in the number of young people can place an additional strain on governments to ensure access to quality education, health and decent job opportunities for 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 populations that are projected to grow rapidly over the coming decades. The returns on investing in young people's human capital, however, are manifold, generating virtuous cycles that can lift individuals, families and societies out of poverty, reduce inequality and help build more resilient and peaceful societies.
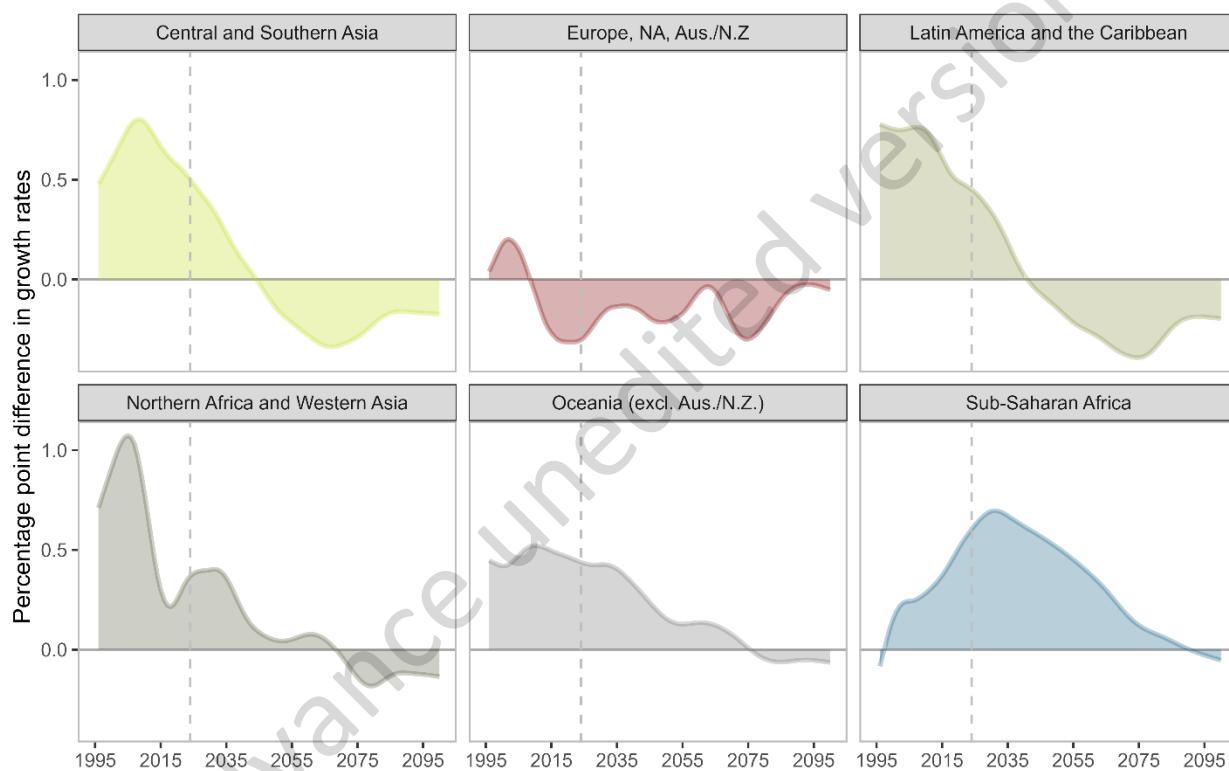
Another priority is to mainstream gender equality into youth policies. Continued investments in education and training opportunities for girls and young women are needed everywhere. In 2022, the proportion of youth not in education, employment or training (SDG 8.6.1) was higher for young women than for young men in 73 countries with available data. Strengthening sexual and reproductive health services for young women can prevent unintended pregnancies, saving lives and improving health outcomes. Advancing generational change for gender equality by empowering youth, and female youth in particular, and increasing their agency, will have multiplier effects across the SDGs and safeguard the needs and interests of future generations worldwide.

In around 75 per cent of countries and areas in this group, the share of population at working ages (between 20 and 64 years) will continue to increase more rapidly than the total population over the next 30 years, providing a window of opportunity for accelerated economic growth on a per capita basis (see

figure I.8 and box III.1). In 2024, countries in this group still had, on average, 30 years to capture the benefits of a changing population age structure to accelerate economic growth. The countries in sub-Saharan Africa had the largest window of time still available to take advantage of their youthful age structure (see figure IV.10). In these countries, substantial investments in education, health care and infrastructure, while also implementing reforms to support the creation of decent job opportunities and more transparent and efficient government institutions, are needed to ensure that this time-bound opportunity is not wasted.

Figure IV.10

Relative difference between population growth rates in working ages and in total population, countries and areas with populations that are likely to continue growing through 2054, by region, estimates, 1995–2023 and projections (medium scenario), 2024–2100

Source: United Nations (2024a).
Notes: For analytical purposes, it is assumed that the working age range extends from 20 to 64 years. The difference between the growth rate of the population of working age and the growth rate of the total population equals the theoretical contribution of changes in the age distribution to the growth of GDP per capita. Such changes can be positive or negative. The shaded areas in the graph represent the dividend, and the vertical dash line indicates the year 2024.

Because the countries in the group are at different stages in the demographic transition, some of them are also more advanced in the process of population ageing. In Canada, France and Sweden, for example, more than 20 per cent of the population was already aged 65 or older in 2024. Even in the countries where high rates of immigration counterbalance the low levels of fertility, such as Bahrain, Kuwait, Qatar or the United Arab Emirates, the share of older persons will more than triple by the end of the century (box II.3). By 2054, population ageing will be advanced in all countries in the group that have low levels of fertility.

The countries of the group with high fertility will also experience a continuing increase in the number and share of older persons in their populations. Nigeria, for example, the country with the largest population in sub-Saharan Africa, is projected to see its share of persons aged 65 or older climb from 5 per cent of the total population in 2054 to 12 per cent in 2100. At that date, the number of persons aged 65 or older in Nigeria is projected to reach 58.6 million, compared to 7.1 million in 2024. The increase in the proportion and the number of persons at ages 65 and higher among countries with populations that are likely to continue growing through 2054 highlights the need for developing and strengthening health care and social protection systems and supporting national policies to create equitable, fair and inclusive societies for people of all ages[17] (United Nations, 2023a). Many of the countries in this group, which at present have youthful populations, will need to prepare for a society with an age structure that will be very different. This will require long-term planning and foresight, acknowledging the time that will be required to establish such systems in countries where they do not yet exist.

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[17] These efforts should build on the Madrid International Plan of Action on Ageing.

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Annex: What's new in the 2024 revision?

In the previous revision in 2022 of *World Population Prospects*, several major methodological enhancements were implemented in order to improve the standards, transparency and replicability of the estimates and projections. Chief among these was a transition from the historical practice of estimating and projecting population for five-year age groups and over five-year periods of time towards a framework defined by single-years of age and one-year periods of time. Additional enhancements included: a more systematic and comprehensive compilation of country-level empirical data for each demographic component, the application of probabilistic models for estimating key fertility and mortality indicators; a new protocol for evaluating and adjusting census population counts; a new accounting for mortality associated with different types of crises such as those due to conflicts, natural disasters and epidemics, including the COVID-19 pandemic; a new model life table system to estimate mortality for countries affected by HIV and AIDS; the application of standardized methods for estimating levels and patterns of net international migration; and the upgrade of probabilistic projection models of fertility and mortality for annual time series (see United Nations, 2022b).

The 2024 revision builds on the progress achieved in 2022 with further enhancements to the methods that underpin the *World Population Prospects*. In the 2024 revision, the projections of net migration are, for the first time, probabilistic, with the projection assumptions informed by median projection of a probabilistic model for net migration rates (Azose and Raftery, 2015; Azose, Ševčíková and Raftery, 2016) where the magnitude of past variability in annual net migration rates for each country is incorporated into the uncertainty of the projections and adds additional uncertainty to the projection of total population. Therefore, it is now possible to show how uncertainty around future migration trends contributes to overall uncertainty around future population projections and in comparison to the uncertainty around future fertility and mortality trends.

Additionally, several methodological refinements were implemented regarding the estimation of age-specific fertility rates (Chao and others, 2023), the modelling of the age and sex profiles of projected net international migration (Raymer and others, 2023), additional options for smoothing mortality schedules over age and time, an expansion of the use of official population estimates as benchmark populations for estimating net international migration, the refinements of the age-sex patterns of crisis deaths (Mathers and others, 2023) and the update of crisis deaths estimates including a new category of deaths due to heat waves with information for 56 countries.

Compared to the *2022 revision*, the medium projection scenario uses now the mean values rather than the median values for the total fertility rates and the sex-specific life expectancy at birth in order to increase the coherence between the deterministic medium projections and probabilistic projections for countries with substantially skewed probabilistic distributions.

The quality of population estimates and projections hinges on the availability of reliable and timely demographic data, including data collected through civil registration and vital statistics (CRVS) systems, population censuses, population registers and household surveys. For the estimation period between 1950 and 2023, the 2024 revision used data from 1,910 censuses, 79 more than in the 2022 revision. In some countries, population registers based on administrative data systems provide the necessary information. Population data from censuses or registers referring to 2019 or later were available for 114 countries and

areas, representing 48 per cent of the 237 countries and areas included in this analysis (and 54 per cent of the world population). For 100 countries and areas, the most recent available population count was from the period 2009–2018. For the remaining 23 countries and areas, the most recent available census data were from before 2009, that is, more than 15 years ago.

Civil registration and vital statistics systems are the preferred source of information for computing statistics on levels and trends in the fertility and mortality of a population, and for estimating changes in the size of a population and in its distribution by age and sex between censuses. Information on births and deaths from civil registration and vital statistics systems was available for 169 countries. Additionally, demographic indicators derived from 3,189 surveys (423 more than in the 2022 revision), were considered in the present evaluation.

Among the 236 countries and areas with 1,000 inhabitants or more in 2023, all but 40 had available data on fertility collected in 2019 or later. For 2023, 35 countries and areas had total fertility and age-specific fertility data and an additional 6 countries had data on the number of births.

Among the 236 countries and areas with 1,000 inhabitants or more in 2023, the most recent available child mortality data referred to 2019 or later for 184 countries and for adult mortality data for 154 countries. The mortality estimates considered the impact of the COVID-19 pandemic by incorporating estimates of excess mortality through 2021 produced by the WHO[18] (Msemburi and others, 2023). The information on age- and sex-specific deaths from vital registration (with 90 per cent or higher completeness of death registration) is available for 2020 only for 106 countries covering 35 per cent of global number of deaths estimated for 2020 in the *2024 revision*, and for the year 2023 only for 5 countries covering 1 per cent of the global number of deaths in 2023.

Table A1

Number of countries with data on age- and sex-specific deaths from complete vital registration (VR) for years 2020 to 2023

	Number of countries	Number of countries with 90 per cent or higher death registration	Proportion of total global deaths covered by complete VR (per cent)
2020	128	106	35
2021	116	100	30
2022	58	51	15
2023	6	5	1

Note: As of March 2024.

All components of the data information system for producing, documenting and presenting World Population Prospects were updated for the *2024 revision*, including (a) an inventory of available data (DataCatalog), (b) a repository (DataArchive) of input data sources, (c) a database (DemoData) to store and update the information used in preparing estimates of population estimates and of the components of population change (fertility, mortality, migration), (d) a structured set of metadata used for data analysis, statistical modelling and public documentation (ShortNotes), and (e) a dissemination platform (DataPortal) to give access to all output and input data in tabular form and tools for creating interactive visualizations.

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[18] https://www.who.int/data/sets/global-excess-deaths-associated-with-covid-19-modelled-estimates

World Population Prospects 2024: Summary of Results adopts the analytical framework of the demographic transition—the historic shift towards longer lives and smaller families—approximated here by the timing at which populations peak in size, to explore differences in population trends that characterise countries and regions today and provide insight into their future trajectories. The report also offers policy recommendations to prepare countries for a population size, age structure and spatial distribution that may differ appreciably from that of their recent past.

World Population Prospects 2024 is the twenty-eighth edition of the official United Nations population estimates and projections. It presents population estimates from the 1950s to the present for 237 countries or areas, underpinned by analyses of historical demographic trends. The 2024 revision also presents population projections to the year 2100 that reflect a range of plausible outcomes at the global, regional and national levels.