

2015

World Population Ageing

"[report]



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**Department of Economic and Social Affairs
Population Division**

World Population Ageing 2015



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The Population Division of the Department of Economic and Social Affairs provides the international community with timely and accessible population data and analysis of population trends and development outcomes for all countries and areas of the world. To this end, the Division undertakes regular studies of population size and characteristics and of all three components of population change (fertility, mortality and migration). Founded in 1946, the Population Division provides substantive support on population and development issues to the United Nations General Assembly, the Economic and Social Council and the Commission on Population and Development. It also leads or participates in various interagency coordination mechanisms of the United Nations system. The work of the Division also contributes to strengthening the capacity of Member States to monitor population trends and to address current and emerging population issues.

Notes

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Preface

In the area of population ageing, the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat prepares national, regional and global estimates and projections of older populations, monitors levels and trends in population ageing and collects and analyses information on the relationship between population ageing and development. The Population Division also organizes expert group meetings on various aspects of population ageing.

This report is the fifth in the series *World Population Ageing*. The first report was released in 2002 in conjunction with the Second World Assembly on Ageing. The present report, which updates the 2007, 2009 and 2013 editions, provides a description of global trends in population ageing and includes new features on the socio-economic and health aspects of ageing. This report is accompanied by an interactive database on the *Profiles of Ageing 2015*.

This report was prepared by a team led by Jorge Bravo, including Sara Hertog, Yumiko Kamiya and Mun Sim Lai, who carried out research and drafted chapters. Ivan Prlincevic contributed programming and data processing and Donna Culpepper provided formatting and editorial support. Barney Cohen and John Wilmoth provided key guidance and useful comments on the draft report.

The present report has been issued without formal editing. Responsibility for the *World Population Ageing 2015* report rests with the Population Division.

Explanatory notes

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

- Two dots (..) indicate that data are not available or are not separately reported.
- An em dash (—) indicates that the amount is nil or negligible.
- A hyphen (-) indicates that the item is not applicable.
- A minus sign (–) before a figure indicates a decrease.
- A point (.) is used to indicate decimals.
- A slash (/) indicates a crop year or financial year, for example, 2010/15.

Use of a hyphen (-) between dates representing years, for example, 2010-2015, signifies the full period involved, including the beginning and end years.

Details and percentages in tables do not necessarily add to totals because of rounding.

Reference to “dollars” (\$) indicates United States dollars, unless otherwise stated.

The term “billion” signifies a thousand million.

Sources, methods and classifications

Data on demographic trends used in the present report are taken from the *2015 Revision* of the official United Nations world population estimates and projections (United Nations, Department of Economic and Social Affairs, Population Division, 2015). In addition, data on the levels of older persons' consumption and the sources of financing for that consumption are from the National Transfer Accounts database (2015). Data on labour force participation were obtained from the International Labour Organization (2015) and data on statutory retirement age from the United States Social Security Administration (2013 and 2014). Data on healthy life expectancy, causes of morbidity and mortality, and burden of disability were obtained from the World Health Organization (2014).

The population estimates and projections, which are prepared biennially by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, provide the standard and consistent set of population figures that are used throughout the United Nations system as the basis for activities requiring population information. In the *2015 Revision of the World Population Prospects*, standard demographic techniques were used to estimate the population by age and sex, as well as trends in total fertility, life expectancy at birth, infant mortality and international migration for the years 1950 through 2015, from data available from censuses and post-enumeration surveys; demographic and health surveys; population and vital registration systems; scientific reports and data collections; and from data and estimates provided by international agencies. The resulting estimates provided the basis from which the population projections follow. In the *2015 Revision*, the population projections are based on a probabilistic (Bayesian) method for projecting total fertility and life expectancy at birth. This method is based on empirical fertility and mortality trends estimated for all countries of the world for the period 1950 to 2015. The present report draws on the medium variant population projections through the year 2050.¹

The countries and areas identified as statistical units by the Statistics Division of the United Nations and covered by the above estimates and projections, are grouped geographically into six regions: Africa; Asia; Europe; Latin America and the Caribbean; Northern America; and Oceania. The countries are also summarized, for statistical convenience, into two general groups—more developed and less developed—on the basis of demographic and socio-economic characteristics. The less developed regions include all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean, and Oceania (excluding Australia and New Zealand). The more developed regions include all other regions plus the three countries excluded from the less developed regions. The group of least developed countries, as defined by the United Nations General Assembly in its resolutions (59/209, 59/210 and 60/33) in 2015 comprises 48 countries. In addition, the countries are summarized within four groups defined by the World Bank according to the gross national income (GNI) per capita in 2014: high-income countries are those with GNI per capita of \$12,736 or more; upper-middle income countries are those with GNI per capita of more than \$4,125 but less than \$12,736; lower-middle income countries are those with GNI per capita of more than US\$1,045 but less than \$4,125; and low-income countries are those with GNI per capita of \$1,045 or less. See Annex II for further detail on composition of the above mentioned groupings.

¹ Further information about data sources and methods underlying the estimates and projections of population can be found on the website of the Population Division at <http://esa.un.org/unpd/wpp/>.

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I. Introduction and key findings

The world's population is ageing: virtually every country in the world is experiencing growth in the number and proportion of older persons in their population. Population ageing—the increasing share of older persons in the population—is poised to become one of the most significant social transformations of the twenty-first century, with implications for nearly all sectors of society, including labour and financial markets, the demand for goods and services, such as housing, transportation and social protection, as well as family structures and inter-generational ties. Preparing for the economic and social shifts associated with an ageing population is thus essential to ensure progress in development, including towards the achievement of the goals outlined in the 2030 Agenda for Sustainable Development. Population ageing is particularly relevant for the goals on poverty eradication, ensuring healthy lives and well-being at all ages, promoting gender equality and full and productive employment and decent work for all, reducing inequalities between and within countries, and making cities and human settlements inclusive, safe, resilient and sustainable. The 2002 Madrid International Plan of Action on Ageing (MIPAA), adopted during the Second World Assembly on Ageing, highlighted the need to consider older persons in development planning, emphasizing that older persons should be able to participate in and benefit equitably from the fruits of development to advance their health and well-being, and that societies should provide enabling environments for them to do so. As populations become increasingly aged, it is more important than ever that governments design innovative policies and public services specifically targeted to older persons, including those addressing, *inter alia*, housing, employment, health care, infrastructure and social protection.

This report details the important changes that are taking place in the age structures of populations around the world. Chapter II describes recent and projected future levels and trends in the numbers and share of older persons in the population. It also presents trends in the demographic characteristics of the older population with respect to age, sex and urban/rural residence. Chapter III explores the demographic determinants—trends in fertility, mortality and migration—of changes to the size and age structure of the population. By adopting a historical perspective, this chapter identifies the major demographic shocks, as well as the more gradual demographic shifts, that shape current trends in population ageing. Chapter IV discusses the challenges posed by the growth in the number and share of older persons in the population for efforts to eradicate poverty and grow economies, to ensure the sustainability of pension systems, and to promote health and well-being at all ages. The issues highlighted in this chapter underscore just how critical the concerns of older persons are for progress in implementing the 2030 Agenda. The key findings of each of these chapters are summarized below:

A. LEVELS AND TRENDS IN POPULATION AGEING

According to data from *World Population Prospects: the 2015 Revision* (United Nations, 2015), the number of older persons—those aged 60 years or over—has increased substantially in recent years in most countries and regions, and that growth is projected to accelerate in the coming decades.

- Between 2015 and 2030, the number of people in the world aged 60 years or over is projected to grow by 56 per cent, from 901 million to 1.4 billion, and by 2050, the global population of older persons is projected to more than double its size in 2015, reaching nearly 2.1 billion.
- Globally, the number of people aged 80 years or over, the “oldest-old” persons, is growing even faster than the number of older persons overall. Projections indicate that in 2050 the oldest-old will number 434 million, having more than tripled in number since 2015, when there were 125 million people over age 80.
- Over the next 15 years, the number of older persons is expected to grow fastest in Latin America and the Caribbean with a projected 71 per cent increase in the population aged 60 years or over, followed by Asia (66 per cent), Africa (64 per cent), Oceania (47 per cent), Northern America (41 per cent) and Europe (23 per cent).
- Globally, during 2010-2015, women outlived men by an average of 4.5 years. As a result, women accounted for 54 per cent of the global population aged 60 years or over and 61 per cent of those aged 80 years or over in 2015. In the coming years, average survival of males is projected to improve and begin to catch up to that of females so that the sex balance among the oldest-old persons becomes more even. The proportion of women at age 80 years or over is projected to decline to 58 per cent in 2050.
- Both improved longevity and the ageing of larger cohorts, including those born during the post-World War II baby boom, mean that the older population is itself ageing. The proportion of the world’s older persons who are aged 80 years or over is projected to rise from 14 per cent in 2015 to more than 20 per cent in 2050.
- The older population is growing faster in urban areas than in rural areas. At the global level between 2000 and 2015, the number of people aged 60 years or over increased by 68 per cent in urban areas, compared to a 25 per cent increase in rural areas. As a result, older persons are increasingly concentrated in urban areas. In 2015, 58 per cent of the world’s people aged 60 years or over resided in urban areas, up from 51 per cent in 2000. The oldest-old are even more likely to reside in urban areas: the proportion of people aged 80 years or over residing in urban areas increased from 56 per cent in 2000 to 63 per cent in 2015.

Globally, the number of older persons is growing faster than the numbers of people in any other age group. As a result, the share of older persons in the total population is increasing virtually everywhere. While population ageing is a global phenomenon, the ageing process is more advanced in some regions than in others, having begun more than a century ago in countries that developed earlier, and getting underway only recently in many countries where the development process has occurred later, including the decline of fertility.

- In 2015, one in eight people worldwide was aged 60 years or over. By 2030, older persons are projected to account for one in six people globally. By the middle of the twenty-first century, one in every five people will be aged 60 years or over.
- By 2030, older persons will outnumber children aged 0-9 years (1.4 billion versus 1.3 billion); by 2050, there will be more people aged 60 years or over than adolescents and youth aged 10-24 years (2.1 billion versus 2.0 billion).
- The ageing process is most advanced in high-income countries. Japan is home to the world's most aged population¹: 33 per cent were aged 60 years or over in 2015. Japan is followed by Germany (28 per cent aged 60 years or over), Italy (28 per cent) and Finland (27 per cent).
- The pace of world population ageing is accelerating. Projections indicate that the proportion aged 60 years or over globally will increase more than 4 percentage points over the next 15 years, from 12.3 per cent in 2015 to 16.5 per cent in 2030, compared to the 2.3 percentage point increase in the share of older persons that occurred between 2000 and 2015.
- By 2030, older persons are expected to account for more than 25 per cent of the populations in Europe and in Northern America, 20 per cent in Oceania, 17 per cent in Asia and in Latin America and the Caribbean, and 6 per cent in Africa.
- In 2050, 44 per cent of the world's population will live in relatively aged countries, with at least 20 per cent of the population aged 60 years or over, and one in four people will live in a country where more than 30 per cent of people are above age 60.
- The pace of population ageing in many developing countries today is substantially faster than occurred in developed countries in the past. Consequently, today's developing countries must adapt much more quickly to ageing populations and often at much lower levels of national income compared to the experience of countries that developed much earlier.

B. DEMOGRAPHIC DRIVERS OF POPULATION AGEING

Population ageing is in many ways a demographic success story, driven by changes in fertility and mortality that are associated with economic and social development. Progress in reducing child mortality, improving access to education and employment opportunities, advancing gender equality, and promoting reproductive health and access to family planning have all contributed to reductions in birth rates. Moreover, advancements in public health and medical technologies, along with improvements in living conditions, mean that people are living longer and, in many cases, healthier lives than ever before, particularly at advanced ages.

¹ Of the 201 countries or areas with at least 90,000 inhabitants in 2015.

Together, these declines in fertility and increases in longevity are producing substantial shifts in the population age structure, such that the share of children is shrinking while that of older persons continues to grow.

- The growth rate of the population of older persons today is a function of the levels of fertility prevailing some 60 years ago when today's new cohorts of older persons were born, together with changes in the likelihood that members of those birth cohorts survived to older ages. Because fertility rates in the mid-twentieth century were higher in many parts of Africa, Asia and Latin America and the Caribbean—above five children per woman, on average—the growth rates of the older populations in those regions today are significantly faster than in Europe, where fertility in 1950-1955 had already fallen below three children per woman in many countries.
- Trends in the growth rate of the population of older persons reveal the powerful influence of major historical events in shaping the age composition of the population. The cohorts that entered their 80's during the late-1990's are those who were born during World War I, a time of depressed fertility in many countries that resulted in smaller birth cohorts. As a result, growth of the global population aged 80 years or over during 1995-2000 was slow relative to previous decades and has accelerated more recently as the cohorts born during the post-war fertility rebound reached their 80s.
- The fertility impact of World War II is evident in population ageing patterns as well. The growth rate of the global population aged 60 years or over has peaked in 2010-2015 and the rate of growth of the population aged 80 years or over is projected to peak in 2030-2035, marking the periods during which those born during the post-war baby boom reach older ages.
- Past and current regional levels of fertility predict the present and future rates of growth of their older populations. In Asia, the growth rate of the population of older persons is projected to decline precipitously after 2025, reflecting the rapid decline in fertility that began in the mid-1960s in that region. In Africa, the pace of growth of the population aged 60 years or over is projected to accelerate from just over 3 per cent per year in 2010-2015, reaching nearly 3.9 per cent per year in 2040-2045, reflecting the relatively high fertility rates of the region during the second half of the twentieth century. The pace of growth of the older population of Africa projected for the 2040s is faster than any region has experienced since 1950, when the data series begins.
- The immediate cause of population ageing is fertility decline. However, improved longevity contributes as well, first by eliminating the demographic necessity of high fertility and second by increasing the number of survivors to older ages. By 2050, life expectancy at birth is projected to surpass 80 years in Europe, Latin America and the Caribbean, Northern America and Oceania; and it will approach 80 years in Asia and 70 years in Africa.

- Improvements in survival at age 60 years or over have accounted for half of the total improvement in life expectancy in Europe, Northern America and Oceania over the past two decades. Reduced mortality at younger ages was more influential in improving the life expectancy at birth in Africa, Asia and Latin America and the Caribbean.
- In 2010-2015, 60-year-old persons globally could expect to live an additional 20.2 years, on average. Across the six regions, life expectancy at age 60 years was highest in Oceania and Northern America, at 23.7 years and 23.5 years, respectively, and lowest in Africa, at 16.7 years.
- Among today's young people, survival to age 80 is expected to be the norm everywhere but in Africa. Worldwide, 60 per cent of women and 52 per cent of men born in 2000-2005 are expected to survive to their eightieth birthdays, compared to less than 40 per cent of the women and men born in 1950-1955.
- While declining fertility and increasing longevity are the key drivers of population ageing globally, international migration has also contributed to changing population age structures in some countries and regions. However, in most countries, international migration is projected to have only small effects on the pace of population ageing. Between 2015 and 2030, net migration is projected to slow population ageing by at least 1 percentage point in 24 countries or areas, and to accelerate population ageing by at least 1 percentage point in 14 countries or areas.

C. POPULATION AGEING AND SUSTAINABLE DEVELOPMENT

Growth in the numbers and proportions of older persons can be expected to have far reaching economic, social and political implications. In many countries the number of older persons is growing faster than the number of people in the traditional working ages, leading many governments to consider increasing the statutory ages at retirement in an effort to prolong the labour force participation of older persons and improve the financial sustainability of pension systems. At the same time, population ageing and growth in the number of persons at very advanced ages, in particular, puts pressure on health systems, increasing the demand for care, services and technologies to prevent and treat non-communicable diseases and chronic conditions associated with old age. Countries can address these and other challenges by anticipating the coming demographic shifts and enacting policies proactively to adapt to an ageing population.

Ageing, poverty and economic growth

- In general, poverty rates among older persons tend to mirror fairly closely those of the population overall, although disparities are evident in some countries and regions. In many countries where pension systems are not in place or fail to

provide adequate income, including several in sub-Saharan Africa and in Asia, older persons are more likely to live in poverty than people at younger ages. Conversely, in countries with adequate pension systems with broad coverage, including several in Latin America and in Europe, poverty rates among older persons are essentially the same as or lower than those of the general population.

- Age patterns of consumption behaviour provide an additional indication of the level of welfare among older persons. In low-income and middle-income countries, levels of consumption tend to decline at older ages, indicating that older persons are faring less well than adults in other age groups in these countries. In contrast, in many high-income countries, the average levels of consumption among older persons are higher than among adults in other age groups—by as much as one third or more in some countries—indicating that older persons are comparatively well off in these countries.
- Public transfers, particularly for health care, play an important redistributive role to bolster the levels of consumption among older persons in many high-income countries. Conversely, in low-income and lower-middle-income countries, older persons finance most of their health care consumption through out-of-pocket expenditures. The low levels of public health expenditure in these countries contribute to a lack of health security and inferior care for older persons.
- Older persons' welfare is related to the share of consumption financed by public transfers. In many low-income countries where older persons are less well off than adults in other age groups, public transfers finance less than 15 per cent of total old-age consumption, compared to the 30 per cent or more of older persons' consumption that is financed by public transfers in many high-income countries, where older persons tend to be better off than adults in other age groups.
- Population ageing need not impede continued economic growth. Countries with increasing economic support ratios—thus, a rise in the ratio of producers to consumers in the population—benefit from a “first demographic dividend”. In societies where investments in human capital and savings accompany low fertility and increasing longevity motivates people to accumulate assets for old age, the increased volume of savings can further enhance economic growth, leading to a “second demographic dividend.” The second dividend is likely to be more significant in societies that do not rely solely on public or familial transfers to finance older persons’ consumption, but also promote retirement savings.

Ensuring social protection for older persons and the sustainability of pension systems

- Current demographic trends mean that each successive cohort of older persons can expect to live longer and possibly also have fewer adult children as potential sources of support in old age. In 2015, there were 7 people in the traditional working ages, 20-64 years, for each older person aged 65 years or over in the world. By 2050, there will be 3.5 working-aged people for each older person in

the world, and all major regions except Africa are expected to have potential support ratios of 3.2 or lower.

- Among people aged 65 years or over globally in 2015, 30 per cent of men and 15 per cent of women were active in the labour force. Older men and women in developing regions were more likely to be active in the labour force than their peers in the developed regions, due in part to differences in the structure and availability of pension systems across regions.
- In Europe, Oceania and Northern America, the labour force participation of older men has increased gradually since 1990, and it is projected to continue to increase in the future. In contrast, in Asia, Latin America and the Caribbean, and Africa, the labour force participation of older men has declined steadily. Among older women, labour force participation has increased since 1990 in all regions.
- In response to recent trends in population ageing, many low-income and middle-income countries have expanded the coverage of their contributory pension schemes and established non-contributory social pensions. Many high-income countries have undertaken fiscal consolidation reforms to their pension systems by raising the statutory pensionable age, reducing benefits or increasing contribution rates.
- At the global level, nearly half of all people who have reached statutory pensionable ages do not receive a pension, and for many of those who do receive a pension, the levels of support may be inadequate. Pension coverage is typically lower among women than among men owing to their lower rates of attachment to the labour market, their over-representation in the informal sector, or their work as self-employed or unpaid family workers. In many countries, the survivor's benefits paid through a husband's contributory pension benefits are the sole sources of income for older women.

Promoting health and well-being at older ages

- Changes are needed around the globe to continue to adapt health systems to serve a growing number and proportion of older persons and to maximize health and well-being at all ages. The World Health Organization emphasizes that these changes need not imply exorbitant increases in national health budgets, even in countries with rapidly ageing populations. Indeed, technology-related changes in health care, growth in personal incomes and cultural norms and attitudes surrounding end-of-life care are far more influential than shifts in population age structure in driving increases in health care expenditures.
- Older persons are tremendously diverse with respect to their health and well-being. Understanding levels and trends in the prevalence and severity of disability is key to assessing the implications of ageing for population health. For the world as a whole in 2013, people lost an average of approximately nine years

of healthy life due to disability. In general, the number of healthy life years lost due to disability tends to be greater in countries with a higher life expectancy at birth. However, people living in countries with longer average lifespans tend to spend a smaller proportion of their lives with disability compared to countries where life expectancy is shorter. In Europe, the average nine years of healthy life lost due to disability in 2013 accounted for just under 12 per cent of the average 76-year lifespan, whereas in Africa the average eight years of healthy life lost due to disability accounted for nearly 14 per cent of the average 58-year lifespan.

- Whether the growing numbers of older persons are living their later years in good health is a crucial consideration for policy development. If the added years of life expectancy are spent with disability, then demographic trends could portend substantially increased demand for health care. If the onset or severity of ill health is instead postponed as life expectancy increases, then the pressures exerted on the health system by a growing population of older persons may be attenuated. So far, evidence of trends in the health status of older persons is mostly limited to high-income countries and points to different conclusions depending on the study or context, making it difficult to draw clear conclusions about the fundamental questions.
- Given the projected growth of the older population, which will occur in virtually every country of the world over the coming decades, health systems should prepare now to address the specific health concerns of older persons. Unipolar depressive disorders are the leading cause of disability among women aged 60 years or over, followed by hearing loss, back and neck pain, Alzheimer's disease and other dementias, and osteoarthritis. Among older men, hearing loss is the leading cause of disability, followed by back and neck pain, falls, chronic obstructive pulmonary disease and diabetes mellitus.

As populations continue to grow older during the post-2015 era, it is imperative that governments design innovative policies specifically targeted to the needs of older persons, including those addressing housing, employment, health care, social protection and other forms of intergenerational support. Because the coming demographic shifts are foreseeable with much clarity over the next few decades, governments are afforded the opportunity to adopt a proactive approach to align their policies to the evolving needs of an ageing population.

II. Levels and trends in population ageing

A. TRENDS IN THE NUMBERS OF OLDER PERSONS

The number of older persons in the world has increased substantially in recent years and that growth is projected to accelerate in the coming decades.

Worldwide, there were 901 million people aged 60 years or over in 2015, an increase of 48 per cent over the 607 million older persons globally in 2000 (table II.1; figure II.1). By 2030, the number of people in the world aged 60 years or over is projected to grow by 56 per cent, to 1.4 billion, and by 2050, the global population of older persons is projected to more than double its size in 2015, reaching nearly 2.1 billion.

Globally, the number of people aged 80 years or over, the “oldest-old” persons, is growing even faster than the number of older persons overall. In 2000, there were 71 million people aged 80 or over worldwide. Since then, the number of oldest-old grew by 77 per cent to 125 million in 2015, and it is projected to increase by 61 per cent over the next 15 years, reaching nearly 202 million in 2030. Projections indicate that in 2050 the oldest-old will number 434 million globally, having more than tripled in number since 2015.

Two thirds of the world’s older persons live in the developing regions and their numbers are growing faster there than in the developed regions.

The more developed regions were home to 38 per cent of the world’s older persons in 2000, but that percentage fell to 33 per cent in 2015 and is projected to continue to fall, such that, in 2030, 27 per cent of the world’s population aged 60 years or over will reside in the more developed regions. The growth rate of the older population of the more developed regions is projected to slow in the coming decades. While the number of people aged 60 years or over in developed regions grew by 29 per cent between 2000 and 2015, from 231 million to 299 million, it is projected to grow by 26 per cent over the next 15 years, reaching 375 million in 2030.

In contrast, in the developing regions, the growth of the population aged 60 years or over is accelerating. The number of older persons in the less developed regions grew from 376 million in 2000 to 602 million in 2015—an increase of 60 per cent—and it is projected to grow by 71 per cent between 2015 and 2030, when a projected 1 billion people aged 60 years or over will reside in the less developed regions. Projections indicate that 1.7 billion people aged 60 years or over—nearly 80 per cent of the world’s older population—will live in the less developed regions in 2050.

In the recent past, the older population of the least developed countries was growing more slowly than in the other less developed countries. Between 2000 and 2015, the number of persons aged 60 years or over in the least developed countries increased by 54 per cent, compared to 61 per cent in the other less developed countries. However, growth in the number of older persons is accelerating more quickly in the least developed countries, such that, between 2015 and 2030, the projected 70 per cent increase in the population aged 60 years or over is

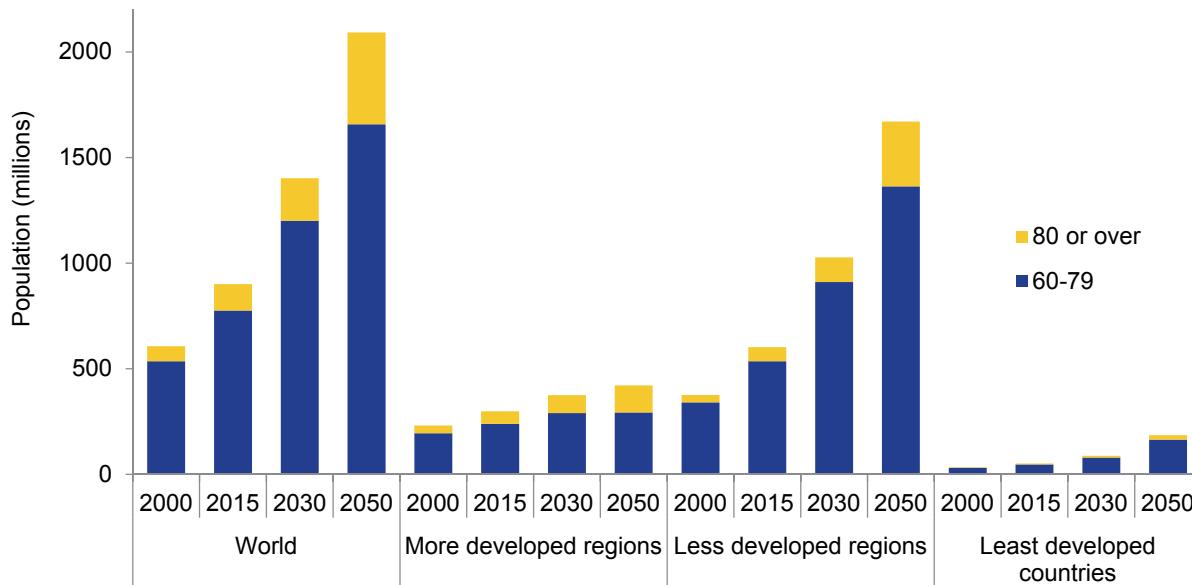
TABLE II.1. POPULATION AGED 60 YEARS OR OVER AND AGED 80 YEARS OR OVER FOR THE WORLD, DEVELOPMENT GROUPS, REGIONS AND INCOME GROUPS, 2000, 2015, 2030 AND 2050

	Persons aged 60 years or over (millions)				Percentage change		Distribution of older persons (percentage)			
	2000	2015	2030	2050	2000-2015	2015-2030	2000	2015	2030	2050
World	607.1	900.9	1402.4	2092.0	48.4	55.7	100.0	100.0	100.0	100.0
Development groups										
More developed regions	231.3	298.8	375.2	421.4	29.2	25.6	38.1	33.2	26.8	20.1
Less developed regions	375.7	602.1	1027.2	1670.5	60.3	70.6	61.9	66.8	73.2	79.9
Other less developed countries	341.9	550.1	938.7	1484.9	60.9	70.6	56.3	61.1	66.9	71.0
Least developed countries	33.9	52.1	88.5	185.6	53.8	70.0	5.6	5.8	6.3	8.9
Regions										
Africa	42.4	64.4	105.4	220.3	51.9	63.5	7.0	7.2	7.5	10.5
Asia	319.5	508.0	844.5	1293.7	59.0	66.3	52.6	56.4	60.2	61.8
Europe	147.3	176.5	217.2	242.0	19.8	23.1	24.3	19.6	15.5	11.6
Latin America and the Caribbean	42.7	70.9	121.0	200.0	66.1	70.6	7.0	7.9	8.6	9.6
Oceania	4.1	6.5	9.6	13.2	56.2	47.4	0.7	0.7	0.7	0.6
Northern America	51.0	74.6	104.8	122.7	46.4	40.5	8.4	8.3	7.5	5.9
Income groups										
High-income countries	230.8	309.7	408.9	483.1	34.2	32.0	38.0	34.4	29.2	23.1
Upper-middle-income countries	195.2	320.2	544.9	800.6	64.0	70.2	32.1	35.5	38.9	38.3
Lower-middle-income countries	159.7	237.5	393.9	692.5	48.8	65.9	26.3	26.4	28.1	33.1
Low-income countries	21.2	33.2	54.0	114.8	56.2	63.0	3.5	3.7	3.9	5.5
	Persons aged 80 years or over (millions)				Percentage change		Distribution of oldest-old persons (percentage)			
	2000	2015	2030	2050	2000-2015	2015-2030	2000	2015	2030	2050
World	71.0	125.3	201.8	434.4	76.5	61.1	100.0	100.0	100.0	100.0
Development groups										
More developed regions	36.5	59.1	85.2	127.8	61.8	44.1	51.5	47.2	42.2	29.4
Less developed regions	34.4	66.2	116.6	306.7	92.1	76.3	48.5	52.8	57.8	70.6
Other less developed countries	32.0	61.4	108.2	285.9	91.6	76.3	45.1	49.0	53.6	65.8
Least developed countries	2.4	4.8	8.4	20.7	99.2	75.4	3.4	3.8	4.2	4.8
Regions										
Africa	3.0	5.7	9.3	22.2	85.7	64.3	4.3	4.5	4.6	5.1
Asia	30.9	60.0	103.7	255.7	94.0	73.0	43.6	47.9	51.4	58.8
Europe	21.2	34.6	46.1	71.0	63.0	33.2	29.9	27.6	22.8	16.4
Latin America and the Caribbean	5.1	10.3	18.7	44.8	101.4	81.4	7.2	8.2	9.3	10.3
Oceania	0.7	1.1	2.0	3.6	69.8	76.8	1.0	0.9	1.0	0.8
Northern America	10.0	13.6	22.0	37.2	36.1	61.7	14.1	10.9	10.9	8.6
Income groups										
High-income countries	37.0	60.9	90.9	145.4	64.5	49.3	52.2	48.6	45.0	33.5
Upper-middle-income countries	19.0	37.2	66.6	182.5	96.2	79.0	26.7	29.7	33.0	42.0
Lower-middle-income countries	13.5	24.4	39.3	94.8	80.9	61.1	19.0	19.5	19.5	21.8
Low-income countries	1.5	2.7	4.9	11.3	83.6	80.9	2.1	2.2	2.4	2.6

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

nearly identical to that projected in the other less developed countries (71 per cent). Despite such rapid growth however, the least developed countries collectively are projected to account for just 6.3 per cent of the global population aged 60 years or over in 2030 and 8.9 per cent in 2050, up from 5.8 per cent in 2015.

Figure II.1.
Population aged 60-79 years and aged 80 years or over by development group, 2000, 2015, 2030 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

In 2050, two out of every three oldest-old persons will live in developing regions.

The cohorts born during World War II will enter their 80s during 2015-2030. Because fertility was depressed during the war, resulting in smaller birth cohorts, the population aged 80 years or over is projected to grow more slowly over the coming 15 years than over the previous 15 years.² In the more developed regions, the number of oldest-old persons grew by 62 per cent over the previous 15-year period, from 37 million in 2000 to 59 million in 2015, but it is projected to grow by 44 per cent over the next 15 years, reaching 85 million in 2030. The number of oldest-old persons residing in the less developed regions in 2000, 34 million, was very similar to the number in the more developed regions. However, the population aged 80 years or over is growing faster in the less developed regions than in the more developed regions: it increased by more than 92 per cent between 2000 and 2015 and is projected to grow further by 76 per cent between 2015 and 2030. Consequently, the world's oldest-old persons are increasingly concentrated in the developing regions, from 49 per cent in 2000 to 53 per cent in 2015, and that proportion is projected to rise further to 58 per cent in 2030 and to 71 per cent in 2050.

The number of oldest-old persons in the least developed countries nearly doubled between 2000 and 2015, from 2.4 million to 4.8 million persons aged 80 years or over, and their number

² See chapter III for a discussion of the historical drivers of trends in the size of the older population.

is projected to continue to grow, albeit at a somewhat slower pace than in the past, reaching 8.4 million in 2030. In 2015, the least developed countries were home to 3.8 per cent of the global population aged 80 years or over, and by 2050 their share of the world's oldest-old persons is projected to rise to 4.8 per cent.

Over the next 15 years, the number of older persons is expected to grow fastest in Latin America and the Caribbean with a projected 71 per cent increase in the population aged 60 years or over, followed by Asia (66 per cent) and Africa (64 per cent).

With 508 million people aged 60 years or over in 2015, Asia was home to 56 per cent of the global older population, and, in 2030, Asia's share of the world's older persons is projected to increase to 60 per cent when a projected 845 million people aged 60 years or over will reside in the region (table II.1; figure II.2). According to projections, by 2030, Asia will be home to more than half of the world's oldest-old persons as well, up from 48 per cent in 2015. Moreover, projections indicate that in 2050, nearly 62 per cent of people aged 60 years or over and 59 per cent of people aged 80 years or over will reside in Asia.

Latin America and the Caribbean's 71 million older persons in 2015 accounted for 7.9 per cent of the global total. The share of the world's older persons residing in this region is expected to grow to 8.6 per cent in 2030, when a projected 121 million people aged 60 years or over will live there. Africa was home to a relatively small number of people aged 60 years or over, with 64 million in 2015, representing 7.2 per cent of the global total. In 2030, Africa's projected 105 million older persons could account for 7.5 per cent of the older population worldwide.

Latin America and the Caribbean is expected to see the fastest growth in the number of oldest-old persons as well, with an increase of 81 per cent between 2015 and 2030, which is a legacy of high fertility rates some 80 years prior, as well as increased longevity. The region is followed by Oceania, with a 77 per cent projected increase in the number of oldest-old over the same period, Asia (73 per cent) and Africa (64 per cent).

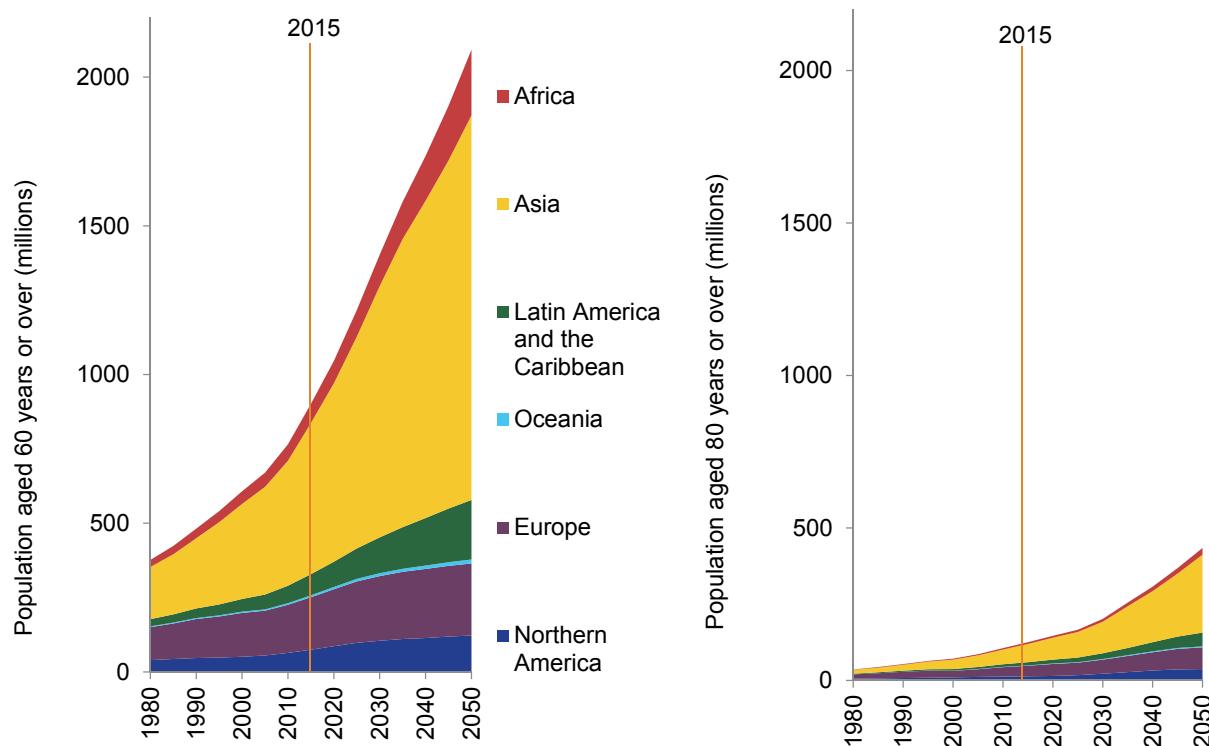
Europe and Northern America are projected to see substantial increases in the numbers of older persons, but growth will be slower there than in the other regions.

The share of the world's older persons residing in Europe and Northern America is expected to decline. In 2000, Europe's 147 million people aged 60 years or over accounted for close to one in four older persons globally and while their numbers grew to 177 million in 2015, their share of the world's older population fell to just under 20 per cent. Europe's older persons are projected to grow in number to 217 million in 2030, representing a 23 per cent increase over 2015, but given that this growth is slower than in the other regions, the share of the world's older persons residing in Europe in 2030 is projected to fall below 16 per cent. By 2050, the projected 242 million older persons in Europe would account for just 12 per cent of the global population aged 60 years or over.

In a trend similar to Europe's, the number of people aged 60 years or over in Northern America has grown from 51 million in 2000 to 75 million in 2015 and is projected to rise further to 105 million in 2030 and 123 million in 2050, while the share of the world's older persons

residing in Northern America is projected to decline from 8.3 per cent in 2015 to 7.5 per cent in 2030 and to 5.9 per cent in 2050.

Figure II.2.
Population aged 60 years or over and aged 80 years or over, by region, 1980-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

From 2000 to 2015, the number of oldest-old persons in Europe grew much faster than the overall number of older persons (63 per cent versus 20 per cent), but the rate of increase of the population aged 80 years or over is projected to slow in the coming years, growing by 33 per cent between 2015 and 2030, compared to 23 per cent for the overall population aged 60 years or over. Again, these trends are highly influenced by excess mortality and reduced fertility during World War II, when the coming cohorts of oldest-old persons were born. In contrast, the growth in the number of people aged 80 years or over in Northern America is projected to accelerate: the population of oldest-old persons grew by 36 per cent between 2000 and 2015, from 10 million to 13.6 million and it is projected to rise by 62 per cent between 2015 and 2030, when a projected 22 million people aged 80 years or over will reside in Northern America.

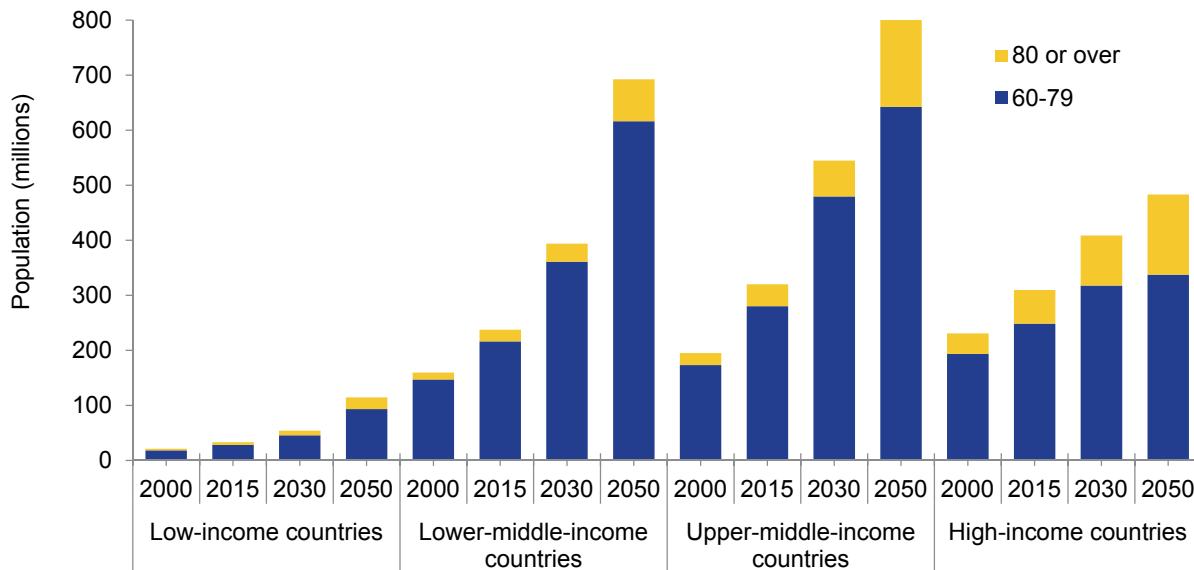
Growth in the number of older persons was fastest in upper-middle-income countries between 2000 and 2015, and this group of countries is expected to see the fastest growth in the older population between 2015 and 2030 as well.

The 320 million people aged 60 years or over in upper-middle-income countries in 2015 represented a 64 per cent increase over 2000 when older persons in those countries numbered

195 million (table II.1; figure II.3). Between 2015 and 2030, upper-middle-income countries are anticipated to continue to experience rapid growth in the number of older persons: the projected 545 million people aged 60 years or over in 2030 marks a 70 per cent increase over the number in 2015.

Figure II.3.

Population aged 60-79 years and aged 80 years or over by income group, 2000, 2015, 2030 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

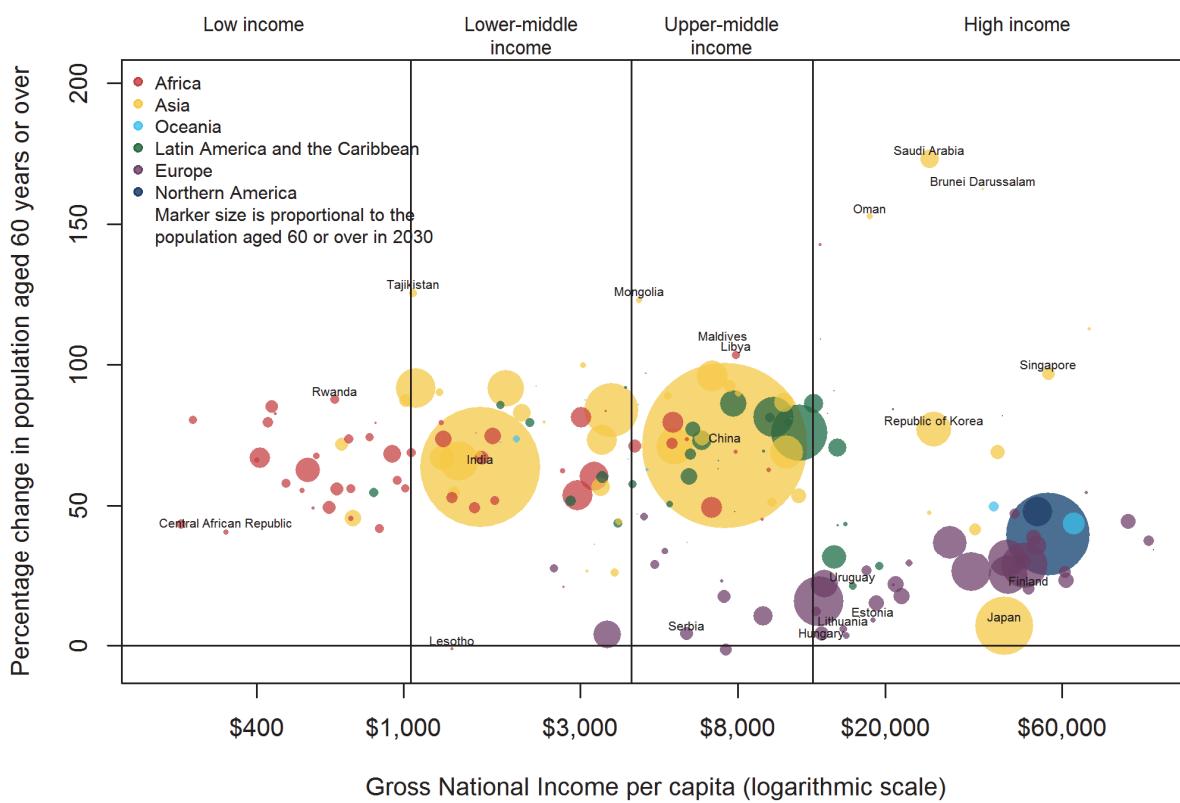
The older populations of lower-middle-income countries and low-income countries grew at a slower average pace between 2000 and 2015, increasing by 49 per cent and 56 per cent, respectively. The growth rates are projected to accelerate in both groups of countries in the coming years. Between 2015 and 2030, the older population in lower-middle-income countries is projected to increase by 66 per cent, from 238 million to 394 million, while that in low-income countries is projected to grow by 63 per cent, from 33 million to 54 million.

Owing to longer average survival in the high-income countries relative to the other income groups, a plurality of the world's oldest-old persons are concentrated in this group of countries. In 2015, close to 49 per cent of the global population aged 80 years or over lived in high-income countries, and, while the proportion is projected to decline somewhat, by 2030 high-income countries are expected to continue to account for 45 per cent of the oldest-old persons in the world. Of the four income groups, the number of oldest-old persons is projected to grow most rapidly in low-income countries, where the coming cohorts of oldest-old persons were born within contexts of very high fertility around the middle of the twentieth century. The low-income countries as a group are expected to see an 81 per cent increase in the number of oldest-old persons between 2015 and 2030, followed by upper-middle-income countries, with a 79 per cent increase in the population aged 80 years or over projected for the same period.

Virtually every country in the world will experience a substantial increase in the size of the population aged 60 years or over between 2015 and 2030.

Within each of the development groups, regions and income groups there is a great deal of heterogeneity in the growth rates of the older population. Figure II.4 shows the projected percentage change in the number of older persons between 2015 and 2030 plotted according to the level of gross national income (GNI) per capita in 2014 for the 190 countries with at least 90,000 inhabitants in 2015 and for which GNI information was available, with regions distinguished by colour. The chart illustrates that while growth in the population aged 60 years or over is expected across all major income groups and regions of the world, the projected growth rates vary considerably from country to country.

Figure II.4.
Projected change in the population aged 60 years or over between 2015 and 2030 versus the level of gross national income per capita in 2014



Data sources: United Nations (2015). *World Population Prospects: The 2015 Revision* and World Bank (2015). World Development Indicators (<http://data.worldbank.org/indicator/NY.GNP.PCAP.CD>), accessed 26 August 2015.

Among the 29 low-income countries depicted in figure II.4, most of which are located in sub-Saharan Africa, the projected growth in the population aged 60 years or over between 2015 and 2030 ranges from 41 per cent in the Central African Republic to 88 per cent in Rwanda. In just over half of the low-income countries, growth in the number of older persons is projected to exceed 60 per cent between 2015 and 2030.

Middle-income countries are anticipating similarly rapid growth in the numbers of older persons between 2015 and 2030. Of the 100 middle-income countries depicted in figure II.4, 67 per cent are projected to see greater than 60 per cent growth in the number of older persons during that period and one in four middle-income countries are projected to experience increases of more than 80 per cent. In India, for example, the number of older persons is projected to grow by 64 per cent between 2015 and 2030, while in China it is projected to grow by 71 per cent over the same period. In Tajikistan, Mongolia, the Maldives and Libya, the number of older persons is projected to more than double by 2030. In each of these four countries, total fertility exceeded six children per woman during the 1960s and 1970s, when the coming cohorts of older persons were born.³ Projected growth of the population aged 60 years or over also exceeds 90 per cent in nine other middle-income countries or areas: Azerbaijan, Bangladesh, Belize, Guyana, Iran, Kiribati, Kyrgyzstan, the State of Palestine and Viet Nam.

Projected growth rates tend to be slower, on average, for the older populations of high-income countries. Among the 61 high-income countries depicted in figure II.4, less than one third are projected to see greater than 60 per cent growth in the number of older persons between 2015 and 2030, while the projected growth is between 20 and 60 per cent in another one third of countries. Within the high-income group, projected growth in the older population tends to be higher in countries of Asia. Examples include Singapore, which is expected to see a 97 per cent increase in the population aged 60 years or over between 2015 and 2030, and the Republic of Korea with a projected 77 per cent increase over the same period. Projected growth tends to be lower, on average, in high-income countries of Europe and in Latin America and the Caribbean. Examples include Finland, with a 20 per cent projected increase in the population aged 60 years or over between 2015 and 2030, and Uruguay, with a 21 per cent projected increase.

Of the 201 countries or areas with 90,000 inhabitants or more in 2015, only 9 are expected to see a less than 10 per cent increase in the population aged 60 years or over between 2015 and 2030. This includes several Eastern European and Baltic States—Bulgaria, Estonia, Hungary, Latvia, Lithuania, Serbia and Ukraine—where multiple demographic factors result in little or no growth in the number of older persons, such as low levels of fertility at the time the coming cohorts of older persons were born, relatively high mortality among adults, and high rates of emigration in some countries. Outside of Eastern Europe, Japan is projected to see growth in the number of older persons of only 7 per cent between 2015 and 2030, owing to very low fertility rates over a number of decades. Lesotho, a country highly affected by excess mortality caused by HIV and AIDS, is projected to experience a small decline in the number of older persons of just over 1 per cent between 2015 and 2030.

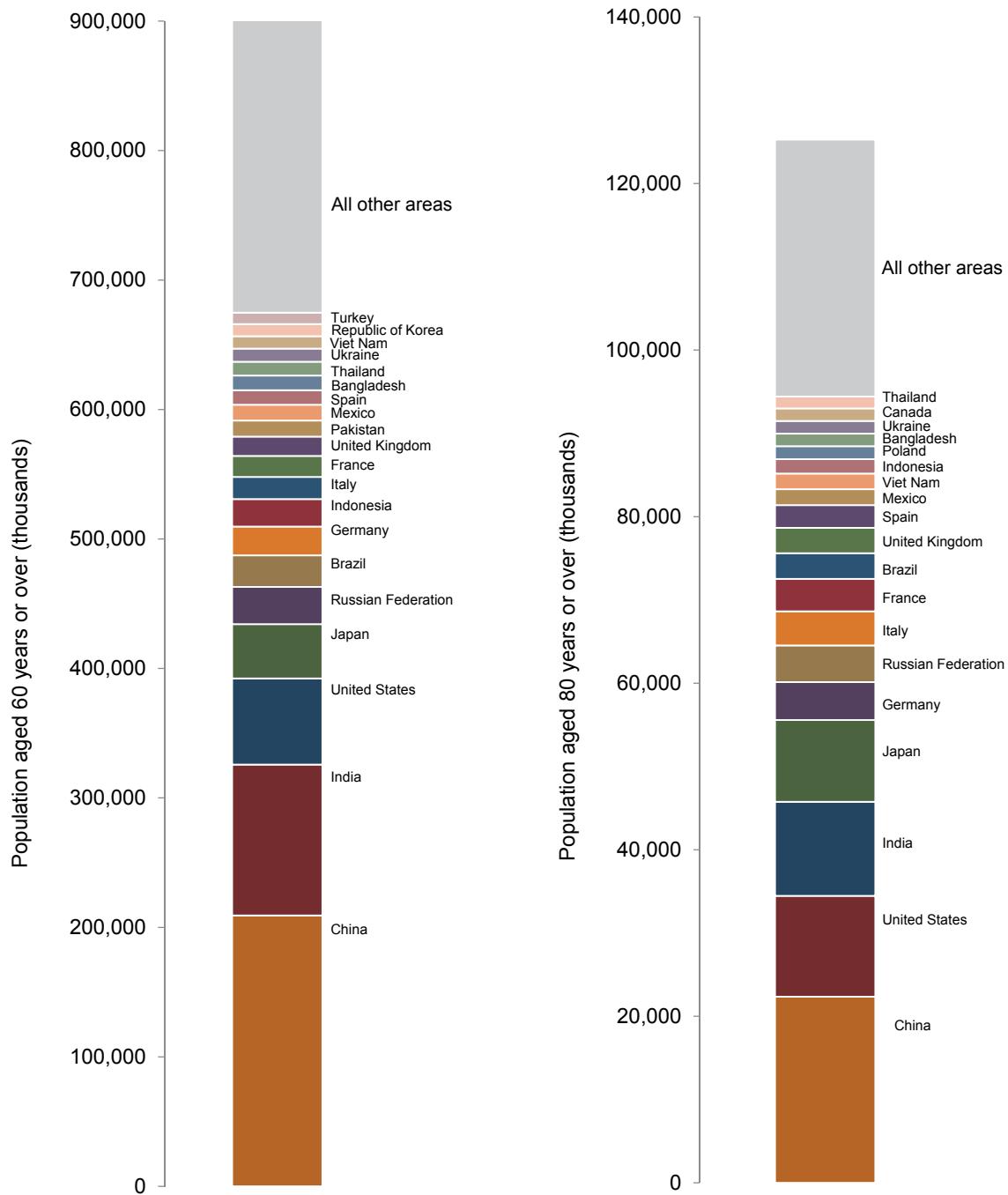
In 2015, just twenty countries accounted for three quarters of the world's older population.

Nearly one in four persons aged 60 years or over in the world in 2015 lived in China (figure II.5, left chart). Taken together, just five countries—China, India, the United States, Japan and the Russian Federation—accounted for half of the world's population aged 60 years or over in 2015. The world's population aged 80 years or over was similarly concentrated in a small number of countries. The five countries with the largest number of oldest-old persons—China, the United States, India, Japan and Germany—collectively accounted for 48 per cent of the

³ See chapter III for a discussion of the demographic drivers of the pace of growth of the older population.

world's oldest-old in 2015 and 19 countries held three quarters of the global population aged 80 years or over (figure II.5, right chart).

Figure II.5.
Population aged 60 years or over and aged 80 years or over by country, 2015



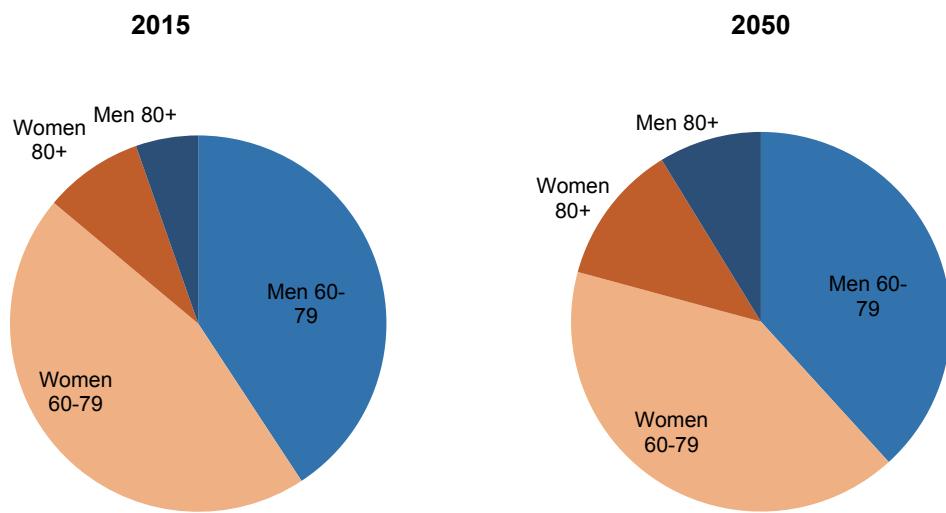
Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

B. DEMOGRAPHIC CHARACTERISTICS OF THE OLDER POPULATION

Women tend to live longer than men, on average, and thus comprise a majority of older persons, especially at advanced ages.

Globally, women outlived men by an average of 4.5 years during the period 2010-2015.⁴ In 2015, women accounted for 54 per cent of the global population aged 60 years or over and 61 per cent of those aged 80 years or over (figure II.6).

Figure II.6.
Share of the global older population by age group and sex, 2015 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

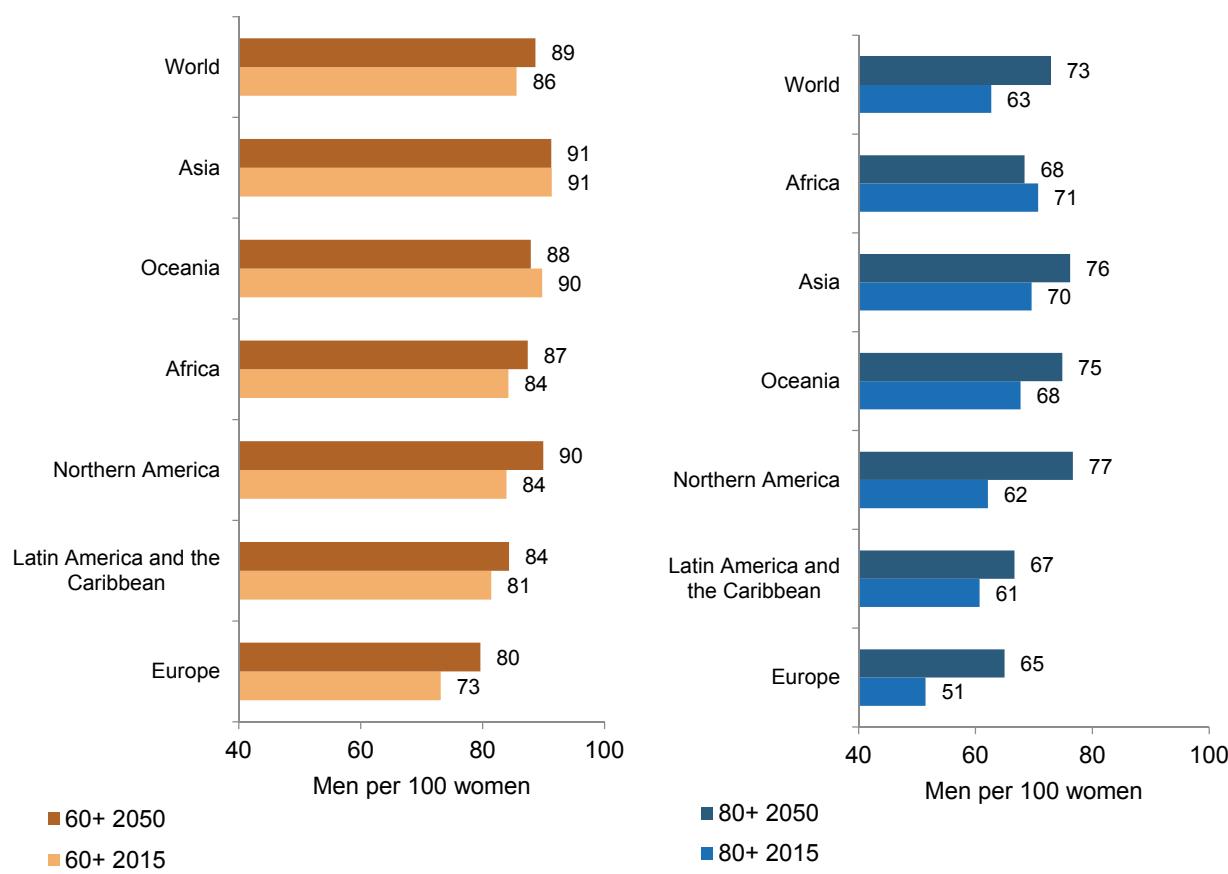
The sex balance of the older population is projected to remain relatively unchanged at the global level in the coming decades.

Projections indicate that in 2050, women will comprise 53 per cent of the world's population aged 60 years or over. Since average survival of males is projected to gradually move closer to that of females, the sex balance among the oldest-old will become more even. The proportion of women aged 80 years or over is projected to decline to 58 per cent in 2050.

The sex ratio—traditionally expressed as the number of men per 100 women—is a useful measure for describing the sex balance of the older population and trends therein. At the global level, there were 86 men for every 100 women aged 60 years or over in 2015 and 63 men for every 100 women aged 80 years or over. Those ratios are projected to rise to 89 and 73, respectively, in 2050 (figure II.7).

⁴ See chapter III for a discussion of trends in the life expectancies at birth and at older ages.

Figure II.7.
Sex ratios of the population aged 60 years or over and aged 80 years or over for the world and regions, 2015 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

The sex ratio of the older population is lowest in Europe and highest in Asia.

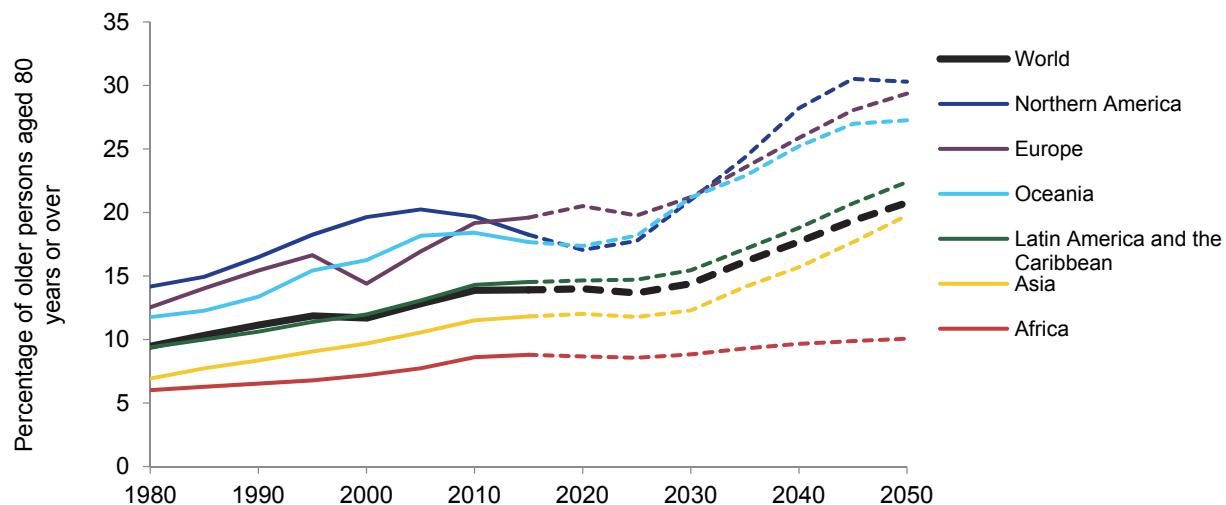
In 2015, across the world's regions, the sex balance of the older population was most uneven (as indicated by low sex ratios) in Europe, where there were just 73 men per 100 women aged 60 years or over and 51 men per 100 women aged 80 years or over. The sex balance was most even in Asia, where there were 91 men per 100 women aged 60 years or over and 70 men per 100 women aged 80 years or over.

Between 2015 and 2050, the sex balance of the population aged 60 years or over is projected to become more even in Europe, Northern America, Latin America and the Caribbean and Africa, as the female advantage in life expectancy at age 60 is expected to narrow somewhat in these regions. At ages 80 or over, the sex balance of the population is projected to become more even between 2015 and 2050 in all regions except Africa. In general, increasing sex ratios among oldest-old persons reflect that improvements in the life expectancy at age 80 are occurring at a faster pace among males than among females.

The older population is itself ageing.

As a result of both improved longevity and the ageing of large cohorts (that is, the “baby boomers” born during the post-World War II period), the world’s older population is projected to become increasingly aged. Globally, the share of the older population that is aged 80 years or over rose from 9 per cent in 1980 to 14 per cent in 2015 (figure II.8), and it is projected to remain fairly stable between 2015 and 2030. Between 2030 and 2050 the proportion of the world’s older persons that are aged 80 years or over is projected to rise from 14 per cent to more than 20 per cent.

Figure II.8.
Percentage of oldest-old (aged 80 years or over) among the older population (aged 60 years or over) by region, 1980-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

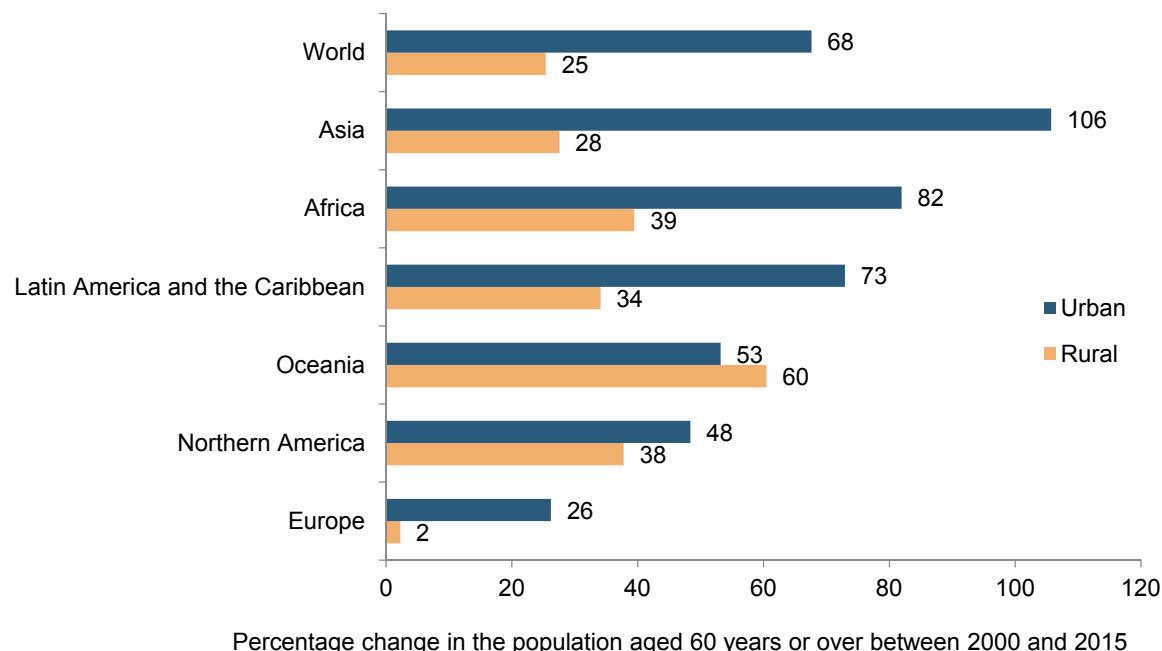
By 2040, the oldest-old are projected to account for one in four older persons in Europe, Northern America and Oceania.

In 2015, Europe had the most aged population of older persons, with people aged 80 years or over accounting for nearly one in five of those aged 60 years or over in the region. The older populations of Latin America and the Caribbean, Asia and Africa were much younger by comparison in 2015: people aged 80 years or over accounted for just 15 per cent, 12 per cent and 9 per cent, respectively, of the older populations in those three regions. According to projections, the proportion of the older population aged 80 years or over will surpass 25 per cent by 2040 in Europe, Northern America and Oceania. By 2050, the oldest-old are projected to account for 30 per cent of older persons in Northern America, 29 per cent of older persons in Europe and 27 per cent of older persons in Oceania. The older populations of Latin America and the Caribbean and Asia are projected to age considerably between 2030 and 2050, as well. In 2050, the oldest-old are projected to account for 22 per cent of older persons in Latin America and the Caribbean and 20 per cent of older persons in Asia. The older population of Africa is projected to age more slowly such that in 2050, people aged 80 years or over will account for 10 per cent of the overall population of older persons in the region.

The older population is growing faster in urban areas than in rural areas.⁵

At the global level, between 2000 and 2015, the number of people aged 60 years or over increased by 68 per cent in urban areas, compared to a 25 per cent increase in rural areas (figure II.9). Growth in the number of older persons in urban areas outpaced that in rural areas in all regions except Oceania, where the rapidly growing cohorts of older persons in the comparatively rural populations of Melanesia, Micronesia and Polynesia exceed the pace of growth of the urban older populations in the more urbanized countries of Australia and New Zealand. In Asia, the number of people aged 60 years or over in urban areas in 2015 was more than double the number in 2000 (a 106 per cent increase), while in Asia's rural areas the number of older persons increased by just 28 per cent over the same period. In Europe, the older population in rural areas barely changed in size between 2000 and 2015, growing by just 2 per cent, at the same time the older population in urban areas increased by 26 per cent. In general, the regions that are urbanizing the fastest—Latin America and the Caribbean, Asia and Africa—saw the biggest differentials in the growth of the number of older persons between urban and rural areas.

Figure II.9.
Percentage change in the population aged 60 years or over between 2000 and 2015 for the world and regions, by urban/rural area



Data source: United Nations (2014a). *Urban and rural population by age and sex (URPAS), 1980-2015 (version 3, August 2014)*.

The faster growth of the older population in urban areas compared to rural areas is likely attributable both to trends in the urbanization of the population across all age groups and to differences in mortality risks, which tend to be lower in urban areas relative to rural areas (see

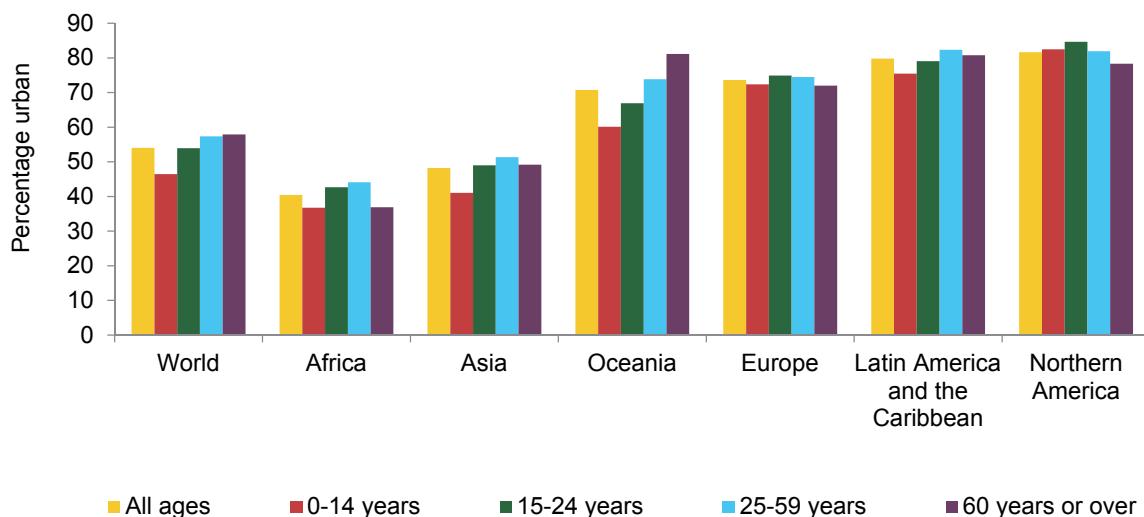
⁵ The data presented in this section are from United Nations (2014). *Urban and rural population by age and sex (URPAS), 1980-2015 (version 3, August 2014)*, which reflects estimates of population disaggregated by age, sex and urban and rural residence consistent with the 2012 Revision of *World Population Prospects*.

for instance: Singh and Siahpush, 2014; Zimmer, Kaneda and Spess, 2007; Van De Poel, O'Donnell and Van Doorslaer, 2007).

Globally, the proportion of older persons residing in urban areas is higher than for other age groups.

In 2015, 58 per cent of older persons globally lived in urban areas, compared to 46 per cent of children aged 0 to 14 years, 54 per cent of adolescents and youth aged 15 to 24 years and 57 per cent of people aged 25 to 59 years (figure II.10). The age patterns of urban residence vary somewhat across regions. In Africa, both children and older persons were less likely to live in urban areas than people in the working ages (37 per cent versus 44 per cent). In Asia, Europe and Latin America and the Caribbean, the share residing in urban areas was similar across the 15-24, 25-59 and 60 or over age groups. In Northern America, older persons were somewhat less likely to reside in urban areas (78 per cent) compared to children (82 per cent), adolescents and youth (85 per cent), and people aged 25-59 years (82 per cent). In Oceania, older persons were substantially more likely to live in urban areas relative to children aged 0-14 years (81 per cent versus 60 per cent), reflecting the region's concentration of older persons in the highly urbanized countries of Australia and New Zealand and the comparatively young age structures of the more rural populations of Melanesia, Micronesia and Polynesia.

Figure II.10.
Percentage urban by age group and region, 2015

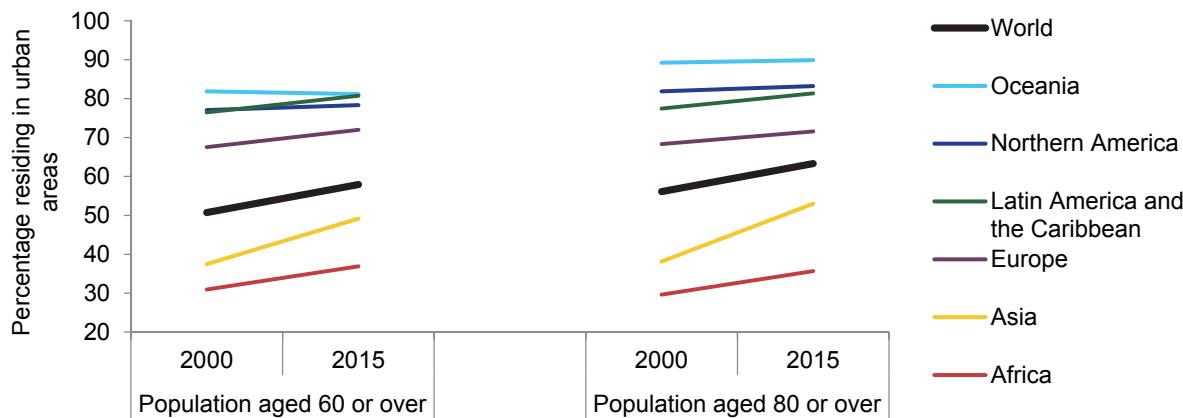


Data source: United Nations (2014a). *Urban and rural population by age and sex (URPAS), 1980-2015 (version 3, August 2014)*.

The older population is increasingly concentrated in urban areas.

In 2015, 58 per cent of the world's people aged 60 years or over resided in urban areas, up from 51 per cent in 2000 (figure II.11). The oldest-old are even more likely to reside in urban areas: the proportion of people aged 80 years or over residing in urban areas rose from 56 per cent in 2000 to 63 per cent in 2015. In Oceania, more than 80 per cent of older persons resided in urban areas and 90 per cent of the oldest-old resided in urban areas in 2015. In Northern America and Latin America and the Caribbean, 76 per cent of older persons lived in urban areas in 2000 and the proportions rose to 78 per cent and 81 per cent in 2015 for the two regions, respectively. More than 8 in 10 oldest-old persons in Northern America and Latin America and the Caribbean resided in urban areas in 2015.

Figure II.11.
Percentage of population aged 60 years or over and aged 80 years or over residing in urban areas by region, 2000 and 2015



Data source: United Nations (2014a). *Urban and rural population by age and sex (URPAS), 1980-2015 (version 3, August 2014)*.

The share of older persons residing in urban areas in Europe rose from 68 per cent in 2000 to 72 per cent in 2015. Asia saw the largest increase in the proportion urban among its older population: the percentage of those aged 60 years or over residing in urban areas increased from 37 per cent in 2000 to 49 per cent in 2015. The oldest-old population in Asia urbanized even faster: 53 per cent of those aged 80 years or over lived in urban areas in 2015, up from 38 per cent in 2000. In Africa, the world's least urbanized region, close to 37 per cent of older persons lived in urban areas in 2015, up from 31 per cent in 2000.

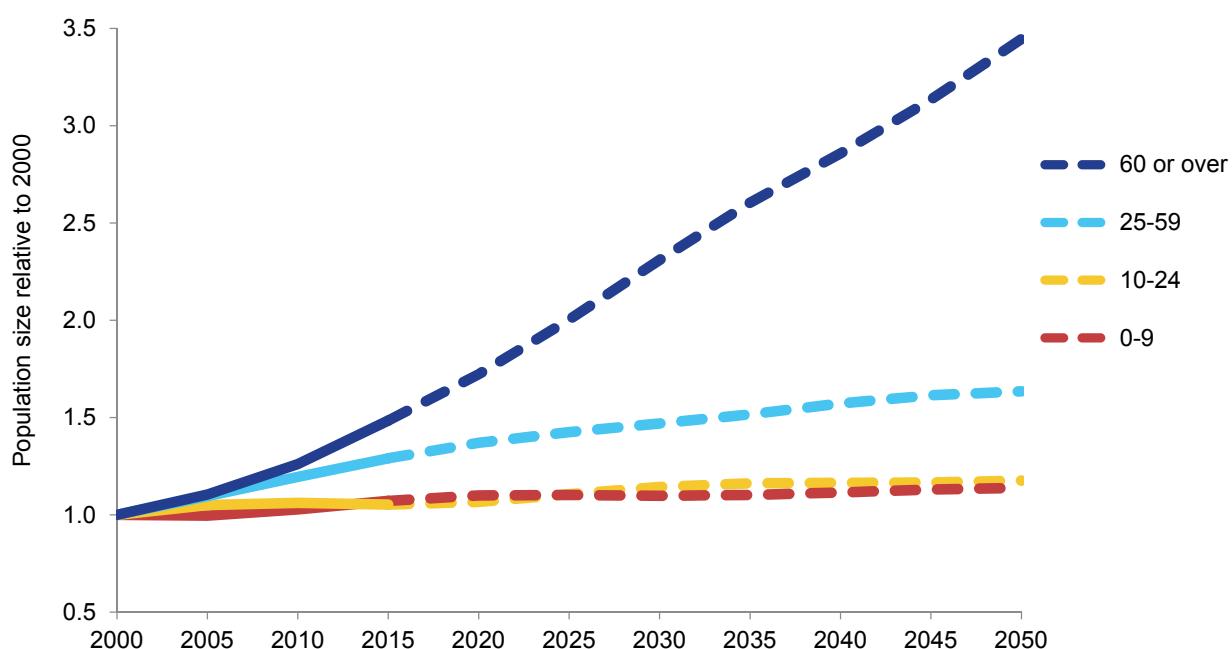
C. TRENDS IN THE PERCENTAGE OF OLDER PERSONS

While growth in the number of older persons is an important trend in itself, the process of population ageing, by definition, refers to an increasing proportion of older persons in a population. Thus, ageing is determined not only by the pace of growth of the older population, but also by how that pace compares to the growth rates of the other age groups.

Globally, the number of older persons is growing faster than the numbers of people in any other age group.

In 2015, there were 48 per cent more people aged 60 years or over worldwide than there were in 2000, and by 2050, the number of older people is projected to have more than tripled since 2000 (figure II.12). In contrast, at the global level, the numbers of children under age 10 and adolescents and youth aged 10-24 years will change very little: the projected numbers of children and adolescents and youth in 2050 represents an 11 per cent increase over the year 2000. The global number of adults aged 25-59 years is growing faster than the number of children, but not as fast as the population aged 60 years or over. In 2015, there were 29 per cent more people aged 25-59 years than there were in 2000, and projections indicate that by 2050 there will be 62 per cent more of them than in 2000.

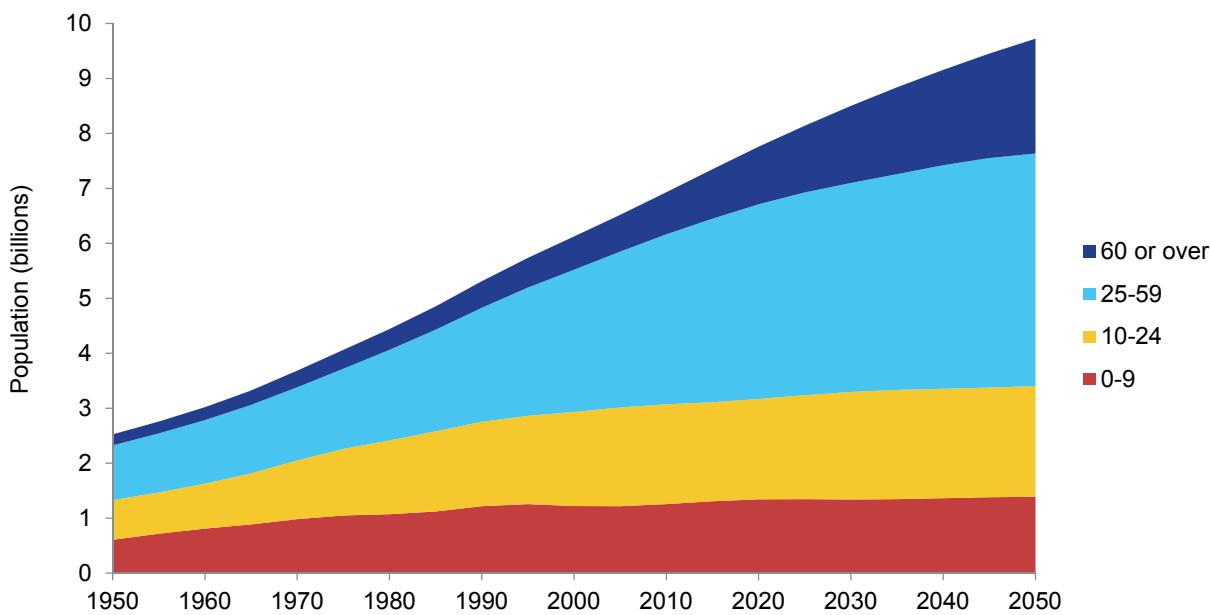
Figure II.12.
Increase in world population relative to 2000, by broad age group, 2000-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

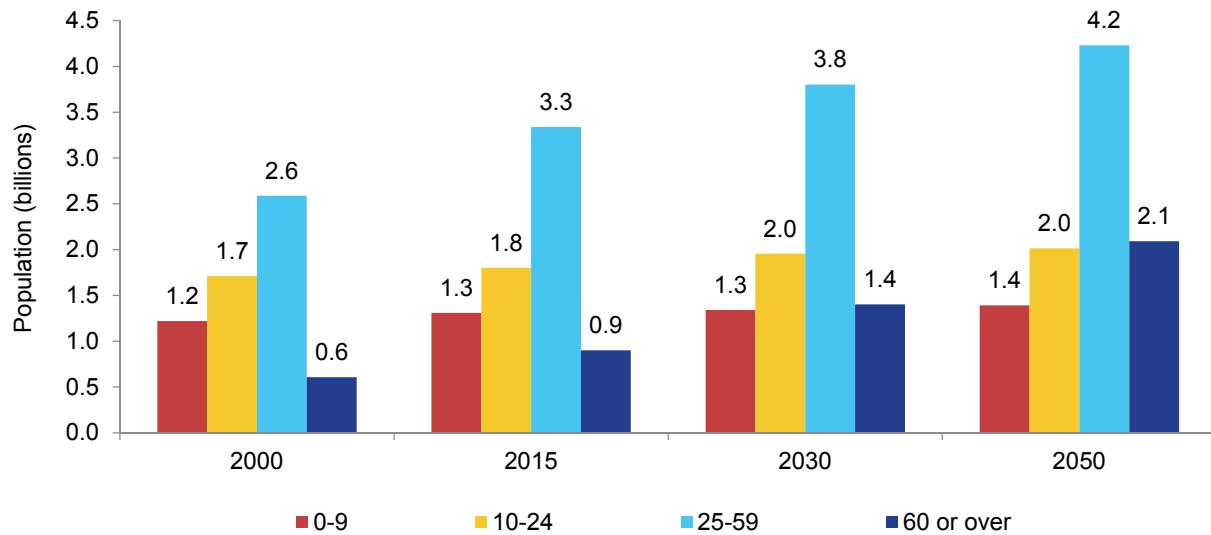
Historically, the population of older persons has been much smaller than any other of these age groups. In 1960, for example, children under age 10 outnumbered people aged 60 years or over by more than 3 to 1, and there were nearly five times as many people aged 25-59 years as older persons (figure II.13). By 2000, however, the ratio of children to older persons had fallen to 2 to 1 (1.2 billion versus 0.6 billion), while that of people aged 25-59 to older persons had fallen close to 4 to 1 (2.6 billion versus 0.6 billion) (figure II.14). By 2030, older persons are projected to outnumber children aged 0-9 years (1.4 billion versus 1.3 billion); by 2050, there will be more people aged 60 years or over than adolescents and youth aged 10-24 years (2.1 billion versus 2.0 billion).

Figure II.13.
Global population by broad age group, 1950-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Figure II.14.
Global population by broad age group, 2000, 2015, 2030 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

TABLE II.2. PERCENTAGE AGED 60 YEARS OR OVER AND AGED 80 YEARS OR OVER FOR THE WORLD, DEVELOPMENT GROUPS, REGIONS AND INCOME GROUPS, 2000, 2015, 2030 AND 2050

	Percentage aged 60 years or over				Percentage point change	
	2000	2015	2030	2050	2000-2015	2015-2030
World	9.9	12.3	16.5	21.5	2.3	4.2
Development groups						
More developed regions	19.5	23.9	29.2	32.8	4.4	5.3
Less developed regions	7.6	9.9	14.2	19.8	2.3	4.4
Other less developed countries	8.0	10.7	15.9	22.7	2.7	5.2
Least developed countries	5.1	5.5	6.7	9.8	0.4	1.2
Regions						
Africa	5.2	5.4	6.3	8.9	0.2	0.8
Asia	8.6	11.6	17.2	24.6	3.0	5.6
Europe	20.3	23.9	29.6	34.2	3.6	5.7
Latin America and the Caribbean	8.1	11.2	16.8	25.5	3.1	5.6
Oceania	13.4	16.5	20.2	23.3	3.1	3.7
Northern America	16.2	20.8	26.4	28.3	4.6	5.6
Income groups						
High-income countries	18.0	22.1	27.7	31.9	4.1	5.6
Upper-middle-income countries	9.2	13.4	21.2	30.5	4.2	7.8
Lower-middle-income countries	6.9	8.1	11.2	16.5	1.2	3.0
Low-income countries	5.0	5.2	5.8	8.3	0.2	0.7
	Percentage aged 80 years or over				Percentage point change	
	2000	2015	2030	2050	2000-2015	2015-2030
World	1.2	1.7	2.4	4.5	0.5	0.7
Development groups						
More developed regions	3.1	4.7	6.6	9.9	1.7	1.9
Less developed regions	0.7	1.1	1.6	3.6	0.4	0.5
Other less developed countries	0.7	1.2	1.8	4.4	0.4	0.6
Least developed countries	0.4	0.5	0.6	1.1	0.1	0.1
Regions						
Africa	0.4	0.5	0.6	0.9	0.1	0.1
Asia	0.8	1.4	2.1	4.9	0.5	0.7
Europe	2.9	4.7	6.3	10.1	1.8	1.6
Latin America and the Caribbean	1.0	1.6	2.6	5.7	0.7	1.0
Oceania	2.2	2.9	4.3	6.4	0.7	1.4
Northern America	3.2	3.8	5.6	8.6	0.6	1.7
Income groups						
High-income countries	2.9	4.3	6.2	9.6	1.5	1.8
Upper-middle-income countries	0.9	1.6	2.6	7.0	0.7	1.0
Lower-middle-income countries	0.6	0.8	1.1	2.3	0.3	0.3
Low-income countries	0.3	0.4	0.5	0.8	0.1	0.1

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

These shifts over time in the relative sizes of the various age groups have resulted in increases in the proportion of the population at older ages. At the global level, the percentage of older persons increased from close to 10 per cent in 2000 to over 12 per cent in 2015, when one in every eight people worldwide was aged 60 years or over (table II.2). The proportion of older persons globally is projected to continue to increase to more than 16 per cent in 2030 and over 21 per cent in 2050. Thus, by the middle of the twenty-first century, around one in every five people globally will be aged 60 years or over.

Older persons already constitute a large share of the population in the more developed regions. In 2015, close to one in four people living in developed regions was aged 60 years or over, and it is projected to continue to rise such that, in 2050, older persons will account for one in three people in the developed regions. People aged 60 years or over comprised nearly 10 per cent of the population in developing regions in 2015, and that share is projected to increase to 14 per cent in 2030 and to 20 per cent in 2050. Among the least developed countries, older persons accounted for a relatively small fraction of the total population—5.5 per cent in 2015—but the share of older persons in the least developed countries is also projected to increase in the coming decades, reaching nearly 10 per cent in 2050.

High-income countries tend to be the most aged.

Older persons comprised 22 per cent of the population of high-income countries in 2015, 13 per cent of upper-middle-income countries, 8 per cent of lower-middle-income countries and 5 per cent of low-income countries. Figure II.15 plots the percentage of the population aged 60 years or over in 2015 against each country's gross national income per capita in 2014 for countries with at least 90,000 inhabitants in 2015 and for which a GNI estimate was available. The size of the bubbles is proportional to the size of the population aged 60 years or over in 2015.

Japan is home to the world's most aged population: 33 per cent were aged 60 years or over in 2015.

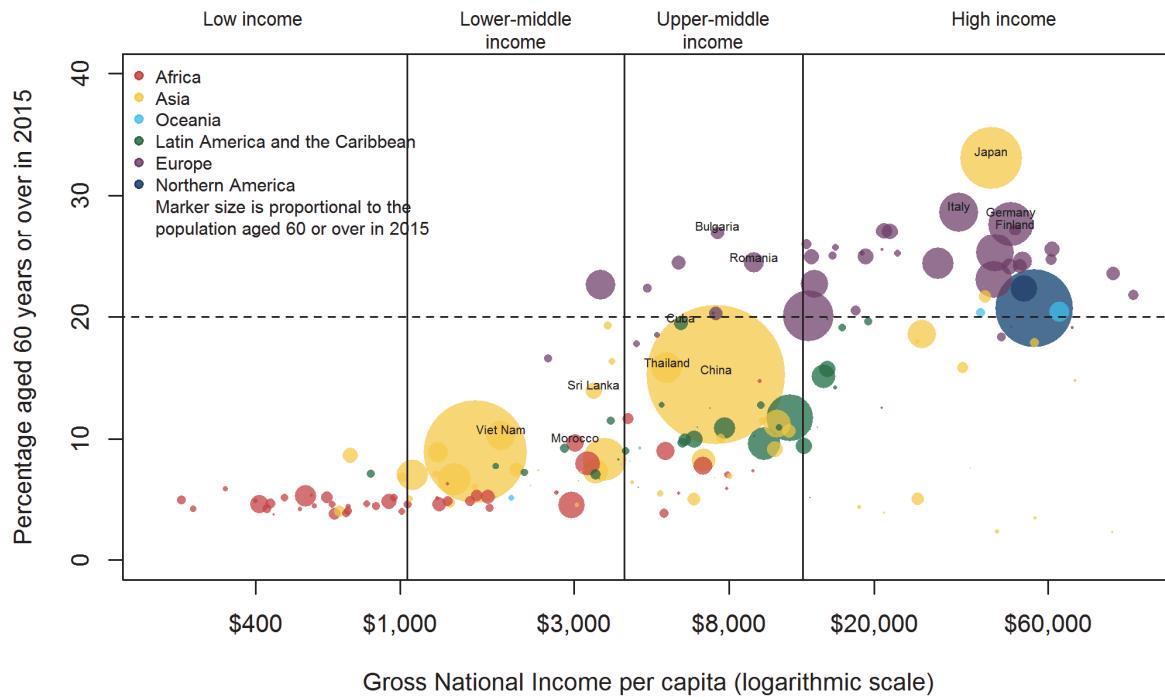
Japan is followed by Germany (28 per cent aged 60 years or over in 2015), Italy (28 per cent) and Finland (27 per cent).⁶ Of the 62 high-income countries or areas with total population greater than 90,000 in 2015, half had relatively aged populations in 2015, with 20 per cent of the population aged 60 years or over. The proportion of older persons also exceeded 20 per cent among several upper-middle-income European countries, such as Bulgaria (27 per cent aged 60 years or over in 2015) and Romania (22 per cent). Comparatively young age structures prevailed among countries at the lower end of the income distribution: in every low-income country and 85 per cent of lower-middle-income countries in 2015, less than 10 per cent of the population was aged 60 years or over.

By 2030 many middle-income countries will have aged considerably.

Within the next 15 years, several upper-middle-income countries are projected to become as aged as many of today's high-income countries. Between 2015 and 2030, the share of population

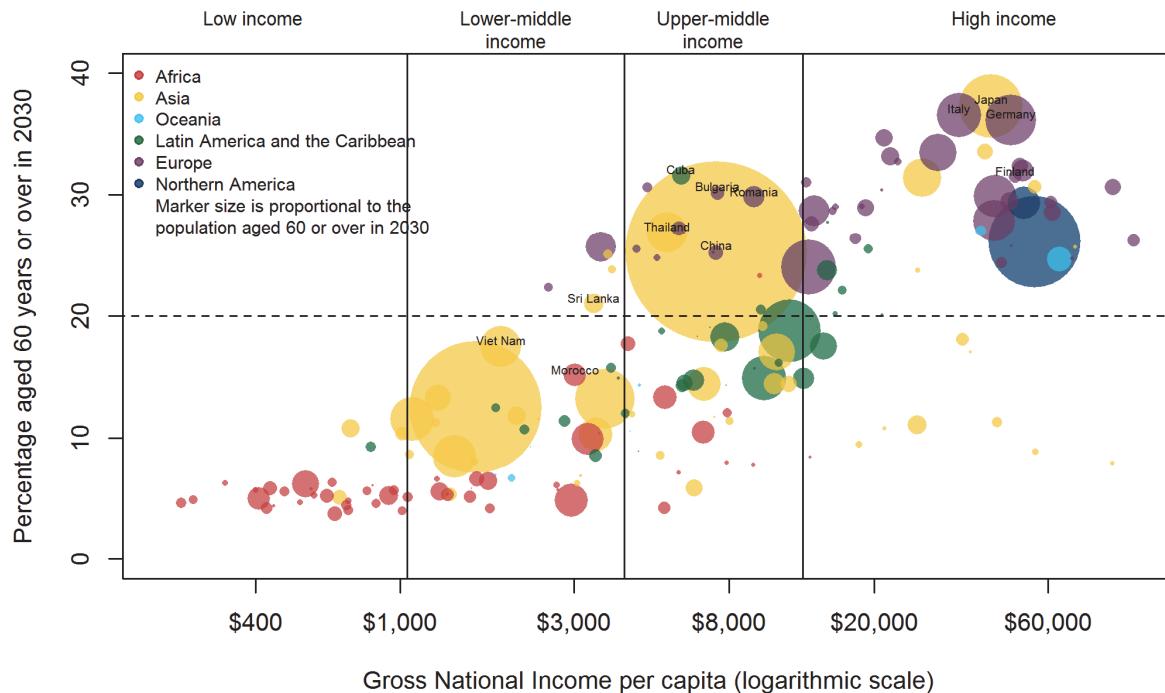
⁶ Of the 201 countries or areas with at least 90,000 inhabitants in 2015.

Figure II.15.
Percentage aged 60 years or over in 2015 versus gross national income per capita in 2014



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Figure II.16.
Percentage aged 60 years or over projected in 2030 versus gross national income per capita in 2014



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

aged 60 years or over is projected to increase from 15 per cent to 24 per cent in China, from 20 per cent to 32 per cent in Cuba, and from 16 per cent to 27 per cent in Thailand (figure II.16). Some lower-middle-income countries are projected to age rapidly as well. For example, the proportion aged 60 years or over is projected to increase from 13 per cent in 2015 to 20 per cent in 2030 in Sri Lanka; from 10 to 18 per cent in Viet Nam; and from 8 to 14 per cent in Morocco.

The population ageing process is much slower in low-income countries: in 89 per cent of low-income countries and 62 per cent of lower-middle-income countries, the share of older persons is projected to remain below 10 per cent through 2030.

In 2000, of the world's ten most aged populations all but one (Japan) were located in Europe and the share of the population aged 60 years or over had not yet reached 25 per cent in any country. In 2015 the share of older persons exceeded 25 per cent in all ten of the most aged countries and, by 2030, older persons will comprise more than 32 per cent of the population in each of the ten most aged countries or areas (table II.3). Europe is expected to account for 7 of the 10 most aged countries in 2030. Projections indicate that in 2030, Martinique will be home to the world's most aged population, with 38.5 per cent aged 60 years or over. All three major demographic processes have contributed to rapid population ageing in Martinique: sharp reductions in total fertility, from 5.7 children per woman in the 1950s to 2.1 children per woman in the 1980s; increasing longevity, with life expectancy at birth having risen from 56 years in 2010-2015 to around 81 years in 2010-2015; as well as net emigration of young people.

TABLE II.3. TEN COUNTRIES OR AREAS WITH THE MOST AGED POPULATIONS, 2000, 2015 AND 2030*
(SEE ANNEX TABLE A.III.4 FOR FULL LIST OF COUNTRIES OR AREAS RANKED ACCORDING TO THE PERCENTAGE AGED 60 OR OVER)

Rank	2000		2015		2030	
	Country or area	Percentage aged 60 years or over	Country or area	Percentage aged 60 years or over	Country or area	Percentage aged 60 years or over
1	Italy	24.1	Japan	33.1	Martinique	38.5
2	Japan	23.3	Italy	28.6	Japan	37.3
3	Germany	23.1	Germany	27.6	Italy	36.6
4	Greece	22.8	Finland	27.2	Germany	36.1
5	Sweden	22.2	Portugal	27.1	Portugal	34.7
6	Bulgaria	22.2	Greece	27.0	China, Hong Kong SAR	33.6
7	Belgium	22.0	Bulgaria	26.9	Spain	33.5
8	Croatia	21.8	Martinique	26.2	Greece	33.2
9	Portugal	21.7	Croatia	25.9	Slovenia	32.7
10	Spain	21.4	Latvia	25.7	Austria	32.4

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

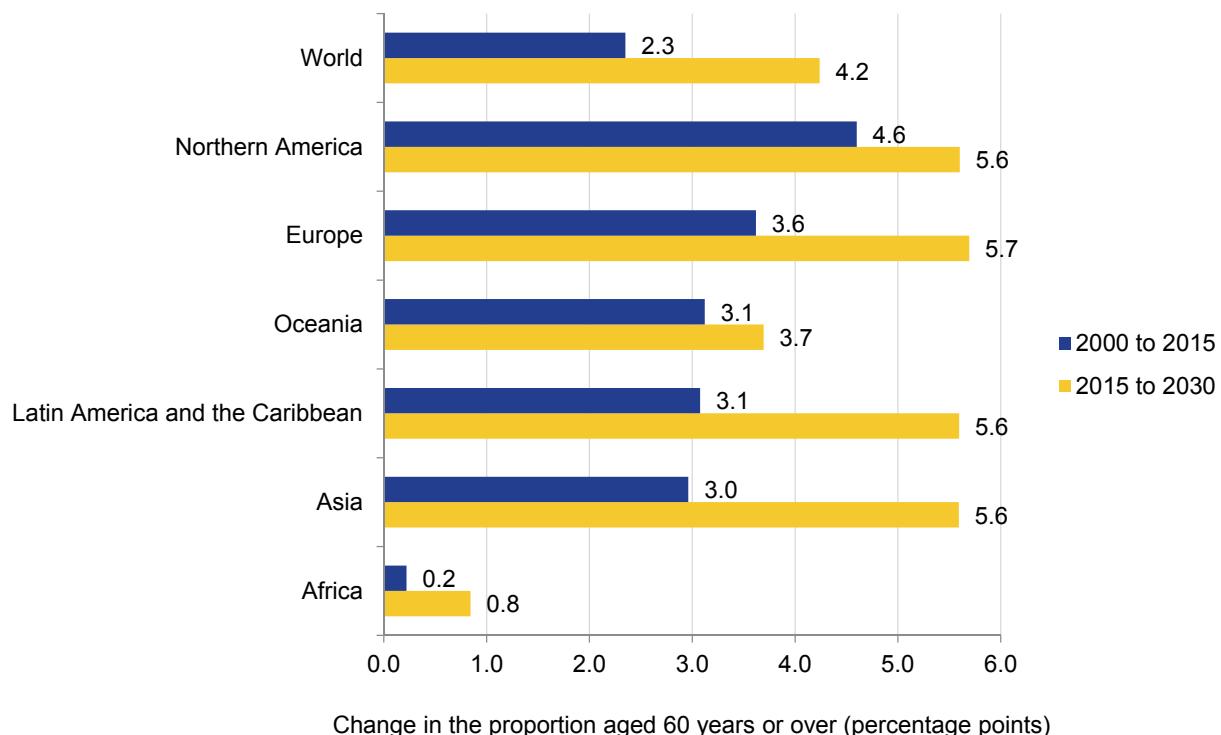
* Of 201 countries or areas with at least 90,000 inhabitants in 2015.

The pace of world population ageing is accelerating.

Over the 15 years between 2000 and 2015, the proportion of the global population that was aged 60 years or over increased by 2.3 percentage points, from 9.9 per cent to 12.3 per cent

(table II.2; figure II.17). Projections indicate that over the next 15 years the proportion aged 60 years or over globally will increase by 4.2 percentage points reaching 16.5 per cent in 2030. Between 2000 and 2015, the pace of population ageing was fastest in Northern America (4.6 percentage point increase) and Europe (3.6 percentage points). The pace of population ageing is projected to accelerate in all six regions. Between 2015 and 2030 projected increases in the proportion aged 60 years or over are nearly identical for Asia (5.6 percentage point increase), Europe (5.7), Latin America and the Caribbean (5.6) and Northern America (5.6).

Figure II.17.
Percentage point change in the proportion aged 60 years or over for the world and regions, 2000-2015 and 2015-2030



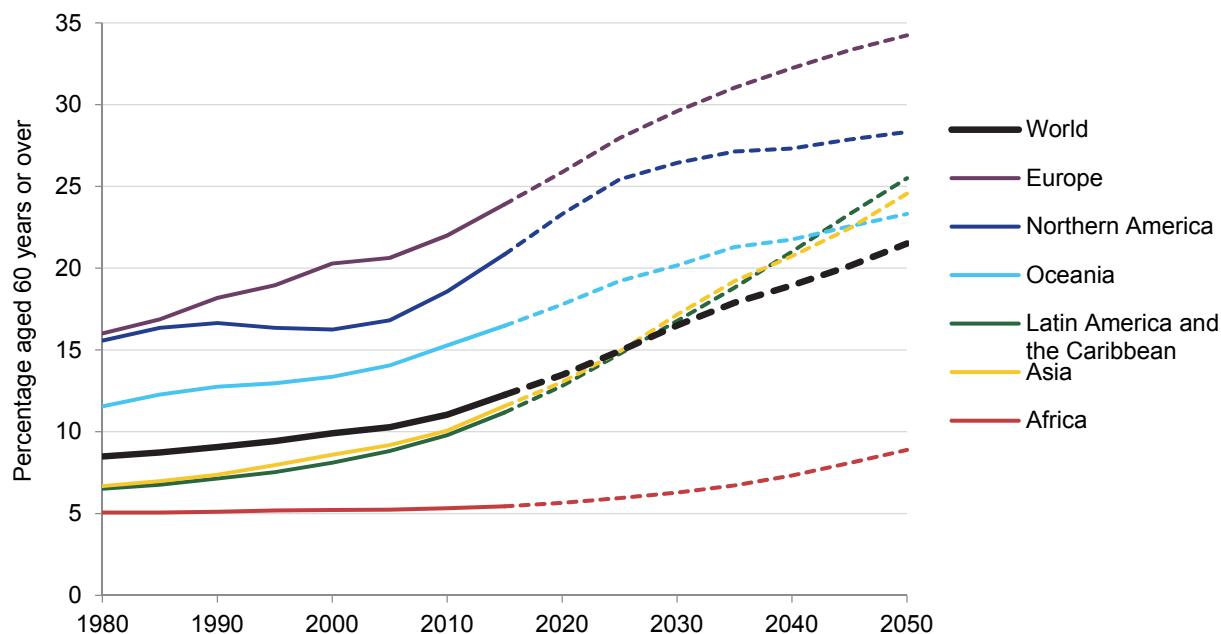
Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

By 2050, older persons are projected to account for 34 per cent of the population of Europe, 28 per cent of Northern America, 26 per cent of Latin America and the Caribbean, 25 per cent of Asia, 23 per cent of Oceania, and 9 per cent of Africa (figure II.18).

In many developing countries, population ageing is taking place much more rapidly than it did in the countries that developed earlier. For example, it took France 115 years, Sweden 85 years, Australia 73 years, the United States 69 years and the United Kingdom and Spain 45 years each for the proportion of the population aged 60 years or over to increase from 7 to 14 per cent (Kinsella and Gist, 1995). In contrast, it has taken China only 34 years and Thailand only 23 years to experience the same change in the share of older persons. Projections indicate that for Brazil, it will take just 25 years for the percentage of older persons to rise from 7 to 14 per cent and the same change in the proportion aged 60 years or over will take just 22 years in Colombia.

Thus, today's developing countries have to adapt much more quickly to population ageing, and often at much lower levels of national income compared to the past experience of many of the countries that developed earlier.

Figure II.18.
Percentage of the population aged 60 years or over for the world and regions, 1980-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

The pace of population ageing observed at the country level illustrates just how fast the age structures are shifting in many parts of the world. Table II.4 lists the ten countries with the largest percentage point changes in the share of older persons in 2000-2015 and projected for 2015-2030. Of countries or areas with 90,000 inhabitants or more in 2015, the United States Virgin Islands experienced the fastest rise in the proportion of the population aged 60 years or over, with an increase of nearly 11 percentage points between 2000 and 2015. Japan was the next fastest (a 9.9 percentage point increase), followed by Malta (9.3), Finland (7.3) and the Republic of Korea (7.2). Over the coming 15 years, the most rapidly ageing countries are projected to experience increases in the proportion of older persons that are considerably faster than those observed over the previous 15-year period. Cuba and the Republic of Korea, two countries that have experienced both sharp declines in fertility and substantial gains in longevity since the mid-twentieth century, are projected to see the largest change in the proportion aged 60 years or over between 2015 and 2030, with increases of nearly 13 percentage points. An additional seven countries or areas are also projected to experience increases in the proportion of older persons of more than 10 percentage points over the next 15 years.

TABLE II.4. TEN COUNTRIES OR AREAS WITH THE LARGEST PERCENTAGE POINT CHANGES IN THE PROPORTION OF THE POPULATION AGED 60 YEARS OR OVER, 2000-2015 AND 2015-2030
 (SEE ANNEX TABLE A.III.5 FOR FULL LIST OF COUNTRIES OR AREAS RANKED ACCORDING TO THE PERCENTAGE POINT CHANGE IN THE PROPORTION AGED 60 OR OVER)*

Rank	Country or area	Percentage point change between 2000 and 2015	Country or area	Percentage point change between 2015 and 2030
1	United States Virgin Islands	10.9	Cuba	12.8
2	Japan	9.9	Republic of Korea	12.7
3	Malta	9.3	China, Hong Kong SAR	12.3
4	Finland	7.3	China, Taiwan Province of China	12.1
5	Republic of Korea	7.2	Curaçao	11.7
6	Aruba	7.0	China, Macao SAR	11.4
7	Martinique	6.9	Thailand	11.2
8	China, Hong Kong SAR	6.9	Martinique	11.0
9	China, Taiwan Province of China	6.7	Brunei Darussalam	11.0
10	Curaçao	6.6	Singapore	9.9

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

* Of 201 countries or areas with at least 90,000 inhabitants in 2015.

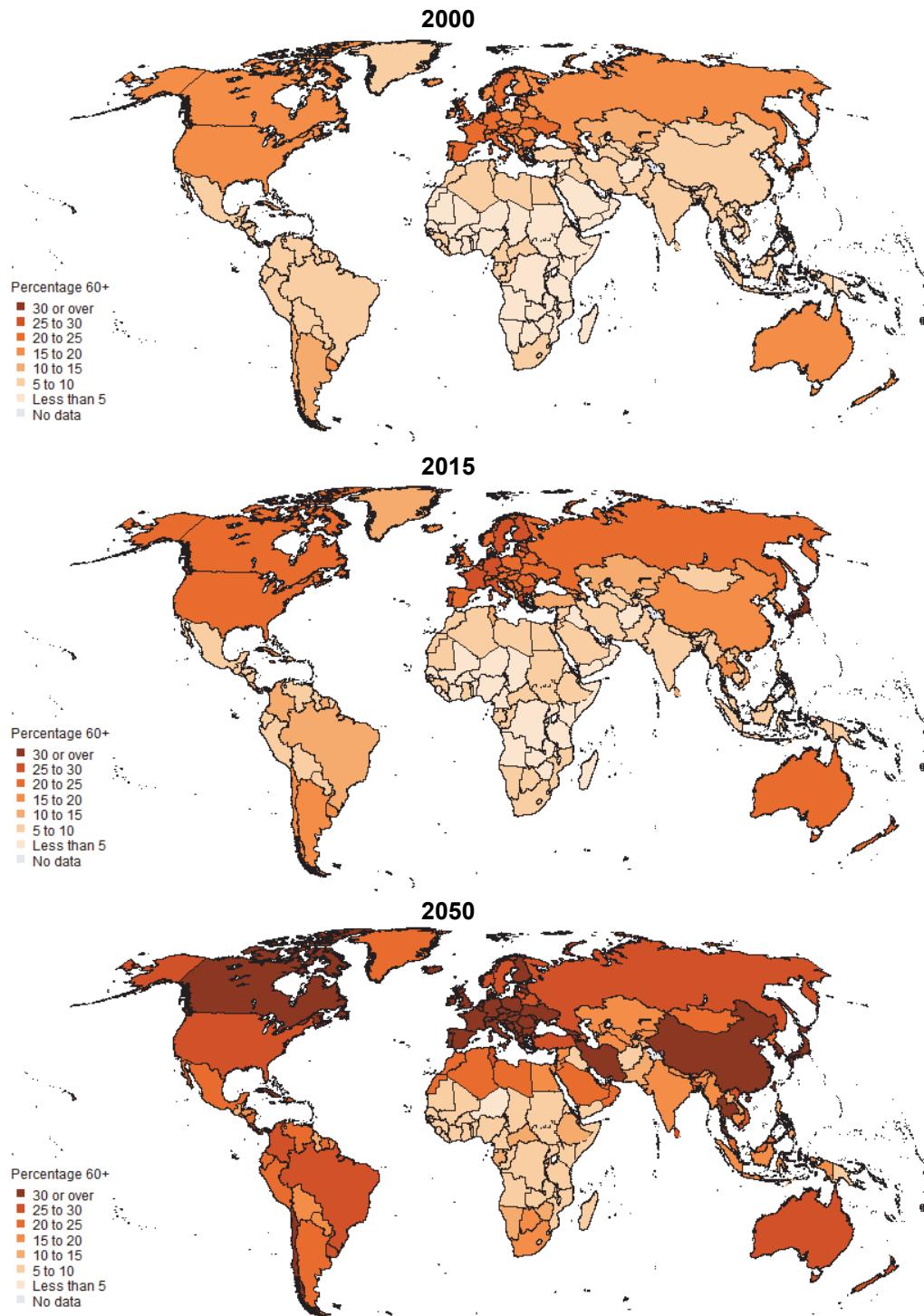
In 2050, nearly half of the world's population will live in countries or areas where at least 20 per cent of the population is aged 60 years or over, and one in four people will live in countries or areas where older persons account for more than 30 per cent of the population.

In 2000, the share of the population aged 60 years or over exceeded 20 per cent in only 23 countries or areas⁷ and these contained just 9 per cent of the global population. Projections indicate that the number of countries or areas where at least 20 per cent of the population is aged 60 years or over is projected to grow from a minority of 53 in 2015 to a large majority of 145 in 2050, and the share of the world's people living in such countries or areas is projected to increase from 17 per cent to 44 per cent. In 74 countries or areas, older persons are projected to make up at least 30 per cent of the population in 2050, up from just 3 countries or areas⁸ in 2015. Conversely, the number of countries with very young population age structures is shrinking over time. While in 2015 there were 37 countries or areas where less than 5 per cent of the population were aged 60 years or over, by 2050 the share of older persons is projected to be below 5 per cent in only one country (Niger).

⁷ Of the 233 countries or areas for which the United Nations estimates and projects total population.

⁸ The Holy See, Japan and Monaco.

Figure II.19.
Maps of percentage of population aged 60 years or over in 2000, 2015 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

D. DEPENDENCY AND SUPPORT RATIOS

Population ageing, which is driven by both declining fertility and increasing longevity, implies that successive cohorts can expect to live longer and have fewer adult children as potential sources of support in their old age. This section discusses trends in various descriptive measures of population ageing that are used often to examine the implications of shifting population age structures for intergenerational support systems.

The total dependency ratio is a commonly used measure of potential support needs. It is based on the notion of childhood and old age as periods of dependency during which persons tend to rely upon the working-age population for financial support, which may be provided directly through family transfers, or indirectly through public transfer programmes. The total dependency ratio is defined here as the ratio of the number of children and young people under age 20 plus the number of persons aged 65 years or over, to the number of persons aged 20 to 64 years. The ratio provides an indication of how many dependents need to be supported by each person of working age, on average. The actual ages of dependency vary considerably from country to country and from one person to another, since factors like the pursuit of higher education or youth unemployment often prolong the dependent period beyond age 20, while personal preferences, as well as health and financial considerations, influence the age at which people retire from the workforce. Despite these limitations, the choice of the age range 20 to 64 years for the working ages serves here as a starting point to facilitate comparisons of age structures across populations and over time.

The global total dependency ratio has fallen to a historical minimum and is set to rise in the post-2015 period.

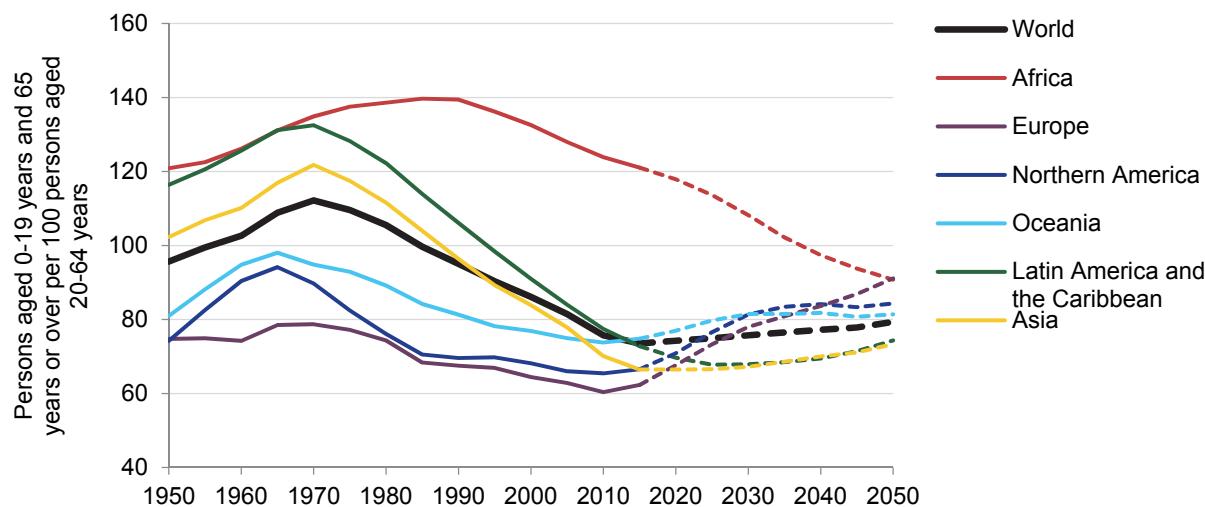
At the global level, the total dependency ratio has fallen to a historical minimum in 2015 (figure II.20). From a peak of approximately 112 “dependents” per 100 working-age persons in the early-1970s, the total dependency ratio declined steadily in response to sustained reductions in global fertility, to reach 74 dependents per 100 working-age persons in 2015. The total dependency ratio is projected to increase gradually over the coming decades together with the growing proportion of older persons. By 2030, there will be 76 people in the dependent ages per 100 working-age people, and by 2050 the global total dependency ratio is projected to rise to 79 dependents per 100 working-age persons. A rising ratio indicates that there will be slightly more dependents to be supported by each person of working ages.

The total dependency ratio is projected to increase in all regions except Africa.

The total dependency ratio is projected to rise the fastest in regions that have already seen substantial increases in the proportion of older persons, such as Europe and Northern America. As a result of several decades of comparatively low fertility, the total dependency ratios in Europe and Northern America were lower than in the other regions in the second half of the twentieth century. In 2015, the total dependency ratios in these two regions were 62 and 67 dependents per 100 working-age persons, respectively, which were similar to that in Asia at 66 dependents per 100 working-age persons, and slightly lower than in Latin America and the Caribbean at 73 dependents per 100 working-age persons. By 2050, the total dependency ratio is projected to increase to 91 in Europe and to 84 in Northern America, overtaking all other

regions. The increasing proportions of older persons in Asia and Latin America and the Caribbean will also boost future increases in the total dependency ratio, which, in 2050, is projected to reach 73 dependents per 100 working-age people in Asia and 74 per 100 in Latin America and the Caribbean in 2050.

Figure II.20.
Total dependency ratio for the world and regions, 1950-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

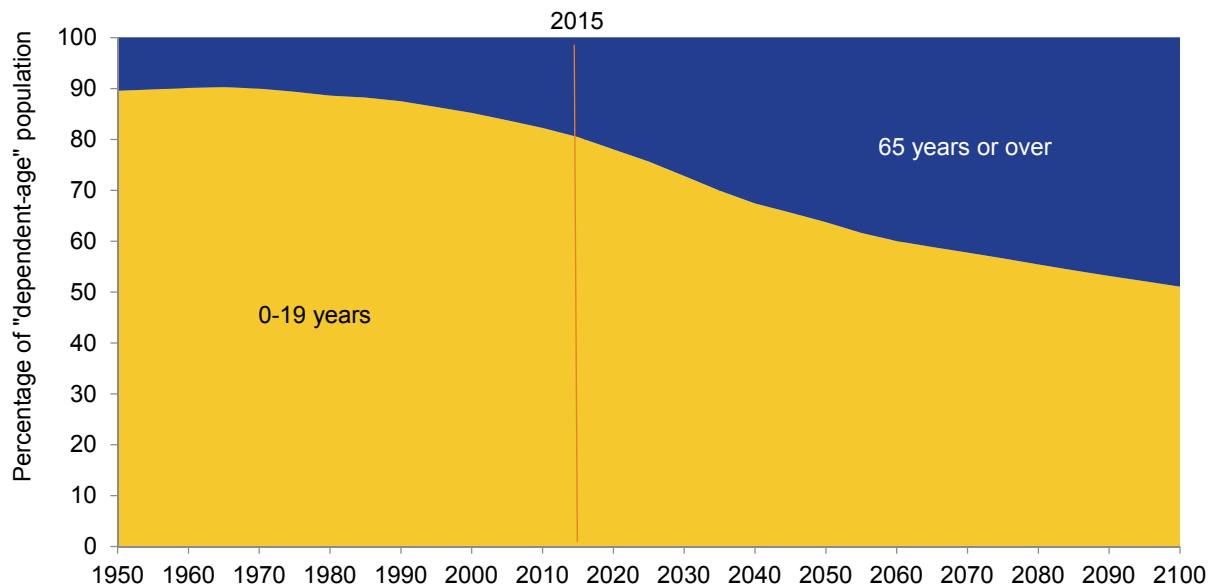
Fertility decline began more recently in Africa than in the other regions, and thus the proportion of children is starting to fall and the share of working-age persons is beginning to increase, while the proportion of older persons in the population remains fairly small. As a result, the total dependency ratio in Africa is falling gradually, and that decline is projected to continue into the second half of the twenty-first century. The dependency ratio in Africa fell from its peak of 140 dependents per 100 working-age persons in the mid-1980s to 121 dependents per 100 working-age persons in 2015, and is projected to continue to decline to 91 dependents per 100 working-age persons in 2050.

The global increase in the total dependency ratio will be driven by a growing share of older persons.

Changes in the total dependency ratio are driven by changes in the proportions of children and of older persons. Figure II.21 illustrates the distribution of people in the dependent ages in the world, distinguishing children and young people under 20 years of age and older persons aged 65 years or over. In 1950, the vast majority of dependents worldwide were children, while older persons accounted for just 10 per cent of the global dependent-age population. Since the mid-1960s, however, the share of older persons among the world's dependents has grown, reaching 20 per cent in 2015, and is expected to continue to grow steadily into the future. Projections indicate that in 2050 older persons will account for 36 per cent of people in the dependent ages worldwide.

Figure II.21.

Children and young people aged under 20 years and older persons aged 65 years or over as a percentage of the global population in the dependent ages, 1950-2100



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

The economic support ratio takes into account the age patterns of production and consumption to describe the number of effective workers in a population relative to the number of effective consumers.

Rather than assuming a status of “dependency” at given ages, a better way to assess the degree of dependency in a population is to consider the age patterns of production and consumption. Age patterns of production reflect labour earnings and represent the economic contribution of individuals at each age to their own sustenance and to the support of others. In turn, the age patterns of consumption provide a measure of the population’s needs at each age. While these economic factors are at best implicit in the conventional demographic dependency ratios, the economic support ratio makes them explicit, and considers them together with the population age structure.

The economic support ratio is defined as the effective number of workers divided by the effective number of consumers in a given population (Lee and Mason, 2011; United Nations, 2013). The effective number of workers is obtained by the product of the labour income at each age by the population in the corresponding age group, summed over all ages. Age variations in labour force participation, hours worked, unemployment and wages are taken into account and are reflected in the country-specific labour income profile. Similarly, the effective number of consumers is calculated as the sum over all ages of the product of consumption at each age by the population in that age group.

Figure II.22 shows the average annual changes in the economic support ratio in different countries, estimated for the period 1980-2015 and projected for 2015-2050, based on information on the labour income and consumption age profiles for recent years compiled in the National Transfer Accounts (NTA) database,⁹ together with United Nations estimates and projections of population by age and sex. A rising economic support ratio, reflected in a positive growth rate in figure II.22, means that, during the reference time period, each worker is supporting fewer consumers, on average. This situation is favourable for economic development, since it frees up resources that can be used to increase per capita consumption, savings and investment, thereby fuelling further economic growth (Lee and Mason, 2011). Conversely, a declining support ratio, reflected in a negative growth rate, means that there are fewer equivalent producers to support each equivalent consumer, which constrains the present standard of living and future economic growth.

Countries that underwent a rapid fertility decline between the 1970s and 1990s benefitted from increasing economic support ratios during the period 1980-2015.

Growth of the economic support ratio over 1980-2015 was particularly high in several Asian countries, such as China, the Republic of Korea, Thailand and Viet Nam, where the average annual growth rate ranged from 0.7 to 0.9 per cent (figure II.22, top chart). The rate of growth of the economic support ratio growth during that period was still significant in Brazil, Colombia and South Africa, ranging from 0.5 to 0.7 per cent per year. In contrast, the growth rate was comparatively modest in high-income countries that had already achieved low fertility: Australia, France, Italy, the United Kingdom and the United States show growth rates of the economic support ratio in the range of 0.1 to 0.2 per cent annually over 1980-2015. In countries with very low fertility, such as Japan, the economic support ratio actually declined during that period.

Increasing economic support ratios are projected to contribute to future economic growth in a number of middle-income and low-income countries.

Economic support ratios, projected under the assumption that age patterns of production and consumption remain unchanged over 2015-2050, illustrate at the potential influence of demographic changes on economic growth¹⁰ (figure II.22, bottom panel). For example, In India and Indonesia, the economic support ratio is projected to continue growing over the period 2015-2050, boosting economic growth by about 0.2 per cent per year. In Nigeria and Kenya, the economic support ratios are expected to increase even faster, resulting in an addition to economic growth of 0.3 per cent per year over the period 2015-2050, on average.¹¹

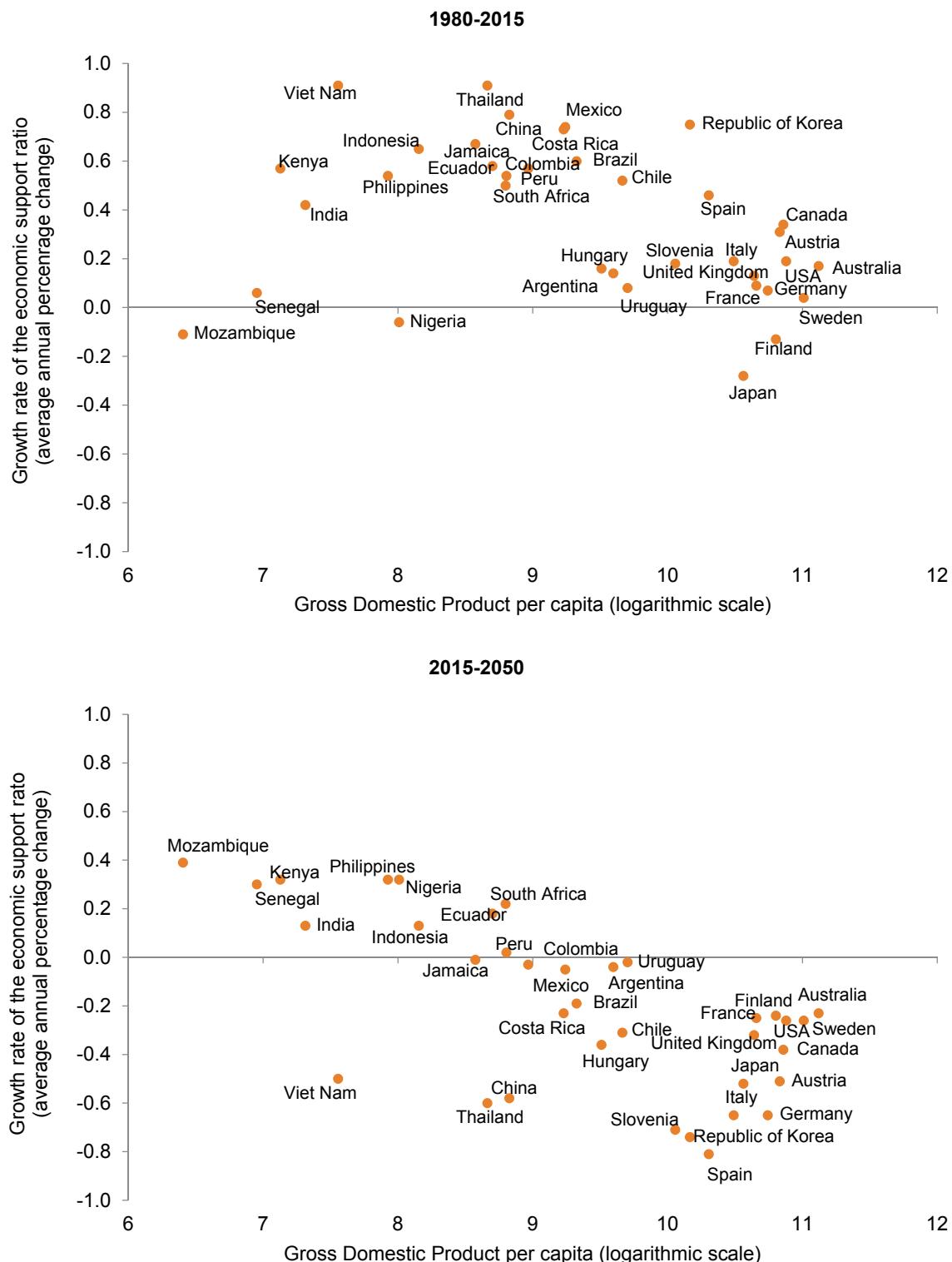
⁹ <http://www.ntaccounts.org/>.

¹⁰ These results are obtained by multiplying the latest available age-specific patterns of production of consumption (see footnote 8), by the population by age of the medium projection variant of the *World Population Prospects: The 2015 Revision* (United Nations, 2015).

¹¹ If fertility declines faster than anticipated in the medium variant, if investment in human and physical capital increase, or labour markets improve, then the actual future growth rate of the economic support ratio would be higher than shown in figure II.22.

Figure II.22.

Average annual change in the economic support ratio, selected countries, 1980-2015 and 2015-2050



Data source: National Transfer Accounts database (<http://www.ntaccounts.org/>), accessed 1 September 2015.

Many high-income and upper-middle-income countries will experience declining economic support ratios, especially where populations are already aged.

Other things being equal, the declining economic support ratios projected between 2015 and 2050 would contribute to dampen economic growth in Japan and in Spain, for example, by about 0.5 per cent per year and 0.8 per cent per year, respectively. In the United States, where the ageing process is less advanced due to somewhat higher fertility and mortality than in other high-income countries as well as to significant inflow of migrants, the projected changes in the economic support ratio is smaller, of less than 0.3 per cent per year. The support ratios in Argentina, Colombia, Mexico and Uruguay are projected to decline slightly, with ensuing lesser effects on economic growth, of only -0.05 per cent per year during 2015-2050.

In many upper-middle-income countries, the share of the working-age population is presently reaching a peak. In the coming decades, these countries are expected to experience accelerated population ageing and declining economic support ratios, reaching levels similar to those of the high-income countries today. The decline in the support ratio is projected to be more pronounced in countries with more aged populations, such as China, Germany, Italy, the Republic of Korea, Spain, Slovenia and Thailand, where the economic support ratios are projected to decline by more than 0.5 per cent per year over 2015-2050.

III. Demographic drivers of population ageing

The size and age composition of a population are determined jointly by three demographic processes: fertility, mortality and migration. Fertility levels and trends determine the size of each birth cohort; while mortality levels and trends determine what proportion of those cohorts eventually survive to old age. Age patterns of immigration and emigration also influence the age distribution of the population, although to a lesser extent than fertility and mortality in most countries. This chapter describes the relationships between the three main demographic processes and population ageing, drawing primarily upon United Nations population estimates and projections from *World Population Prospects: the 2015 Revision*.

A. FERTILITY AND MORTALITY AS DETERMINANTS OF TRENDS IN THE NUMBERS OF OLDER PERSONS

The present growth rate of the population of older persons is a function of the levels of fertility prevailing some 60 years ago when today's new cohorts of older persons were born, together with the likelihood that members of those birth cohorts survived to older ages. Figure III.1 shows the growth rate of the population aged 60 or over in 2010-2015 versus the total fertility rate (expressed as the average number of children per woman) 60 years earlier, in 1950-1955, for countries or areas with at least 500,000 residents aged 60 years or older in 2015.¹²

In general, countries that had high fertility 60 years ago saw faster growth in the number of older persons during 2010-2015.

In the Philippines, for example, the total fertility rate was 7.4 children per woman in 1950-1955, and today, the number of older people (aged 60 years or over) is growing rapidly, at an average 3.6 per cent per year in 2010-2015. By contrast, in Italy, total fertility was only 2.4 children per woman in 1950-1955, and today's older population is growing much slower than in the Philippines, at an average annual rate of 1.4 per cent during 2010-2015. Because fertility rates in the mid-century were high—above five children per woman—in many parts of Africa, Asia and Latin America and the Caribbean, the growth rates of the older populations in those regions are significantly higher than in Europe, where fertility in 1950-1955 had already fallen below three children per woman in many countries.

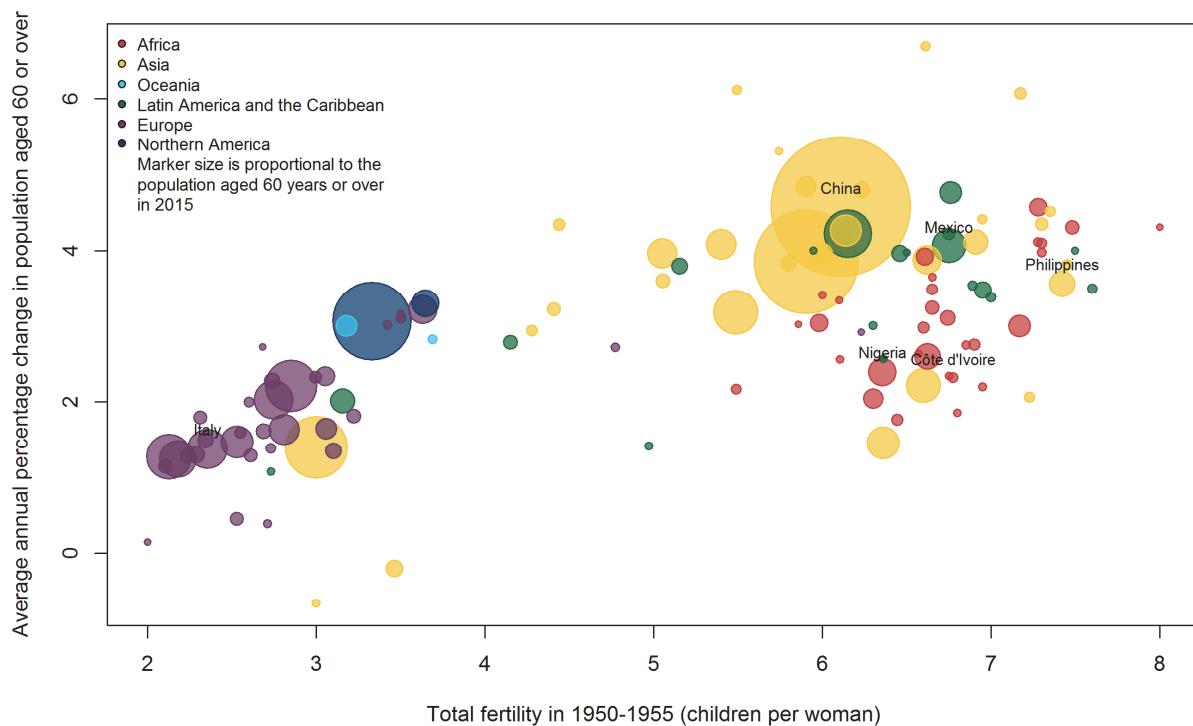
The association between past fertility rates and the present rates of growth of the numbers of older persons across countries shown in Figure III.1 is tempered by variation in mortality risks across countries with similar levels of fertility. For example, in Mexico, where total fertility was 6.8 children per woman in 1950-1955, the average annual growth rate of the population of older persons in 2010-2015 was 4.1 per cent, but in Côte d'Ivoire, where total fertility at 6.8 children per woman in 1950-1955 was similar to that in Mexico, the growth rate of the older population in 2010-2015 was only around half that in Mexico, at 2.3 per cent. The difference can be explained largely by the disparate mortality risks between the two countries: people born in Mexico during

¹² Looking at fertility levels some 60-80 or even 90 years prior, would offer a more complete illustration of how past fertility drives the pace of growth of the older population. However, given that there are no internationally comparable time series of fertility estimates before 1950, the period 60 years in the past is used as a first approximation for this analysis.

the mid-twentieth century were twice as likely to survive to old age as those born in Côte d'Ivoire. More specifically, an estimated 66 per cent of babies born in Mexico in 1950-1955 survived to celebrate their 60th birthdays in 2010-2015, compared to just 33 per cent of their peers born in Côte d'Ivoire (figure III.2).¹³ Persons born in Côte d'Ivoire at the mid-century were twice as likely as their counterparts in Mexico to die before age five and excess mortality associated with armed conflict and the HIV/AIDS epidemic contributed the lower probabilities of survival to older ages there as well.

A similar comparison can be made for China and Nigeria. While total fertility rates in both China and Nigeria were similar at the mid-century at 6.1 and 6.4 children per woman, respectively, the older population in China in 2010-2015 was growing nearly twice as fast as in Nigeria (4.6 per cent versus 2.4 per cent per year) owing in part to the greater survival to old age of people in China. An estimated 66 per cent of the people born in China in 1950-1955 survived to their 60th birthdays compared to 37 per cent of those born in Nigeria.

Figure III.1.
Average annual percentage change in the population aged 60 years or over in 2010-2015 and total fertility in 1950-1955 *



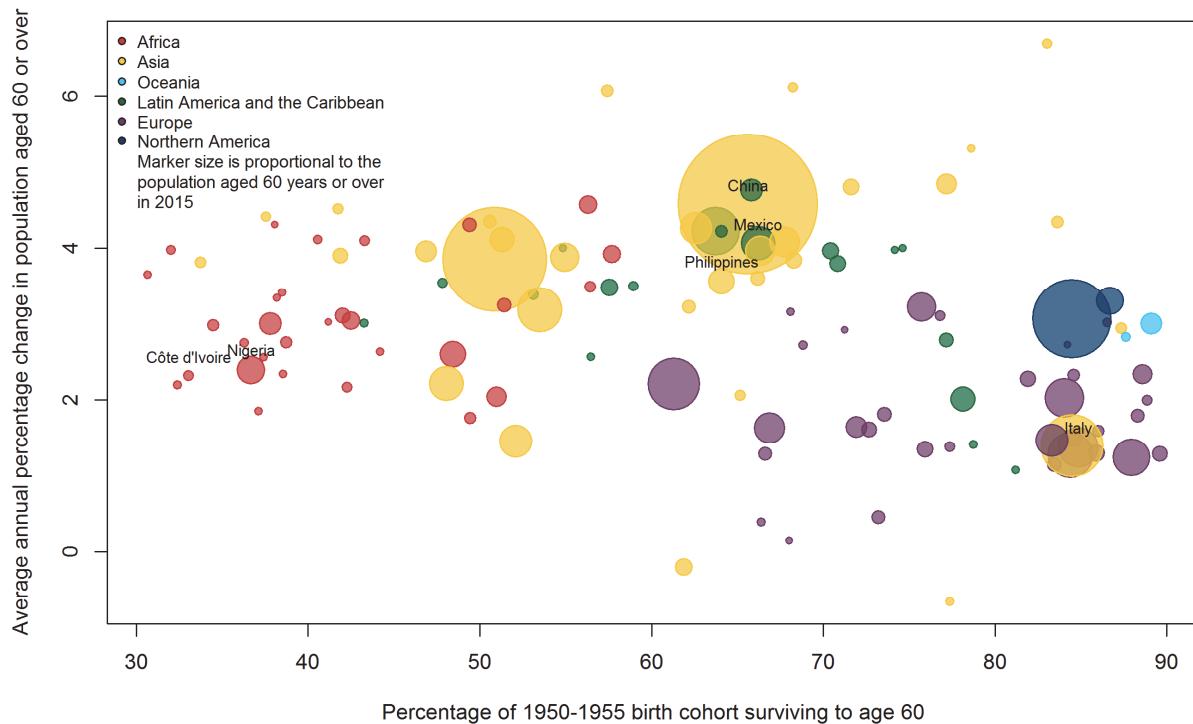
Data source: United Nations (2015). World Population Prospects: The 2015 Revision.

* Countries or areas with at least 500,000 residents aged 60 or over in 2015.

¹³ The probability that members of the 1950-1955 birth cohort survive to age 60 is estimated using cohort life tables constructed of the quinquennial estimates of age-specific mortality from the 2015 Revision of *World Population Prospects*.

Figure III.2.

Average annual percentage change in the population aged 60 years or over in 2010-2015 and probability of survival to age 60 among the 1950-1955 birth cohort^a^b



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

* Countries or areas with at least 500,000 residents aged 60 or over in 2015.

Table III.1 lists the current size and growth rate of the population of older persons for the world and six regions, as well as the fertility rates around the time that today's 60-year-olds were born and their survival probabilities to age 60.² In 2010-2015, the population of older persons was growing most rapidly in Asia and Latin America and the Caribbean, at an average 3.8 per cent per year. Both of these regions were characterized by high fertility in 1950-1955, at 5.8 and 5.9 children per woman, respectively. Moreover, a majority of the 1950-1955 birth cohorts survived to old age: 59 per cent of those born in Asia during 1950-1955 were still alive at age 60, as were 65 per cent of those born in Latin America and the Caribbean.

The older populations of Northern America and Oceania were also growing rapidly during 2010-2015, by 3.1 per cent annually in 2010-2015, despite having had much lower fertility compared to Latin America and the Caribbean and Asia at the mid-century (3.4 and 3.8 children per woman, respectively). In both Northern America and Oceania, growth of the older population has been bolstered by high probabilities of survival to older ages: close to 85 per cent of the 1950-1955 birth cohort in Northern America lived to at least age 60, as did 78 per cent of their peers in Oceania.

The pace of growth of the older population in Africa, at 3.0 per cent per year during 2010-2015, was similar to that in Northern America and Oceania, although the probability of survival to age 60 years in Africa was much lower, with just 42 per cent of those born in 1950-1955

surviving to their 60th birthdays. In this instance, very high fertility, at 6.6 children per woman in 1950-1955, has compensated for lower survival to old age to promote rapid growth of the population of older persons in Africa.

While Europe is home to the world's most aged population in 2015, the pace of growth of the older population in Europe was the slowest of the six regions during 2010-2015, at 1.7 per cent per year on average, owing to already low fertility in Europe in 1950-1955 at 2.7 children per woman, and a lower probability of survival to older ages relative to Northern America, with 76 per cent of Europe's 1950-1955 birth cohort alive at age 60 years.

TABLE III.1. OLDER POPULATION SIZE AND GROWTH RATE, AND PAST FERTILITY AND MORTALITY LEVELS FOR THE WORLD AND REGIONS

	Population aged 60 years or over in 2015 (thousands)	Average annual rate of change of the population aged 60 years or over in 2010-2015 (percentage)	Total fertility in 1950-1955 (children per woman)	Percentage of 1950-1955 birth cohort surviving to age 60 ²
World	900 906	3.3	5.0	61.2
Africa	64 447	3.0	6.6	42.3
Asia	507 954	3.8	5.8	59.4
Europe	176 513	1.7	2.7	75.6
Latin America and the Caribbean	70 922	3.8	5.9	65.0
Northern America	74 589	3.1	3.4	84.7
Oceania	6 481	3.1	3.8	78.3

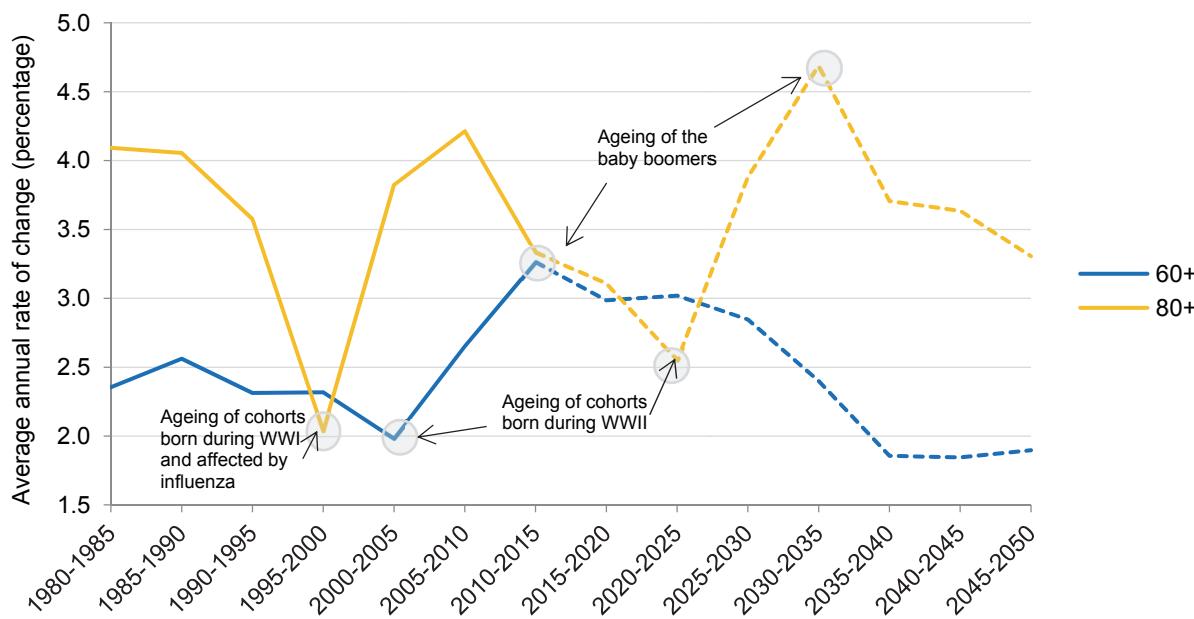
Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Global trends in the growth rate of the older population reveal the powerful influence of major historical events in shaping the age composition of the world's population.

Figure III.3 plots the average annual rates of change of the global population aged 60 years or over and aged 80 years or over, respectively, by 5-year period, estimated since 1950 and projected until 2050. The sharp fluctuations observed in the growth rate of the population of older persons point to the historical events that produced significant demographic shocks during the early- to mid-twentieth century. For example, the sharp decline in the growth rate of the global population aged 80 years or over in the late 1990s marks the period during which the cohorts born around World War I and affected by the 1918 influenza pandemic would have reached their 80s. Similarly, the decline in the growth rate of the global population aged 60 years or over in 2000-2005 marks the period during which the cohorts born during the period of lower fertility surrounding World War II would have turned 60 years old; the projected decline in the growth rate of the population aged 80 years or over in 2020-2025 marks when they would have turned 80 years old.

Figure III.3.

Average annual rate of change of the global population aged 60 years or over and aged 80 years or over, 1980-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Conversely, the peaks in the growth rate shown for the populations aged 60 years or over in 2010-2015 and aged 80 years or over in 2030-2035 mark the periods during which those born during the post-World War II baby boom reach older ages. The growth rate of the global population aged 60 years or over climbed from a low of 2.0 per cent per year during 2000-2005, when the cohorts born during World War II were reaching age 60 years, to a peak of close to 3.3 per cent per year in 2010-2015, when the baby boomers were reaching age 60. For the global population aged 80 years or over, the growth rate is projected to rise from just over 2.5 per cent per year in 2020-2025, when the World War II cohorts turn 80 years old, to 4.6 per cent per year when the baby boomers reach age 80 years.

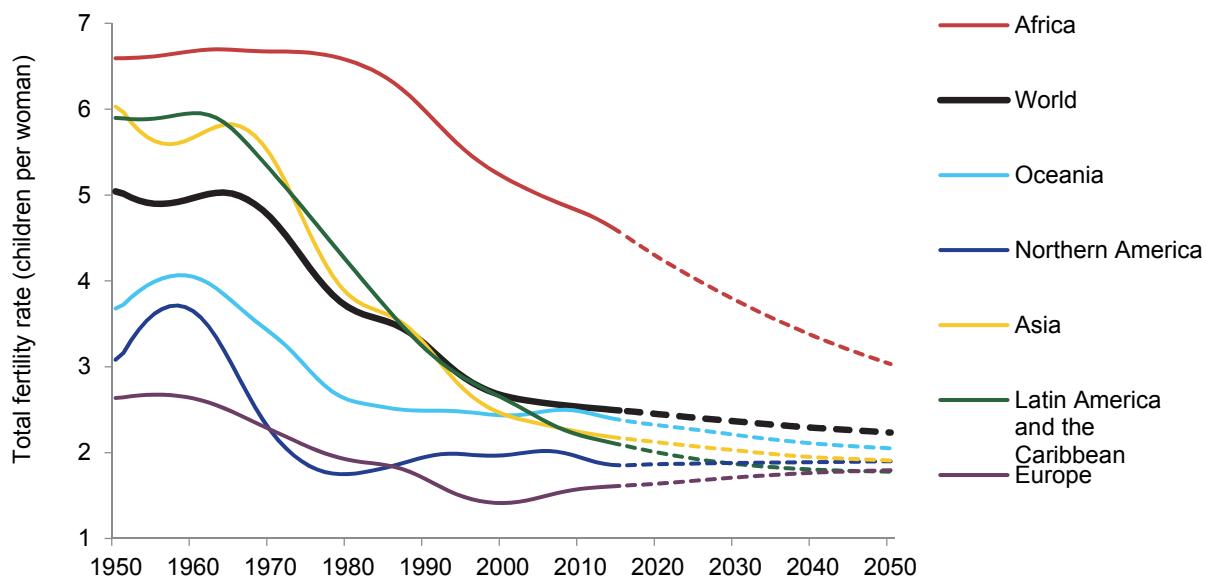
Just as current population ageing has been determined by historical levels and changes in fertility and mortality, the coming trends with respect to population ageing can be understood as having grown out of the history of fertility and mortality shifts that have taken place over the last century. While the fluctuations evident in figure III.3 point to extreme examples of the historical influences of demographic shocks at the global level, shifts in fertility and mortality have played out differently across the world's regions. Consequently, the global trends in the numbers of older persons can also be understood as an aggregation of heterogeneous regional demographic trends over time. The following two sections of this chapter describe the recent and projected future trends in fertility and mortality, respectively, by region, and discuss their implications for the coming trends in population ageing.

B. FERTILITY TRENDS

Of the three demographic processes, historically fertility has been the most influential in shaping trends in the numbers and proportion of older persons in the population over the long term. Total fertility rates have fallen in each of the world's regions. That decline, which is described in the demographic transition, began first in Europe, Northern America and the developed countries of Oceania as far back as the late nineteenth-century. Since the mid-twentieth century, fertility decline has followed in Asia, Latin America and the Caribbean, and Africa.

Figure III.4 illustrates trends in total fertility for the world and six regions, estimated for 1950 to 2015 and projected to 2050 from the *2015 Revision of World Population Prospects*. At the global level, total fertility in 1950 was just above 5 children per woman and it has fallen to around 2.5 children per woman in 2015. That global decline reflects reductions in fertility in all six regions. The steepest declines in fertility since 1950 occurred in Asia and Latin America and the Caribbean, where total fertility fell from around 6 children per woman in the mid-twentieth century to around 2.1 children per woman in 2015, which is the level of fertility required to sustain population size over the long term and is referred to as the replacement rate.

Figure III.4.
Total fertility rate for the world and regions, 1950-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

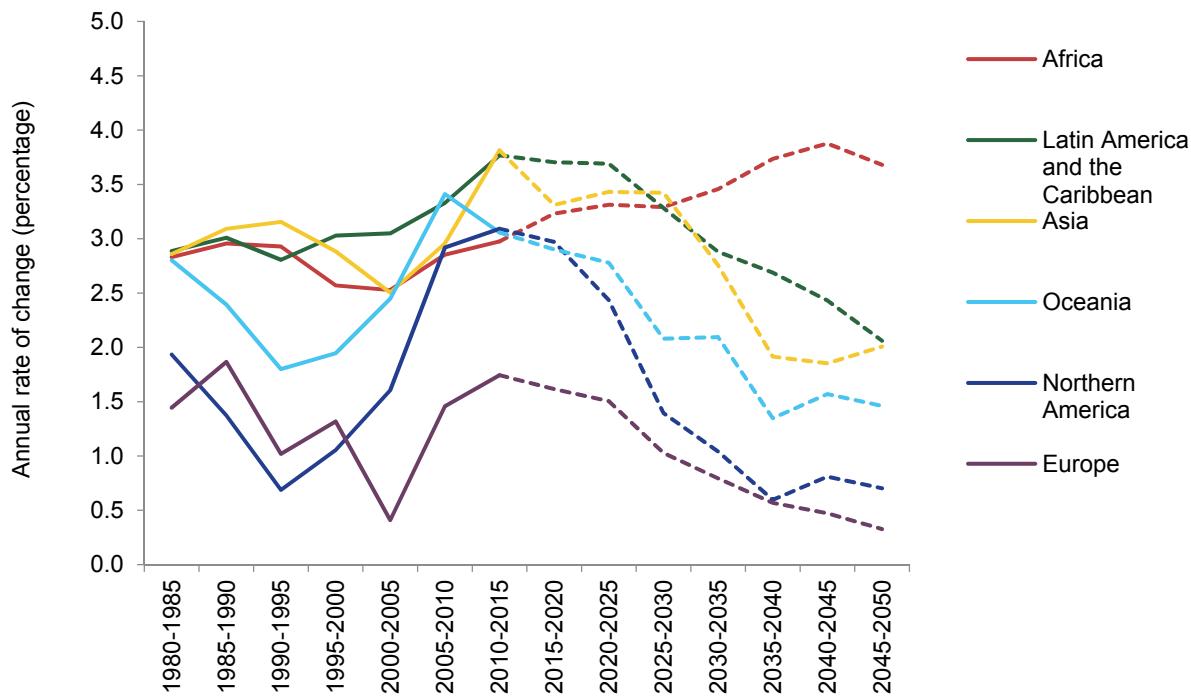
Total fertility rates in Oceania, Northern America and Europe were comparatively lower in 1950, at around 3.7, 3.1, and 2.6 children per woman, respectively. Following a brief increase in fertility in the 1950s and early 1960s, fertility decline resumed in these regions. In 2015, total fertility rates had fallen to close to 2.4 children per woman in Oceania, 1.9 children per woman in Northern America, and 1.6 children per woman in Europe. Total fertility was highest in

Africa in 1950, at 6.6 children per woman on average, and while women in Africa had two fewer children on average in 2015 than they did in 1950, the region's total fertility rate of 4.6 children per woman remained the highest in the world.

Projections of future fertility indicate that rates in Africa will continue to fall towards 3.0 children per woman in 2050. Fertility rates in Oceania, Asia and Latin America are also projected to decline, although only slightly, from their 2015 levels, while those in Northern America and Europe are projected to increase, again only slightly from their 2015 levels.

The regional trends in total fertility illustrated in figure III.4 are closely linked to the observed and projected regional trends in the growth of the population of older persons. Figure III.5 charts the estimated and projected regional trends in the average annual rate of change of the population aged 60 years or over from 1980 to 2050 for each of the six regions.

Figure III.5.
Average annual rate of change of the population aged 60 years or over, by region, 1980-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

The influence of the post-World War II baby boom is evident in the spike in the growth rates of the populations of older persons in the early twenty-first century in Europe, Northern America and Oceania. From 2015, the growth of the population aged 60 years or over is projected to slow in Europe, Latin America and the Caribbean, Northern America and Oceania, reflecting the reductions in fertility that led to slowing in the growth of birth cohorts through the latter half of the twentieth century. In Asia, the growth rate of the population of older persons is projected to

decline precipitously after 2025, reflecting the rapid decline in fertility that began in the mid-1960s in that region. In Africa, the pace of growth of the population aged 60 years or over is projected to increase from just over 3 per cent per year in 2010-2015 reaching nearly 3.9 per cent per year in 2040-2045, reflecting the higher fertility rates in the region. The pace of growth of the older population of Africa projected for the 2040s is faster than any region has experienced since 1950 when the data series begins.

C. TRENDS IN LIFE EXPECTANCIES AND PROBABILITIES OF SURVIVAL TO OLD AGE

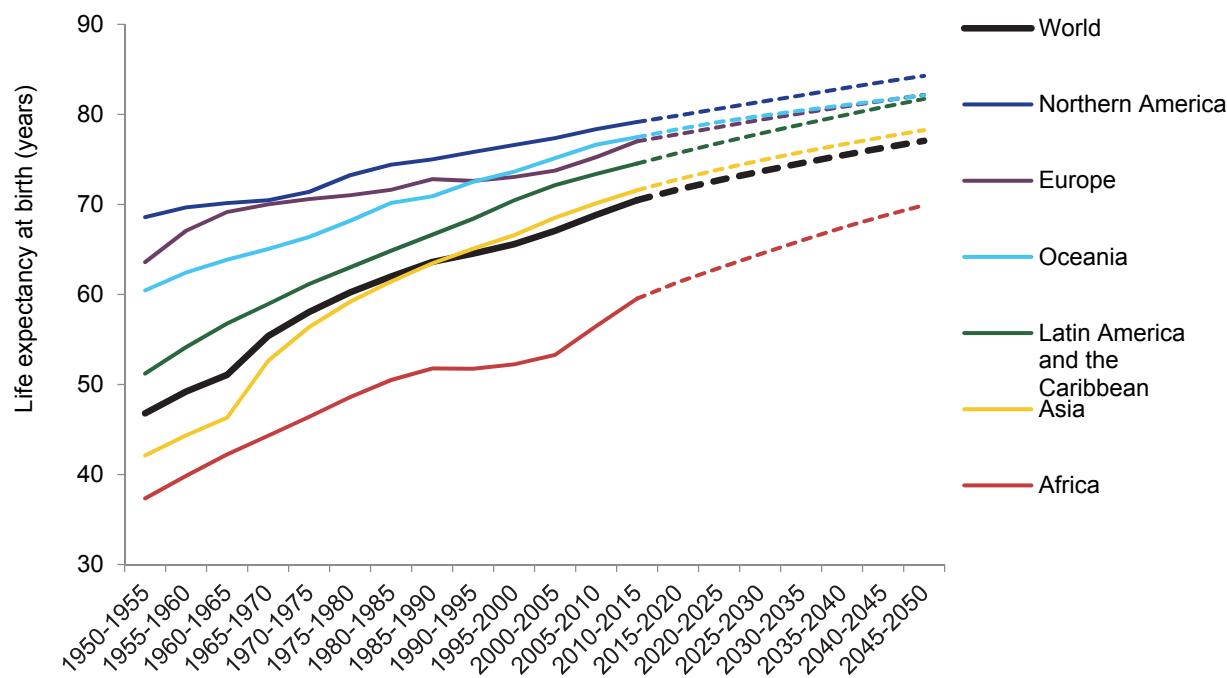
As fertility rates fall over time, the size of birth cohorts stabilizes and improvements in longevity become increasingly important drivers of population ageing. Fertility in Europe has been well below the replacement level for more than three decades, thus variations across countries in the rate of growth of the older population are increasingly influenced by disparities in the likelihood of survival to old age. A similar situation is emerging in Northern America and is anticipated to occur in Asia and Latin America and the Caribbean where fertility decline began more recently. This section examines past, present and future mortality risks as summarized in terms of the life expectancies at birth and at age 60, as well as the cohort probabilities of survival to older ages.

All regions have experienced substantial increases in life expectancy since 1950.

The life expectancy at birth describes the number of years a person would be expected to live if he or she were exposed throughout life to the prevailing age-specific mortality risks of a given period. Figure III.6 shows the life expectancy at birth for the world and six regions estimated for 1950 to 2015 and projected to 2050 from the *2015 Revision of World Population Prospects*. In 2010-2015, life expectancy at birth globally was 70.5 years, having risen from 46.8 years in 1950-1955. Across the six regions in 2010-2015, the expectation of life at birth was longest in Northern America, at 79.2 years, and shortest in Africa, at 59.5 years. All regions have experienced an increase in life expectancy since 1950, with the fastest increases occurring in Asia, where life expectancy at birth increased from 42.1 years in 1950-1955 to 71.6 years in 2010-2015, and in Latin America and the Caribbean, where it rose from 51.2 years to 74.5 years over the same period.

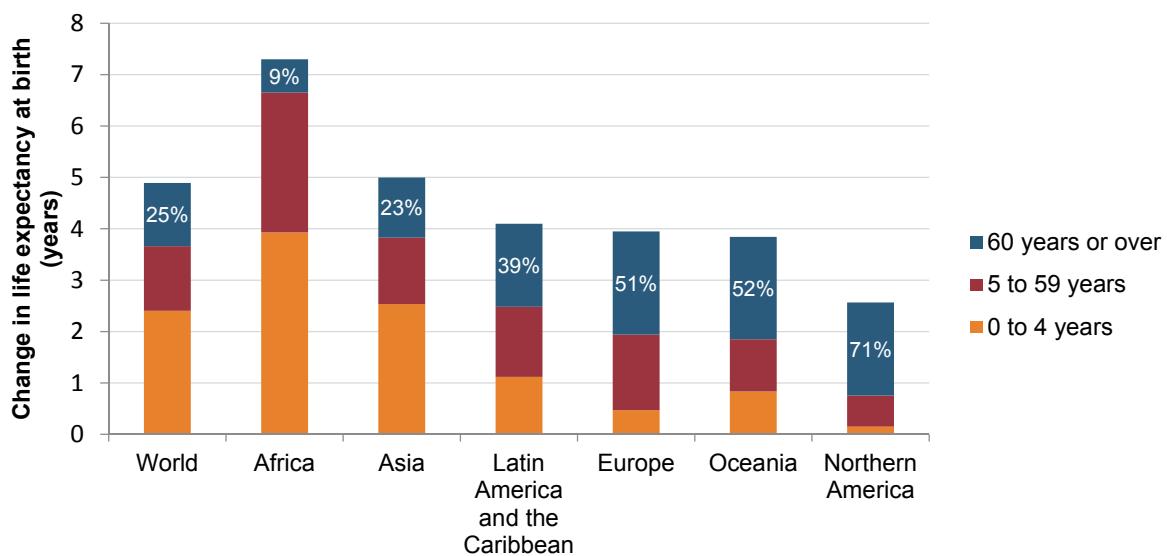
Improvements in the life expectancy at birth can be driven by mortality decline at various ages. Decomposing the change in life expectancy at birth according to the contribution of mortality reductions among different age groups offers insight into how the drivers of improvements in life expectancy vary across populations at different levels of mortality. The results of this decomposition exercise are shown in figure III.7, which illustrates the contribution of mortality decline below age 5 years, between ages 5 and 59 years, and at age 60 years or over, respectively, to the overall increases in life expectancy at birth between 1995-2000 and 2010-2015 for the world and six regions. At the global level, improved survival between birth and age 5 accounted for close to half of the 4.9-year increase in the life expectancy at birth between 1995-2000 and 2010-2015. Mortality reductions between ages 5 and 59 years and at age 60 years or over each accounted for 25 per cent of the global gain in the life expectancy at birth over that period.

Figure III.6.
Life expectancy at birth for the world and regions, 1950-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Figure III.7.
Contribution of mortality decline at different ages to improvements in the life expectancy at birth between 1995-2000 and 2010-2015, for the world and regions*



* Calculated using life tables from United Nations (2015). *World Population Prospects: The 2015 Revision*. The method applied to decompose the change in life expectancy at birth according to the contribution of improvements in survival at different age groups is that developed by Arriaga (1984) and described in Preston, Heuveline and Guillot (2001), p. 65.

Improvements in survival at age 60 or over accounted for more than half of the total improvement in longevity in Oceania, Europe and Northern America, while reduced mortality at younger ages was more important in Africa, Asia and Latin America and the Caribbean.

Africa, the region with the largest gain in life expectancy at birth since 1995-2000 (7.3 years), attributed a majority of that increase (54 per cent) to improved survival among children under five. Reductions in mortality at age 60 years or over contributed 0.6 years (9 per cent) to the overall increase in life expectancy at birth in Africa. Across the six regions, the largest fraction of the total increase in life expectancy at birth due to reduced mortality at older ages occurred in Northern America, where 71 per cent of the 2.6-year improvement in longevity was due to reduced mortality above age 60. Mortality reductions at older ages accounted for more than half of the total increase in the life expectancy at birth in Europe and Oceania as well. In Latin America and the Caribbean, life expectancy increased by just over four years between 1995-2000 and 2010-2015 and 39 per cent of that gain was due to reductions in mortality risks at age 60 years or over. Asia added five years to the life expectancy at birth between 1995-2000 and 2010-2015 and while most of that gain was due to mortality reductions among children under five years, 23 per cent was attributable to reduced mortality at age 60 years or over.

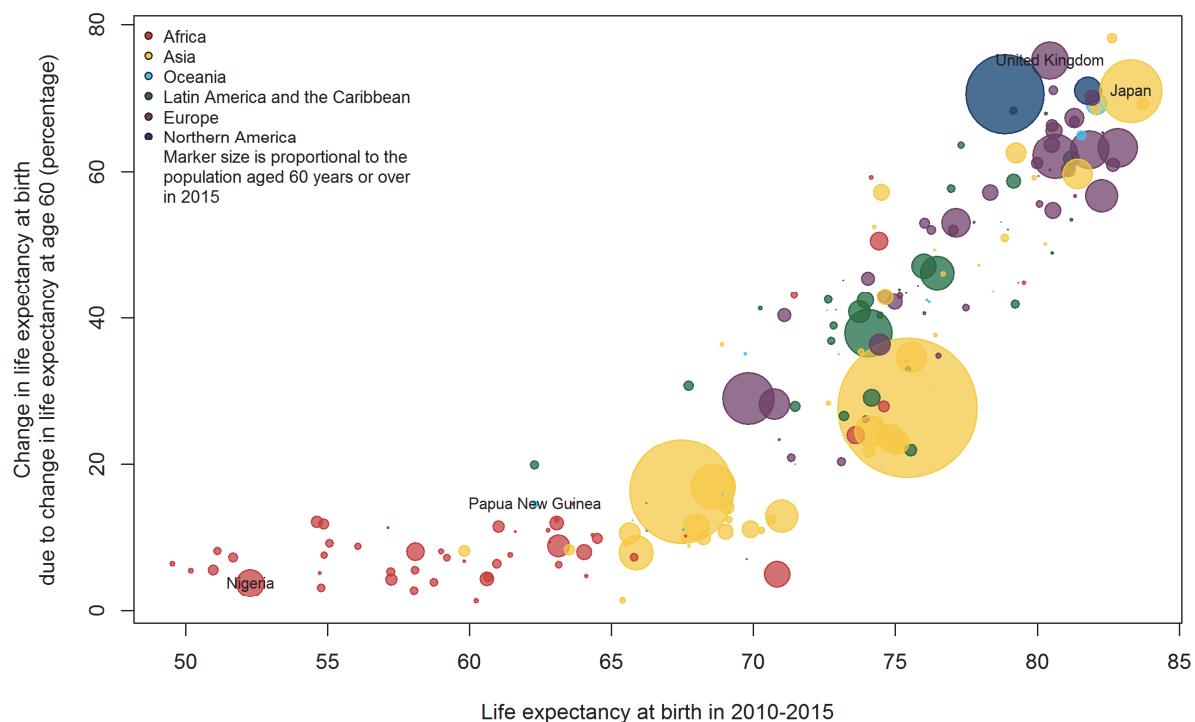
As the life expectancy at birth increases, improvements in survival at older ages account for a growing proportion of the overall improvement in longevity.

Figure III.8 shows the percentage contribution of increases in the life expectancy at age 60 (both sexes combined) to overall improvements in longevity between 1995-2000 and 2010-2015 versus the life expectancy at birth in 2010-2015 among the 195 countries or areas with at least 90,000 inhabitants in 2015 and for which life expectancy at birth increased over the period. Among those countries with low life expectancy at birth, below 65 years, most of which are located in sub-Saharan Africa, changes in survival probabilities above age 60 accounted for only a small fraction of the change in life expectancy since 1995, at well under 20 per cent in most cases. Examples include Nigeria, where 3.7 per cent of the total 6.0-year increase in life expectancy at birth between 1995-2000 and 2010-2015 was attributable to improved survival at age 60 or over, and Papua New Guinea, where improved survival at older ages accounted for 14.5 per cent of the overall 4.3-year increase in the life expectancy at birth. At the other end of the spectrum, in countries with life expectancy at birth above 75 years, a majority of the improvement in overall longevity was due to improvements in survival above age 60. Reduced mortality at older ages accounted for more than 70 per cent of the net improvement in several countries, including Canada, Ireland, Japan, Singapore, Sweden, the United Kingdom and the United States.

Defined similarly to the life expectancy at birth, the life expectancy at age 60 reflects the number of additional years a 60-year-old person would be expected to live if exposed throughout the remainder of life to the prevailing age-specific mortality rates of a given period. In 2010-2015, 60-year-old persons globally could expect to live an additional 20.2 years on average. Across the six regions, the life expectancy at age 60 was highest in Northern America and Oceania, at 23.5 years and 23.7 years, respectively, and lowest in Africa, at 16.7 years.

Figure III.8.

Contribution of increased longevity after age 60 to total improvement in the life expectancy at birth, 1995-2000 to 2010-2015*



* Calculated using life tables from United Nations (2015). *World Population Prospects: The 2015 Revision*. The method applied to decompose the change in life expectancy at birth according to the contribution of improvements in survival at different age groups is that developed by Arriaga (1984) and described in Preston, Heuveline and Guillot (2001), p. 65.
195 countries or areas with at least 90,000 inhabitants in 2015 and an improvement in the life expectancy at birth between 1995-2000 and 2010-2015.

Table III.2 lists the life expectancies at birth and at age 60 for both sexes combined and for each sex separately for the world and six regions. Women tend to live longer than men, on average, a phenomenon linked to both biological and behavioural health advantages of women. At the global level in 2010-2015, women's life expectancy at birth exceeded that of men by 4.5 years. The female advantage in survival from birth was largest in Europe (7.1 years) and Latin America and the Caribbean (6.7 years), and lowest in Africa (2.7 years) and Asia (3.8 years). The female survival advantage persists at older ages. Globally in 2010-2015, 60-year-old women could expect to outlive 60-year-old men by an average 2.8 years and, as with life expectancy at birth, the female survival advantage at age 60 was greatest in Europe (4.0 years) and smallest in Africa (1.5 years).

As with life expectancy at birth, all regions have experienced improvements in the life expectancy at age 60, and are projected to continue to see improvements in survival at older ages over the coming decades.

TABLE III.2. LIFE EXPECTANCY AT BIRTH AND AT AGE 60, BY SEX, FOR THE WORLD AND REGIONS, 2010-2015

	Life expectancy at birth (years)			Sex difference (female- male)	Life expectancy at age 60 (years)			Sex difference (female- male)
	Both	Female	Male		Both	Female	Male	
World	70.5	72.7	68.3	4.5	20.2	21.5	18.7	2.8
Africa	59.5	60.9	58.2	2.7	16.7	17.4	15.9	1.5
Asia	71.6	73.6	69.7	3.8	19.4	20.6	18.1	2.5
Latin America and the Caribbean	74.5	77.9	71.2	6.7	21.8	23.3	20.1	3.3
Europe	77.0	80.6	73.4	7.1	21.9	23.8	19.8	4.0
Oceania	77.5	79.7	75.3	4.4	23.7	25.2	22.1	3.1
Northern America	79.2	81.5	76.8	4.7	23.5	24.9	21.9	3.0

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

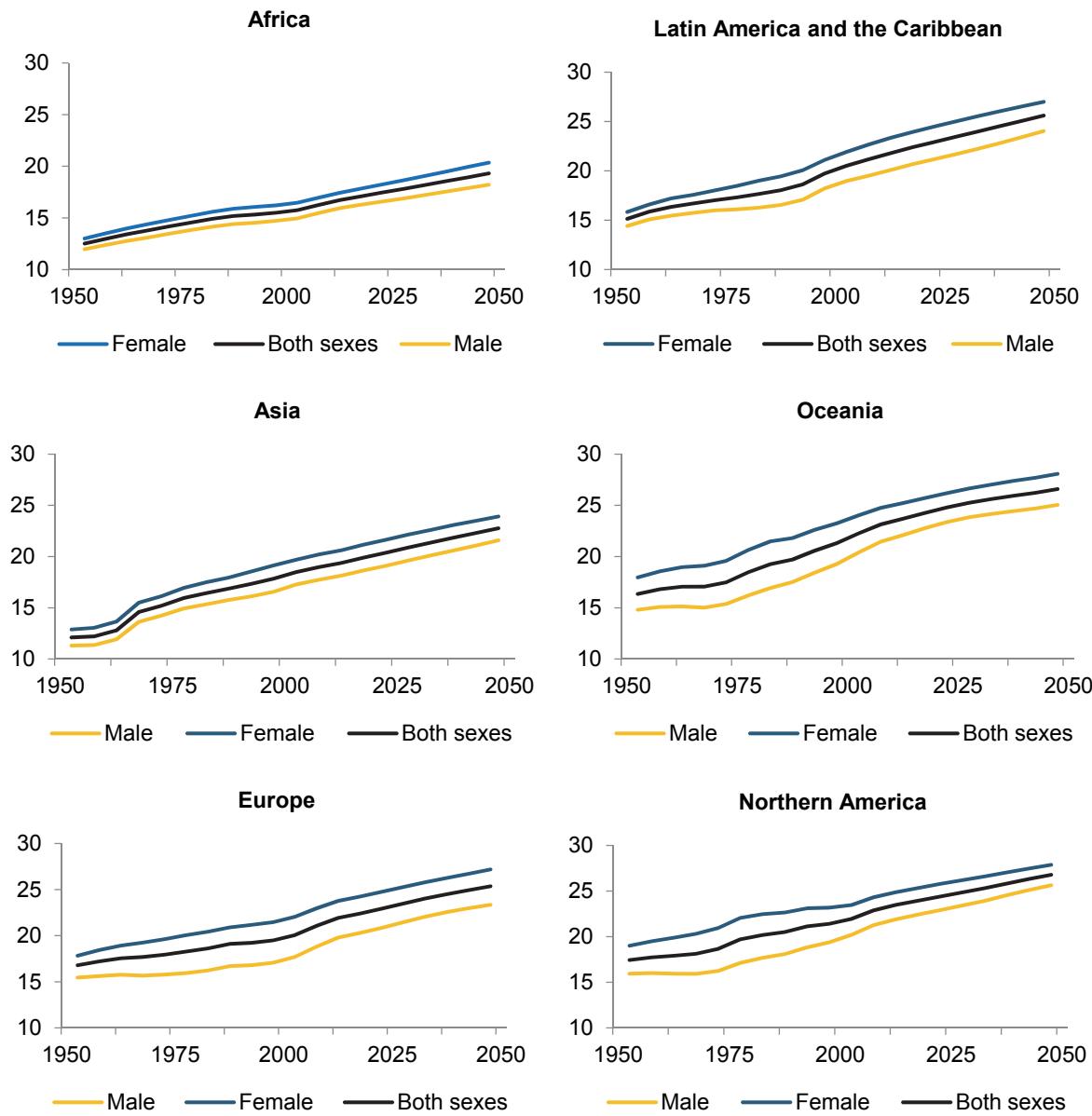
Figure III.9 shows the life expectancy at age 60 by sex and for both sexes combined for each of the six regions estimated for the period 1950 to 2015 and projected to 2050. In Africa, the life expectancy at age 60 for both sexes combined rose from 12.5 years in 1950-1955 to 16.7 years in 2010-2015 and is projected to rise further to 19.3 years in 2045-2050. Women in Africa have seen greater advances in survival at older ages on average than men: the female advantage in life expectancy at age 60 widened from 1.0 years in 1950-1955 to 1.5 years in 2010-2015 and is anticipated to widen further to 2.1 years in 2045-2050.

At the mid-twentieth century, life expectancy at age 60 in Asia was similar to that in Africa, at 12.1 years for both sexes combined. Yet advances in survival at older ages have outpaced those in Africa such that by 2010-2015, the expectation of life at age 60 in Asia had grown to 19.4 years. Improvements in survival at older ages have progressed at a similar pace in Latin America and the Caribbean, where the life expectancy at age 60 for both sexes combined increased from 15.1 years in 1950-1955 to 21.8 years in 2010-2015. Both in Asia and in Latin America and the Caribbean, the sex difference in the life expectancy at age 60 widened over time. From a gender gap of less than two years in the 1970s, the female advantage in life expectancy at age 60 in 2010-2015 has grown to 2.5 years in Asia and to 3.3 years in Latin America and the Caribbean.

In Europe, Northern America and Oceania, life expectancy at age 60 ranged from 16 to 17 years in 1950-1955. By 2010-2015, Oceania had added 7.5 years to the life expectancy at age 60; Europe added 5.7; and Northern America added 4.2 years. After widening between 1950 and 1980, the sex differences in life expectancy at older ages in both Northern America and Oceania began to decline, tobacco use, which increased later among women than among men, began to influence similarly their mortality risks (Preston, Glei and Wilmoth, 2010). In Northern America in particular, the female advantage in survival after age 60 narrowed from close to five years in 1975-1980 to three years in 2010-2015. In Europe, the female advantage in survival after age 60 has remained above four years since 1975-1980, due largely to persistent excess mortality risks associated with non-communicable diseases and injuries among males in Eastern Europe (Leon, 2011). A recent study from the World Health Organization attributed the increases in life expectancies at older ages in high-income countries to reductions in tobacco-related mortality

among men and reductions in cardiovascular-disease mortality among both men and women (Mathers and others, 2015).

Figure III.9.
Life expectancy at age 60, by sex and region, 1950-2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Projections indicate that the life expectancy at age 60 will continue to increase in all regions (figure III.9; table III.3). By 2045-2050 the number of additional years a 60-year-old person can expect to live, on average, is expected to increase by 2.9 years at the global level for women and by 3.2 years for men. Men in Latin America and the Caribbean are projected to experience the largest increase in the life expectancy at age 60 by 2045-2050, with an additional 4.0 years,

followed by women in the same region and men in Northern America, each with projected increases in the life expectancy at age 60 of 3.7 years. While improvements in survival at older ages are projected to be slower in Africa than in the other regions, still the life expectancy at age 60 is projected to increase by 2.9 years among women and 2.3 years among men between 2010-2015 and 2045-2050.

TABLE III.3. LIFE EXPECTANCY AT AGE 60, BY SEX, FOR THE WORLD AND REGIONS, 1950-1955, 2010-2015 AND 2045-2050.

	Females					Males				
	Life expectancy at age 60 (years)			Change between 1950-1955 and 2010-2015 (years)	Change between 1950-2010-2015 and 2045-2050 (years)	Life expectancy at age 60 (years)			Change between 1950-1955 and 2010-2015 (years)	Change between 1950-2010-2015 and 2045-2050 (years)
	1950-1955	2010-2015	2045-2050			1950-1955	2010-2015	2045-2050		
World	15.0	21.5	24.4	6.5	2.9	13.0	18.7	21.9	5.7	3.2
Africa	13.0	17.4	20.3	4.4	2.9	12.0	15.9	18.2	4.0	2.3
Asia	12.9	20.6	23.9	7.7	3.3	11.3	18.1	21.6	6.8	3.4
Latin America and the Caribbean	15.8	23.3	27.0	7.5	3.7	14.4	20.1	24.0	5.7	4.0
Oceania	18.0	25.2	28.1	7.3	2.8	14.8	22.1	25.0	7.3	2.9
Europe	17.8	23.8	27.2	6.0	3.4	15.5	19.8	23.3	4.3	3.6
Northern America	19.0	24.9	27.9	5.9	3.0	15.9	21.9	25.6	6.0	3.7

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

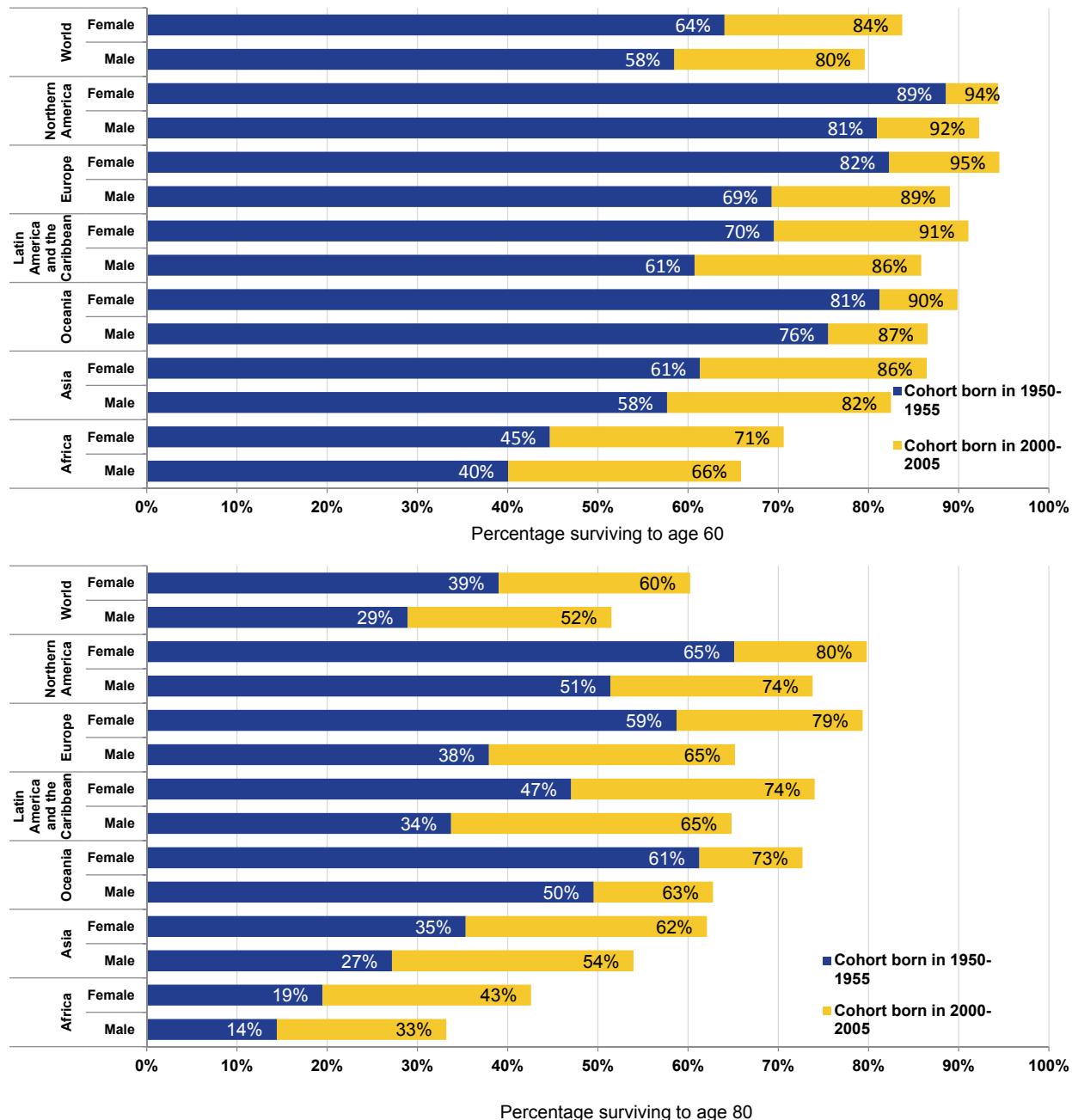
While the life expectancies at birth and at age 60 give a useful summary of the mortality risks experienced in a population at a single point in time, the probabilities of survival experienced by different birth cohorts are also instructive on how the mortality risks that people experience over their lifetimes differ according to the year and location of birth. Figure III.10 shows the probabilities of survival to ages 60 and 80 estimated for the 1950-1955 birth cohort, whose survivors were between 60 and 65 years old in 2015, as well as those projected for the 2000-2005 birth cohort, whose survivors were just 10 to 15 years old in 2015 and will celebrate their 60th birthdays in 2060-2065

A majority of the 1950-1955 birth cohort survived to age 60 in all regions except Africa, where just 45 per cent of women and 40 per cent of men lived to their 60th birthdays. Of those born in 1950-1955, women born in Northern America were the most likely to survive to age 60 (89 per cent), followed by women in Europe (82 per cent), women in Oceania and men in Northern America (81 per cent), men in Oceania (76 per cent), women in Latin America and the Caribbean (70 per cent), men in Europe (69 per cent), men in Latin America and the Caribbean and women in Asia (61 per cent), and men in Asia (58 per cent).

Among the 2000-2005 birth cohort, however, projections indicate that more than 8 in 10 men and women will survive to age 60 in every region but Africa, and the probability of survival to age 60 will exceed 90 per cent among women in Europe, Latin America and the Caribbean, Northern America and Oceania, as well as among men in Northern America. Substantial

increases in survival to age 60 are projected for Africa: of those born in the region in 2000-2005, 71 per cent of females and 66 per cent of males are projected to survive to age 60.

Figure III.10.
Probabilities of survival to ages 60 and 80 years among the 1950-1955 and 2000-2005 birth cohorts, by sex and region



Data source: Calculated using cohort life tables constructed from United Nations (2015). *World Population Prospects: The 2015 Revision.*

Not only are substantially more people projected to reach old age in the future, but more older people than ever before are projected to survive to age 80 years or over. Among those born in 1950-1955, majorities of women in Europe, Northern America and Oceania are projected to survive to age 80, as are slight majorities of men in Northern America and Oceania. In most of the world, however, survival to age 80 is expected to be comparatively rare among those born at the mid-century. In Latin America and the Caribbean, 47 per cent of women and 34 per cent of men born in 1950-1955 are projected to survive to age 80; in Asia, it's 35 per cent of women and 27 per cent of men; and in Africa it's 19 per cent of women and 14 per cent of men.

Projected survival to age 80 among the 2000-2005 birth cohort show marked improvements in all regions compared to the cohorts born 50 years earlier. Among the 2000-2005 birth cohort, survival to age 80 is expected to be the norm everywhere but in Africa. Around 8 in 10 women born in Northern America and Europe in 2000-2005 are projected to survive to age 80. Probabilities of survival to age 80 among the 2000-2005 birth cohort also exceed 70 per cent among women in Latin America and the Caribbean and Oceania and men in Northern America. While those born in Africa are least likely to survive to advanced older ages, still 43 per cent of women and 33 per cent of men born in Africa during 2000-2005 are projected to live to their 80th birthdays.

The accuracy of projections of life expectancy at older ages will depend on the degree of progress achieved in preventing or postponing mortality caused by many of the diseases associated with old age, in particular non-communicable diseases (NCDs) such as cardiovascular diseases, cancers, diabetes and respiratory diseases. Table III.4 lists the ten leading causes of death to those aged 60 years or over globally, by sex, for the year 2012.

TABLE III.4. TEN LEADING CAUSES OF DEATH OF THOSE AGED 60 YEARS OR OVER GLOBALLY, BY SEX, 2012

	Males			Females		
	Cause of death	Deaths (thousands)	Pct	Cause of death	Deaths (thousands)	Pct
1	Ischaemic heart disease	2 985 226	17.8	Stroke	3 102 405	18.6
2	Stroke	2 614 535	15.6	Ischaemic heart disease	3 087 753	18.5
3	COPD ⁱ	1 541 208	9.2	COPD ⁱ	1 225 348	7.4
4	Lung cancer ⁱⁱ	858 088	5.1	Lower respiratory infections	780 539	4.7
5	Lower respiratory infections	746 789	4.5	Diabetes mellitus	656 592	3.9
6	Diabetes mellitus	500 976	3.0	Hypertensive heart disease	571 320	3.4
7	Hypertensive heart disease	399 580	2.4	Alzheimer's disease ⁱⁱⁱ	455 616	2.7
8	Stomach cancer	353 508	2.1	Lung cancer ⁱⁱ	389 966	2.3
9	Prostate cancer	309 168	1.8	Breast cancer	286 593	1.7
10	Liver cancer	306 859	1.8	Kidney diseases	279 398	1.7

Data source: World Health Organization (2014). *Global Health Estimates 2014 Summary Tables: Deaths by Cause, Age and Sex, 2000-2012*. http://www.who.int/healthinfo/global_burden_disease/en/

ⁱ Chronic Obstructive Pulmonary Disease

ⁱⁱ includes trachea and bronchus cancers

ⁱⁱⁱ and other dementias

Cardiovascular diseases, which include heart diseases and stroke, accounted for the largest proportion of deaths among older persons worldwide in 2012. Ischaemic heart disease was the leading cause of death among older men, causing close to 18 per cent of deaths, followed by stroke, which was responsible for another 16 per cent of deaths to men aged 60 years or over. Among older women globally, there were slightly more stroke deaths than deaths due to ischaemic heart disease in 2012; each cause contributed over 18 per cent of deaths to women aged 60 years or over. Hypertensive heart disease accounted for an additional 2.4 per cent of deaths to older men and 3.4 per cent of deaths to older women.

Apart from cardiovascular diseases, chronic obstructive pulmonary disease (COPD), lower respiratory infections, diabetes mellitus and lung cancer (including trachea and bronchus cancers) rank among the ten leading causes of death to both men and women aged 60 years or over globally. Cancers of the stomach, prostate and liver are among the ten leading causes of death to older men, while Alzheimer's disease, breast cancer and kidney diseases rank among the ten leading causes of death to older women.

D. FERTILITY AND MORTALITY AS DETERMINANTS OF TRENDS IN THE PERCENTAGE OF OLDER PERSONS

The contribution of the demographic transition to the increasing share of older persons in a population can be understood through “population pyramids” that illustrate changes in the size and age structure of a population over time. Figure III.11 contains the population pyramids for three countries—Germany, Brazil and the United Republic of Tanzania—corresponding to three points in time in order to illustrate the implications of the fertility and mortality shifts that characterize the demographic transition for changes in the age distribution of the population.

Population ageing is an inevitable consequence of the demographic transition.

The demographic transition began first in Europe and Northern America, where fertility reductions took place over the past two centuries, contributing to their relatively aged population age structures today. In Germany, the total fertility rate in 1950 was 2.1 children per woman, and the proportion of the population aged 60 years or over was just under 15 per cent. Fertility continued to fall in Germany to 1.4 children per woman in 2015, while the proportion of older persons nearly doubled to 28 per cent. While fertility rates in Germany are expected to increase somewhat in the coming decades, they are likely to remain below the replacement level of 2.1 children per woman, and, by 2050, the percentage aged 60 years or over is projected to reach 39 per cent.

The demographic transition began later in most of Asia and Latin America and the Caribbean and thus their populations are youthful compared to Europe and Northern America. In Brazil, fertility in 1950 was 6.2 children per woman, on average, and just 5 per cent of the population was aged 60 years or over. But starting around 1960 fertility declined rapidly in Brazil to 1.8 children per woman in 2015, and it is projected to remain below replacement at least through 2050. Fertility decline has occurred much faster in Asia and Latin America and the Caribbean than in the more developed regions and thus the populations of Asia and Latin America and the

Caribbean are ageing more rapidly. The share of Brazil's population aged 60 years or over, for example, is projected to increase from 12 per cent in 2015 to 29 per cent in 2050.

Many countries in Africa remain in the early stages of the demographic transition: some have begun to see reductions in fertility only recently, while others have yet to see a significant decline in fertility. As a result, while the numbers of older persons have grown, their share of the overall population has remained fairly small. In the United Republic of Tanzania, for example, total fertility in 2015, at 5.1 children per woman, was still comparatively high, although it had fallen from 6.7 children per woman in 1950. Consequently, there has been little change in the proportion of older persons in Tanzania: it increased only slightly, from 4 per cent in 1950 to 5 per cent in 2015. Fertility in Tanzania is projected to continue a relatively slow decline towards 3.3 children per woman in 2050 and the percentage of the population aged 60 years or over is projected to rise gradually to reach 7 per cent by the mid-century.

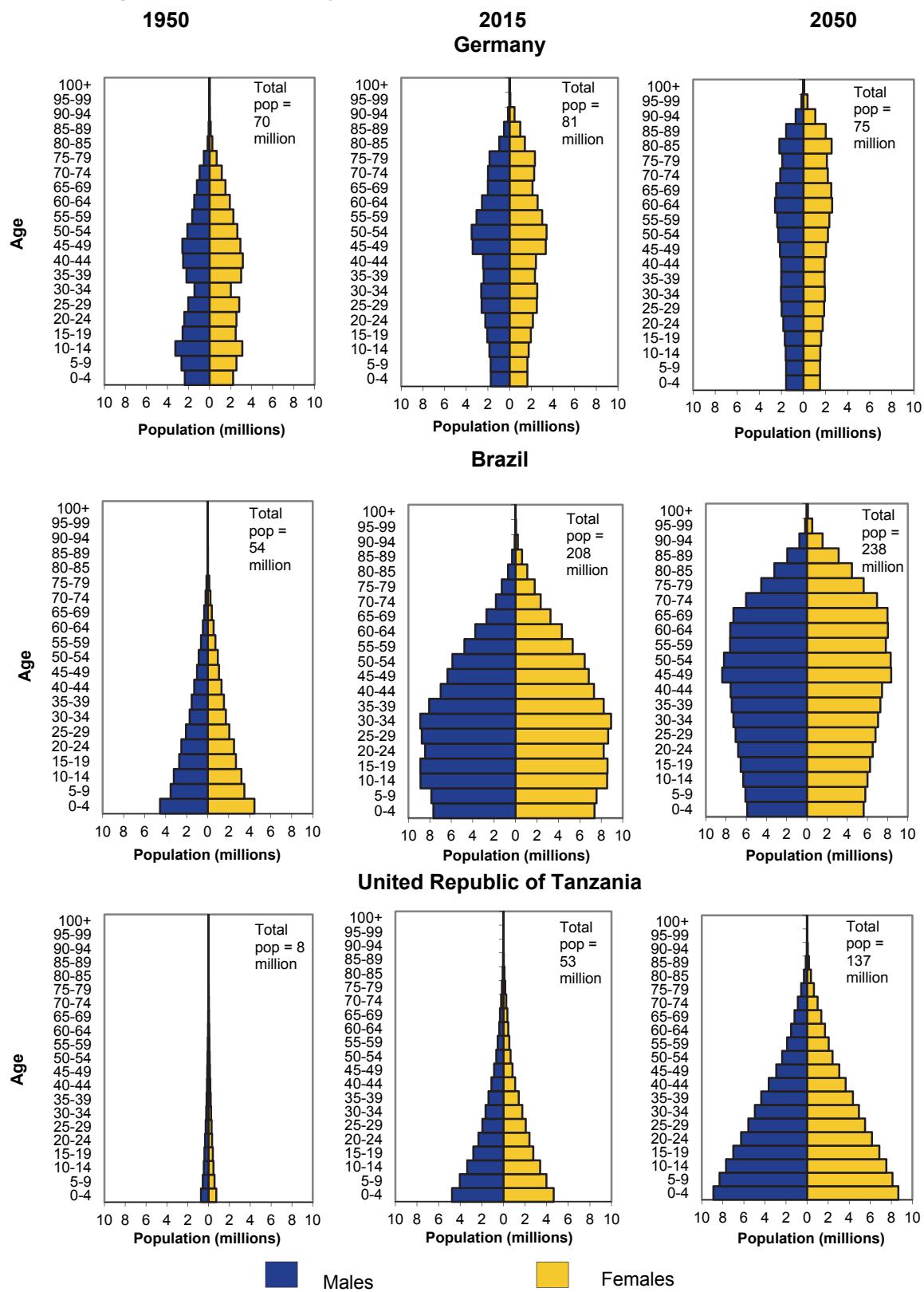
The size of the population of older persons over the near term is fairly certain, since: 1) the people who will be aged 60 years or over in 2030 are today's population aged 45 years or over; and 2) adult mortality risks tend to change slowly over time. The size of the population of children, however, is less certain, since total fertility rates can shift relatively quickly. This uncertainty in the future numbers of children shapes the uncertainty associated with projections of the proportion of older persons over the medium- to long-term.

Figure III.12 displays the proportion of the population aged 60 years or over projected in the medium variant, as well as two alternative hypothetical fertility scenarios for three countries with disparate levels of fertility in 2015. The high-fertility scenario illustrates what the proportion of older persons would be if the total fertility rate were 0.5 children per woman higher than in the medium variant projection, while the low-fertility scenario illustrates that proportion if the fertility rate were 0.5 children per woman lower than in the medium variant projection.

In Japan where total fertility averaged 1.5 children per woman in 2015, the population has aged rapidly over the past 65 years, from 8 per cent aged 60 years or over in 1950 to 33 per cent in 2015. According to the medium variant projection, fertility in Japan will remain well below the replacement level of 2.1 children per woman and Japan's population will continue to age, reaching 37 per cent aged 60 years or over in 2030 and 42 per cent in 2050. However, if future fertility differs from the medium variant, the population ageing process in Japan could be accelerated or slowed. If future total fertility is 0.5 children per woman lower than in the medium variant projection, the proportion aged 60 years or over in 2050 will be 4 percentage points higher, at close to 47 per cent, while if it is 0.5 children per woman higher than in the medium variant projection, the proportion of older persons in 2050 will be more than 3 percentage points lower, at 39 per cent. However, since both the high- and low-fertility scenarios fall well outside the 95 per cent prediction interval associated with probabilistic projections of total fertility in Japan (data not shown), deviation of this magnitude from the medium variant projection of the proportion of older persons is highly unlikely.

Figure III.11.

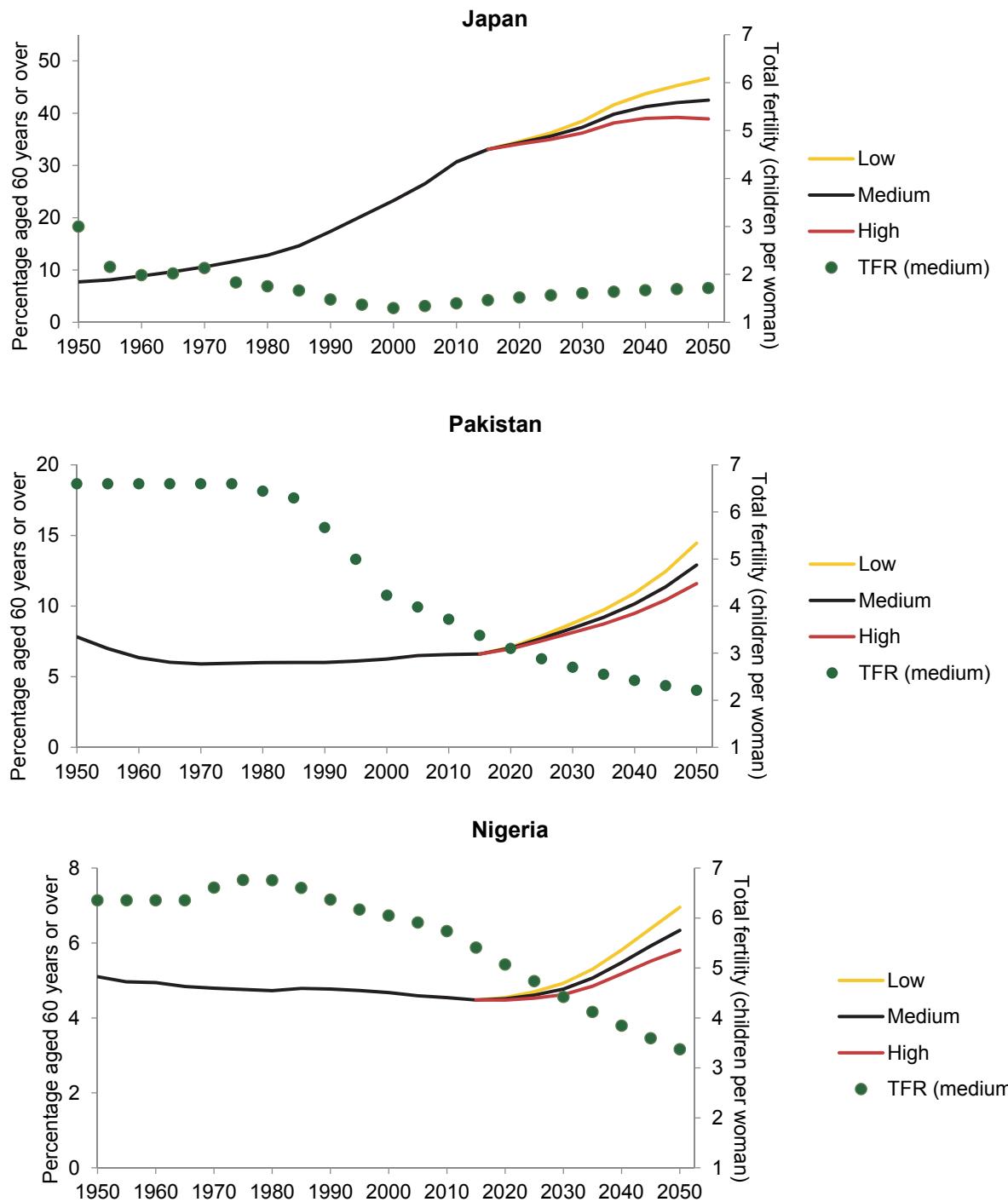
Population age structure in Germany, Brazil and the United Republic of Tanzania, 1950, 2015 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Figure III.12.

Percentage aged 60 years or over under three fertility projection scenarios, and total fertility rate (TFR), Japan, Pakistan and Nigeria, 1950-2050*



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

* "Medium" refers to the medium variant projection. "Low" refers to a projected fertility scenario in which total fertility is 0.5 children per woman lower than the medium variant projection, while "High" refers to a projected fertility scenario in which total fertility is 0.5 children per woman higher than the medium variant projection.

In countries where total fertility has been higher than in Japan and the pace of population ageing has been slower, variations in projected fertility of 0.5 children per woman in either direction yield smaller changes to the projected proportion of older persons for 2050. In Pakistan for example, total fertility remained above six children per woman until 1990 when birth rates began to fall precipitously, reaching 3.4 children per woman in 2015. Reflecting persistently high historical fertility levels, the proportion aged 60 years or over in Pakistan declined somewhat between 1950 and 1970, from close to 8 per cent to just under 6 per cent, and has risen only slightly since then to 6.6 per cent in 2015. Recent fertility declines are projected to yield accelerated population ageing in Pakistan in the coming decades, however, with the proportion of older persons expected to increase to 8 per cent in 2030 and to close to 13 per cent in 2050. Projection scenarios with a trajectory of the total fertility rate 0.5 children per woman lower or higher than the medium variant produce projected proportions aged 60 years or over in 2050 for Pakistan that range from 11.6 per cent in the high-fertility scenario to 14.5 per cent in the low fertility scenario. Unlike for Japan, the high- and low-fertility scenarios for Pakistan fall within the 95 per cent prediction interval of the probabilistic projections of total fertility, but at the margins of the 80 per cent prediction interval.

Fertility decline in Nigeria began relatively recently and thus the country has not yet experienced an increase in the proportion of older persons. In 2015, 4.5 per cent of Nigeria's population was aged 60 years or over and that proportion is projected to change only slightly (to 4.8 per cent) through 2030. By 2050, however, the proportion of older persons in Nigeria is expected to have begun to grow more significantly, reaching 6.3 per cent in the medium variant projection, 7.0 per cent if total fertility falls to 0.5 children per woman lower than the medium variant, or 5.8 per cent if total fertility declines less rapidly, to a level that is 0.5 children per woman higher than in the medium variant. Higher fertility in Nigeria is also associated with greater uncertainty in projected future fertility. Both the high- and low-fertility scenarios fall well within the 80 per cent prediction interval associated with the probabilistic projections of total fertility for Nigeria.

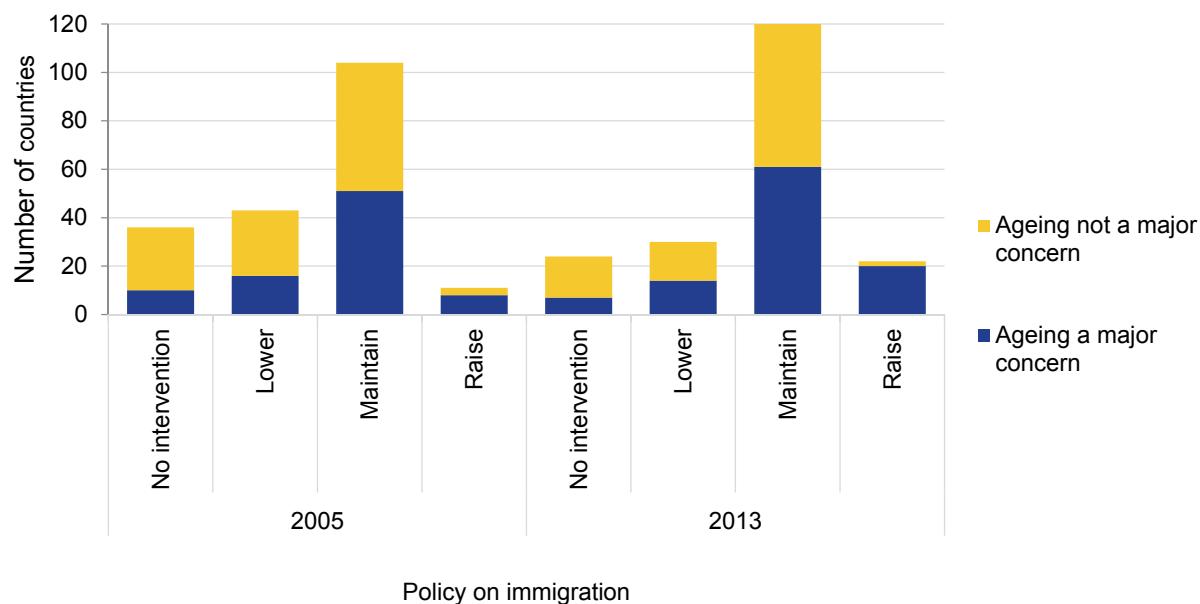
E. INTERNATIONAL MIGRATION AND POPULATION AGEING

While declining fertility and increasing longevity are the key drivers of population ageing globally, international migration has also contributed to changing population age structures in some countries and regions. In countries that are experiencing large immigration flows, international migration can slow the ageing process, at least temporarily, since migrants tend to be in the young working ages. However, migrants who remain in the country eventually will age into the older population. Thus, over the long term, only sustained large flows of young immigrants could slow or reverse population ageing. A 2001 study from the United Nations concluded that in several European countries, as well as in Japan, the Republic of Korea and the United States, levels of immigration would need to be much higher than had been observed in the past in order for international migration to offset population ageing, and thus, replacement migration alone was unlikely to be an effective policy response to population ageing (United

Nations, 2001). Other studies also have concluded that the levels of international migration required to offset population ageing are implausible (see, for example, Bijak and others, 2007).¹⁴

Despite these conclusions, there is some evidence that countries are increasingly turning to international migration as a means to expand the size of the labour force in the context of an ageing population. The number of countries with policies to increase rates of immigration has been rising steadily over time from 8 in 1996 to 11 in 2005 and to 22 in 2013. Among those countries enacting policies to raise the level of immigration, most have identified population ageing as a “major concern” (figure III.13). In 2013, population ageing was cited as a major concern by 20 of the 22 countries (91 per cent) with policies to raise immigration levels. By comparison, 47 per cent of countries that had not enacted policies to promote immigration identified population ageing as a “major concern” (United Nations, 2014c).

Figure III.13.
Distribution of countries according to the policy on immigration and level of concern about population ageing, 2005 and 2013



Data source: United Nations (2014c). *World Population Policies Database 2013*.

Over time, the number of countries seeking to maintain their levels of immigration also has increased (from 104 in 2005 to 120 in 2013), while the number seeking to lower levels of immigration has declined (from 43 in 2005 to 30 in 2013). Half of the countries with policies to maintain levels of immigration in 2013 had identified population ageing as a major concern.

¹⁴ This conclusion may soon be challenged by recent experience in Europe, where current evidence suggests that flows of migrants, refugees and asylum seekers from the Middle East and Africa are reaching historically unprecedented magnitudes (OECD, 2015a, <http://www.oecd.org/migration/Is-this-refugee-crisis-different.pdf>).

Conversely, the emigration of young workers has accelerated the population ageing process in some countries, particularly in Eastern Europe where increasing access to European Union labour markets as well as the economic crisis that began in 2008 have contributed to large emigration flows. In Lithuania, for example, net emigration over the 2000s was equivalent to 13 per cent of the population, while in Latvia and Estonia it was 9 per cent and 6 per cent, respectively (OECD, 2013a). Young people aged 20 to 35 accounted for a disproportionate share of emigrants from these countries (OECD, 2013a), thereby contributing to intensify population ageing there. Between 2000 and 2015, the share of older persons in Lithuania grew from 19 per cent to 25 per cent and in both Latvia and Estonia from 21 per cent to 25 per cent.

Looking to the near future, international migration is projected to have only small effects on the pace of population ageing in most countries. The magnitude of the impact of international migration on projected trends in population ageing can be understood through a comparison of the projected proportion of the population aged 60 years or over in 2030 according to the “medium variant” to the projected proportion aged 60 years or over according to a “zero migration” scenario. The medium variant reflects median projected future levels of fertility and mortality rates, as well as future migration levels that take into account levels and trends in migration observed in the country during the recent past. The zero migration scenario considers what the future population would be under the median fertility and mortality levels, but in the absence of any international migration. In 163 out of 201 countries or areas with at least 90,000 inhabitants in 2015, the difference in the percentage aged 60 years or over in 2030 between the medium variant and zero migration scenarios amounts to less than 1 percentage point.

Net migration is projected to slow population ageing in 24 of the 38 countries or areas where projected net migration implies a greater than one point difference in the percentage of the population aged 60 years or over in 2030 (table III.5). In the remaining 14 countries, net migration is expected to actually accelerate population ageing between 2015 and 2030 (table III.6). Labour migration to the Gulf States of Bahrain, Kuwait, Qatar and the United Arab Emirates is projected to counter population ageing trends so that the projected percentage of the population aged 60 years or over in 2030 is substantially lower than it would be if no migration were to take place. In Qatar, for example, the medium variant projection indicates that 7.9 per cent of the population will be aged 60 years or over in 2030, but it would be 11 per cent if no migration were to take place between 2015 and 2030. In the United Arab Emirates, older persons are projected to account for 11.3 per cent of the population in 2030 according to the medium variant, but would account for 14.2 per cent in the absence of migration.

Other populations that receive a large number of migrants in the working ages are also projected to see slower population ageing as a result, including Luxembourg, Macao, Australia, Switzerland, Canada, the Channel Islands, Hong Kong, special administrative region of China, and Norway, where the percentage aged 60 years or over is projected to be more than 2 percentage points lower in 2030 than it would be in the absence of migration. Migration has the largest impact on the pace of population ageing in Luxembourg: if there were no net migration to Luxembourg the projected percentage of persons aged 60 years or over in 2030 would be 28.9 per cent instead of the 24.7 per cent projected in the medium variant.

International migration is anticipated to accelerate population ageing in some countries, due to projected net emigration of working aged people, net immigration of older people, or both. Many of the populations that are projected to see ageing accelerated by migration between 2015 and 2030 are located in the Caribbean. In Barbados, for example, the proportion aged 60 years or over in 2030 is projected to reach 27.7 per cent in the medium variant, compared to 25.4 per cent with no migration. In Guadeloupe, the population is projected to become 30.5 per cent aged 60 years or over in 2030, compared to 29.3 per cent with no migration. Outside of the Caribbean region, Lebanon, Samoa, Albania, Tonga, Sri Lanka and Réunion are also projected to see population ageing accelerated as a result of international migration.

TABLE III.5. COUNTRIES OR AREAS WHERE INTERNATIONAL MIGRATION IS PROJECTED TO SLOW POPULATION AGEING BY AT LEAST 1 PERCENTAGE POINT BY 2030

	Percentage of population aged 60 years or over			Difference between medium variant and zero migration
	2015	Medium variant projection	Zero migration scenario	
Luxembourg	19.1	24.7	28.9	-4.1
Qatar	2.3	7.9	11.0	-3.0
China, Macao SAR	14.8	25.7	28.6	-2.9
United Arab Emirates	2.3	11.3	14.2	-2.9
Bahrain	3.9	10.8	13.7	-2.8
Kuwait	3.4	8.9	11.5	-2.7
Australia	20.4	24.6	27.2	-2.5
Switzerland	23.6	30.6	33.1	-2.4
Canada	22.3	29.4	31.6	-2.3
Channel Islands	23.6	31.0	33.1	-2.1
China, Hong Kong SAR	21.7	33.6	35.6	-2.0
Norway	21.8	26.2	28.2	-2.0
Sweden	25.5	28.6	30.2	-1.6
Singapore	17.9	30.7	32.0	-1.3
Belgium	24.1	29.5	30.7	-1.2
Austria	24.2	32.4	33.5	-1.1
Denmark	24.7	29.4	30.5	-1.1
United Kingdom	23.0	27.8	29.0	-1.1
United States of America	20.7	26.1	27.2	-1.1
New Caledonia	14.5	19.6	20.7	-1.1
Curaçao	21.1	28.4	29.5	-1.1
Germany	27.6	36.1	37.2	-1.1
Cyprus	18.0	23.7	24.8	-1.0
Italy	28.6	36.6	37.6	-1.0

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

TABLE III.6. COUNTRIES OR AREAS WHERE INTERNATIONAL MIGRATION IS PROJECTED TO ACCELERATE POPULATION AGEING BY AT LEAST 1 PERCENTAGE POINT BY 2030

	Percentage of population aged 60 years or over			Difference between medium variant and zero migration
		Medium variant projection	Zero migration scenario	
	2015	2030	2030	
Barbados	19.8	27.7	25.4	2.3
Lebanon	11.5	19.2	17.0	2.2
Samoa	7.9	12.1	10.3	1.8
United States Virgin Islands	24.1	32.2	30.5	1.7
Grenada	10.2	14.3	12.8	1.5
Jamaica	12.8	18.7	17.3	1.5
Guadeloupe	20.2	30.5	29.3	1.2
Albania	17.8	25.5	24.3	1.2
Tonga	8.2	10.5	9.4	1.2
Sri Lanka	13.9	21.0	19.9	1.2
Guyana	8.3	14.9	13.8	1.1
St. Vincent and the Grenadines	10.9	18.3	17.2	1.1
Martinique	26.2	38.5	37.4	1.1
Réunion	15.1	25.5	24.4	1.0

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

IV. Population ageing and sustainable development

World population ageing is a consequence, in part, of substantial progress in improving the health and well-being and reducing mortality risks faced by people around the globe. People are living longer, and, in many cases, healthier lives than ever before. The benefits of greater longevity to individuals, families and society are many. Longer lives can afford individuals opportunities to prolong their working life, embark on second careers, or pursue varied interests in old age. Families benefit from the contributions of older generations, for example, through financial support, assistance with household maintenance, or participation in childcare. Societies benefit from the wisdom and experience of older persons and from their contributions to the labour force, as well as from their volunteerism, philanthropy and civic engagement.

At the same time, many countries are concerned about population ageing, especially with respect to its implications for the systems and institutions that aim to protect and preserve people's well-being. In many countries, the number of older persons is growing faster than the number of people in the traditional working ages, giving rise to concerns about the fiscal sustainability of pension systems that rely upon contributions from current workers to pay benefits to retirees. Moreover, population ageing and growth in the number of persons at very advanced ages put pressure on health systems, which must adapt to meet the growing demand for care, services and technologies to prevent and treat non-communicable diseases and chronic conditions associated with old age.

This chapter explores the implications of recent and projected trends in population ageing for efforts towards progress in achieving the 2030 Agenda for Sustainable Development. In particular, the three sections of this chapter address the challenges posed by the growth in the number and share of older persons in the population for efforts to eradicate poverty and promote economic growth, to ensure the sustainability of pension systems and to promote health and well-being at all ages.

A. AGEING, POVERTY AND ECONOMIC GROWTH

This section draws upon the latest empirical evidence and economic literature in order to: 1) describe the poverty status of older persons relative to the population overall; 2) analyse older persons' levels of consumption compared to other age groups and across countries at different levels of national income; and 3) assess the macroeconomic implications of population ageing on economic growth.

Poverty rates among older persons relative to the general population vary, largely due to the coverage and adequacy of old-age social protection systems.

Describing the poverty rates of people in different age groups is challenging for a number of reasons. First, surveys generally measure income and consumption at the household level rather than for individuals at different ages. Household welfare does not necessarily reflect accurately the welfare of all individuals in the household because the household resources could be distributed unequally across its members. Second, different definitions and approaches to

measuring poverty present difficulties for comparisons across studies and populations. The national poverty lines defined by countries often differ from the World Bank's poverty threshold of US\$1.90 a day¹⁵ or from the (relative) measure of half the median national income used by the Organization for Economic Cooperation and Development (OECD). Third, discussions of age patterns of poverty in international comparative perspective are further challenged by the absence of an international harmonized database of poverty rates disaggregated by age. The World Bank's comprehensive poverty database covering all countries (PovcalNet) is not age disaggregated. Thus, evidence on poverty rates among older persons and for other age groups is limited to selected country-level or regional-level studies.

Nevertheless, available data on the prevalence of poverty by age offer some useful insights into how well older persons are faring relative to people in other age groups. The following section reviews the existing evidence on poverty rates among older persons in relation to the poverty rates of the population as a whole, acknowledging the differences in concepts and measures across studies and regions.

Older persons tend to be poorer than the general population in African countries and are more often less poor than the overall population in Latin America and Europe.

Figure IV.1 plots, by region, the poverty rate for older persons against the poverty rate for the total population for countries with available data. Estimates for countries in Africa, depicted in the upper-left chart of the figure, are from a 2005 study that assessed poverty among older persons using the national definition of the poverty line between 1998 and 2001 (Kakwani and Subbarao, 2005). For the 18 Latin American countries depicted in the upper-right chart of the figure, poverty estimates are from a 2011 study of the Socioeconomic Database for Latin America and the Caribbean (SEDLAC) (Cotlear and Tornarolli, 2011), and the poverty threshold is defined as US\$2.5 per day. Estimates for countries located in Eastern and Southern Europe, plotted in the lower-left chart, are from a World Bank study (Bussolo and others, 2015) that defined the poverty line at US\$5 per day. Estimates for selected OECD countries, depicted in the lower-right chart of the figure, are as reported by the OECD (2015b) using the relative poverty line definition of half the median disposable income in the country.

The 45-degree line in each chart represents the points at which the poverty rates among older persons are equivalent to the poverty rates for the population overall. Points that fall above the 45-degree line indicate that poverty rates among older persons exceed those of the total population, while the points that fall below the 45-degree line indicate that poverty rates among older persons are lower than among the total population.

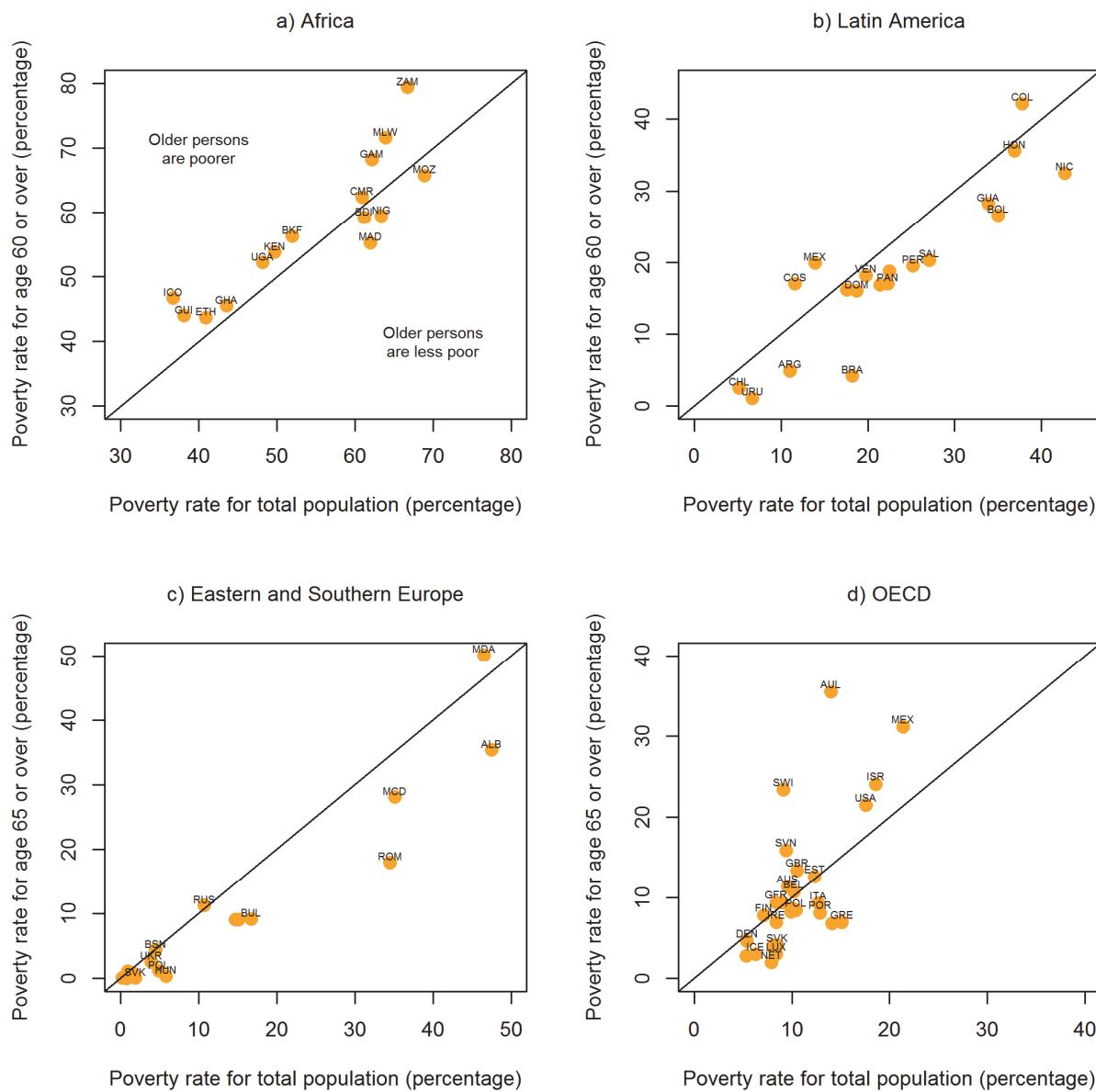
Older persons in most sub-Saharan African countries are most commonly poorer than other age groups.

While most African countries are not far from the 45-degree line, indicating that poverty rates among older persons were similar to those of the total population, disparities were evident in some countries. In Zambia, for example, 80 per cent of people aged 60 years or over were

¹⁵ In October 2015 the World Bank revised its definition of "extreme poverty" to living on less than \$1.90 per day from \$1.25 per day, reflecting the latest updates in purchasing power parities. (<http://www.worldbank.org/en/publication/global-monitoring-report/poverty-forecasts-2015>).

under the national poverty line, compared to around 67 per cent of the general population overall. By comparison, in some countries in Africa, including Burundi, Madagascar, Mozambique and Nigeria, older persons were somewhat less poor, on average, than the total population.

Figure IV.1.
Poverty rate for older persons versus the poverty rate for the total population, recent estimates for selected countries



Data sources: a) Data for Africa are from Kakwani and Subbarao (2005), refer to a year between 1998 and 2001, and the poverty line is defined according to the national poverty definition. b) Data for Latin America are from Cotlear and Tornaroli (2011), refer to the period between 2005 and 2007, and the poverty line is defined as US\$2.5 per day. c) Data for Eastern and Southern Europe are from Bussolo and others (2015), Golden Ageing, Table 5.2, refer to the year 2012 and the poverty line is defined as US\$5 per day. d) Data for OECD countries are from OECD (2015b), Table 1.A1.1, refer to the 2013 or the latest available year, and the poverty line is defined as 50 per cent of the median disposable income.

In assessing poverty rates among older persons in Africa, Kakwani and Subbarao (2005) also found some significant rural-urban differences with a much higher proportion of single older persons living in poverty in rural areas compared to urban areas. In addition, poverty rates were higher for older persons in countries with high prevalence of HIV. Excess mortality among young adults in these countries meant that many older persons lost the support that they would have received from their adult children and they also have assumed greater responsibility for generating income and caring for children in their extended families. Deaton and Paxson (1997) found that the poverty rate for older persons was higher than that for younger adults in South Africa in 1996. Some significant differences were found by gender, wherein households headed by older women were more prone to poverty than households headed by older men, especially in parts of sub-Saharan Africa that are patriarchal (Kakwani and Subbarao, 2005). In societies where women lack certain rights to own or inherit property, widows face a significant risk of poverty following the dispossession of their house and land by the deceased husband's kin (Toulmin, 2006).

In Latin America, poverty rates among older persons tend to be lower than for the population as a whole.

For the Latin American region as a whole, an estimated 19 per cent of people aged 60 years or over were poor in the mid-2000s, with the poverty line defined as US\$2.5 per day. By comparison, 30 per cent of children under age 15, 20 per cent of young adults aged 15-24 years, and 23 per cent of the population overall were poor (Cotlear and Tornarolli, 2011). In several countries, such as Argentina, Brazil, Chile and Uruguay, where pension systems include minimum levels of support for both contributors and non-contributors (for example, persons who are unable to contribute due to poverty or disability), older persons were substantially better off, on average, compared to the population as a whole. In Argentina, just 4 per cent of older persons were poor, compared to 11 per cent of the overall population. The national poverty rate was higher in Brazil, at close to 18 per cent, but there, too, just 4 per cent of older persons were poor.

Pensions are generous in some countries in Latin America compared to other developing countries, and public spending was highly skewed towards older persons. As a result, older persons usually had higher average levels of welfare relative to children. Examples of countries where the poverty rate among children exceeded that of older persons include Brazil, Chile and Uruguay (Bravo and Holz, 2011; Turra and others, 2011). By contrast, social pension benefits were lower in Colombia, Costa Rica and Mexico, where older persons were slightly poorer, on average, than the total population. In addition, the incidence of poverty in these three countries was higher for older persons living in rural areas and for the oldest-old (aged 80 years or over) (Cotlear and Tornarolli, 2011).

As noted earlier, conclusions about the relative poverty of older persons are sensitive to the choice of the poverty definition (Deaton and Paxson, 1997). Indeed, another study of Latin American countries that used the relative poverty measure of 50 per cent of the national median income arrived at a slightly different conclusion. Using the same SEDLAC database as Cotlear and Tornarolli (2011), Dethier and others (2010) concluded that poverty rates were consistently lower for older persons relative to the total population only in Argentina, Brazil, Chile and Uruguay. Using the half the median income definition of poverty, poverty rates among older

persons in Bolivia, Colombia, Costa Rica, Honduras and Mexico were found to be higher than for the population overall.

In Eastern and Southern Europe, older persons tend to be less poor than average.

A 2015 World Bank study of selected countries in Eastern and Southern Europe assessed the poverty rates among older persons using a poverty definition of US\$5 per day purchasing power parity (Bussolo and others, 2015). Among the 21 countries plotted in the lower-left chart of figure IV.1, only the Republic of Moldova lies above the 45-degree line, indicating that older persons were, on average, somewhat poorer than the total population in that country. For all the 21 countries in Eastern and Southern Europe, the poverty rate among the older population (aged 65 years or over) was 10.7 per cent on average, compared to an average 14.5 per cent for the total population. As many of these countries transitioned away from socialist economies, older people were able to build up some assets while still receiving relatively generous pensions, and thus became wealthier than other age groups (Bloom and others, 2011).

In most countries in Northern and Western Europe, poverty rates among older persons are lower than for the overall population.

Estimates from the OECD, shown in the lower-right chart of figure IV.1, summarize poverty rates according to the measure of 50 per cent of median disposable income (OECD, 2015b). The prevalence of poverty was lower for older persons (aged 65 years or over) than for the total population in numerous countries, including Denmark, Iceland, Ireland, Luxembourg, the Netherlands and Portugal, among others. This is explained by the current generation of older persons having benefitted from long and significant contributions to private or public social security systems, as well as their private asset accumulation. However, the incidence of poverty was higher, on average, for older persons relative to the general population in Australia, Austria, Switzerland, the United Kingdom and the United States of America. Some factors contributing to the higher relative poverty rates among older persons in these countries included the high costs of health care, modest public pensions and relatively high earnings among younger working-age adults.

In Asian countries, poverty rates among older persons are often similar to or slightly higher than those for other age groups.

Data on poverty rates by age group are more limited in Asia than in other developing regions. Evidence from China and Indonesia suggests that poverty rates are somewhat higher for older persons than for others. In China, home to nearly a quarter of the world's older population, a World Bank report (2009) showed that nearly 13 per cent of Chinese older persons had incomes below the US\$1 per day per capita consumption poverty line in 2003, compared to 12 per cent of the working-age population (defined in this study as ages 16-60 years) and 17 per cent of children (younger than 16 years). The welfare of older persons in China varied considerably according to living arrangement, health status and location. Older persons who lived alone, in rural areas, with poor health status, without pensions, or who were illiterate, were more likely to be poor (Park and others, 2012). However, a separate study that assessed poverty by measuring consumption at the individual level rather than at the household level found that Chinese older

persons who lived with grandchildren, without adult children or who lived in multi-generational households with young children fared worse than those who lived alone (Tung and Lai, 2011). Older persons living in these households tended to have lower levels of consumption as some of the family resources, either from the working-age adults or the older persons themselves, were diverted to the young dependents. Population ageing is occurring rapidly in China due to the precipitous decline in fertility that began in the 1970's. In response to population ageing and a growing concern that the future older population in China will have few children on whom to rely for support, the Chinese government has recently lifted its one-child policy (Zhao, 2015).

In Indonesia, older persons were also found to be slightly poorer, on average, than younger people in 2012 (Priebe and Howell, 2014). Measured by the national consumption poverty line, an estimated 13 per cent of older persons in Indonesia were considered to be poor, compared to 12 per cent of people in other age groups. An estimated 2.5 million older persons lived in poverty in Indonesia, where the formal pension system covered only a minority of older persons.

Conversely, evidence for India indicates that the poverty rate of older persons is lower than that of other age groups. In India, home to 13 per cent of the world's older population, households with older persons were not found to be poorer than households without an older person (Pal and Palacios, 2008; Srivastava and Mohanty, 2012). An estimated 18 million older persons (approximately one in five older persons) lived below the national consumption poverty line in 2004 in India (Srivastava and Mohanty, 2012).

Data on age patterns of consumption document the relative welfare of older persons in the population.

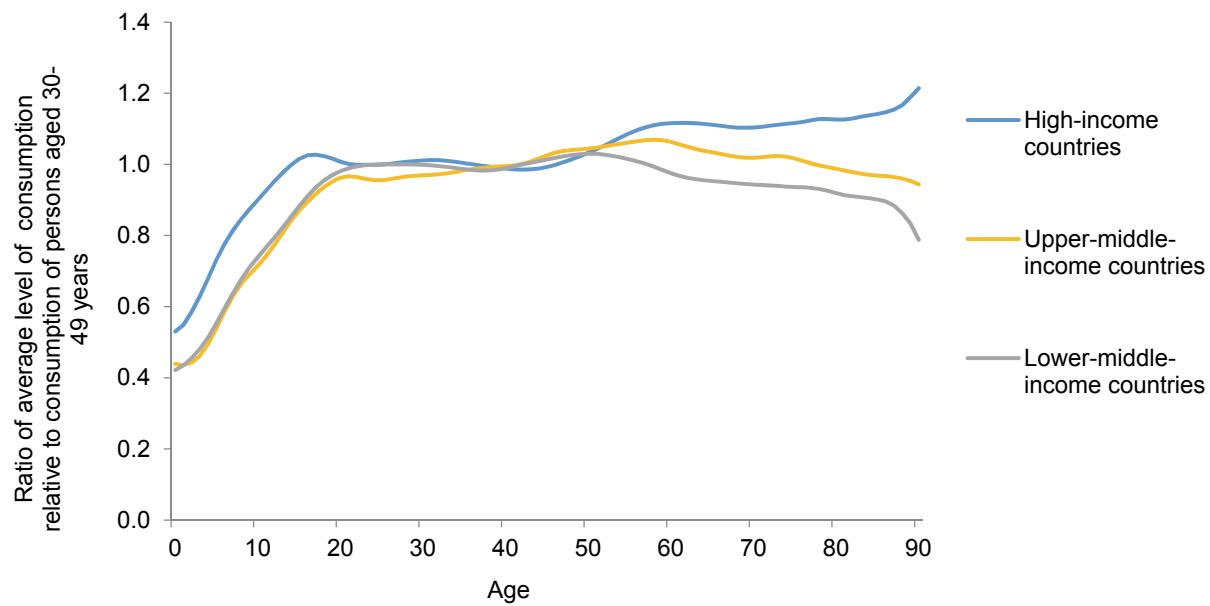
Although the level of consumption is not equivalent to welfare, consumption is a major determinant of welfare and therefore garners attention from both researchers and policymakers. In particular, the "lifecycle hypothesis" of consumption and saving proposes that individuals tend to smooth their consumption over time in order to maximize their lifetime welfare. To accomplish that, people may borrow against their future earnings when young, save during their working years and consume accumulated assets during retirement. Because data typically are collected at the household level, empirical research on the consumption of individuals at different ages is not straightforward. The National Transfer Accounts (NTA) project has addressed this issue by developing a consistent conceptual and accounting framework, as well as standardized estimation methods that have yielded a harmonized database of production, consumption and inter-age reallocations for 36 countries, representing all regions of the world.¹⁶ NTA methods allocate household consumption to individuals using a combination of regression methods for age-specific consumption on education and health care expenditures, as well as weights for other types of consumption. Both private and public consumption are taken into account. Details of the methodology can be found in the *National Transfer Accounts Manual* (United Nations, 2013). Selected findings on the levels of consumption among older persons are highlighted below.

¹⁶ United Nations (2013) *National Transfer Accounts Manual: Understanding and Measuring the Generational Economy*.

Older persons in middle-income countries often consume less than working-age adults, whereas in high-income countries, older persons tend to consume more than working-age adults, on average.

Figure IV.2 shows the average consumption age profiles for countries of three broad income groups. To facilitate comparisons, the average level of consumption at each age is compared to the average level of consumption of persons aged 30-49 years, which are often considered the prime working ages. In all income groups, consumption increases steadily from childhood to adulthood. Relative consumption patterns at older ages display two distinctive patterns. The first is characterized by levels of consumption that decline gradually or stay constant with age relative to the consumption of other adults, as, for example, in some middle-income countries such as India, the Philippines and Thailand. Other middle-income countries like Indonesia and Mexico experienced a slight decline in the level of consumption at older ages; that is to say, older persons consume slightly less than other adults in these countries. A second general age pattern is that of consumption levels that increase at the older ages. This pattern is observed mainly in high-income countries such as Germany, Japan, Sweden and the United States. In some high-income countries, the consumption of older people exceeds that of younger adults by 30 per cent or more.

Figure IV.2.
Levels of consumption per capita among older persons (aged 60 years or over) relative to the levels of consumption among those aged 30-49 years



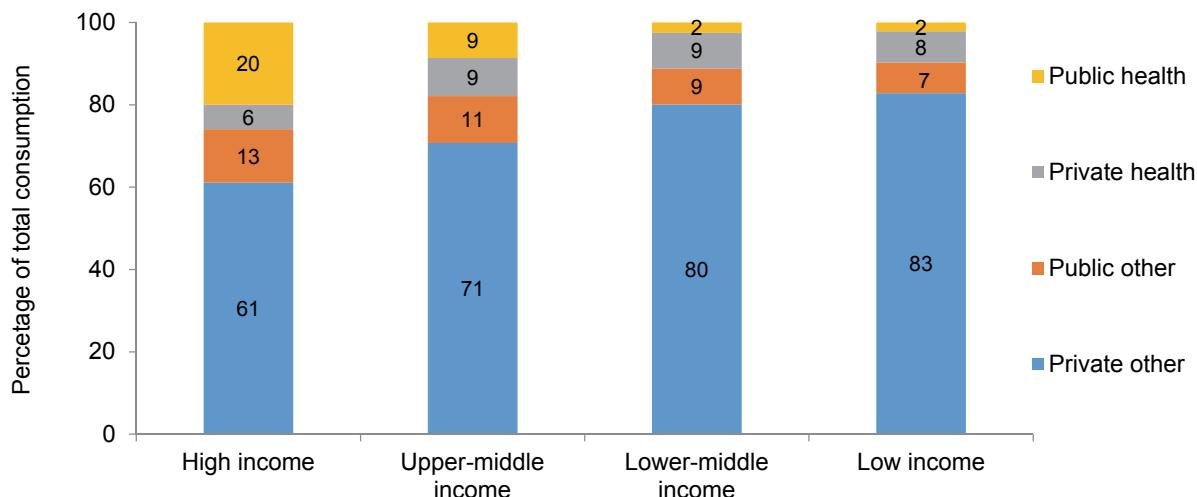
Data source: National Transfer Accounts database (<http://www.ntaccounts.org/>), accessed on 1 September 2015.

Notes: High-income countries in the NTA database include Argentina, Australia, Austria, Canada, Chile, Finland, France, Germany, Hungary, Italy, Japan, Slovenia, the Republic of Korea, Spain, Sweden, the United Kingdom, Uruguay and the United States of America. Upper-middle income countries include Brazil, China, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Peru, South Africa and Thailand. Lower-middle income countries include India, Indonesia, Kenya, Nigeria, Philippines, Senegal and Viet Nam.

Public spending, especially on health, plays an important redistributive role and provides significant support to consumption in old-age, especially in high-income countries.

Figure IV.3 shows the public and private sector components of older persons' consumption in countries grouped according to the level of national income. Two major differences are found between countries of different income groups. First, the health component of older persons' consumption increases with the level of national income. High-income countries spent a quarter of older persons' total consumption on health, while health consumption represents only around 10 per cent of older persons' consumption in lower-middle-income countries and low-income countries. Second, the role of the public sector in financing older persons' consumption increases with the level of national income. In high-income countries, the public sector finances a large majority of older persons' health consumption, while in low-income and lower-middle-income countries, public spending on health for older people is marginal; the lion's share of health consumption is paid as out-of-pocket expenditures.

Figure IV.3.
Components of older persons' (aged 60 years or over) consumption, by income group



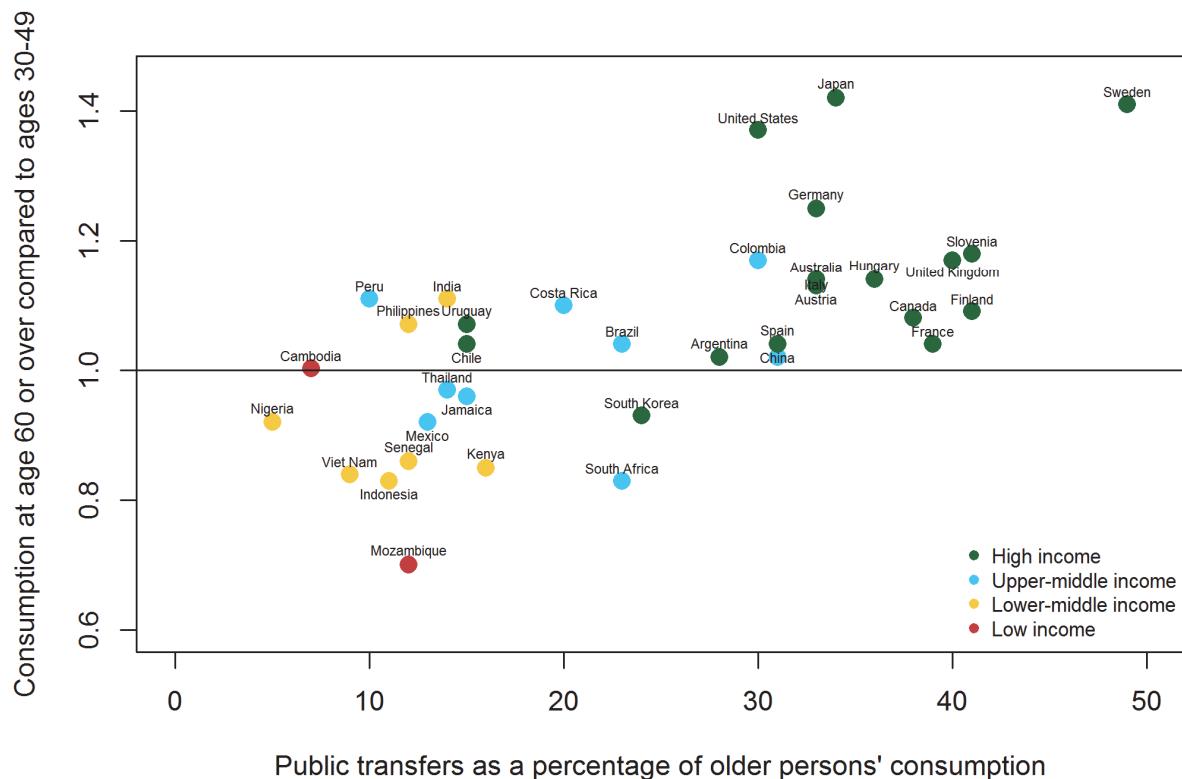
Data source: National Transfer Accounts database (<http://www.ntaccounts.org/>), accessed on 1 September 2015.

Notes: High-income countries in the NTA database include Argentina, Australia, Austria, Canada, Chile, Finland, France, Germany, Hungary, Italy, Japan, Slovenia, the Republic of Korea, Spain, Sweden, the United Kingdom, Uruguay and the United States of America. Upper-middle-income countries include Brazil, China, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Peru, South Africa and Thailand. Lower-middle-income countries include India, Indonesia, Kenya, Nigeria, Philippines, Senegal and Viet Nam. Low-income countries include Cambodia and Mozambique.

Figure IV.4 shows a positive correlation between older persons' consumption (relative to that of adults aged 30-49 years) and the share of older persons' consumption that is financed by the public sector. Older persons tend to fare less well in countries where the public sector finances a small share of their consumption. In many low-income and lower-middle-income countries, less than 15 per cent of older persons' consumption is supported by the public sector, and their consumption tends to be lower than that of adults aged 30-49 years. Examples include Indonesia, Mozambique, Nigeria, Senegal and Viet Nam. The welfare of older persons is relatively higher

in countries where public transfers finance a larger share of old-age consumption, as in Germany, Japan, Slovenia, Sweden, the United Kingdom and the United States of America. The association between public financing and older persons' welfare underscores the need for improved social protection for older persons, especially for health-care services in low-income and lower-middle-income countries.

Figure IV.4.
Ratio of older persons' (aged 60 years or over) consumption to that of persons aged 30-49 years and public transfers as a share of total consumption



Data source: National Transfer Accounts database (<http://www.ntaccounts.org/>), accessed on 1 September 2015.

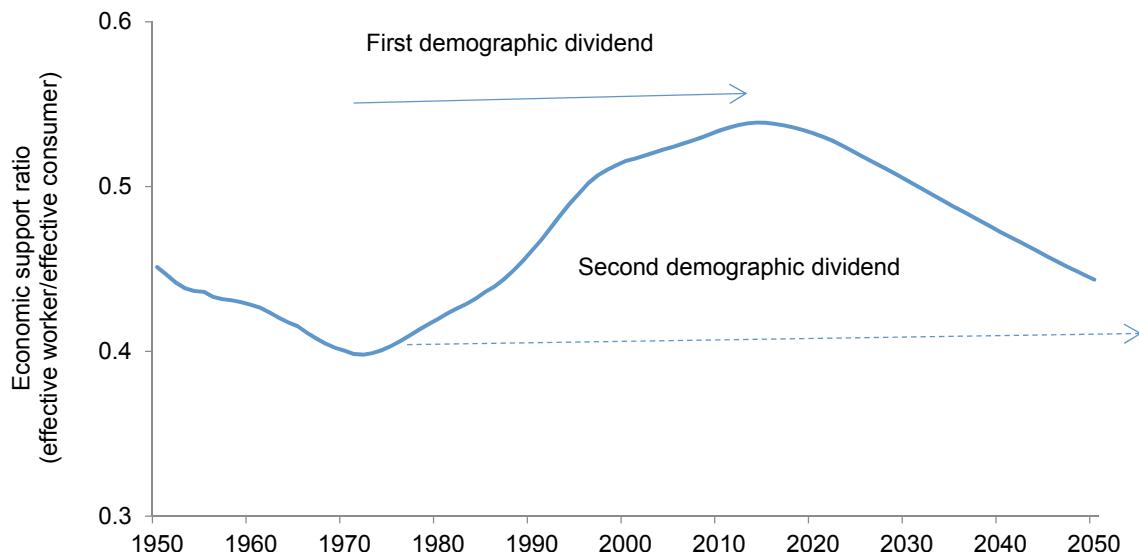
Population ageing need not impede economic growth.

Demographic and macroeconomic trends in Eastern Asia during the second half of the twentieth century demonstrated the powerful potential of changing age structures for accelerating economic growth. Sustained fertility declines in many countries in the region led to: 1) an increasing share of the working-age population, which helped to boost economic production; and 2) a sharp decline share of dependent children, which freed up resources for investment in economic development and family welfare. In the language of the economic support ratio discussed in section II.D, each equivalent consumer was supported by more equivalent workers in Eastern Asia, which led to higher per capita income and faster economic growth. This accelerated economic growth, directly associated with the changing age structure brought on by a sustained drop in the fertility level, is known as the “first demographic dividend.”

As the large working-age cohorts that produced the demographic dividend in past decades grow older, and as continued low fertility puts downward pressure on the future growth of the labour force, the effect on per capita income growth will be reduced and could eventually turn negative.

Figure IV.5 illustrates how China's economic support ratio,¹⁷ the effective number of workers divided by the effective number of consumers in the population, has changed since 1950, producing the first demographic dividend in the country since the 1970s. Although China's fertility decline began in the 1950s, it accelerated in the 1970s when the labour force increased as a share of the total population and the economic support ratio started to pick up, yielding a boost in economic growth of nearly 0.7 per cent per year during 1970-2015. As the population of China continues to age, the economic support ratio is expected to decline from its current peak, and the effect of changing age structures is expected to turn slightly negative in the coming decades.

Figure IV.5.
Economic support ratio and demographic dividends in China, 1950-2050



Source: United Nations (2013). *National Transfer Accounts Manual*.

A second demographic dividend could fuel economic growth as populations age if societies encourage savings and invest in human and physical capital early on.

Although population ageing poses these and other economic challenges, two recent studies concluded that ageing need not impede economic growth, and, in fact, could support continued economic growth under certain conditions. Lee and Mason (2010) proposed that an additional contribution to economic growth beyond the period of the first dividend, termed the "second demographic dividend," could be generated when low fertility and rising longevity lead to an increase in human capital and physical investment, which in turn raises labour productivity and

¹⁷ Please refer to Chapter II for additional discussion of the economic support ratio.

income per capita. Based on an analysis of cross-country data, the authors present evidence that lower fertility is strongly associated with rising rates of investment in human capital per child,¹⁸ which raises labour productivity and economic growth. Their analysis is also consistent with the notion that individuals, as they anticipate increasing longevity, are motivated to accumulate assets for their old age (Tobin, 1973).¹⁹ The second demographic dividend can persist over a much longer period of time than the first dividend, and is more likely to be more significant in societies that rely not only on public or familial transfers to finance older persons' consumption, but that also promote personal savings for retirement and old age.

A second study postulates that societies will initiate behavioural changes and policy responses to countervail the negative economic effects of population ageing (Bloom and others, 2014). For example, the increasing share of older dependents could be offset, partially or completely, in some cases, by a decrease in dependent children due to fertility decline. The eventual contraction of the share of working-age population could be mitigated by rising female labour force participation and delayed retirement ages. Furthermore, the labour market could adjust by enabling more labour-saving technology that can increase productivity per worker. As noted earlier, as people expect to live longer, many may increase their savings in anticipation of long periods of retirement. Finally, the coming cohorts of older persons have benefitted from higher levels of education, income and wealth relative to today's older population, and are therefore more likely to be able to support themselves during old age.

B. POPULATION AGEING AND SOCIAL PROTECTION

Older persons vary greatly in regard to their independence and economic self-sufficiency. Many older persons live independently and support themselves with their own income and savings while helping others, including some that remain active in the labour force. But for large segments of the population, old age is associated with increasing dependency and vulnerability associated with declining income or health and a growing need for care and support. Older people's vulnerability is greater where there is no reliable source of income support, such as through social protection mechanisms, which may take the form of pensions, disability insurance or health care benefits for older persons.

Retirement pensions or similar schemes involving income support at older ages are critical to older persons' social protection. The right to income security in old age is grounded in the Universal Declaration of Human Rights (1948) and in the International Covenant on Economic, Social and Cultural Rights (1966). More recently, social protection, including the need to ensure social protection floors that establish a minimum standard of living, was reflected in the 2030 Agenda for Sustainable Development. In recent decades, many low-income and middle-income countries have expanded the coverage of contributory pension schemes and established non-contributory social pensions. Many high-income countries have undertaken fiscal consolidation, reforming their pension systems by raising the statutory pensionable age, reducing benefits or increasing contribution rates to ensure the system's long-term sustainability.

¹⁸ In accordance with the quantity-quality trade off model proposed by Becker and Lewis (1973).

¹⁹ If these assets are invested domestically, then physical capital per worker and aggregate production will grow. If invested abroad, then net foreign income will increase and so will national income.

This section describes the global situation with respect to the social protection of older persons by examining the interrelated domains of the labour force participation of older persons and the statutory retirement ages for older men and women, which influence older persons' levels of income, and, in turn, their need for social protection. Next, this section discusses the pension coverage and pension replacement rates that describe older persons' access to social protection, as well as the adequacy of existing schemes.

Box 1.
Types of old-age pension schemes

Contributory pension schemes protect persons who have made contributions during a qualifying period. Contributory schemes cover mostly workers on formal wage-employment and, in some countries, the self-employed.

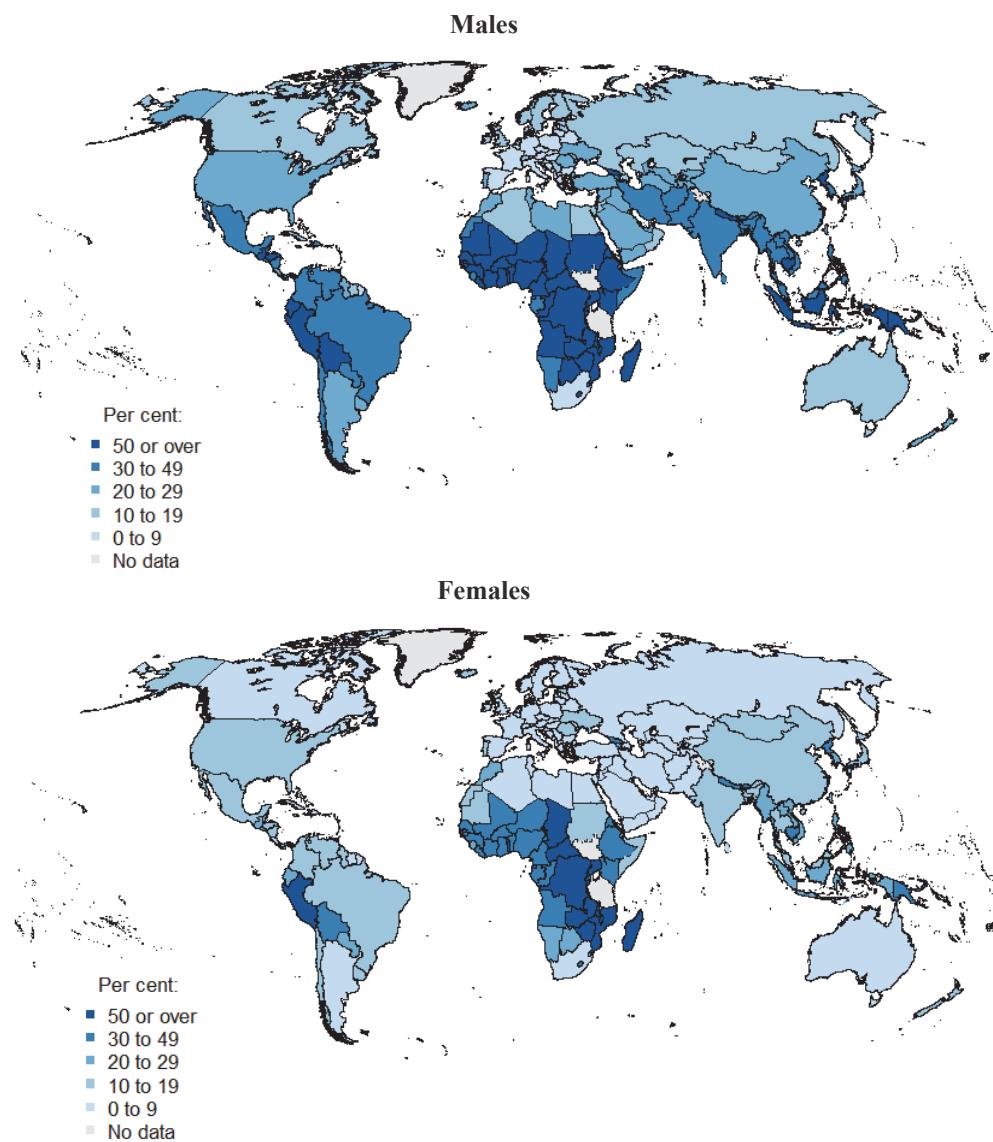
Non-contributory pension schemes do not require specific contribution from beneficiaries or their employers. These schemes are usually financed through general taxes or other state revenues. Non-contributory benefits play a key role in providing at least a minimum level of income security for older people, especially for those who, for any reason, do not contribute to social insurance for long enough to be eligible for benefits. Non-contributory schemes can be:

- (a) **Universal**, providing benefits to all people above the age of eligibility who meet criteria of residency and/or citizenship;
- (b) **Means-tested schemes**, provide benefits upon proof of need and target older persons whose total income (including contributory pensions, if any) fall below a certain threshold.

In 2015, more than 30 per cent of older men and more than 14 per cent of older women were active in the labour force. Older people in developing regions were more likely to be economically active than their peers in the developed regions.

The labour force participation rate is defined as the share of the working-age population that is active in the labour market, either employed or seeking employment. According to estimates from the International Labour Organization (ILO), the labour force participation rate of persons aged 65 years or over globally was 30.3 per cent for men and 14.5 per cent for women in 2015. In the more developed regions, 16.8 per cent of older men and 9.4 per cent of older women were in the labour force compared to 37.3 per cent of older men and 17.5 per cent of older women in the less developed regions. In the least developed countries, 59.1 per cent of older men and 34.5 per cent of older women participated in the labour force in 2015.

Figure IV.6.
Labour force participation of persons aged 65 years or over, by sex, 2015



Data source: ILOSTAT Database. Available from http://www.ilo.org/ilostat/faces/home/statisticaldata/bulk-download?_adf.ctrl-state=15f9flr0r2_9&clean=true&_afrLoop=43258501143783). Accessed September 2015.

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir, agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

Labour force participation among older men was highest in Africa (52.2 per cent), followed by Latin America and the Caribbean (38.1 per cent), Asia (34.8 per cent), Northern America (23.5 per cent), Oceania (21.4 per cent) and Europe (10.2 per cent). The labour force participation of older women was lower than that of older men in all regions, but followed a similar pattern across regions, with Africa having the highest participation rate (32.6 per cent of

women aged 65 years or over were active in the labour force), followed by Latin America and the Caribbean (16.8 per cent), Asia (15.6 per cent), Northern America (14.5 per cent), Oceania (11.8 per cent) and Europe (6.2 per cent).

Figure IV.6 maps the labour force participation rate of older men and women by country in 2015. In 52 countries, more than 50 per cent of older men aged 65 years or over were active in the labour market. Most of these countries were located in Africa, Latin America and the Caribbean or Asia. A number of countries in Africa had the highest levels of labour force participation of older men in the world. Labour force participation was highest for older men in Malawi (94 per cent), followed by Mozambique (85.4 per cent) and Gambia (84.2 per cent). In Latin America and the Caribbean, Bolivia, Haiti, Honduras, Peru and Ecuador each had more than 50 per cent of older men active in the labour force. Despite the existence of a universal pension system in Bolivia, almost two thirds of older men participated in the labour force there. Older men's labour force participation was below 10 per cent in 28 countries, most of which were located in Europe.

Older women's labour force participation exceeded 50 per cent in only 15 countries, mostly located in Africa. As for older men, Malawi had the highest labour force participation rate for older women (86.1 per cent). Malawi was followed by Mozambique (76.1 per cent) and Zambia (68 per cent). Older women's labour force participation was below 10 per cent in 87 countries. All countries in Europe except Iceland, Estonia, Romania and Ukraine were among those where fewer than 10 per cent of women aged 65 years or over were active in the labour force in 2015.

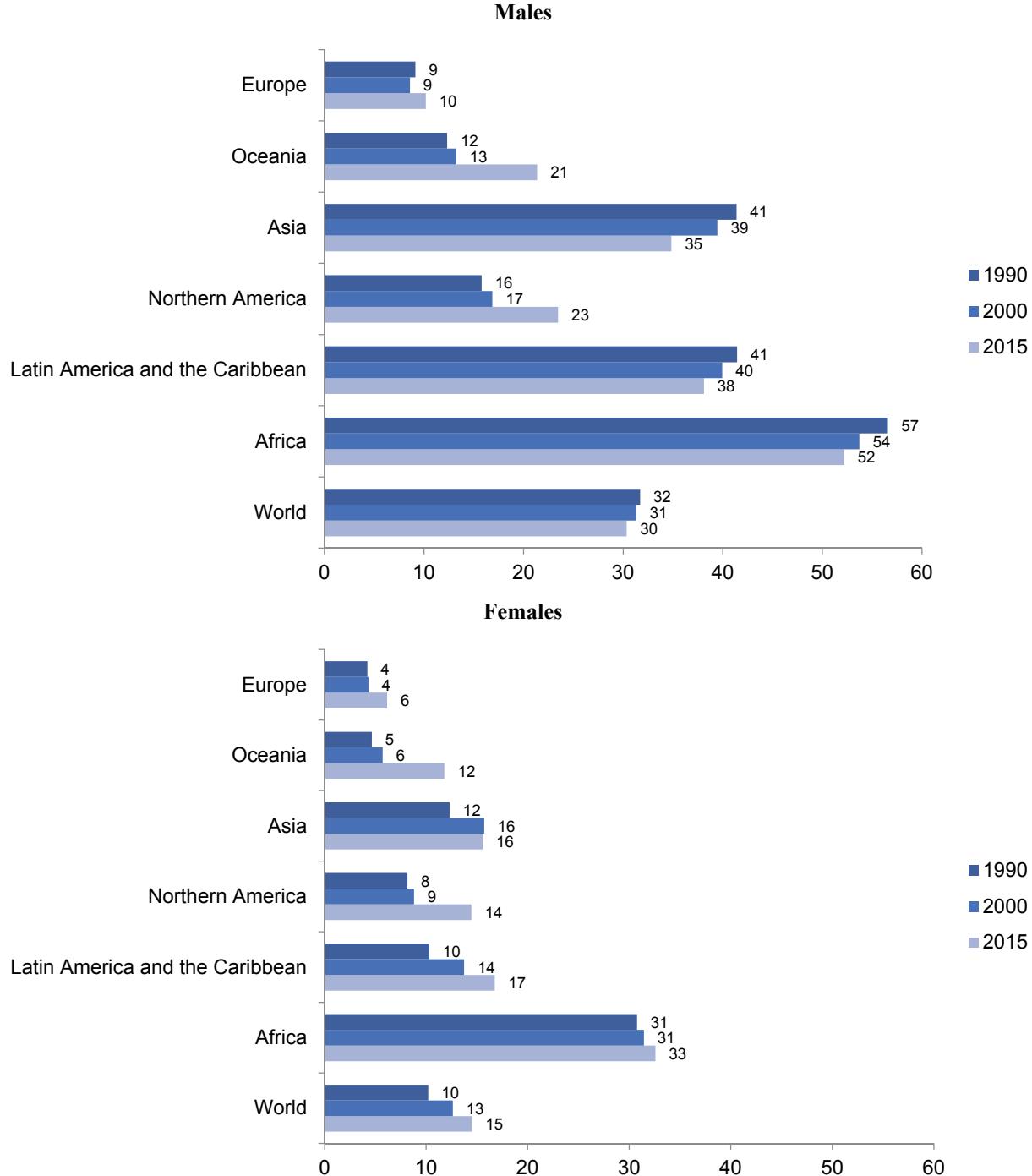
In Europe, Oceania and Northern America, the labour force participation of older men has increased gradually since 1990. In contrast, the labour force participation of older men has declined steadily in Asia, Latin America and the Caribbean and Africa. Labour force participation of older women has increased since 1990 in all regions.

Figure IV.7 shows the changes over time in older men's and women's labour force participation, by region. The labour force participation of men aged 65 years or over gradually increased from 1990 to 2015. In contrast, the labour force participation of older men is declining steadily in Asia, Latin America and the Caribbean and Africa. Older women's labour force participation increased in all regions between 1990 and 2015. These trends for older women are driven primarily by the overall increases in female labour force participation, with each successive cohort of women reaching age 65 tending to have higher rates of attachment to the labour market relative to earlier cohorts.

The availability of pensions is an important factor associated with the labour force participation of older persons. After a period of steady decline, the labour force participation of men has increased recently in most high-income OECD countries, mostly due to policies that have increased the statutory retirement ages, restricted access to early retirement options or made early retirement less attractive financially. Labour force participation rates of older women in OECD countries have increased steadily over the past twenty-five years, reflecting both broader societal trends in women's labour force participation, as well as pension system reforms that encourage them to continue working until older ages (European Commission, 2014; Leonesio and others, 2012). In contrast, the very high participation rates of older people in most low-

income and middle-income countries are an expression of need, given the low pension coverage and modest benefits for those who are covered.

Figure IV.7.
Labour force participation of persons aged 65 years or over, by sex and region, 1990, 2000, 2015 and 2030



Data source: ILOSTAT Database. Available from http://www.ilo.org/ilostat/faces/home/statisticaldata/bulk-download?_adf.ctrl-state=15f9flr0r2_9&clean=true&_afrLoop=43258501143783). Accessed September 2015.

Since most older persons in low-income and many middle-income countries have worked in the informal economy or in rural areas, they generally have not contributed to pension schemes during their working life and are thus not eligible to receive benefits from contributory pension systems. Non-contributory social assistance or universal pensions are not available in all countries, leaving many adults little choice but to continue working into their old-age.

Statutory retirement ages are increasing in most countries in the world.

Typically, pension benefits become payable between the ages of 60 and 65 years, although in some countries, workers become eligible for length-of-service benefits payable after they complete 30 to 40 years of work or contributions. Another type of eligibility requirement for retirement pensions is total or substantial withdrawal from the labour force. Many programmes offer optional settlements or early retirement benefits before the statutory retirement age is reached. A reduced (early) pension, in many instances, may be claimed up to five years before the statutory retirement age. Some countries also allow for lower retirement ages for some specific occupations considered unhealthy or hazardous, such as underground mining (United States Social Security Administration, 2014).

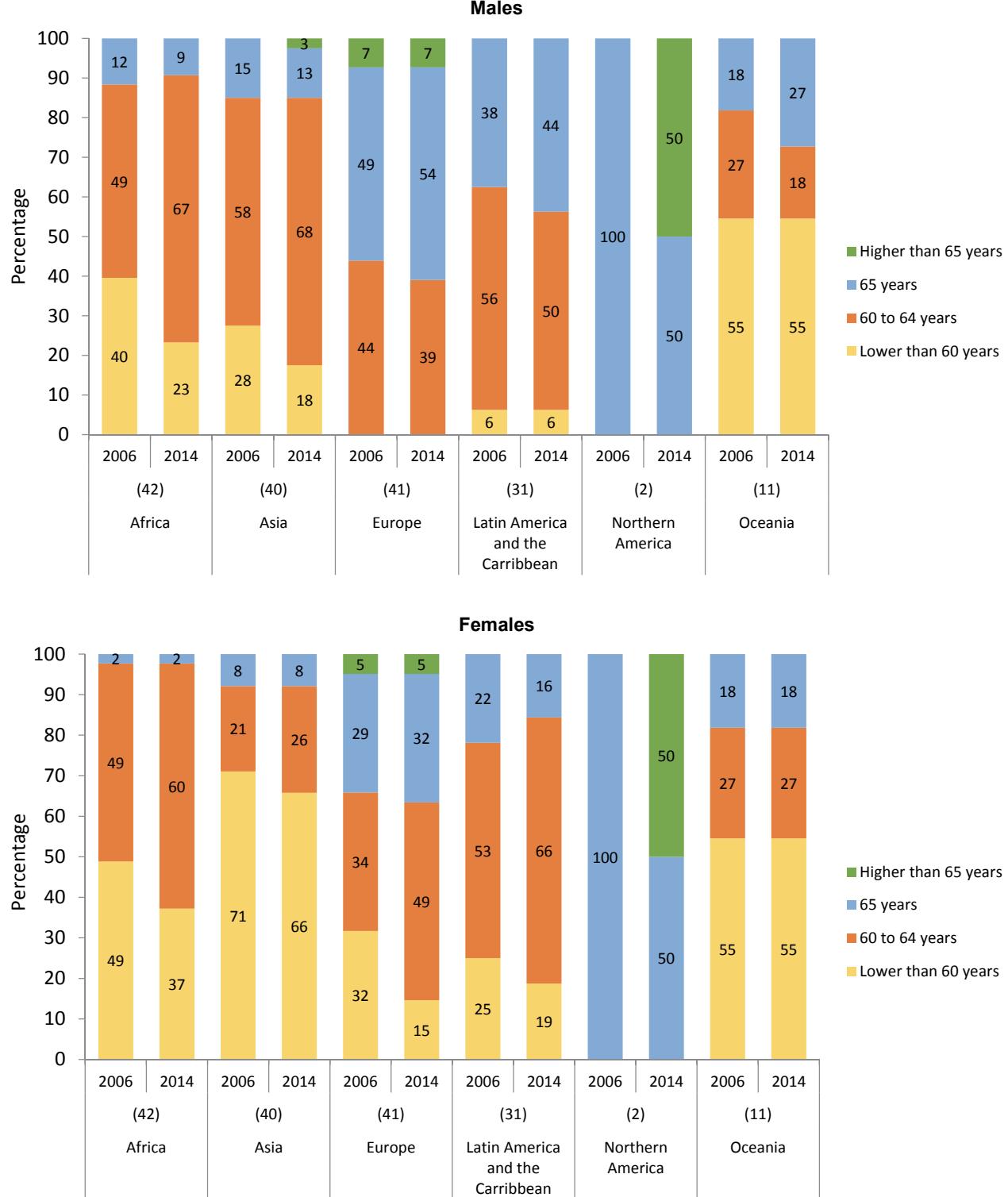
Europe is the world's major region with the most aged population, yet the average statutory retirement age for men in Europe was lower than for men in Northern America, which has a younger population. Information available for 41 European countries in 2014 indicate that the statutory retirement age for males exceeded 65 years only in Iceland, Norway and Italy. It was exactly 65 years in 22 countries, and it was between 60 and 64 years in 16 countries. The statutory retirement age for men was 65 years or more in Canada and the United States of America. From 2006 to 2014, many countries in Europe and in Northern America increased gradually the statutory age of retirement (figure IV.8). For example, in the United States of America, the age of retirement with full benefits increased from 65 years to 66 years for people born in 1943-1954, and policies indicated that it would rise to 67 years for those born in 1960 or later.

The statutory retirement ages for men in Latin America and the Caribbean were generally higher than those for men in Africa, Asia and Oceania. The statutory retirement age for men was lowest in Oceania on average, where it was equal to or lower than 55 years in more than half of the 11 countries. Between 2006 and 2014, Micronesia raised the age of retirement from 60 to 65 years, while Australia had plans to raise it gradually beginning in 2017 to reach 67 years in 2023.

In Latin America and the Caribbean, the retirement age for men was between 60 and 64 years in a majority (53 per cent) of the 31 countries with available data in 2014. In the remaining countries, the retirement age was 65 years, with the exceptions of Bolivia and Haiti, where the retirement age was 58 years. Between 2006 and 2014, while some countries such as Cuba and Dominica raised the age of retirement from 60 years to 65 years,²⁰ Bolivia lowered the age of retirement from 65 years to 58 years in 2010.

²⁰ Cuba gradually raised the age of retirement to 65 years by 2015. Dominica planned to increase the statutory retirement age incrementally—by six months every year—until the year 2021, when the pensionable age would be set at age 65.

Figure IV.8.
Distribution of countries according to the statutory retirement age, by sex and region, 2006 and 2015



Data sources: United States Social Security Administration (2013 and 2014). *Social security programmes throughout the world* (International updates, 2005; Europe, 2004; Asia and the Pacific, 2004; Africa, 2005; the Americas 2005), and ILO, 2014.

In Africa and Asia, the retirement age for men was between 60 and 64 years in a majority of the countries. However, about 23 per cent of the countries in Africa had a retirement age for men lower than 60 years in 2014. Between 2006 and 2014, 7 countries in Africa increased the retirement age from 55 to 60 years (Benin, Chad, Congo, Côte d'Ivoire, Mozambique, Togo and the United Republic of Tanzania), and one country in Africa (Mauritius) raised the retirement age from 60 to 62.5 years. In contrast, South Africa reduced the retirement age for men from 65 years to 60 years.

In general, the statutory age of retirement for women was the same as or lower (often by five years) than the retirement age for men. In 2014, the age of retirement for women was lower than that for men in 61 out of 167 countries with data available. Among developing countries, younger retirement ages for women were most prevalent in Asia (the retirement age for women was below 60 years in 66 per cent of countries), followed by Oceania (55 per cent of countries), and Africa (37 per cent of countries) (figure IV.8). Statutory retirement ages for women in Latin America and the Caribbean were often higher than those in other developing regions: roughly 88 per cent of countries in the Latin American and Caribbean region had female retirement ages between 60 and 64 years. In Europe, the female retirement age was between 60 and 64 years in 20 countries, it was exactly 65 years in 13 countries, and it was above 65 years only in Iceland and Norway. The statutory retirement age for women was 65 years or more in Canada and the United States of America. Between 2006 and 2014, many countries increased the age of retirement for women in efforts to prolong their labour force participation and improve the financial sustainability of pension systems.

At the global level, nearly half of all people over pensionable age do not receive a pension.²¹

Most developed countries have set up mandatory pension plans, either public or private, that together achieve quasi-universal coverage. According to ILO (2014) estimates, pension coverage ratios in Europe and in North America were higher than 90 per cent in 2013-2014. In the less developed regions, however, old-age pensions covered only a fraction of older persons. In Africa, nearly 22 per cent of older persons received a pension. Pension coverage for older persons was almost 30 per cent in the Middle East, nearly 37 per cent in North Africa, 47 per cent in Asia and the Pacific, and 56 per cent in Latin America and the Caribbean (ILO, 2014).

Many developing countries face severe limitations to providing income security for older persons due to the low coverage of formal pension systems. In the last decade, many low-income and middle-income countries have extended coverage through non-contributory pension schemes, while others have expanded contributory schemes to previously uncovered groups of the population. Non-contributory schemes can be either universal (providing benefits to everyone) or targeted (providing benefits to those in a particular situation of need). For instance, China has achieved nearly universal pension coverage by complementing social insurance with social pensions in rural areas. Other countries like Bolivia provided tax-financed universal benefits to all older persons. Chile introduced a new programme that provided means-tested benefits to older persons who received a low pension or no benefit at all. Most Latin American countries, with exceptions of Haiti, Honduras and Nicaragua, have expanded their pension

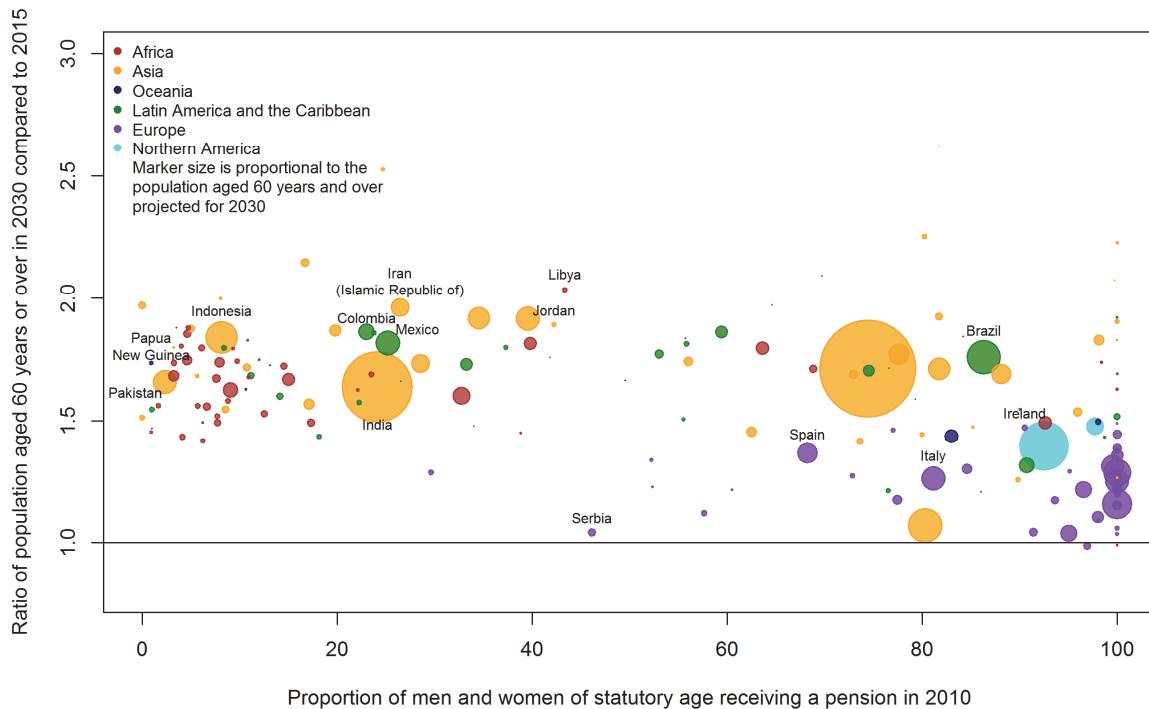
²¹ The ILO estimates the extent of legal coverage for old-age as percentage of the older persons above statutory pensionable age who receive periodic cash benefits (old-age pension). Pension coverage is the total coverage, including contributory mandatory, contributory voluntary and non-contributory pension coverage.

systems or established non-contributory pensions or cash transfer programmes targeted to older persons.

Pension coverage is typically less extensive among women than among men owing to their lower rates of participation in the labour market, their over-representation in the informal sector, in self-employed or unpaid family work. (ILO, 2014a; ILO, 2014b). In many countries, the survivor's benefits paid through a husband's contributory pension benefits are the sole source of income for older women.

Figure IV.9 illustrates the ratio of the projected population aged 60 years or over in 2030 to the estimated population aged 60 years or over in 2015 by the level of pension coverage in 2010. Many of the countries that are projected to see substantial growth in the size of the older population also had low rates of pension coverage among older persons. In Iran, for example, the number of people aged 60 years or over is expected to double between 2015 and 2030, and less than 30 per cent of those of statutory age were receiving a pension in 2010. The population of older persons is projected to increase by 84 per cent in Indonesia, while less than 10 per cent of those of statutory age received a pension.

Figure IV.9.
Ratio of projected population aged 60 years or over in 2030 to estimated population aged 60 years or over in 2015 by the level of pension coverage in 2010



Data sources: United Nations (2015). World Population Prospects: The 2015 Revision and ILO (2014). *World Social Protection Report 2014/15: Building economic recovery, inclusive development and social justice*.

Notably, there is a great deal of heterogeneity in the projected increases in the size of the older population at all levels of pension coverage (United Nations, 2015b). For example, the projected increase in the number of older persons in Brazil, at 76 per cent, is nearly three times

that in Italy, at 26 per cent, both countries where more than 80 per cent of persons of statutory age were covered by pensions. At middle levels of pension coverage, between 40 and 50 per cent, growth rates of the older population are similarly diverse. In Serbia, for example, the population aged 60 years or over is projected to increase by 4 per cent over the next 15 years, compared to a near doubling of the numbers of older persons in Jordan and in Libya. Despite the heterogeneity observed across countries, an overwhelming majority (78 per cent) of the countries with pension coverage of less than 80 per cent are anticipating substantial growth of the older population, with increases of more than 50 per cent projected between 2015 and 2030. Examples include Mexico and Colombia, where 25 and 23 per cent, respectively, of those of statutory age received a pension in 2010. The numbers of older persons in both countries is projected to grow by more than 80 per cent by 2030. In both Papua New Guinea and Pakistan, less than 5 per cent received a pension in 2010 and the population aged 60 years or over is projected to grow by 73 per cent and 66 per cent, respectively.

As a result of continued reductions in fertility and improvements in life expectancy, population ageing brings challenges for pension systems; affecting both pay-as-you-go (PAYG) financed public pensions and funded pensions. Pay-as-you-go pension schemes face problems of financial sustainability as the proportion of people in the working-ages shrinks and the proportion of people reaching retirement age increase, while the number of years spent in retirement is also on the rise. Trends in the potential support ratio, defined as the number of people in the working ages (20-64 years) per person aged 65 years or over, illustrate the demographic pressure faced by PAYG pension schemes, in particular. Figure IV.10 shows the potential support ratios in 2015 and projected for 2030 and 2050, by region. In 2015, there were 7 working-aged people for each older person in the world. By 2050, the global potential support ratio is projected to fall to 3.5 and all regions except Africa are expected to have potential support ratios of 3.2 or lower. In 2050, projections indicate that there will be 2.4 working-aged people for every older person aged 65 years or over in Northern America, 1.9 in Europe, and that the potential support ratio will fall below 2 working-aged people for every older person aged 65 years or over in 46 countries or areas, such as Japan (1.3), Portugal (1.4), Cuba (1.5) and Austria (1.7).

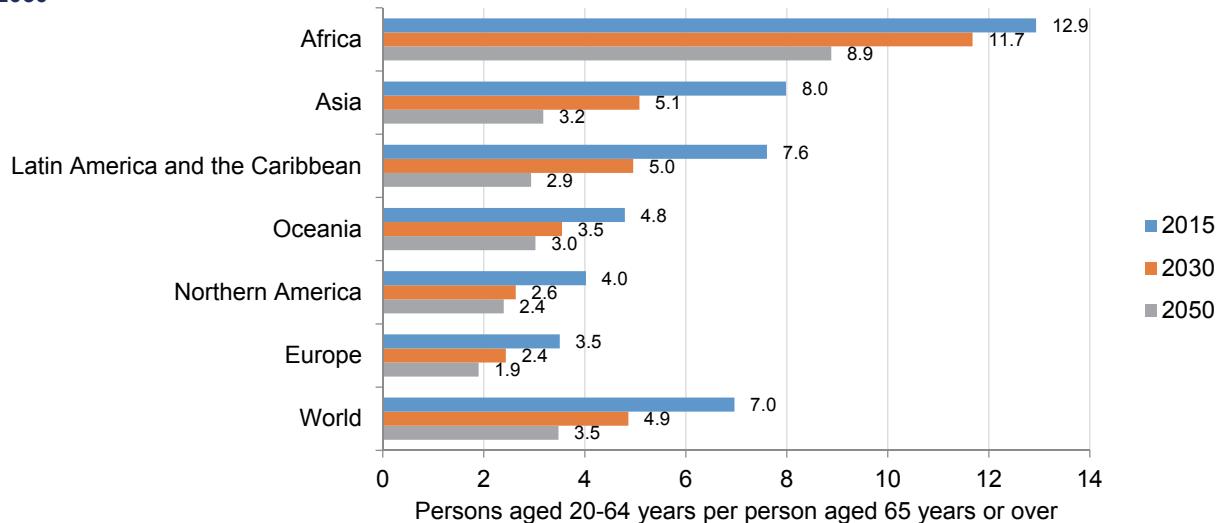
Pension replacement rates, together with ageing and population coverage rates, affect aggregate spending in pensions.

The gross pension replacement rate is an indicator of how effectively a pension system provides a retirement income to replace labour earnings, the main source of income before retirement for most people (OECD, 2015).²² The average gross replacement rate among OECD countries was 53 per cent, with substantial cross-country variation ranging from nearly 30 per cent in the United Kingdom to approximately 90 per cent in the Netherlands. Among the OECD countries, workers with average earnings in Canada, Ireland, Japan, the United Kingdom, the United States of America and the Republic of Korea had gross replacement rates of less than 40 per cent. Among Latin American and Caribbean countries, the Dominican Republic, Haiti and

²² The gross replacement rate is defined as gross pension entitlement divided by gross pre-retirement earnings. For more details, see OECD (2016).

Mexico had gross replacement rates below 30 per cent, while Ecuador, Nicaragua, Paraguay and Venezuela had replacement rates of more than 90 per cent.²³

Figure IV.10.
Potential support ratio (persons aged 20-64 years per person aged 65 years or over), by region, 2015, 2030 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

In general, the variation in current public pension spending across countries reflected mainly differences in: 1) potential support ratios; and 2) the generosity of benefits and coverage rates (IMF, 2011). Figure IV.11 illustrates the variation in public pension expenditures as a percentage of gross domestic product (GDP) according to the potential support ratio and the replacement rate for selected countries. Marker (“bubble”) sizes are proportional to the pension replacement rate. Among countries in Europe, there was substantial variation in public spending on pensions, ranging from less than 5 per cent of GDP in Iceland and Ireland to more than 12 per cent of GDP in Austria, France, Greece, Italy and Portugal. Japan had the lowest potential support ratio in the world in 2015, with 2.1 working-age people per person aged 65 years or over, but the level of public pension expenditure in Japan was lower than in Italy (10.2 per cent versus 15.8 per cent), due primarily to the lower pension replacement rate in Japan than in Italy (35.1 per cent versus 69.5 per cent, respectively).

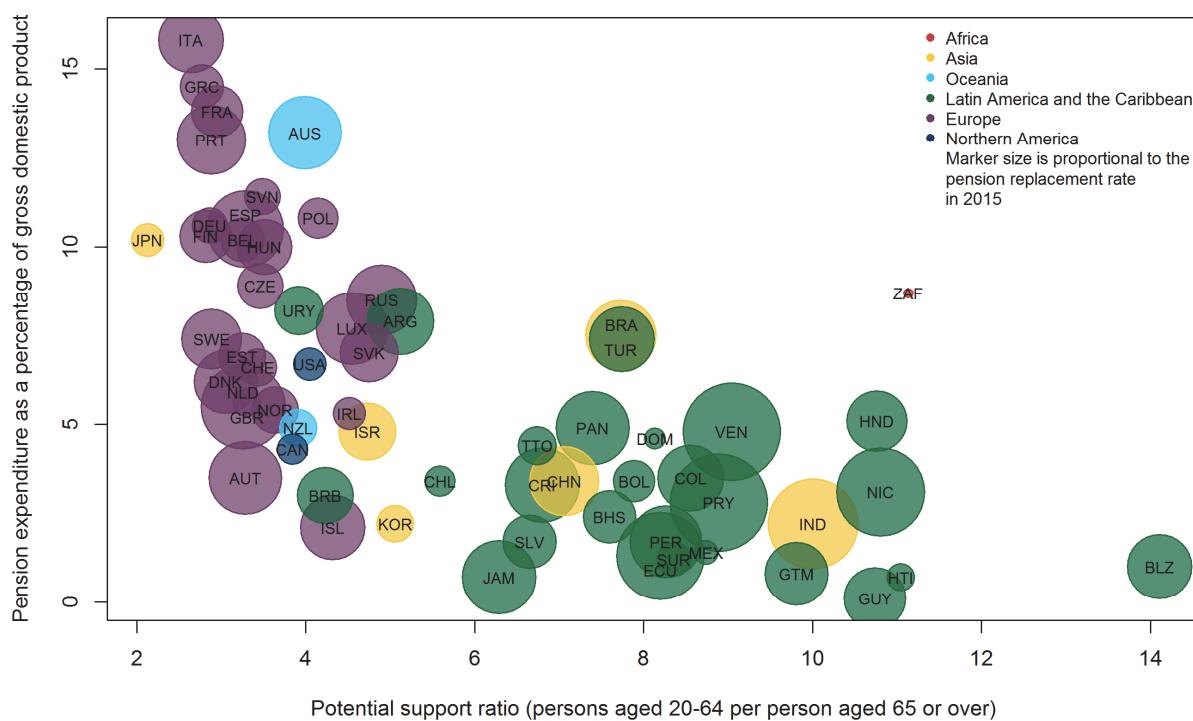
Among the Latin American and Caribbean countries, pension spending varied among countries ranging from less than 1 per cent of GDP in Guatemala, Haiti, Jamaica and Guyana to 7.9 per cent in Argentina and 8.2 per cent in Uruguay. The relatively low spending in Latin American and Caribbean countries reflected a combination of relatively low pension coverage (generally limited to those in the formal sector) and relatively younger populations. The average gross replacement ratio in the 26 countries of Latin America and the Caribbean was 62 per cent, with significant cross-country variation (OECD, 2014). Paraguay provided pension earnings that

²³ Data are available for OECD countries, as well as for countries in Latin America and the Caribbean region, and for China, India, South Africa and the Russian Federation. Other countries lack the comparable earnings statistics or the household surveys needed to estimate the pension replacement rate (ILO, 2014).

exceeded working earnings (104 per cent), but just 38 per cent were receiving a pension. By comparison, the Dominican Republic and Mexico had replacement rates of 23 per cent and 30 per cent, respectively. In some Latin American and Caribbean countries, gross replacement rates for women were lower than those for men, due to fewer years of contribution and lower pension eligibility ages for women. In Chile, the gross pension replacement rate for women was 10 to 13 percentage points lower than for men. Other countries like Argentina, Brazil, Colombia, El Salvador, Honduras, Panama and Venezuela also had lower replacement rates for women than for men, but the gender gaps were narrower than in Chile (OECD, IDB and World Bank, 2014).

Figure IV.11.

Pension expenditure (percentage of GDP) and potential support ratio by the size of the pension replacement rate for selected countries, 2015



Data sources: OECD (2015), *Pensions at a Glance 2015: OECD and G20 indicators*; OECD (2014). *Pensions at a Glance: Latin America and the Caribbean*; and United Nations (2015) *World Population Prospects: The 2015 Revision*.

Note: The size of the bubble is proportional to the gross pension replacement rate in each country.

In general, countries with relatively low pension coverage rates had higher labour force participation rates among people aged 65 years and over. In Mozambique, for example, the pension coverage rate was only 3.7 per cent and 75 per cent of those aged 65 years or over were economically active. In Madagascar, pension coverage was 11.4 per cent and 72 per cent of older persons were active in 2015. Furthermore, some countries with low pension replacement rates had higher labour force participation rates among older people, despite having high coverage rates. In Japan, for example, despite a 100 per cent pension coverage rate, the labour force participation rate for men aged 65 years or over was considerably higher (29.4 per cent) than in other OECD countries, partly due to the low pension replacement rate.

Recognizing the challenges posed by population ageing, many countries are pursuing pension system reforms.

In recent years, many governments have addressed concerns about the adequacy or sustainability of their pension systems by modifying the parameters of those programmes. These measures included: increases in statutory retirement ages; increases in contribution rates for defined benefit schemes, taxes or social security contributions on pension income, as well as minimum contributory periods; elimination of incentives for early retirement; and the introduction of automatic adjustment mechanisms such as by linking the age at which retirement benefits can begin to changes in life expectancy. Governments also have introduced reforms to strengthen funded private pensions and improve their complementary role in ensuring the adequacy of retirement income.

More than half of governments instituted retirement or pension system reforms between 2008 and 2013.

Information about changes in statutory retirement ages and major reforms to pension systems over the period 2008-2013 was available for 189 countries (United Nations, 2013). Of these, the governments of 61 countries (32 per cent) changed their statutory retirement age between 2008 and 2013 and governments of 89 countries (47 per cent) reformed their pension system during that period. Forty-seven of the 189 governments (25 per cent) changed both the retirement age and reformed their pension systems during this time. A little less than half (46 per cent) of the governments neither changed their statutory retirement ages nor reformed their pension system over 2008-2013.

Most of the OECD countries passed legislation that raised the statutory retirement age or equalized the statutory retirement age for women and men. For example, Slovenia enacted a reform in January 2013 that gradually increased women's statutory retirement age to 65 years by 2016, when it will be the same as men's. Australian women's statutory retirement age rose to 65 years in July 2013 and the policy indicated that it would again rise—to 67 years—for both men and women by 2023. Poland increased the statutory retirement age to 67 years for both sexes, although on different timelines: retirement at 67 years would be effective for men in 2020, but only by 2040 for women. In a number of countries, the age of retirement would increase gradually, to 67 years or higher. In Canada, for instance, the normal retirement age to be eligible for the basic pension (Old-age security) benefit would increase gradually from 65 to 67 years between 2023 and 2029. In Ireland, the pension age increased from 65 to 66 years in 2014 and would increase further to 67 years by 2021 and 68 years after 2028. In the Netherlands, the retirement age would reach 66 years by 2019 and 67 years by 2023 (OECD, 2014).

Some countries introduced policies to increase minimum contribution periods while others restricted access to early retirement. In France, the minimum contributory periods would increase from 41.5 years to 43 years in 2030. In Austria, the required insurance period for individuals to be eligible for early retirement (Korridorpension) would increase from 38 years in 2013 to 40 years in 2017. In Belgium, the age for early retirement benefit eligibility increased to 60.5 years in 2013, and the contribution period to 38 years. These parameters would increase further in Belgium to age 62 and 40 years of contributions in 2016 (OECD, 2014).

Although measures to increase statutory retirement ages as well as other reforms to pension systems could improve the sustainability of pension programmes, it is important to also keep in mind the potential impact of such broad reforms on poverty and inequality among older persons. Both the prevalence of disability and the physical demands associated with employment can vary considerably across socioeconomic groups, with disparate implications of continued labour force participation at older ages. Moreover, there are significant differences in life expectancy by socioeconomic status. Raising the statutory ages by a fixed amount is disadvantageous for groups whose shorter average lifespans imply fewer years to collect pension benefits.

C. POPULATION AGEING AND HEALTH

Across studies of population health, age nearly always stands out as the single most powerful predictor of the state of people's health and the prevailing risks of morbidity and mortality they face. The specific mechanisms that link age to health status are many and complex (WHO, 2015). At the biological level, ageing is associated with accumulated damage to cells that, over time, weakens the immune system, diminishes the body's capacity to repair itself and increases the risk of developing a host of different diseases (Steves and others, 2012; Vasto and others, 2010; Beard and Bloom, 2015). A person's age also reflects the amount of time he or she may have been exposed to various external health risks whose effects accumulate over time, such as tobacco use or unhealthy diet. Moreover, the social changes that often take place as people enter advanced ages, such as shifts in social roles and the loss of close relationships, may pose additional threats to older persons' health and well-being (WHO, 2015).

However, while age is an important predictor of the average health risks people face, there is a huge degree of diversity in the health status of people at any given age, reflecting random variation across individuals, as well as differences in the life course, environment and behaviours that shape health risks. This is especially true at older ages when the risks of specific morbidities and mortality vary widely across individuals of the same age. That variability is associated with numerous other predictors of health status, including, *inter alia*, genetic factors, which are estimated to account for roughly a quarter of the differences in health and function observed at older ages (Brooks-Wilson, 2013), as well as individual characteristics such as occupation, level of income or educational attainment; environmental factors such as pollution or accessible infrastructure; and behaviours that pose risks to health, such as tobacco use, physical inactivity or excessive consumption of alcohol. Thus, while one 70-year-old person may enjoy good health that enables them to remain active in the labour force and to live without much health care support or intervention, a peer of the same age may face multiple chronic morbidities that cause significant disability and require frequent medical interventions or health care support resources.

While all older persons will eventually face declining health and functioning, their specific health trajectories may vary widely. Some older persons will experience a sudden and rapid decline from good health to death, while for others the decline in functioning will occur gradually over many years, and others still will experience periods of illness and disability interspersed by periods of partial or full recovery (WHO, 2015). The substantial heterogeneity in the health status of older persons underscores the need for health systems that are responsive to the diversity of their experience. In addition to health systems, other sectors must respond by

creating the infrastructure and environments that support older persons with varying functional capacities. This includes, for example, housing and transportation infrastructure that is accessible and safe for older persons.

A recent assessment by the World Health Organization (WHO) (2015) warns that health systems around the world are falling short with respect to meeting the needs of older persons. The report summarises the present situation:

Current public-health approaches to population ageing have clearly been ineffective. The health of older people is not keeping up with increasing longevity; marked health inequities are apparent in the health status of older people; current health systems are poorly aligned to the care that older populations require even in high-income countries; long-term care models are both inadequate and unsustainable; and physical and social environments present multiple barriers and disincentives to both health and participation (p. 18).

Thus changes are needed around the globe to continue to adapt health systems to serve a growing number and proportion of older persons and to maximize health and well-being at all ages. Importantly, WHO emphasizes that the changes needed to ensure that older persons receive the health care they require need not imply exorbitant increases in national health budgets, even in countries with rapidly ageing populations. The following sections describe some of the key trends identified as central to the health care needs of older persons and their associations with population ageing, including: 1) healthy life in the context of increasing life expectancy; 2) population ageing and the overall burden of disability experienced in a population; and 3) the implications of population ageing for national health care expenditures.

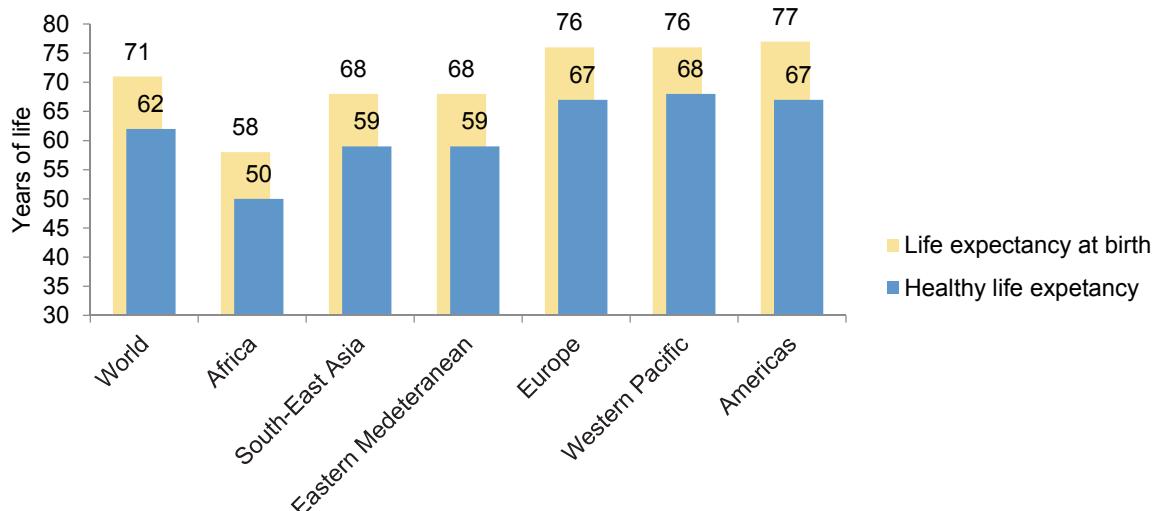
People lost an average nine years of healthy life due to disability in 2013.

The health of a population at a given time is often summarized with the “healthy life expectancy” metric, which is similar conceptually to life expectancy at birth. While life expectancy at birth summarizes the average number of years a person would be expected to live if exposed throughout their lives to the age-specific mortality rates of a given period, healthy life expectancy summarizes how many of those years are expected to be lived in good health, free of disease and disability. The World Health Organization relies upon a combination of country-level information about the incidence and prevalence of diseases, the duration and severity of the disabilities they cause, as well as models and assumptions, in order to estimate the average number of years spent in good health (WHO, 2014). In 2013, the most recent year for which WHO estimates are available, life expectancy at birth was 71 years globally and the corresponding value of healthy life expectancy was 62 years (figure IV.12). Across the six regions defined by the WHO for statistical reporting purposes, healthy life expectancy was longest in the Western Pacific at 68 years, followed by Europe and the Americas both at 67 years. Healthy life expectancy was shortest in Africa at 50 years, as was life expectancy at birth at 58 years.

A complementary metric describes the number of potentially healthy years of life lost due to morbidity or disability. It is calculated as the difference between healthy life expectancy and life expectancy at birth. Thus, for the world as a whole in 2013, the life expectancy of 71 years and

healthy life expectancy of 62 years imply that, on average, approximately nine years of healthy life were lost due to disability. Across the regions, as shown in figure IV.12, the average numbers of healthy years of life lost due to disability range from 8 years in Africa and in the Western Pacific to 10 years in the Americas.

Figure IV.12.
Life expectancy at birth and healthy life expectancy at birth, by WHO region, 2013



Data source: World Health Organization. Global Health Observatory Data Repository. Available from <http://apps.who.int/gho/data/view.main.690?lang=en>. (Accessed 1 October 2015).

On average, people in longer-lived populations tend to spend more years living with disability than people in populations where the average lifespan is shorter.

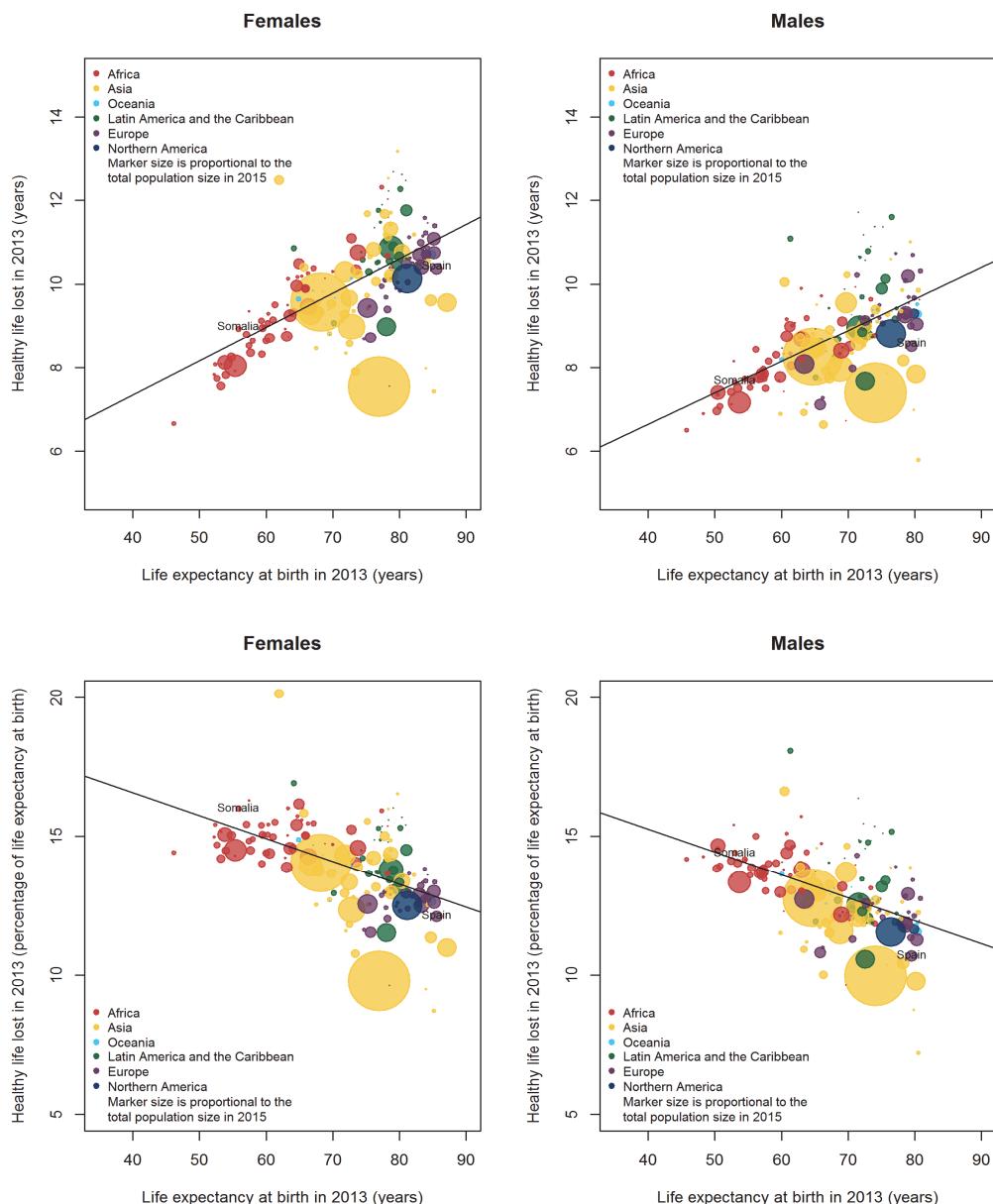
In general, the number of healthy life years lost due to disability tends to be greater in countries with a higher life expectancy at birth compared to countries with shorter average lifespans. The top two charts in figure IV.13 plot WHO's estimates of the number of healthy years of life lost against the life expectancy at birth in 2013 for females and males in 194 countries or areas. For both sexes in 2013, a comparison across countries reveals an upward sloping relationship between the two indicators. People who lived in countries with longer lifespans lost more healthy years of life, on average, than those living in countries with shorter lifespans. Among women in Spain, for example, who had one of the highest life expectancies in the world at nearly 86 years, an average of 10.4 years of healthy life were lost due to disability in 2013. Women in Somalia, who had among the world's shortest average lifespans at around 56 years, lost about 8.9 years of healthy life due to disability.

However, when one considers instead the number of healthy years lost due to disability as a percentage of the average lifespan, an inverse association is revealed across countries: on average, people living in countries with longer life expectancies at birth tend to spend a smaller proportion of their lives with disability or ill-health relative to people living in countries with shorter life expectancies overall. Thus while the average woman in Spain is expected live 12 per

cent of her life span with disability, the average 8.9 years of disability for the average woman in Somalia accounts for 16 per cent of her life span.

Associations observed in cross section among countries do not necessarily persist in assessments of changes over time within a given population. That is, just because the years of healthy life lost tends to be greater among countries with higher life expectancies at birth does not guarantee that the number of healthy life years lost will increase as longevity improves in a

Figure IV.13.
Healthy years of life lost and life expectancy at birth, by country and sex, 2013



Data source: World Health Organization. Global Health Observatory Data Repository. Available from <http://apps.who.int/gho/data/view.wrapper.MGHEHALEv?lang=en&menu=hide>. (Accessed 1 October 2015).

given country. In fact, to date, there is very limited evidence to indicate whether, as life expectancy increases, people are living those additional years in good health, or are instead experiencing extended periods of disability and illness (Crimmins and others, 2011; Beard and Bloom, 2015). One study in the United States of America found an increased prevalence of disabilities affecting basic activities of daily living, instrumental activities and mobility among recent cohorts of older persons aged 60 to 69 years compared to cohorts a decade earlier (Seeman and others, 2010). The same study also detected a lower prevalence of functional limitations among recent cohorts of persons aged 80 years or over relative to oldest-old persons a decade earlier. Another study in Austria concluded that the healthy life expectancy for older persons had increased between 1978 and 1998, and that the proportion of healthy life years lost due to disability had declined over the same period, indicating that ill health was increasingly compressed into the last years of life in that country (Doblhammer and Kytir, 2001). A WHO study found evidence of reductions in the amount of time spent in poor health in many contexts, but noted that conflicting conclusions could be drawn from analyses with different study designs (Chatterji and others, 2015).

So far, these empirical studies of the association between life expectancy and the average length of healthy life have been almost exclusively limited to high-income countries. As a result, any meaningful understanding of how trends in healthy life expectancy relate to improvements in longevity in most of the world is currently lacking.

Whether the growing numbers of older persons are enjoying their added years of life in good health is a crucial consideration for policy development (WHO, 2015). If the added years of life expectancy are years spent in disability or ill-health, then the coming trends in population ageing could portend substantially increased demand for health care, while also preventing families, communities and societies from benefitting from the contributions that older persons would otherwise be able to make if they remained in good health. In contrast, if the onset or severity of ill-health is increasingly postponed as life expectancy increases—a phenomenon termed a “compression of morbidity”—then the health system pressures exerted by population ageing may be attenuated.

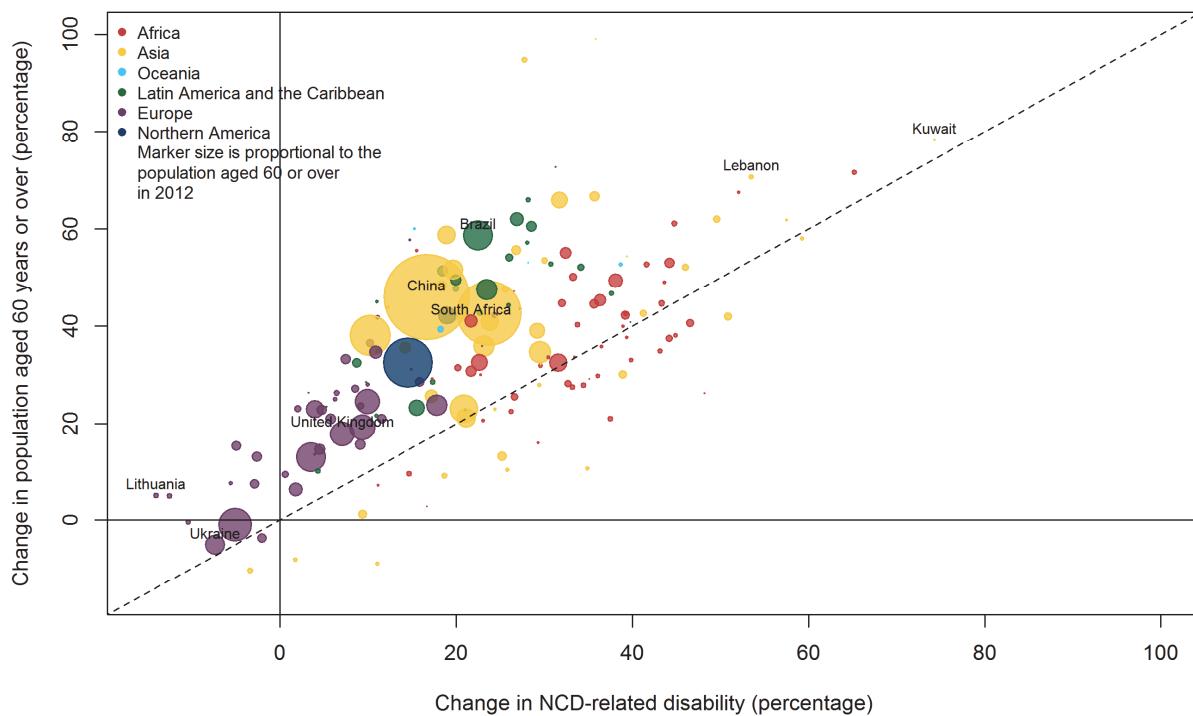
Growing numbers of older persons lead to greater demands for the prevention and treatment of the non-communicable diseases associated with old age.

Irrespective of any association between population ageing and the length of healthy life, one thing is clear: population growth equates to an increasing number of people who require access to health care. The prevalence of chronic illness and the disabilities they cause are strongly associated with age. For this reason, the very rapid current and future growth in the number of older persons foretells a surge in the demand for care aimed at the prevention and treatment of the health conditions they face. Indeed, WHO estimates of the burdens of disability caused by non-communicable diseases (NCDs) indicate a powerful association with the pace of growth of the older population.

Figure IV.14 depicts the percentage change of the population aged 60 years or over between 2000 and 2012 against the percentage change of NCD-related disability over the same period, as

estimated in the WHO's 2014 update of Global Health Estimates.²⁴ Some of the countries that saw the largest increases in NCD-related disability between 2000 and 2012 are those that experienced the greatest proportional growth in the population of older persons. In Lebanon, for example, the number of people aged 60 years or over grew by 71 per cent between 2000 and 2012, while the burden of NCD-related disability increased by 54 per cent. In Kuwait, the increases in the number of older persons (78 per cent) and overall burden of NCD-related disability (74 per cent) were similarly rapid. In South Africa, the population aged 60 years or over grew by 41 per cent at the same time that the burden of NCD-related disability rose by 22 per cent. The number of older persons grew more slowly in the United Kingdom between 2000 and 2012, increasing by 18 per cent, and the change in the total burden of NCD-related disability, at 7 per cent, was comparatively small as well. In the Ukraine, the population aged 60 years or over in 2012 was 5 per cent smaller than in 2000, and the country experienced a concomitant reduction in the burden of NCD-related disability of approximately 7 per cent.

Figure IV.14.
Changes in population aged 60 years or over and NCD-related disability (YLDs) between 2000 and 2012



Data sources: United Nations (2015). *World Population Prospects: The 2015 Revision* and WHO (2014). *Global Health Estimates*.

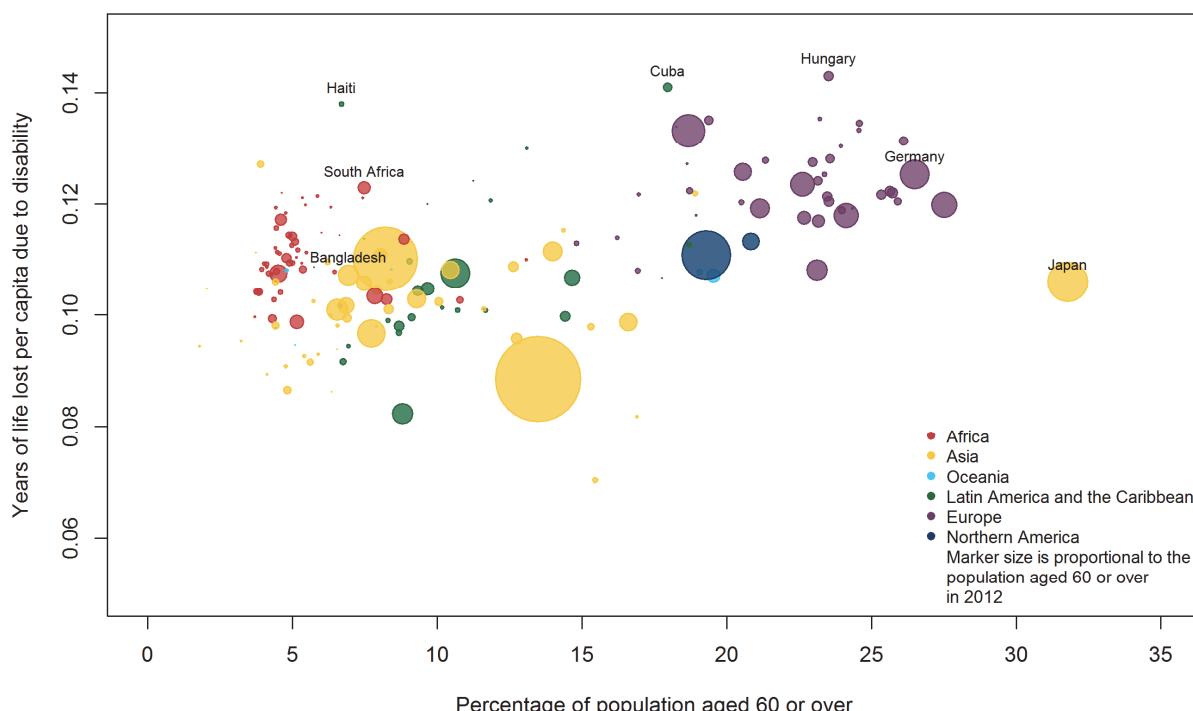
Despite the strong positive association observed in figure IV.14, it is evident that factors other than the growth in the number of older persons also influence the pace of change in NCD-related disability. Most countries fall above the 45-degree dotted line in the chart, indicating that the older population grew faster than the burden of NCD-related disability between 2000 and 2012. In some cases, the differences were substantial. In China, for example, the population aged

²⁴ The burden of NCD-related disability is represented by the total years of life lost due to disability (YLDs) in a population as a result of the group of causes classified by the WHO as non-communicable diseases.

60 years or over grew more than twice as fast as the burden of NCD-related disability (46 per cent versus 17 per cent). In Brazil, there were 59 per cent more older persons in 2012 than in 2000, but the burden of NCD-related disability had increased by only 22 per cent.

While growing numbers of older persons almost certainly portends growing demand for the prevention and care of NCDs, any association between the proportion of older persons in the population and the burden of disability or demand for care is less direct. The WHO's global health estimates suggest that the share of older persons is, in fact, a poor predictor of the overall burden of disability in a population. Figure IV.15 plots the average number of years of life lost per capita due to disability, including all ages and all causes, against the percentage of the population aged 60 years or over. By this measure, Hungary, Cuba and Haiti experienced the heaviest burdens of disability. In each of these three countries, disability contributed to the loss of approximately 0.14 years of healthy life per person, on average, in 2012. Yet, Hungary, Cuba and Haiti are at very different stages of the population ageing process: in Hungary nearly one in four people was aged 60 years or over in 2012, versus around one in five people in Cuba and one in fifteen people in Haiti. Germany and South Africa were similar to each other with respect to the overall level of disability, with approximately 0.12 years of health life lost per capita due to disability in 2012. However, Germany, with 26 per cent of the population in 2012 aged 60 years or over was substantially more aged than South Africa, where older persons accounted for just 7 per cent of the population. Similarly, in Japan and Bangladesh, people lost on average about 0.11 years of healthy life due to disability, despite the fact that the two countries were at very different stages of the ageing process.

Figure IV.15.
Years of life lost per capita due to disability and percentage of population aged 60 years or over in 2012



Data sources: United Nations (2015). *World Population Prospects: The 2015 Revision* and WHO (2014). *Global Health Estimates*.

Population ageing will not necessarily imply growing burdens of disability.

There are several plausible explanations for why ageing may not lead to greater levels of disability in a population overall. First, countries that are more advanced in the ageing process tend to be those with higher levels of economic development, which is associated with improvements in health and well-being. Second, the more aged and more developed countries are often better able to treat illnesses or to accommodate the disabilities that commonly occur in older persons, thereby lessening the degree of functional limitations they cause. Thus while vision impairments associated with cataracts, for example, may cause minimal limitation in a country that offers corrective surgery or adaptations that preserve the functional capacities of persons with poor sight, the same health condition could be profoundly disabling in contexts where such treatments or adaptations are unavailable. Surveys of older persons' health in sub-Saharan Africa indicate high rates of hypertension, musculoskeletal disease, visual impairment, functional limitations and depression, many cases of which go undiagnosed or untreated (Aboderin and Beard, 2015). Finally, some of the health conditions that commonly afflict young people in the comparatively youthful developing regions cause chronic disability, adding substantially to the overall level of disability in the population. Parasitic diseases, such as intestinal worms, are an example. They afflict hundreds of millions of mostly poor people in the developing regions and are among the leading causes of disability worldwide (Hotez, 2008).

Given the growth of the older population, which will occur in virtually every country in the world over the coming decades, health systems should prepare now to address the specific health concerns of older persons. Table IV.1 lists the 10 leading causes of disability globally among women and men aged 60 years or over, according to WHO estimates for 2012. Topping the list for older women were unipolar depressive disorders, followed by hearing loss, back and neck pain, Alzheimer's disease and other dementias, and osteoarthritis. Among older men, hearing loss was the leading cause of disability in 2012, followed by back and neck pain, falls, chronic obstructive pulmonary disease and diabetes mellitus. Vision loss, caused by refractive errors or cataracts, is also an important cause of disability among older persons globally.

TABLE IV.1. TEN LEADING CAUSES OF DISABILITY GLOBALLY AMONG PERSONS AGED 60 YEARS OR OVER, BY SEX, 2012

	Females	YLDs* per 100,000 people	Males	YLDs* per 100,000 people
1	Unipolar depressive disorders	1 465	Other hearing loss	1 870
2	Other hearing loss	1 427	Back and neck pain	1 530
3	Back and neck pain	1 413	Falls	1 347
4	Alzheimer's disease and other dementias	1 295	Chronic obstructive pulmonary disease	1 276
5	Osteoarthritis	1 201	Diabetes mellitus	1 121
6	Chronic obstructive pulmonary disease	1 200	Refractive errors	902
7	Diabetes mellitus	1 143	Unipolar depressive disorders	883
8	Refractive errors	1 066	Alzheimer's disease and other dementias	850
9	Falls	998	Hyperplasia of prostate	840
10	Cataracts	756	Osteoarthritis	739

Data source: WHO (2014). *Global Health Estimates*.

*YLDs = Years of life lost due to disability.

Addressing disability among older persons entails not only treating health conditions as they arise, but also: 1) providing the necessary accommodations, such as eyeglasses, hearing aids and accessible housing and transportation, to reduce the degree of functional limitations they cause; and 2) preventing or postponing the incidence of disability-causing conditions in the first place. A growing body of research supports the notion that much of the disability-causing chronic disease that arises in old age is linked to exposures to risk factors early in life, or even prior to birth. Factors like low birthweight, childhood obesity, poverty, and experiences of stress during childhood have all been linked to the onset of chronic diseases, such as heart diseases and diabetes in adulthood (for example, see Barker, 2004; Haas, 2008; Hayward and Gorman, 2004; Winning and others, 2005). Taken as a whole, the literature underscores the importance of fostering good health and habits early in life to prevent or postpone the onset of morbidity at older ages.

Population ageing need not imply exorbitant increases in national health budgets.

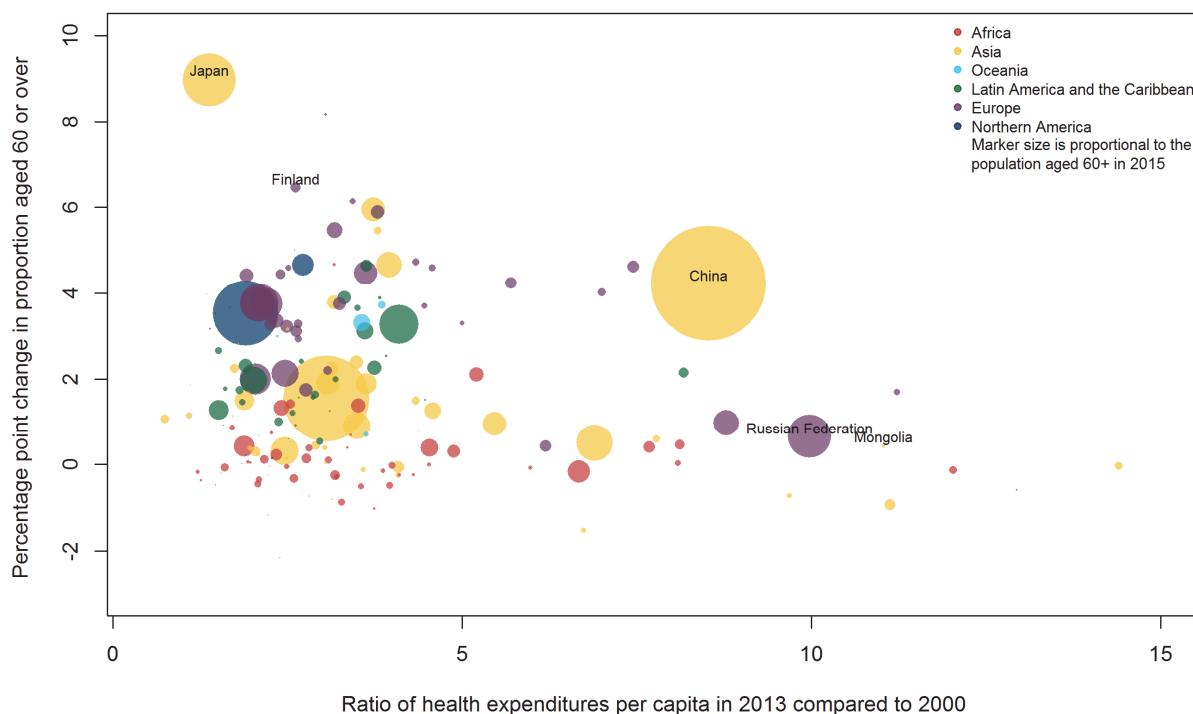
The growing number and proportion of older persons in the population understandably raises concerns about the potential pressures the health systems will face to meet their needs. What population ageing will mean for national health care expenditures is not immediately clear (WHO, 2015). Despite the impending increased need for care, several studies have found that older persons use health services significantly less often than younger adults. Often, the lower rates of health care utilization among older persons reflect inadequacies in the availability or delivery of care, or structural barriers that prevent older persons from utilizing the care they need, which occurs in both developed and developing countries (WHO, 2015). Some evidence from high-income countries indicates that health expenditures per person actually fall significantly starting around age 70 (Kingsley, 2015).

Over the recent past, there has been a great deal of variability in the observed increases of health care expenditures across countries with a similar pace of population ageing. Figure IV.16 plots the percentage point change in the proportion of the population aged 60 years or over between 2000 and 2013 against the percentage increase in a country's per capita health care expenditures over the same period.

If population ageing were the major driver of increases in health costs, then the largest increases in per capita health expenditures would be observed in the countries that were ageing the fastest. By and large, this is not the case. Instead, most of the countries that experienced extremely rapid rises in health care expenditures since 2000, were ageing relatively slowly. Both Mongolia and the Russian Federation, for example, experienced a more than tenfold increase in per capita health expenditures between 2000 and 2013, even as the share of older persons changed by only around $\frac{1}{2}$ percentage point. Conversely, per capita health care expenditures changed relatively little among many of the countries that were ageing the fastest. In Japan, the proportion aged 60 years or over increased by 9 percentage points between 2000 and 2013, while per capita health expenditures grew by only 38 per cent. Health expenditures in Finland more than doubled between 2000 and 2013, which is a comparatively small increase compared to numerous other countries, but the pace of population ageing was one of the fastest in the world, with the share of older persons increasing by more than 6 percentage points during that period.

Given the loose and variable relationship between population ageing and health expenditures, WHO cautions that to predict increases in health-care costs on the basis of population ageing is simplistic and unlikely to lead to good policy decisions (WHO, 2015). Instead, a host of other factors should be taken into account when evaluating short- and long-term trends in health-care costs, such as technology-related changes, growth in personal income, and cultural norms and attitudes surrounding end-of-life care.

Figure IV.16.
Change in percentage of older persons over time versus changes in health care expenditures per capita, 2000-2013



Data sources: United Nations (2015). *World Population Prospects: The 2015 Revision* and World Bank (2015). *World Development Indicators database*.

D. CONCLUSIONS

Preparing for an ageing population is integral to the achievement of many of the sustainable development goals.

Population ageing is especially relevant for development goals related to poverty eradication, ensuring healthy lives and promoting social protection and well-being at all ages, gender equality, and full and productive employment and decent work for all, reducing inequalities between and within countries, and making cities and human settlements inclusive, safe, resilient and sustainable. As populations grow increasingly aged, it is more important than ever that governments design innovative policies and public services specifically targeted to older persons, including those addressing, *inter alia*, housing, employment, health care, infrastructure and

social protection. Such policies will be essential to the success of efforts to achieve the goals laid out in the 2030 Agenda for Sustainable Development.

Planning for growing numbers and proportions of older persons is essential to ensure the sustainability of pension systems.

In some countries, large majorities of older people are covered by existing pay-as-you go or unfunded pension programmes, but declining old-age support ratios imply that such programmes may struggle to maintain adequate income support into the future. In response, some countries are pursuing pension system reforms, such as increasing the statutory ages at retirement and encouraging private savings. In many developing countries, existing pension systems cover only a minority of older persons. There, governments should prioritize enhancing system coverage and taking other measures to properly finance pensions for the ever-expanding population of retirees. Countries, where appropriate, should expand their pension systems to guarantee basic income security in old age for all, at the same time ensuring the sustainability and solvency of pension schemes.

Health care systems must adapt to meet the needs of growing numbers of older persons.

In countries where health systems are already well-equipped to diagnose and treat conditions associated with old age, public policies are needed to mitigate the upward pressure on national health care budgets exerted by the rising costs of health care services, and the longer lifespans and increasing numbers of older persons. In places where existing health systems are weak or ill-equipped to address the needs of an ageing population, countries should work to expand and evolve those systems in preparation for a growing burden of non-communicable diseases. As life expectancies increase, it is more important than ever to enact policies that promote lifelong health and emphasize preventive care—such as those that support good nutrition and physical activity, and discourage tobacco use and the harmful use of alcohol and drugs—to prevent or postpone the onset of age-related disability. In addition, countries should prepare for a growing need for long-term care, both home-based and facility-based, to ensure the well-being of those at advanced ages.

Population ageing underscores the urgency of eliminating age-related discrimination, promoting and protecting the rights and dignity of older persons and facilitating their full participation in society.

Ensuring that older persons who want to work have access to employment opportunities is a key policy priority. Policies are needed to eliminate age barriers in the formal labour market and promote the recruitment of and flexible employment opportunities for older workers, as well as facilitate access to microcredit and, where applicable, provide subsidies and other incentives for self-employment. In addition, countries should ensure that older persons are included in public policy and decision-making processes, including by utilising information and communications technologies to facilitate their engagement in public governance processes.

Governments should act to improve older persons' access to public services in both urban and rural settings.

Governments should ensure that infrastructure and services are accessible to persons with limited mobility, or visual, hearing and other impairments, the prevalence of which tends to increase with age. The proliferation of technologies, such as mobile devices, offers a variety of new channels for reaching older persons, for example, by delivering messages related to health, security or environmental hazards via short message service (SMS). Governments should help to bridge the digital divide by addressing differences in educational background and information and communications technology (ICT) skills of older persons through technology training courses, programmes and learning hubs tailored to their needs.

Recent population trends indicate that virtually every country should anticipate significant growth in the number of older persons over the coming decades, necessitating multisectoral policies to ensure that older persons are able to participate actively in the economic, social, cultural and political life of their societies.

By understanding their specific population trends, governments can assess present needs and anticipate future needs with respect to their older population. In doing so, they can proactively implement the policies and programmes that ensure the well-being and full socio-economic integration of older persons while maintaining the fiscal solvency of pension and health care systems and promoting economic growth.

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Annexes

Annex I

Glossary of terms

DISABILITY-ADJUSTED LIFE YEAR (DALY)

The **Disability-Adjusted Life Years (DALYs)** is a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability. One DALY can be thought of as one lost year of “healthy” life. It is calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences.

DEPENDENCY RATIO

The **total dependency ratio** is the number of persons under age 20 years plus persons aged 65 years or over per one hundred persons aged 20 to 64 years. It is the sum of the child dependency ratio and the old-age dependency ratio.

The **child dependency ratio** is the number of persons 0 to 19 years per one hundred persons aged 20 to 64 years

The **old-age dependency ratio** is the number of persons aged 65 years or over per one hundred persons aged 20 to 64 years.

GROWTH RATE

A population’s **growth rate** is the increase (or decrease) in the number of persons in the population during a certain period of time, expressed as a percentage of the population at the beginning of the time period. The **average annual growth rates** for all ages as well as for particular age groups are calculated on the assumption that growth is continuous.

LABOUR FORCE PARTICIPATION

The **labour force participation rate** consists of the economically active population in a particular age group as a percentage of the total population of that same age group. The active population (or labour force) includes persons in paid or unpaid employment, members of the armed forces (including temporary members) and the unemployed (including first-time job-seekers.). This definition is the one adopted by the Thirteenth International Conference of Labour Statisticians (Geneva, 1982). National definitions may differ in some cases. For information on the differences in scope, definitions and methods of calculation used for the various national series, see International Labour Organization, *Sources and Methods: Labour Statistics* (formerly Statistical Sources and Methods), Volume 5: Total and Economically Active Population, Employment and Unemployment (Population Censuses), available from <http://laborsta.ilo.org/appv8/data/SSM5/E/ssm5.html#E>.

ECONOMIC SUPPORT RATIO

The **economic support ratio** is the number of equivalent producers or workers divided by the number of equivalent consumers in a given population.

HEALTHY LIFE EXPECTANCY AT BIRTH

The **health life expectancy** at a specific age is average number of years of life spent in good health, free of illness or disability.

HEALTHY YEARS OF LIFE LOST

The equivalent **healthy years of life lost** is the average number of years spent living with disability in a population. It is equal to the life expectancy at birth minus the healthy life expectancy at birth.

LIFE EXPECTANCY

Life expectancy at a specific age is the average number of additional years a person of that age could expect to live if current mortality levels observed for ages above that age were to continue for the rest of that person's life. In particular, **life expectancy at birth** is the average number of years a newborn would live if current age-specific mortality rates were to continue. The **life expectancy at age 60** is the average number of years a 60-year-old person would live if current age-specific mortality rates were to continue.

MEDIAN AGE

The **median age** of a population is the age that divides a population into two groups of the same size, such that half the total population is younger than this age, and the other half older.

PENSION COVERAGE

The **potential coverage** reflects the percentage of persons over the statutory pensionable age that is receiving a pension.

POTENTIAL SUPPORT RATIO

The **potential support ratio** is the number of persons aged 20 to 64 years per every person aged 65 years or over.

SEX RATIO

The **sex ratio** is calculated as the number of males per one hundred females in a population. The sex ratio may be calculated for a total population or for a specific age group.

STATUTORY PENSIONABLE AGE

The **statutory pensionable age** (or statutory retirement age) is the age at which eligible individuals qualify to receive old-age benefits in accordance to national laws and regulations. In addition to attainment of a specified age, receiving old-age benefits can also be conditional on the completion of a specified period of contributions or covered employment.

TOTAL FERTILITY RATE

The **total fertility rate** is the average number of children a woman would bear over the course of her lifetime if current age-specific fertility rates remained constant throughout her childbearing years (normally between the ages of 15 and 49 years). The current total fertility rate is an indicator of the level of fertility at a given time.

Annex II

Classification of regions, least developed countries and income groups

Africa

<i>Eastern Africa</i>	<i>Middle Africa</i>	<i>Northern Africa</i>	<i>Western Africa</i>
Burundi	Angola	Algeria	Benin
Comoros	Cameroon	Egypt	Burkina Faso
Djibouti	Central African Republic	Libya	Cape Verde
Eritrea	Chad	Morocco	Côte d'Ivoire
Ethiopia	Congo	Sudan	Gambia
Kenya	Democratic Republic of the Congo	Tunisia	Ghana
Madagascar	Equatorial Guinea	Western Sahara	Guinea
Malawi	Gabon		Guinea-Bissau
Mauritius	São Tomé and Príncipe		Liberia
Mayotte			Mali
Mozambique			Mauritania
Réunion			Niger
Rwanda		Botswana	Nigeria
Seychelles		Lesotho	St. Helena
Somalia		Namibia	Senegal
South Sudan		South Africa	Sierra Leone
Uganda		Swaziland	Togo
United Republic of Tanzania			
Zambia			
Zimbabwe			

Asia

<i>Eastern Asia</i>	<i>Central Asia</i>	<i>South-Eastern Asia</i>	<i>Western Asia</i>
China	Kazakhstan	Brunei Darussalam	Armenia
China, Hong Kong SAR	Kyrgyzstan	Cambodia	Azerbaijan
China, Macao SAR	Tajikistan	Indonesia	Bahrain
Democratic People's Republic of Korea	Turkmenistan	Lao People's Democratic Republic	Cyprus
Japan	Uzbekistan	Malaysia	Georgia
Mongolia		Myanmar	Iraq
Republic of Korea		Philippines	Israel
		Singapore	Jordan
	Afghanistan	Thailand	Kuwait
	Bangladesh	Timor-Leste	Lebanon
	Bhutan	Viet Nam	Oman
	India		Qatar
	Iran (Islamic Republic of)		Saudi Arabia
	Maldives		State of Palestine
	Nepal		Syrian Arab Republic
	Pakistan		Turkey
	Sri Lanka		United Arab Emirates
			Yemen

Europe

<i>Eastern Europe</i>	<i>Northern Europe</i>	<i>Southern Europe</i>	<i>Western Europe</i>
Belarus	Channel Islands	Albania	Austria
Bulgaria	Denmark	Andorra	Belgium
Czech Republic	Estonia	Bosnia and Herzegovina	France
Hungary	Faeroe Islands	Croatia	Germany
Poland	Finland	Gibraltar	Liechtenstein
Republic of Moldova	Iceland	Greece	Luxembourg
Romania	Ireland	Holy See	Monaco
Russian Federation	Isle of Man	Italy	Netherlands
Slovakia	Latvia	Malta	Switzerland
Ukraine	Lithuania	Montenegro	
	Norway	Portugal	
	Sweden	San Marino	
	United Kingdom of Great Britain and Northern Ireland	Serbia	
		Slovenia	
		Spain	
		The former Yugoslav Republic of Macedonia	

Latin America and the Caribbean

<i>Caribbean</i>	<i>Central America</i>	<i>South America</i>
Anguilla	Belize	Argentina
Antigua and Barbuda	Costa Rica	Bolivia (Plurinational State of)
Aruba	El Salvador	Brazil
Bahamas	Guatemala	Chile
Barbados	Honduras	Colombia
British Virgin Islands	Mexico	Ecuador
Caribbean Netherlands	Nicaragua	Falkland Islands (Malvinas)
Cayman Islands	Panama	French Guiana
Cuba		Guyana
Curaçao		Paraguay
Dominica		Peru
Dominican Republic		Suriname
Grenada		Uruguay
Guadeloupe		Venezuela (Bolivarian Republic of)
Haiti		
Jamaica		
Martinique		
Montserrat		
Puerto Rico		
Saint Kitts and Nevis		
Saint Lucia		
Saint Vincent and the Grenadines		
Sint Maarten		
Trinidad and Tobago		
Turks and Caicos Islands		
United States Virgin Islands		

Northern America

Bermuda
 Canada
 Greenland
 St. Pierre and Miquelon
 United States of America

Oceania

<i>Australia/New Zealand</i>	<i>Melanesia</i>	<i>Micronesia</i>	<i>Polynesia</i>
Australia	Fiji	Guam	American Samoa
New Zealand	New Caledonia	Kiribati	Cook Islands
	Papua New Guinea	Marshall Islands	French Polynesia
	Solomon Islands	Micronesia	Niue
	Vanuatu	(Federated States of)	Samoa
		Nauru	Tokelau
		Northern Mariana Islands	Tonga
		Palau	Tuvalu
			Wallis and Futuna Islands

Least developed countries

Afghanistan	Djibouti	Madagascar	Somalia
Angola	Equatorial Guinea	Malawi	South Sudan
Bangladesh	Eritrea	Mali	Sudan
Benin	Ethiopia	Mauritania	Timor-Leste
Bhutan	Gambia	Mozambique	Togo
Burkina Faso	Guinea	Myanmar	Tuvalu
Burundi	Guinea-Bissau	Nepal	Uganda
Cambodia	Haiti	Niger	United Republic of Tanzania
Central African Republic	Kiribati	Rwanda	Vanuatu
Chad	Lao People's Democratic Republic	São Tomé and Príncipe	Yemen
Comoros	Lesotho	Senegal	Zambia
Democratic Republic of the Congo	Liberia	Sierra Leone	
		Solomon Islands	

Low-income economies(GNI per capita \$1,045 or less)

Afghanistan	Dem. Republic of the Congo	Liberia	Sierra Leone
Benin	Eritrea	Madagascar	Somalia
Burkina Faso	Ethiopia	Malawi	South Sudan
Burundi	Gambia	Mali	Togo
Cambodia	Guinea	Mozambique	Uganda
Central African Republic	Guinea-Bissau	Nepal	United Republic of Tanzania
Chad	Haiti	Niger	Zimbabwe
Comoros	Dem. Republic of Korea	Rwanda	

Lower-middle-income economies (GNI per capita \$1,046 to \$4,125)

Armenia	Guatemala	Moldova	State of Palestine
Bangladesh	Guyana	Morocco	Sudan
Bhutan	Honduras	Myanmar	Swaziland
Bolivia (Plurinational State of)	India	Nicaragua	Syrian Arab Republic
Cabo Verde	Indonesia	Nigeria	Tajikistan
Cameroon	Kenya	Pakistan	Timor-Leste
Congo	Kiribati	Papua New Guinea	Ukraine
Cote d'Ivoire	Kosovo	Philippines	Uzbekistan
Djibouti	Kyrgyz Republic	Samoa	Vanuatu
Egypt	Lao People's Dem. Republic	Sao Tome and Principe	Viet Nam
El Salvador	Lesotho	Senegal	Yemen
Georgia	Mauritania	Solomon Islands	Zambia
Ghana	Micronesia, Fed. Sts of	Sri Lanka	

Upper-middle-income economies (GNI per capita \$4,126 - \$12,735)

Albania	Cuba	Malaysia	South Africa
Algeria	Dominica	Maldives	St. Lucia
American Samoa	Dominican Republic	Marshall Islands	St. Vincent and the Grenadines
Angola	Ecuador	Mauritius	Suriname
Azerbaijan	Fiji	Mexico	Thailand
Belarus	Gabon	Mongolia	TFYR Macedonia
Belize	Grenada	Montenegro	Tonga
Bosnia and Herzegovina	Iran (Islamic Rep. of)	Namibia	Tunisia
Botswana	Iraq	Palau	Turkey
Brazil	Jamaica	Panama	Turkmenistan
Bulgaria	Jordan	Paraguay	Tuvalu
China	Kazakhstan	Peru	
Colombia	Lebanon	Romania	
Costa Rica	Libya	Serbia	

High-income economies (GNI per capita \$12,736 or more)

Andorra	Denmark	Kuwait	Saudi Arabia
Antigua and Barbuda	Estonia	Latvia	Seychelles
Argentina	Equatorial Guinea	Liechtenstein	Singapore
Aruba	Faeroe Islands	Lithuania	Sint Maarten (Dutch part)
Australia	Finland	Luxembourg	Slovak Republic
Austria	France	Macao SAR, China	Slovenia
Bahamas	French Polynesia	Malta	Spain
Bahrain	Germany	Monaco	St. Kitts and Nevis
Barbados	Greece	Netherlands	St. martin (French part)
Belgium	Greenland	New Caledonia	Sweden
Bermuda	Guam	New Zealand	Switzerland
Brunei Darussalam	Hong Kong, SAR China	Northern Mariana Islands	Taiwan, Province of China
Canada	Hungary	Norway	Trinidad and Tobago
Cayman Islands	Iceland	Oman	Turks and Caicos Islands
Channel Islands	Ireland	Poland	United Arab Emirates
Chile	Isle of Man	Portugal	United Kingdom
Croatia	Israel	Puerto Rico	United States of America
Curacao	Italy	Qatar	Uruguay
Cyprus	Japan	Russian Federation	Venezuela (Bolivarian Rep. of)
Czech Republic	Republic of Korea	San Marino	United States Virgin Islands

Annex III

Summary tables

Table A.III.1. Population aged 60 years or over, percentage of population aged 60 years or over and median age, 2015, 2030 and 2050

Country or area	Population aged 60 or over (thousands)			Percentage aged 60 or over			Median age (years)		
	2015	2030	2050	2015	2030	2050	2015	2030	2050
	900 906	1 402 405	2 091 966	12.3	16.5	21.5	29.6	33.1	36.1
World									
More developed regions	298 783	375 219	421 449	23.9	29.2	32.8	41.2	44.1	45.1
Less developed regions	602 123	1 027 187	1 670 517	9.9	14.2	19.8	27.8	31.3	34.9
Least developed countries	52 066	88 531	185 600	5.5	6.7	9.8	19.7	22.3	26.1
Other less developed countries	550 057	938 655	1 484 917	10.7	15.9	22.7	29.3	33.8	37.8
Less developed regions, excluding China	386 862	658 943	1 166 149	8.2	11.4	16.5	25.2	28.5	32.6
High-income countries	309 662	408 853	483 125	22.1	27.7	31.9	39.7	42.9	44.7
Middle-income countries	557 662	938 759	1 493 047	10.5	15.4	21.9	28.9	33.2	37.1
Upper-middle-income countries	320 158	544 856	800 567	13.4	21.2	30.5	33.5	39.7	44.1
Lower-middle-income countries	237 504	393 903	692 480	8.1	11.2	16.5	25.3	28.8	33.4
Low-income countries	33 161	54 040	114 777	5.2	5.8	8.3	18.5	20.7	24.6
Sub-Saharan Africa	46 455	74 504	161 077	4.8	5.3	7.6	18.3	20.1	23.7
Africa	64 447	105 387	220 341	5.4	6.3	8.9	19.4	21.2	24.8
Eastern Africa	18 868	30 818	72 436	4.8	5.3	8.2	18.0	20.4	24.6
Burundi	468	844	1 944	4.2	4.9	6.8	17.6	18.5	21.8
Comoros	36	65	139	4.6	6.0	9.2	19.7	22.1	26.3
Djibouti	56	97	183	6.3	9.2	15.5	23.6	27.7	33.4
Eritrea	218	339	959	4.2	4.6	9.2	18.6	21.7	26.7
Ethiopia	5 205	8 464	19 525	5.2	6.1	10.4	18.6	22.9	29.2
Kenya	2 090	3 628	9 163	4.5	5.5	9.6	18.9	21.6	25.7
Madagascar	1 128	2 091	4 551	4.7	5.8	8.2	18.7	20.9	24.5
Malawi	849	1 218	3 276	4.9	4.6	7.6	17.2	19.3	23.5
Mauritius	188	305	383	14.7	23.3	30.6	35.2	40.4	47.1
Mayotte	13	28	66	5.6	8.0	13.3	19.0	23.2	29.3
Mozambique	1 432	2 138	4 075	5.1	5.2	6.2	17.1	18.9	22.4
Réunion	130	241	305	15.1	25.5	30.9	34.3	38.7	44.4
Rwanda	527	989	2 551	4.5	6.3	12.0	19.2	23.2	29.7
Seychelles	11	19	27	10.9	19.1	27.4	32.6	37.2	39.7
Somalia	482	736	1 401	4.5	4.5	5.2	16.5	17.7	20.8
South Sudan	634	1 007	1 943	5.1	5.7	7.5	18.6	20.6	24.6
Uganda	1 474	2 297	6 160	3.8	3.7	6.0	15.9	18.1	21.9
United Republic of Tanzania	2 552	4 292	9 942	4.8	5.2	7.2	17.3	18.8	22.2
Zambia	690	1 047	2 829	4.3	4.1	6.6	16.9	18.5	21.4
Zimbabwe	686	973	3 014	4.4	4.6	10.2	18.9	21.6	27.5
Middle Africa	6 901	11 267	24 411	4.5	4.9	6.6	17.1	18.9	22.5
Angola	959	1 652	3 609	3.8	4.2	5.5	16.1	17.7	21.0
Cameroon	1 131	1 728	3 930	4.8	5.2	8.1	18.5	20.8	24.9
Central African Republic	287	404	880	5.9	6.2	10.0	20.0	22.9	27.7
Chad	555	867	1 886	4.0	4.0	5.4	16.0	17.9	21.7
Congo	255	414	888	5.5	6.1	8.3	18.7	20.1	23.3
Dem. Republic of the Congo	3 537	5 900	12 642	4.6	4.9	6.5	16.9	18.6	22.3
Equatorial Guinea	43	105	167	5.1	8.5	9.2	20.5	22.3	26.5
Gabon	125	182	375	7.3	7.8	11.8	21.4	24.0	29.0
Sao Tome and Principe	8	15	34	4.4	5.8	9.6	18.5	21.2	25.5
Northern Africa	17 992	30 883	59 264	8.0	10.9	16.7	25.1	27.7	32.2
Algeria	3 573	6 413	12 988	9.0	13.3	23.0	27.6	31.9	37.1
Egypt	7 238	11 593	23 045	7.9	9.9	15.3	24.7	26.5	31.0
Libya	439	894	1 823	7.0	12.0	21.8	27.5	31.8	38.4
Morocco	3 317	6 012	10 239	9.6	15.1	23.4	28.0	33.1	38.6
Sudan	2 081	3 633	7 406	5.2	6.4	9.2	19.4	22.3	26.2
Tunisia	1 314	2 247	3 565	11.7	17.7	26.5	31.2	36.5	40.4

Country or area	Population aged 60 or over (thousands)			Percentage aged 60 or over			Median age (years)		
	2015	2030	2050	2015	2030	2050	2015	2030	2050
Western Sahara	31	91	198	5.5	12.4	22.0	29.4	34.9	39.8
Southern Africa	4 680	6 958	11 477	7.5	9.9	14.7	25.2	28.6	33.2
Botswana	133	224	531	5.9	8.0	15.7	24.2	28.0	33.6
Lesotho	133	132	270	6.2	5.3	9.0	21.0	23.1	28.0
Namibia	134	233	477	5.5	7.1	11.0	21.2	23.9	28.8
South Africa	4 209	6 283	10 061	7.7	10.5	15.4	25.7	29.3	33.9
Swaziland	71	86	138	5.5	5.7	7.7	20.5	22.6	27.5
Western Africa	16 006	25 462	52 752	4.5	4.9	6.6	18.0	19.4	22.6
Benin	501	873	1 789	4.6	5.6	7.9	18.6	21.1	25.1
Burkina Faso	692	1 201	2 736	3.8	4.4	6.4	17.0	19.1	22.7
Cabo Verde	35	64	145	6.7	10.4	20.5	24.5	30.8	38.4
Côte d'Ivoire	1 100	1 642	3 193	4.8	5.1	6.5	18.4	19.8	22.8
Gambia	74	136	293	3.7	4.4	5.9	16.8	18.3	22.1
Ghana	1 444	2 413	4 833	5.3	6.5	9.7	20.6	22.7	26.8
Guinea	643	1 015	2 083	5.1	5.6	7.6	18.5	20.5	24.5
Guinea-Bissau	98	146	295	5.3	5.7	8.3	19.4	21.4	25.4
Liberia	217	361	756	4.8	5.6	8.0	18.6	21.1	24.7
Mali	706	1 100	2 618	4.0	4.0	5.8	16.2	17.9	21.4
Mauritania	207	371	724	5.1	6.5	9.0	19.8	22.1	25.5
Niger	837	1 502	2 944	4.2	4.2	4.1	14.8	15.2	17.8
Nigeria	8 158	12 525	25 262	4.5	4.8	6.3	17.9	19.3	22.5
Senegal	684	1 154	2 931	4.5	5.1	8.1	18.0	19.6	23.5
Sierra Leone	284	413	872	4.4	4.8	7.7	18.5	21.3	26.4
Togo	325	545	1 277	4.5	5.2	8.1	18.7	21.0	24.6
Asia	507 954	844 487	1 293 710	11.6	17.2	24.6	30.3	35.4	39.9
Eastern Asia	269 797	435 155	578 413	16.7	26.4	36.9	37.9	43.7	49.9
China	209 240	358 146	491 533	15.2	25.3	36.5	37.0	43.2	49.6
China, Hong Kong SAR	1 581	2 670	3 334	21.7	33.6	40.9	43.2	48.6	52.7
China, Macao SAR	87	185	289	14.8	25.7	34.5	37.9	43.7	47.0
China, Taiwan Province of China	4 354	7 243	9 212	18.6	31.3	44.3	39.7	48.1	56.2
Dem. People's Rep. of Korea	3 149	5 181	6 557	12.5	19.4	24.4	33.9	37.3	41.0
Japan	41 873	44 808	45 637	33.1	37.3	42.5	46.5	51.5	53.3
Mongolia	189	420	849	6.4	11.9	21.1	27.3	31.2	35.4
Republic of Korea	9 325	16 501	21 002	18.5	31.4	41.5	40.6	47.5	53.9
Central Asia	5 313	9 402	15 677	7.9	11.9	17.7	26.5	30.2	34.4
Kazakhstan	1 882	2 889	4 182	10.7	14.4	18.6	29.3	31.9	34.3
Kyrgyzstan	420	799	1 327	7.1	11.3	16.1	25.1	27.5	32.1
Tajikistan	425	958	1 886	5.0	8.6	13.2	22.5	24.8	29.6
Turkmenistan	369	700	1 196	6.9	11.4	18.2	26.4	31.5	36.7
Uzbekistan	2 218	4 055	7 086	7.4	11.8	19.1	26.3	31.4	36.4
Southern Asia	153 490	256 153	460 096	8.4	11.9	19.0	26.1	30.6	36.7
Afghanistan	1 300	2 232	5 038	4.0	5.1	9.0	17.5	22.5	29.8
Bangladesh	11 235	21 526	43 491	7.0	11.5	21.5	25.6	31.5	39.6
Bhutan	57	102	233	7.4	11.6	24.5	26.7	33.7	41.9
India	116 553	190 730	330 043	8.9	12.5	19.4	26.6	31.2	37.3
Iran (Islamic Republic of)	6 502	12 745	28 754	8.2	14.4	31.2	29.5	38.3	44.7
Maldives	25	51	125	6.8	11.7	25.3	26.4	33.9	41.4
Nepal	2 456	3 572	6 491	8.6	10.8	17.9	23.1	29.3	38.9
Pakistan	12 476	20 671	39 970	6.6	8.4	12.9	22.5	25.5	30.9
Sri Lanka	2 887	4 524	5 951	13.9	21.0	28.6	32.3	37.0	42.5
South-Eastern Asia	59 008	106 415	167 320	9.3	14.7	21.1	28.8	33.1	37.6
Brunei Darussalam	32	85	169	7.6	17.1	30.9	30.6	37.8	45.4
Cambodia	1 053	1 972	3 969	6.8	10.4	17.6	23.9	28.6	34.5
Indonesia	21 194	38 957	61 896	8.2	13.2	19.2	28.4	31.9	36.5

Country or area	Population aged 60 or over (thousands)			Percentage aged 60 or over			Median age (years)		
	2015	2030	2050	2015	2030	2050	2015	2030	2050
Lao People's Dem. Republic	407	685	1 491	6.0	8.1	14.7	21.9	26.4	33.7
Malaysia	2 785	5 196	9 593	9.2	14.4	23.6	28.5	34.5	40.5
Myanmar	4 786	7 982	11 965	8.9	13.2	18.8	27.9	32.4	38.0
Philippines	7 321	12 682	20 779	7.3	10.3	14.0	24.2	27.7	32.0
Singapore	1 001	1 969	2 700	17.9	30.7	40.4	40.0	47.0	53.0
Thailand	10 731	18 355	23 153	15.8	26.9	37.1	38.0	44.8	50.6
Timor-Leste	85	108	174	7.2	6.8	8.1	18.5	19.2	24.3
Viet Nam	9 613	18 425	31 431	10.3	17.5	27.9	30.4	37.0	41.9
Western Asia	20 346	37 363	72 204	7.9	11.6	18.3	26.3	29.9	34.3
Armenia	493	712	902	16.3	23.8	33.1	34.6	41.4	46.9
Azerbaijan	980	1 885	2 675	10.0	17.6	24.4	30.9	37.1	38.6
Bahrain	53	178	432	3.9	10.8	23.7	30.3	35.6	42.2
Cyprus	209	309	465	18.0	23.7	33.2	35.9	41.9	47.5
Georgia	770	969	1 151	19.3	25.1	33.0	37.5	42.0	45.0
Iraq	1 817	3 162	7 402	5.0	5.8	8.8	19.3	21.1	24.3
Israel	1 278	1 808	2 758	15.8	18.1	21.9	30.3	31.8	35.2
Jordan	414	782	1 853	5.4	8.6	15.8	22.5	26.3	32.4
Kuwait	133	442	1 188	3.4	8.9	20.1	31.0	33.9	37.8
Lebanon	670	1 014	1 726	11.5	19.2	30.8	28.5	37.6	46.8
Oman	196	494	1 434	4.4	9.4	24.5	29.0	34.2	40.1
Qatar	51	221	633	2.3	7.9	19.8	30.7	34.0	41.0
Saudi Arabia	1 582	4 324	9 610	5.0	11.1	20.9	28.3	32.3	38.2
State of Palestine	211	421	1 014	4.5	6.2	10.4	19.3	22.3	27.4
Syrian Arab Republic	1 191	2 556	5 740	6.4	8.9	16.4	20.8	27.2	33.7
Turkey	8 828	14 911	25 530	11.2	17.0	26.6	29.8	35.2	41.8
United Arab Emirates	215	1 238	3 004	2.3	11.3	23.5	33.3	36.6	43.4
Yemen	1 254	1 939	4 688	4.7	5.3	9.9	19.3	23.0	29.6
Europe	176 513	217 220	242 001	23.9	29.6	34.2	41.7	45.1	46.2
Eastern Europe	63 091	71 662	80 314	21.5	25.7	31.9	39.6	43.8	43.9
Belarus	1 927	2 260	2 410	20.3	25.2	29.7	39.6	42.8	42.2
Bulgaria	1 926	1 898	1 877	26.9	30.1	36.4	43.5	47.1	47.8
Czech Republic	2 630	3 027	3 683	24.9	28.9	37.0	41.5	46.9	48.1
Hungary	2 455	2 559	2 876	24.9	27.6	34.6	41.3	45.7	47.8
Poland	8 753	10 657	13 038	22.7	28.6	39.3	39.6	46.1	51.8
Republic of Moldova	674	858	1 090	16.6	22.4	33.6	35.6	42.6	49.3
Romania	4 763	5 258	5 531	24.4	29.8	36.4	42.1	47.0	48.1
Russian Federation	28 730	33 233	36 990	20.0	24.0	28.8	38.7	42.4	40.8
Slovakia	1 114	1 411	1 773	20.5	26.4	36.2	39.1	45.2	49.0
Ukraine	10 118	10 501	11 046	22.6	25.7	31.5	40.3	44.1	43.7
Northern Europe	23 968	30 820	36 041	23.4	28.0	30.7	40.3	42.1	43.3
Channel Islands	39	54	63	23.6	31.0	34.9	42.6	46.1	48.0
Denmark	1 401	1 764	1 885	24.7	29.4	29.9	41.6	42.3	44.1
Estonia	331	361	396	25.2	29.1	35.1	41.7	44.9	45.9
Finland	1 496	1 797	1 863	27.2	31.5	32.4	42.5	44.4	45.1
Iceland	63	94	120	19.2	25.8	30.9	36.0	40.1	44.3
Ireland	861	1 267	1 792	18.4	24.4	31.0	36.9	41.3	42.6
Latvia	506	524	528	25.7	29.0	33.1	42.9	44.7	45.3
Lithuania	719	761	711	25.0	28.7	29.9	43.1	43.3	44.3
Norway	1 134	1 559	1 963	21.8	26.2	29.5	39.1	40.9	42.8
Sweden	2 497	3 074	3 513	25.5	28.6	29.6	41.0	41.8	42.0
United Kingdom	14 889	19 521	23 159	23.0	27.8	30.7	40.0	41.9	43.3
Southern Europe	39 914	50 712	56 844	26.2	33.9	40.0	43.9	49.3	51.3
Albania	515	752	838	17.8	25.5	30.9	34.3	39.0	47.6
Bosnia and Herzegovina	853	1 097	1 244	22.4	30.6	40.5	41.5	47.2	53.2

Country or area	Population aged 60 or over (thousands)			Percentage aged 60 or over			Median age (years)		
	2015	2030	2050	2015	2030	2050	2015	2030	2050
Croatia	1 100	1 233	1 309	25.9	31.0	36.8	42.8	46.5	49.6
Greece	2 961	3 480	3 958	27.0	33.2	40.8	43.6	48.9	52.3
Italy	17 108	21 605	23 016	28.6	36.6	40.7	45.9	50.8	51.7
Malta	107	130	149	25.6	30.4	36.2	41.5	45.8	50.2
Montenegro	127	156	175	20.3	25.2	30.5	37.6	41.6	45.5
Portugal	2 801	3 413	3 793	27.1	34.7	41.2	44.0	50.2	52.5
Serbia	2 163	2 254	2 368	24.4	27.2	32.3	40.6	43.5	46.8
Slovenia	521	672	757	25.2	32.7	39.0	43.1	48.1	49.3
Spain	11 246	15 361	18 546	24.4	33.5	41.4	43.2	50.1	51.8
TFYR Macedonia	385	515	635	18.5	24.8	32.8	37.5	42.6	47.2
Western Europe	49 540	64 026	68 802	26.0	32.7	35.2	43.7	45.8	47.4
Austria	2 064	2 864	3 282	24.2	32.4	37.1	43.2	46.5	49.7
Belgium	2 725	3 544	4 079	24.1	29.5	32.6	41.5	43.6	44.6
France	16 249	20 321	22 592	25.2	29.9	31.8	41.2	43.0	43.9
Germany	22 269	28 644	29 275	27.6	36.1	39.3	46.2	48.6	51.4
Luxembourg	108	168	233	19.1	24.7	29.0	39.2	41.0	42.7
Netherlands	4 148	5 633	5 852	24.5	32.0	33.2	42.7	44.7	46.2
Switzerland	1 955	2 825	3 461	23.6	30.6	34.5	42.3	45.1	46.9
Latin America and the Caribbean	70 922	120 959	200 031	11.2	16.8	25.5	29.2	34.5	41.2
Caribbean	5 745	8 946	12 214	13.3	19.2	25.4	30.2	34.9	40.2
Antigua and Barbuda	10	21	28	10.8	19.7	24.9	30.9	35.3	40.6
Aruba	19	30	29	18.5	28.4	28.8	40.2	42.0	45.6
Bahamas	49	90	133	12.5	20.1	27.1	32.4	37.6	42.0
Barbados	56	81	88	19.8	27.7	31.1	38.5	41.9	43.4
Cuba	2 215	3 552	4 106	19.4	31.6	39.7	41.2	46.4	51.9
Curaçao	33	50	54	21.1	28.4	28.7	40.5	41.0	42.9
Dominican Republic	1 023	1 722	2 788	9.7	14.2	21.1	26.1	30.6	37.1
Grenada	11	16	28	10.2	14.3	25.1	27.2	33.4	40.0
Guadeloupe	95	150	169	20.2	30.5	34.0	39.4	43.0	45.5
Haiti	755	1 168	2 172	7.1	9.3	15.3	23.0	27.2	33.1
Jamaica	357	537	760	12.8	18.7	28.0	29.1	35.6	43.8
Martinique	104	151	129	26.2	38.5	35.9	46.1	47.0	48.0
Puerto Rico	723	927	1 137	19.6	25.5	33.8	36.3	41.4	48.3
Saint Lucia	23	39	57	12.5	19.1	27.3	31.2	36.8	43.9
St. Vincent and the Grenadines	12	21	28	10.9	18.3	25.6	29.8	35.7	42.1
Trinidad and Tobago	193	277	364	14.2	20.2	28.2	33.8	40.2	42.6
United States Virgin Islands	26	34	31	24.1	32.2	32.1	41.0	42.4	44.6
Central America	16 144	28 786	53 062	9.3	14.2	23.2	26.6	32.1	39.5
Belize	21	42	86	5.9	8.9	14.7	23.5	28.4	34.0
Costa Rica	613	1 111	1 749	12.8	20.5	30.4	31.4	38.0	45.3
El Salvador	703	1 010	1 540	11.5	15.8	24.1	26.7	33.1	41.8
Guatemala	1 145	1 834	3 954	7.0	8.6	14.2	21.2	25.5	31.5
Honduras	581	1 044	2 187	7.2	10.7	19.5	23.4	29.9	38.2
Mexico	12 177	22 094	40 391	9.6	14.9	24.7	27.4	33.1	40.9
Nicaragua	473	878	1 838	7.8	12.5	23.4	25.2	31.7	40.1
Panama	430	773	1 318	10.9	16.2	23.5	28.7	33.0	38.5
South America	49 033	83 227	134 756	11.7	17.7	26.6	30.2	35.5	42.0
Argentina	6 559	8 634	13 084	15.1	17.5	23.6	30.8	34.1	38.6
Bolivia (Plurinational State of)	988	1 499	2 714	9.2	11.4	17.0	24.1	28.2	33.6
Brazil	24 392	42 879	69 882	11.7	18.8	29.3	31.3	37.4	44.8
Chile	2 818	4 800	7 100	15.7	23.7	32.9	34.4	40.1	46.9
Colombia	5 226	9 721	15 169	10.8	18.3	27.6	30.0	36.4	43.4
Ecuador	1 602	2 840	5 025	9.9	14.5	21.8	26.6	31.2	37.4
French Guiana	21	48	93	7.8	12.7	17.0	24.5	27.6	32.0

Country or area	Population aged 60 or over (thousands)			Percentage aged 60 or over			Median age (years)		
	2015	2030	2050	2015	2030	2050	2015	2030	2050
Guyana	64	122	111	8.3	14.9	13.8	24.7	29.9	34.0
Paraguay	598	942	1 629	9.0	12.0	18.3	24.9	29.8	35.5
Peru	3 127	5 409	9 708	10.0	14.7	23.2	27.5	32.4	38.7
Suriname	56	94	133	10.2	15.7	21.4	29.0	32.7	37.9
Uruguay	657	796	1 009	19.1	22.1	27.5	34.9	37.8	42.5
Venezuela (Bolivarian Republic of)	2 925	5 442	9 097	9.4	14.8	21.9	27.4	32.1	38.0
Northern America	74 589	104 799	122 679	20.8	26.4	28.3	38.3	40.4	42.1
Canada	8 021	11 858	14 320	22.3	29.4	32.4	40.6	43.5	45.5
United States of America	66 545	92 906	108 326	20.7	26.1	27.9	38.0	40.0	41.7
Oceania	6 481	9 553	13 204	16.5	20.2	23.3	32.9	35.1	37.4
Australia/New Zealand	5 808	8 391	11 133	20.4	25.0	28.5	37.6	39.9	41.6
Australia	4 887	7 014	9 483	20.4	24.6	28.3	37.5	39.8	41.4
New Zealand	921	1 378	1 650	20.3	27.0	29.4	38.0	40.0	43.0
Melanesia	555	950	1 771	5.8	7.7	11.1	22.0	24.8	28.9
Fiji	83	134	184	9.3	14.3	19.9	27.6	30.5	35.4
New Caledonia	38	61	91	14.5	19.6	24.9	33.1	36.5	40.8
Papua New Guinea	387	671	1 322	5.1	6.7	10.0	21.2	24.3	28.2
Solomon Islands	30	52	107	5.2	6.9	10.8	19.9	23.2	27.9
Vanuatu	17	32	68	6.5	9.1	14.2	22.2	25.2	30.2
Micronesia	51	95	133	9.7	15.6	19.3	26.3	30.3	34.9
Guam	22	40	57	13.0	19.9	24.9	30.1	34.3	39.9
Kiribati	7	13	21	6.1	9.3	12.0	22.4	24.2	28.4
Micronesia (Fed. States of)	8	11	16	7.5	9.1	12.2	21.5	25.6	30.9
Polynesia	67	117	167	9.8	15.6	20.4	26.2	30.2	35.1
French Polynesia	33	62	94	11.6	19.7	28.4	31.5	37.3	43.2
Samoa	15	25	34	7.9	12.1	14.1	21.2	24.0	28.5
Tonga	9	13	18	8.2	10.5	12.9	21.3	24.6	28.4

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Table A.III.2. Fertility, life expectancy at birth and at age 60, and healthy life expectancy

Country or area	Total fertility (children per woman)	Life expectancy at birth (years)		Life expectancy at age 60 (years)		Healthy life expectancy (years)	
	2010-2015	2010-2015		2010-2015		2013	
		Males	Females	Males	Females	Males	Females
World	2.5	68.3	72.7	18.7	21.5	60	64
More developed regions	1.7	75.1	81.5	20.8	24.6
Less developed regions	2.6	66.9	70.7	17.8	20.0
Least developed countries	4.3	60.7	63.6	16.7	17.8
Other less developed countries	2.4	68.3	72.1	17.9	20.2
Less developed regions, excluding China	3.0	65.1	69.1	17.4	19.6
High-income countries	1.7	75.7	81.9	21.2	25.0	67	72
Middle-income countries	2.4	67.7	71.5	17.7	19.9
Upper-middle-income countries	1.9	71.8	76.0	18.5	21.1	64	68
Lower-middle-income countries	2.9	64.6	68.1	16.7	18.6	56	59
Low-income countries	4.9	58.7	61.9	16.0	17.7	52	54
Sub-Saharan Africa	5.1	55.9	58.4	15.4	16.8
Africa	4.7	58.2	60.9	15.9	17.4
Eastern Africa	4.9	58.9	62.2	16.9	18.3
Burundi	6.1	54.2	58.0	15.8	17.1	47	49
Comoros	4.6	61.2	64.5	15.3	17.0	53	55
Djibouti	3.3	60.0	63.2	16.9	18.1	52	54
Eritrea	4.4	60.9	65.2	13.7	16.9	53	56
Ethiopia	4.6	61.3	65.0	17.1	18.4	54	57
Kenya	4.4	59.1	62.2	17.1	18.4	52	54
Madagascar	4.5	63.0	66.0	16.2	17.5	54	56
Malawi	5.3	59.9	62.0	17.6	19.9	50	52
Mauritius	1.5	70.7	77.7	18.0	22.1	62	68
Mayotte	4.1	76.0	82.9	21.4	25.4
Mozambique	5.5	52.9	56.2	16.2	17.6	46	47
Réunion	2.2	76.0	82.9	21.4	25.4
Rwanda	4.1	59.7	66.3	17.1	18.5	55	57
Seychelles	2.3	68.7	77.9	16.9	21.9	63	71
Somalia	6.6	53.3	56.5	15.5	16.6	45	47
South Sudan	5.2	54.1	56.0	15.9	16.9	48	49
Uganda	5.9	55.7	58.8	16.6	17.9	49	52
United Republic of Tanzania	5.2	62.6	65.6	17.8	19.1	52	55
Zambia	5.5	57.2	60.3	17.0	18.4	49	51
Zimbabwe	4.0	53.6	56.0	16.8	18.2	48	52
Middle Africa	5.8	54.3	57.0	15.8	17.0
Angola	6.2	50.2	53.2	15.1	16.3	43	46
Cameroon	4.8	53.7	56.0	15.8	17.0	48	49
Central African Republic	4.4	47.8	51.3	15.0	16.5	43	44
Chad	6.3	50.1	52.2	15.2	16.2	44	45
Congo	5.0	60.0	62.9	17.2	18.5	50	51
Dem. Republic of the Congo	6.2	56.7	59.5	16.0	17.1	43	46
Equatorial Guinea	5.0	55.9	58.6	16.3	17.5	47	48
Gabon	4.0	63.2	64.1	17.7	18.9	53	55
Sao Tome and Principe	4.7	64.2	68.2	17.5	18.8	56	59
Northern Africa	3.3	68.6	72.4	17.6	19.5
Algeria	2.9	72.1	76.8	20.9	22.3	62	63
Egypt	3.4	68.7	73.1	16.0	18.4	61	63
Libya	2.5	68.8	74.4	16.8	19.6	64	65

Country or area	Total fertility (children per woman)	Life expectancy at birth (years)		Life expectancy at age 60 (years)		Healthy life expectancy (years)	
		2010-2015		2010-2015		2013	
		Males	Females	Males	Females	Males	Females
Morocco	2.6	72.6	74.6	18.5	19.7	60	62
Sudan	4.5	61.6	64.6	17.2	18.3	52	54
Tunisia	2.2	72.3	77.0	17.7	21.2	65	68
Western Sahara	2.2	65.9	69.8	16.1	18.0
Southern Africa	2.5	55.0	59.0	13.7	18.0
Botswana	2.9	61.8	66.5	15.9	18.1	53	55
Lesotho	3.3	49.2	49.6	14.5	16.2	41	44
Namibia	3.6	61.6	67.0	15.9	18.4	56	60
South Africa	2.4	54.9	59.1	13.5	18.1	49	54
Swaziland	3.4	49.7	48.5	15.3	17.2	45	45
Western Africa	5.5	54.4	55.6	14.1	14.7
Benin	4.9	57.8	60.6	15.0	16.1	50	51
Burkina Faso	5.6	56.7	59.3	14.7	15.4	50	51
Cabo Verde	2.4	71.1	74.7	17.3	19.7	61	66
Côte d'Ivoire	5.1	50.2	51.9	13.8	14.4	45	46
Gambia	5.8	58.5	61.2	14.7	15.9	52	54
Ghana	4.2	60.1	62.0	15.0	16.0	53	55
Guinea	5.1	57.6	58.5	14.7	15.3	49	50
Guinea-Bissau	5.0	53.0	56.5	14.5	15.5	45	47
Liberia	4.8	59.3	61.2	14.8	15.8	52	53
Mali	6.4	57.4	57.0	15.1	15.3	50	48
Mauritania	4.7	61.3	64.3	15.8	17.0	53	55
Niger	7.6	59.9	61.6	15.5	16.5	51	51
Nigeria	5.7	52.0	52.6	13.4	13.9	47	47
Senegal	5.2	63.9	67.6	15.7	17.4	55	56
Sierra Leone	4.8	49.7	50.7	13.0	13.1	39	40
Togo	4.7	58.3	59.7	14.7	15.4	49	51
Asia	2.2	69.7	73.6	18.1	20.6
Eastern Asia	1.6	74.7	78.6	19.1	22.1
China	1.6	74.0	77.0	18.3	20.6	67	69
China, Hong Kong SAR	1.2	80.9	86.6	23.4	28.2
China, Macao SAR	1.2	78.1	82.5	21.3	24.4
China, Taiwan Province of China	1.1	76.4	82.3	21.7	24.9
Dem. People's Rep. of Korea	2.0	66.3	73.3	13.7	19.3	60	65
Japan	1.4	80.0	86.5	23.0	28.4	72	78
Mongolia	2.7	64.8	73.3	16.0	19.8	57	64
Republic of Korea	1.3	78.0	84.6	21.5	26.5	70	75
Central Asia	2.7	64.5	72.3	15.6	19.6
Kazakhstan	2.6	64.3	73.9	14.4	19.2	56	64
Kyrgyzstan	3.1	66.4	74.3	15.5	19.6	58	64
Tajikistan	3.6	65.9	72.8	16.2	20.8	60	61
Turkmenistan	2.3	61.3	69.7	15.0	18.8	53	59
Uzbekistan	2.5	64.9	71.6	16.6	19.8	59	62
Southern Asia	2.6	66.4	69.2	17.2	18.5
Afghanistan	5.1	58.7	61.1	14.9	16.5	50	50
Bangladesh	2.2	69.9	72.3	18.2	19.1	60	62
Bhutan	2.1	68.6	69.1	20.2	20.1	59	60
India	2.5	66.1	68.9	17.0	18.4	56	59
Iran (Islamic Republic of)	1.7	74.0	76.2	19.1	19.7	63	65
Maldives	2.2	75.4	77.4	19.0	20.1	67	68
Nepal	2.3	67.6	70.5	16.4	18.1	58	60

Country or area	Total fertility (children per woman)	Life expectancy at birth (years)		Life expectancy at age 60 (years)		Healthy life expectancy (years)	
		2010-2015		2010-2015		2013	
		Males	Females	Males	Females	Males	Females
Pakistan	3.7	65.0	66.8	17.5	18.0	56	57
Sri Lanka	2.1	71.2	78.0	19.1	21.6	63	68
South-Eastern Asia	2.4	67.5	73.2	16.8	19.9
Brunei Darussalam	1.9	76.6	80.4	20.1	22.7	68	69
Cambodia	2.7	65.5	69.6	16.3	17.7	60	64
Indonesia	2.5	66.6	70.7	15.2	17.8	61	64
Lao People's Dem. Republic	3.1	64.1	66.8	15.8	17.4	56	58
Malaysia	2.0	72.2	76.9	18.4	20.1	63	66
Myanmar	2.3	63.6	67.7	15.7	17.5	56	59
Philippines	3.0	64.7	71.6	15.1	18.3	57	63
Singapore	1.2	79.6	85.6	22.5	27.5	75	78
Thailand	1.5	70.8	77.6	20.0	22.6	63	69
Timor-Leste	5.9	66.1	69.5	16.1	17.7	56	59
Viet Nam	2.0	70.7	80.3	19.3	24.8	62	70
Western Asia	2.9	70.0	75.6	18.0	21.5
Armenia	1.6	70.7	78.4	17.0	21.9	59	66
Azerbaijan	2.3	67.5	73.8	16.4	19.9	61	65
Bahrain	2.1	75.6	77.4	18.9	20.0	66	66
Cyprus	1.5	77.7	82.2	20.4	23.8	73	76
Georgia	1.8	70.9	78.1	17.5	21.6	62	68
Iraq	4.6	67.0	71.4	16.2	18.6	59	64
Israel	3.1	80.2	83.8	23.2	25.7	71	74
Jordan	3.5	72.2	75.5	17.8	20.2	64	65
Kuwait	2.2	73.3	75.6	17.4	18.1	68	67
Lebanon	1.7	77.1	80.9	20.4	23.8	69	71
Oman	2.9	74.7	78.9	19.3	22.0	65	67
Qatar	2.1	77.1	79.7	20.5	21.9	68	67
Saudi Arabia	2.9	72.8	75.5	17.4	19.7	65	66
State of Palestine	4.3	70.7	74.7	17.2	19.7
Syrian Arab Republic	3.0	64.0	76.3	16.8	20.9	65	67
Turkey	2.1	71.5	78.1	18.6	22.7	63	67
United Arab Emirates	1.8	76.0	78.2	19.5	20.6	67	67
Yemen	4.4	62.2	64.9	15.4	17.1	54	55
Europe	1.6	73.4	80.6	19.8	23.8
Eastern Europe	1.6	66.9	76.8	16.2	21.2
Belarus	1.6	65.3	77.0	14.5	20.9	57	68
Bulgaria	1.5	70.6	77.6	17.0	21.2	62	68
Czech Republic	1.5	75.4	81.3	19.3	23.4	66	71
Hungary	1.3	71.2	78.5	17.5	22.1	61	68
Poland	1.4	73.1	81.1	18.7	23.9	63	71
Republic of Moldova	1.3	67.2	75.4	14.8	19.5	59	66
Romania	1.5	70.9	78.1	17.6	21.6	63	69
Russian Federation	1.7	64.2	75.6	15.2	20.7	55	66
Slovakia	1.4	72.2	79.7	17.7	22.4	63	70
Ukraine	1.5	65.7	75.7	15.2	20.2	59	67
Northern Europe	1.9	77.8	82.3	21.7	24.8
Channel Islands	1.5	78.5	82.4	21.3	24.9
Denmark	1.7	78.0	81.9	21.3	24.2	69	71
Estonia	1.6	71.6	81.1	17.9	23.9	63	71
Finland	1.7	77.6	83.4	21.6	25.6	68	73
Iceland	2.0	80.7	83.8	23.4	25.5	71	73

Country or area	Total fertility (children per woman)	Life expectancy at birth (years)		Life expectancy at age 60 (years)		Healthy life expectancy (years)	
		2010-2015		2010-2015		2013	
		Males	Females	Males	Females	Males	Females
Ireland	2.0	78.4	82.7	21.7	24.9	69	73
Latvia	1.5	68.9	78.7	16.4	22.2	61	69
Lithuania	1.6	67.4	78.8	15.4	22.3	60	70
Norway	1.8	79.2	83.4	22.2	25.4	69	72
Sweden	1.9	80.1	83.7	22.8	25.6	70	73
United Kingdom	1.9	78.5	82.4	22.1	24.9	69	72
Southern Europe	1.4	78.4	83.9	21.8	25.9
Albania	1.8	75.0	80.2	19.2	23.3	64	66
Bosnia and Herzegovina	1.3	73.7	78.8	18.5	21.8	66	70
Croatia	1.5	73.6	80.4	18.2	22.7	65	70
Greece	1.3	77.6	83.6	21.5	25.6	69	73
Italy	1.4	80.3	85.2	23.0	27.0	71	74
Malta	1.4	78.6	82.0	21.5	23.9	70	72
Montenegro	1.7	73.8	78.2	18.4	21.1	64	67
Portugal	1.3	77.4	83.5	21.5	25.6	68	73
Serbia	1.6	71.8	77.5	17.3	20.8	63	67
Slovenia	1.6	76.9	83.1	20.6	25.2	66	72
Spain	1.3	79.4	85.1	22.5	26.9	71	75
TFYR Macedonia	1.5	72.9	77.5	17.7	20.4	64	68
Western Europe	1.7	78.5	83.7	22.1	25.9
Austria	1.5	78.5	83.6	21.8	25.6	68	73
Belgium	1.8	78.0	83.0	21.7	25.4	69	72
France	2.0	78.8	84.9	22.9	27.2	69	74
Germany	1.4	78.2	83.1	21.6	25.2	69	73
Luxembourg	1.6	78.9	83.7	21.9	25.6	70	73
Netherlands	1.8	79.4	83.1	22.0	25.4	70	72
Switzerland	1.5	80.4	84.7	23.2	26.6	71	74
Latin America and the Caribbean	2.2	71.2	77.9	20.1	23.3
Caribbean	2.3	69.7	75.2	20.3	23.3
Antigua and Barbuda	2.1	73.3	78.2	20.0	22.8	63	66
Aruba	1.7	72.9	77.8	18.0	21.6
Bahamas	1.9	72.0	78.1	20.4	23.8	62	67
Barbados	1.8	72.9	77.7	17.8	21.1	64	68
Cuba	1.6	77.1	81.3	21.7	24.5	65	68
Curaçao	2.1	74.5	80.7	20.9	24.0
Dominican Republic	2.5	70.2	76.5	20.4	23.1	62	64
Grenada	2.2	70.8	75.6	17.5	19.9	60	66
Guadeloupe	2.2	76.8	84.0	22.2	26.6
Haiti	3.1	60.2	64.4	16.9	18.7	50	53
Jamaica	2.1	73.1	77.9	21.0	23.4	61	66
Martinique	2.0	77.8	84.4	22.4	26.8
Puerto Rico	1.6	75.2	83.2	21.1	25.9
Saint Lucia	1.9	72.2	77.6	19.2	22.9	60	66
St. Vincent and the Grenadines	2.0	70.7	74.9	18.9	20.8	61	65
Trinidad and Tobago	1.8	66.9	73.8	16.1	20.2	58	63
United States Virgin Islands	2.3	77.2	82.9	20.4	25.9
Central America	2.4	73.1	78.4	21.5	23.6
Belize	2.6	67.2	72.7	15.8	18.4	61	66
Costa Rica	1.9	76.7	81.7	22.2	25.0	68	71
El Salvador	2.0	67.9	77.1	20.1	22.6	60	66
Guatemala	3.3	67.9	75.0	20.3	22.3	60	65

Country or area	Total fertility (children per woman)	Life expectancy at birth (years)		Life expectancy at age 60 (years)		Healthy life expectancy (years)	
		2010-2015		2010-2015		2013	
		Males	Females	Males	Females	Males	Females
Honduras	2.5	70.4	75.4	20.7	23.4	62	65
Mexico	2.3	74.0	78.9	21.6	23.7	65	69
Nicaragua	2.3	71.4	77.5	21.0	23.4	62	66
Panama	2.5	74.3	80.5	22.5	25.3	65	70
South America	2.0	70.7	78.0	19.6	23.2
Argentina	2.3	72.2	79.8	18.6	23.8	64	69
Bolivia (Plurinational State of)	3.0	65.3	70.2	20.0	22.2	57	61
Brazil	1.8	70.3	77.9	19.4	23.0	63	68
Chile	1.8	78.1	84.1	23.1	26.9	68	72
Colombia	1.9	70.2	77.4	20.1	22.5	65	69
Ecuador	2.6	72.8	78.4	21.7	23.9	64	68
French Guiana	3.5	75.8	82.6	19.5	25.0
Guyana	2.6	64.0	68.6	15.4	16.6	52	57
Paraguay	2.6	70.7	74.9	20.0	22.2	63	67
Peru	2.5	71.5	76.8	19.8	22.7	66	68
Suriname	2.4	67.8	74.2	16.7	20.1	63	68
Uruguay	2.0	73.3	80.4	19.0	24.5	65	70
Venezuela (Bolivarian Republic of)	2.4	69.9	78.2	18.6	22.6	63	69
Northern America	1.9	76.8	81.5	21.9	24.9
Canada	1.6	79.7	83.8	23.1	26.2	71	73
United States of America	1.9	76.5	81.3	21.8	24.7	68	71
Oceania	2.4	75.3	79.7	22.1	25.2
Australia/New Zealand	1.9	79.9	84.1	23.3	26.4
Australia	1.9	79.9	84.3	23.3	26.5	71	74
New Zealand	2.1	79.7	83.4	23.2	25.8	71	73
Melanesia	3.7	61.9	66.3	14.1	17.3
Fiji	2.6	66.9	72.9	15.3	18.8	58	63
New Caledonia	2.1	73.6	79.3	18.3	22.7
Papua New Guinea	3.8	60.3	64.5	13.3	16.5	52	55
Solomon Islands	4.1	66.2	69.0	16.1	17.8	59	61
Vanuatu	3.4	69.6	73.6	16.9	19.2	61	64
Micronesia	2.8	70.5	75.3	18.2	21.3
Guam	2.4	76.1	81.5	19.8	24.2
Kiribati	3.8	62.6	68.9	15.5	17.8	56	60
Micronesia (Fed. States of)	3.3	68.0	69.9	16.5	18.0	59	61
Polynesia	3.0	71.7	77.1	17.6	21.5
French Polynesia	2.1	74.0	78.6	18.9	21.7
Samoa	4.2	70.0	76.4	16.4	21.4	62	67
Tonga	3.8	69.7	75.6	16.2	21.0	64	61

Data sources: Estimates of total fertility, life expectancy at birth and life expectancy at age 60 are from United Nations (2015). *World Population Prospects: The 2015 Revision*. Estimates of healthy life expectancy are from WHO (2014). *Global Health Estimates*. Available via the WHO Global Health Observatory data repository at http://www.who.int/gho/mortality_burden_disease/life_tables/hale/en/ Accessed 2 December 2015.

Table A.III.3. Dependency and support ratios, pension coverage, labour force participation and statutory retirement ages

Country or area	Total dependency ratio (persons aged 0-19 and aged 65 or over per 100 persons aged 20-64)		Potential support ratio (persons aged 20-64 per person aged 65 or over)		Pension coverage (per cent of persons of statutory pensionable age)	Labour force participation of persons aged 65 years or over (percentage)		Statutory retirement age (years)	
	2015	2030	2015	2030	2010	2015		latest available	
						Males	Females	Males	Females
World	73.5	75.7	7.0	4.9	..	30.2	14.4
More developed regions	65.1	80.1	3.4	2.4	..	16.8	9.4
Less developed regions	75.4	75.0	9.0	5.9	..	37.3	17.5
Least developed countries	118.5	100.4	12.8	11.5	..	59.1	34.5
Other less developed countries	69.2	70.1	8.6	5.4
Less developed regions, excluding China	85.6	78.9	10.0	7.2
High-income countries	64.8	78.0	3.7	2.6	..	18.2	9.5
Middle-income countries	70.8	71.0	8.7	5.6	..	35.3	15.9
Upper-middle-income countries	56.8	64.6	7.4	4.2	..	67.2	45.2
Lower-middle-income countries	84.2	75.9	10.4	7.6
Low-income countries	131.1	110.5	12.7	12.5
Sub-Saharan Africa	131.3	113.9	14.0	13.6
Africa	121.0	108.2	12.9	11.7	..	52.2	32.6
Eastern Africa	135.5	111.5	13.6	13.4	..	70.9	52.3
Burundi	133.6	130.0	17.3	13.6	4.0	61.0	59.4	60	60
Comoros	115.1	99.5	16.6	13.2	..	70.9	22.7
Djibouti	88.3	75.6	12.7	9.5	12.0	19.0	4.6	60	60
Eritrea	124.4	98.2	16.9	16.9	..	64.7	34.7
Ethiopia	131.2	94.4	12.4	12.7	9.0	73.1	37.2	60	60
Kenya	122.3	102.7	16.1	13.4	7.9	61.1	49.6	65	65
Madagascar	125.7	109.0	15.6	12.9	4.6	73.1	57.1	60	55
Malawi	147.9	120.8	11.7	14.4	4.1	93.9	86.1	60	60
Mauritius	57.7	62.1	6.6	3.6	100.0	16.2	5.7	60	60
Mayotte	126.4	95.8	11.8	9.4
Mozambique	147.8	127.5	12.1	12.5	17.3	85.4	76.1	60	55
Réunion	71.2	79.3	5.7	3.0	..	4.6	2.6
Rwanda	119.4	91.6	16.3	12.0	4.7	60.9	49.0	55	55
Seychelles	59.2	71.4	9.1	4.4	100.0	63	63
Somalia	154.3	137.3	13.9	14.8	..	37.0	11.6
South Sudan	130.0	110.0	12.5	13.2
Uganda	161.0	130.9	15.4	18.4	6.6	71.4	59.6	55	55
United Republic of Tanzania	142.5	127.3	12.9	12.8	3.2	72.7	60.3	60	60
Zambia	147.9	126.4	13.9	16.6	7.7	77.2	68.0	55	55
Zimbabwe	123.5	100.2	15.1	16.3	6.2	74.9	65.3	60	60
Middle Africa	144.1	125.1	14.0	14.2	..	66.7	50.9
Angola	154.4	136.4	17.0	15.8	14.5	54.6	39.4	60	60
Cameroon	129.8	108.1	13.6	14.1	12.5	71.4	38.2	60	60
Central African Republic	116.6	95.8	12.0	12.3	..	76.6	66.2	60	60
Chad	158.4	134.3	15.8	16.8	1.6	79.0	52.1	60	60
Congo	129.2	116.3	11.9	11.5	22.1	53.7	47.4	60	60
Dem. Republic of the Congo	147.3	128.4	13.6	13.9	15.0	67.6	57.2
Equatorial Guinea	108.6	106.0	16.6	8.8	..	54.4	51.0	60	60
Gabon	110.3	92.8	9.3	9.9	38.8	42.0	41.8	55	55
Sao Tome and Principe	129.0	105.2	14.2	13.3	41.8	35.1	9.2	62	57
Northern Africa	85.6	83.8	10.3	7.3	..	25.3	7.3

Country or area	Total dependency ratio (persons aged 0-19 and aged 65 or over per 100 persons aged 20-64)		Potential support ratio (persons aged 20-64 per person aged 65 or over)		Pension coverage (per cent of persons of statutory pensionable age)	Labour force participation of persons aged 65 years or over (percentage)		Statutory retirement age (years)	
	2015	2030	2015	2030	2010	2015		latest available	
						Males	Females	Males	Females
Algeria	72.6	76.2	9.8	6.1	63.6	10.9	2.1	60	55
Egypt	88.6	87.3	10.2	8.0	32.7	19.1	3.7	60	60
Libya	74.1	62.4	12.6	8.4	43.3	29.7	6.0	65	60
Morocco	72.5	73.6	9.4	5.4	39.8	28.4	20.3	60	60
Sudan	119.9	99.5	13.7	12.2	4.6	67.6	10.3	60	60
Tunisia	62.1	69.6	8.1	4.8	68.8	21.9	5.4	60	60
Western Sahara	57.1	54.4	21.8	8.7	..	32.9	11.8
Southern Africa	80.9	72.4	11.4	8.6	..	14.2	5.6
Botswana	82.9	72.8	15.2	11.1	100.0	54.9	27.8	65	65
Lesotho	108.0	92.0	11.6	13.5	100.0	51.7	42.6	70	70
Namibia	104.2	91.4	13.9	11.3	98.4	41.6	29.2	60	60
South Africa	78.4	70.2	11.1	8.3	92.6	9.4	3.1	60	60
Swaziland	110.0	95.5	13.3	12.4	86.0	47.4	21.0	60	60
Western Africa	133.0	119.1	15.3	15.0	..	63.7	40.7
Benin	126.4	105.4	15.3	14.2	9.7	71.3	46.9	60	60
Burkina Faso	142.9	120.6	17.2	17.0	3.2	68.3	32.6	56	56
Cabo Verde	80.7	66.2	12.1	8.7	55.7	40.5	10.0	60	60
Côte d'Ivoire	130.2	115.3	14.4	14.6	7.7	71.3	37.8	60	60
Gambia	144.8	129.2	17.7	16.3	10.8	84.2	58.0	60	60
Ghana	109.7	96.3	14.0	12.7	7.6	59.4	42.5	60	60
Guinea	128.8	111.4	14.3	13.3	8.8	55.3	40.1	55-56	55-56
Guinea-Bissau	119.4	104.3	14.4	13.4	6.2	55.4	42.0	60	60
Liberia	126.8	106.0	14.6	13.9	..	60.4	37.7	60	60
Mali	153.9	133.8	15.6	17.4	5.7	69.4	32.4	58	58
Mauritania	115.9	100.7	14.4	12.2	9.3	55.6	18.0	60	55
Niger	172.3	171.4	14.2	13.3	6.1	64.3	30.2	60	60
Nigeria	132.9	119.5	15.7	15.7	..	64.1	43.5	50	50
Senegal	133.4	117.6	14.6	14.3	23.5	57.3	44.3	55	55
Sierra Leone	126.5	101.0	16.5	17.2	0.9	49.2	22.9	60	60
Togo	124.1	105.7	16.1	15.2	10.9	60.0	50.6	60	60
Asia	66.5	67.2	8.0	5.1	..	34.8	15.6
Eastern Asia	50.5	63.1	6.0	3.3	..	29.1	16.3
China	48.2	60.9	7.1	3.6	74.4	28.2	16.1	60	55
China, Hong Kong SAR	47.0	80.9	4.5	2.1	72.9	11.4	3.4	65	65
China, Macao SAR	37.3	67.7	8.1	3.1	..	20.9	6.0
China, Taiwan Province of China	47.6	64.6	5.6	2.5
Dem. People's Rep. of Korea	62.5	61.8	6.5	5.1
Japan	78.3	88.9	2.1	1.7	80.3	29.7	14.5	65	65
Mongolia	66.7	74.6	14.8	7.3	100.0	18.1	10.0	60	55
Republic of Korea	50.6	70.4	5.1	2.5	77.6	42.2	23.4	60	60
Central Asia	73.5	76.6	11.7	6.9	..	18.4	8.1
Kazakhstan	66.3	80.0	8.9	5.4	95.9	13.4	8.4	63	58
Kyrgyzstan	79.8	88.0	13.2	6.9	100.0	21.2	8.6	63	58
Tajikistan	92.6	92.0	17.3	9.2	80.2	21.6	8.8	63	58
Turkmenistan	69.8	65.8	14.2	8.0	..	20.6	7.7	62	57
Uzbekistan	72.6	70.1	12.4	7.3	98.1	20.6	7.6	60	55
Southern Asia	80.0	68.8	10.3	7.4	..	43.2	11.7
Afghanistan	139.8	92.0	16.9	16.4	10.7	43.5	7.5	60	55

Country or area	Total dependency ratio (persons aged 0-19 and aged 65 or over per 100 persons aged 20-64)		Potential support ratio (persons aged 20-64 per person aged 65 or over)		Pension coverage (per cent of persons of statutory pensionable age)	Labour force participation of persons aged 65 years or over (percentage)		Statutory retirement age (years)	
	2015	2030	2015	2030	2010	2015		latest available	
						Males	Females	Males	Females
Bangladesh	80.0	62.4	11.2	8.3	39.5	49.4	15.9	65	62
Bhutan	70.8	56.2	11.6	8.3	3.2	46.4	30.6	60	60
India	78.0	67.5	10.0	7.0	24.1	43.2	11.4	55	55
Iran (Islamic Republic of)	55.3	54.6	12.7	6.7	26.4	30.8	3.9	60	55
Maldives	69.7	61.6	12.5	8.0	99.7	50.6	24.9	65	65
Nepal	98.5	67.3	9.1	8.1	62.5	67.6	41.6	58	58
Pakistan	98.9	85.1	11.2	9.8	2.3	40.6	9.9	60	55
Sri Lanka	71.0	73.4	6.3	3.7	17.1	35.0	8.2	55	50
South-Eastern Asia	70.0	68.3	9.9	6.0	..	44.9	24.6
Brunei Darussalam	56.1	58.2	14.5	5.6	81.7	14.4	3.8	60	60
Cambodia	84.6	76.3	13.2	8.3	5.0	64.8	44.3	55	55
Indonesia	71.7	67.3	11.3	7.1	8.1	54.3	27.9	55	55
Lao People's Dem. Republic	98.6	78.6	13.2	10.6	5.6
Malaysia	65.3	62.6	10.3	6.2	19.8	31.7	10.3	55	55
Myanmar	72.9	61.7	10.8	7.1	..	41.5	26.2
Philippines	87.2	78.5	11.7	8.4	28.5	47.4	28.1	60	60
Singapore	50.6	69.0	5.7	2.5	0.0	36.0	16.5	55	55
Thailand	53.0	63.4	6.2	3.1	81.7	38.4	19.7	55	55
Timor-Leste	142.3	130.2	7.4	9.6	100.0	36.2	16.2	60	60
Viet Nam	59.5	66.1	9.3	4.9	34.5	33.9	22.8	60	55
Western Asia	78.9	73.9	10.9	7.3	..	23.1	7.7
Armenia	54.2	71.5	6.0	3.1	80.0	40.6	26.8	63	63
Azerbaijan	53.3	71.9	11.6	4.7	81.7	11.4	5.1	63	59
Bahrain	43.6	41.6	28.9	10.5	40.1	24.2	3.4	60	55
Cyprus	56.1	62.2	5.0	3.4	85.2	16.2	5.5	65	65
Georgia	59.9	76.1	4.5	3.0	89.8	53.1	39.8	65	60
Iraq	119.8	106.6	14.9	13.8	56.0	20.8	2.5	60	55
Israel	88.0	89.7	4.7	3.8	73.6	24.8	11.2	70	67
Jordan	97.1	79.7	13.4	10.6	42.2	11.0	0.4	60	55
Kuwait	42.9	48.8	35.5	13.4	27.3	17.5	3.4	50	50
Lebanon	71.4	64.9	7.2	4.3	0.0	26.8	2.2	64	64
Oman	40.0	51.2	27.7	11.5	24.7	19.9	2.2	60	55
Qatar	27.6	30.7	66.2	18.5	7.9	48.6	5.5	60	55
Saudi Arabia	65.2	59.7	21.1	9.3	..	25.0	1.1	60	55
State of Palestine	120.0	99.3	15.4	12.8	8.0	65	65
Syrian Arab Republic	111.5	78.2	11.6	9.5	16.7	21.9	2.0	60	55
Turkey	71.6	66.4	7.7	5.0	88.1	20.6	6.8	60	58
United Arab Emirates	24.6	30.1	70.5	12.3	..	24.0	1.7
Yemen	118.8	91.3	16.4	14.7	8.5	27.7	6.0	60	55
Europe	62.3	78.0	3.5	2.4	..	10.2	6.2
Eastern Europe	54.4	72.5	4.4	2.9	..	13.4	9.3
Belarus	53.0	73.8	4.7	3.0	93.6	7.2	3.5	60	55
Bulgaria	62.9	74.2	3.1	2.5	96.9	5.1	2.4	63	60
Czech Republic	59.8	73.1	3.5	2.5	100.0	8.1	4.0	62	61
Hungary	59.8	67.9	3.5	2.8	91.4	4.8	2.2	63	63
Poland	55.3	71.3	4.1	2.5	96.5	8.9	3.8	65	60
Republic of Moldova	46.3	57.8	6.9	3.7	72.8	10.8	5.7	62	57
Romania	61.9	68.2	3.6	2.7	98.0	21.6	17.7	64	59

Country or area	Total dependency ratio (persons aged 0-19 and aged 65 or over per 100 persons aged 20-64)		Potential support ratio (persons aged 20-64 per person aged 65 or over)		Pension coverage (per cent of persons of statutory pensionable age)	Labour force participation of persons aged 65 years or over (percentage)		Statutory retirement age (years)	
	2015	2030	2015	2030	2010	2015		latest available	
						Males	Females	Males	Females
Russian Federation	52.7	74.7	4.9	3.0	100.0	13.2	8.4	60	55
Slovakia	52.0	67.9	4.8	2.9	100.0	3.1	1.4	62	60
Ukraine	53.7	70.5	4.2	2.9	95.0	22.7	19.3	60	56
Northern Europe	70.5	81.2	3.3	2.6	..	13.8	7.3
Channel Islands	59.5	73.6	3.6	2.4	..	9.9	5.0
Denmark	72.9	79.4	3.1	2.5	100.0	12.0	5.9	65	65
Estonia	64.1	79.8	3.2	2.4	98.0	15.7	12.5	63	61
Finland	73.4	88.2	2.8	2.1	100.0	10.1	4.2	65	65
Iceland	68.7	79.6	4.3	2.8	100.0	26.0	14.7	67	67
Ireland	68.5	75.4	4.5	3.1	90.5	14.6	4.9	65	65
Latvia	62.2	76.1	3.2	2.5	100.0	12.6	6.9	62	62
Lithuania	63.7	79.1	3.2	2.5	100.0	8.9	5.0	63	60
Norway	68.3	77.6	3.6	2.8	100.0	15.9	8.7	67	67
Sweden	73.6	85.1	2.9	2.4	100.0	13.8	7.0	65	65
United Kingdom	70.6	81.3	3.3	2.6	99.5	14.3	7.8	65	61
Southern Europe	65.4	77.9	3.0	2.1	..	7.8	3.6
Albania	66.2	79.6	4.9	2.8	77.0	8.4	4.0	65	60
Bosnia and Herzegovina	53.2	68.7	4.2	2.5	29.6	7.9	3.9	65	65
Croatia	65.3	76.6	3.2	2.3	57.6	6.9	4.0	65	60
Greece	68.5	74.6	2.8	2.2	77.4	5.8	2.6	65	65
Italy	68.9	83.8	2.6	1.9	81.1	7.5	2.7	66	62
Malta	66.5	76.0	3.1	2.3	60.5	8.3	1.6	61	60
Montenegro	64.2	70.5	4.5	3.0	52.3	4.0	1.9	65	60
Portugal	67.0	76.2	2.9	2.1	100.0	22.6	10.9	65	65
Serbia	65.7	71.4	3.5	2.8	46.1	12.8	7.1	65	60
Slovenia	59.4	82.7	3.5	2.1	95.1	8.1	4.3	63	61
Spain	61.8	74.4	3.3	2.2	68.2	4.6	2.6	65	65
TFYR Macedonia	55.9	65.8	5.2	3.3	52.2	4.9	2.4	64	62
Western Europe	68.7	84.6	3.0	2.1	..	7.3	3.6
Austria	62.2	78.0	3.3	2.3	100.0	9.6	5.0	65	60
Belgium	68.5	83.0	3.3	2.4	84.6	4.8	1.9	65	65
France	77.0	88.1	3.0	2.2	100.0	3.8	2.2	60	60
Germany	64.2	83.8	2.9	1.9	100.0	8.4	4.3	65	65
Luxembourg	57.2	68.9	4.5	3.2	90.0	6.1	2.4	65	65
Netherlands	68.4	84.1	3.3	2.2	100.0	11.2	4.0	65	65
Switzerland	61.4	77.6	3.4	2.4	100.0	15.5	6.8	65	64
Latin America and the Caribbean	72.8	67.9	7.6	5.0	..	38.1	16.8
Caribbean	74.8	74.5	6.1	4.1	..	24.6	9.9
Antigua and Barbuda	66.6	68.3	8.4	4.7	69.7	60	60
Aruba	60.8	71.8	5.1	2.7	79.3	60	60
Bahamas	58.9	68.7	7.6	4.0	84.2	27.4	12.3	65	65
Barbados	66.7	83.5	4.2	2.5	68.3	13.1	7.1	66	66
Cuba	57.1	71.2	4.6	2.5	..	14.4	3.9	65	60
Curaçao	67.3	87.9	4.0	2.4
Dominican Republic	84.7	76.6	8.1	5.6	11.1	35.2	9.1	65	60
Grenada	74.7	71.9	8.0	5.4	34.0	60	60
Guadeloupe	76.7	89.4	3.9	2.3	..	4.5	1.6
Haiti	95.4	77.8	11.0	9.0	1.0	58.2	35.4	55	55

Country or area	Total dependency ratio (persons aged 0-19 and aged 65 or over per 100 persons aged 20-64)		Potential support ratio (persons aged 20-64 per person aged 65 or over)		Pension coverage (per cent of persons of statutory pensionable age)	Labour force participation of persons aged 65 years or over (percentage)		Statutory retirement age (years)	
	2015	2030	2015	2030	2010	2015		latest available	
						Males	Females	Males	Females
Jamaica	73.9	71.2	6.3	4.3	55.5	40.8	15.2	65	60
Martinique	73.6	105.7	3.0	1.6	..	4.0	1.5
Puerto Rico	69.0	70.5	4.1	3.0	..	9.8	4.5
Saint Lucia	68.8	64.7	6.6	4.5	26.5	35.6	20.4	63	63
St. Vincent and the Grenadines	68.9	67.3	8.1	4.5	76.6
Trinidad and Tobago	57.6	63.8	6.7	4.1	98.7	13.7	7.4	60	60
United States Virgin Islands	80.2	100.3	3.2	1.9	..	34.8	15.9
Central America	80.3	69.2	8.7	6.0	..	44.6	16.6
Belize	88.3	70.4	14.1	10.5	64.6	40.3	11.1	65	65
Costa Rica	65.2	65.8	6.8	4.0	55.8	25.1	7.1	65	65
El Salvador	84.0	69.4	6.7	5.1	18.1	47.5	20.5	60	55
Guatemala	110.4	86.1	9.8	9.0	14.1	64.5	25.1	60	60
Honduras	91.5	67.4	10.8	8.0	8.4	57.9	18.9	65	60
Mexico	76.8	67.2	8.7	5.8	25.2	43.0	16.0	65	65
Nicaragua	82.0	67.2	10.8	6.7	23.7	48.0	16.9	60	60
Panama	77.1	73.6	7.4	5.0	37.3	40.4	14.2	62	57
South America	69.7	66.7	7.4	4.7	..	37.5	17.6
Argentina	78.7	75.2	5.1	4.3	90.7	25.9	9.6	65	60
Bolivia (Plurinational State of)	96.1	80.2	7.9	6.8	100.0	59.8	41.8	58	58
Brazil	64.7	62.3	7.7	4.5	86.3	33.8	14.5	65	60
Chile	62.6	68.1	5.6	3.4	74.5	36.3	12.5	65	60
Colombia	66.0	63.6	8.6	4.8	23.0	47.6	18.5	60	55
Ecuador	81.8	75.6	8.2	5.5	53.0	53.2	25.9	60	60
French Guiana	91.7	85.6	10.9	6.2	..	9.4	2.6
Guyana	85.9	77.3	10.7	5.9	100.0	24.7	14.0	60	60
Paraguay	86.8	74.9	8.9	6.6	22.2	46.4	24.5	60	60
Peru	77.2	71.3	8.3	5.7	33.2	56.8	57.2	65	65
Suriname	73.8	70.5	8.4	5.4	..	13.6	3.9
Uruguay	76.6	75.0	3.9	3.4	76.5	25.5	11.6	60	60
Venezuela (Bolivarian Republic of)	76.4	72.0	9.0	5.6	59.4	39.2	14.2	60	55
Northern America	66.5	81.3	4.0	2.6	..	23.5	14.5
Canada	61.3	80.7	3.8	2.4	97.7	17.5	9.1	65	65
United States of America	67.2	81.4	4.0	2.7	92.5	24.2	15.1	66	66
Oceania	74.8	81.5	4.8	3.5	..	21.4	11.8
Australia/New Zealand	67.4	80.2	4.0	2.8	..	19.2	9.5
Australia	66.5	79.5	4.0	2.9	83.0	18.0	8.5	65	65
New Zealand	72.0	84.1	3.9	2.6	98.0	25.5	15.1	65	65
Melanesia	99.9	85.1	14.2	11.1	..	50.4	38.8
Fiji	75.9	77.2	9.7	5.6	10.6	40.1	17.0	55	55
New Caledonia	66.9	68.4	5.9	4.2	..	7.5	4.3
Papua New Guinea	103.3	85.8	16.3	13.2	0.9	58.7	48.3	55	55
Solomon Islands	115.7	92.3	13.7	12.0	13.1	39.9	17.9	50	50
Vanuatu	102.0	88.4	11.8	8.6	3.5	68.0	48.2	55	55
Micronesia	83.4	80.3	9.0	5.1
Guam	75.1	78.1	6.5	3.8	..	34.5	17.3
Kiribati	96.9	92.9	13.7	8.8	50	50
Micronesia (Fed. States of)	103.5	87.7	11.3	7.9	65	65
Polynesia	84.8	82.7	8.3	5.1	..	19.7	8.9

Country or area	Total dependency ratio (persons aged 0-19 and aged 65 or over per 100 persons aged 20-64)		Potential support ratio (persons aged 20-64 per person aged 65 or over)		Pension coverage (per cent of persons of statutory pensionable age)	Labour force participation of persons aged 65 years or over (percentage)		Statutory retirement age (years)		
						2015		latest available		
	2015	2030	2015	2030		Males	Females	Males	Females	
French Polynesia	61.3	68.9	8.2	4.4	..	9.4	4.2	
Samoa	113.6	100.9	8.9	6.0	49.5	23.0	5.0	55	55	
Tonga	114.9	93.1	7.9	7.1	1.0	55.7	29.2	55	55	

Data sources: Estimates of the total dependency ratio and potential support ratio are from United Nations (2015). World Population Prospects: The 2015 Revision. Pension coverage estimates are from the ILO Social Protection Department's compilation of estimates at <http://www.social-protection.org/gimi/gess/RessourceDownload.action?ressource.ressourceId=44420> accessed 4 February 2015. Estimates of labour force participation rates and statutory retirement ages are from ILO (2014). *World Social Protection Report 2014/15*.

Table A.III.4. Ranking of countries or areas* according to the estimated percentage of population aged 60 or over, 2000 and 2015

Rank	Country or area	2000		2015	
		Percentage aged 60 or over	Country or area	Percentage aged 60 or over	Country or area
1	Italy	24.1	Japan	33.1	
2	Japan	23.3	Italy	28.6	
3	Germany	23.1	Germany	27.6	
4	Greece	22.8	Finland	27.2	
5	Sweden	22.2	Portugal	27.1	
6	Bulgaria	22.2	Greece	27.0	
7	Belgium	22.0	Bulgaria	26.9	
8	Croatia	21.8	Martinique	26.2	
9	Portugal	21.7	Croatia	25.9	
10	Spain	21.4	Latvia	25.7	
11	Latvia	21.2	Malta	25.6	
12	Estonia	21.1	Sweden	25.5	
13	United Kingdom	20.7	France	25.2	
14	France	20.7	Estonia	25.2	
15	Ukraine	20.7	Slovenia	25.2	
16	Austria	20.4	Lithuania	25.0	
17	Hungary	20.3	Czech Republic	24.9	
18	Switzerland	20.2	Hungary	24.9	
19	Finland	19.9	Denmark	24.7	
20	Denmark	19.8	Netherlands	24.5	
21	Channel Islands	19.3	Serbia	24.4	
22	Norway	19.3	Romania	24.4	
23	Slovenia	19.3	Spain	24.4	
24	Lithuania	19.2	Austria	24.2	
25	Romania	19.2	Belgium	24.1	
26	Belarus	19.2	United States Virgin Islands	24.1	
27	Serbia	18.9	Channel Islands	23.6	
28	Luxembourg	18.8	Switzerland	23.6	
29	Russian Federation	18.4	United Kingdom	23.0	
30	Georgia	18.4	Poland	22.7	
31	Netherlands	18.1	Ukraine	22.6	
32	Czech Republic	18.1	Bosnia and Herzegovina	22.4	
33	Uruguay	17.4	Canada	22.3	
34	Poland	16.8	Norway	21.8	
35	Montenegro	16.7	China, Hong Kong SAR	21.7	
36	Canada	16.6	Curaçao	21.1	
37	Malta	16.6	United States of America	20.7	
38	Australia	16.5	Slovakia	20.5	
39	Bosnia and Herzegovina	16.4	Australia	20.4	
40	Martinique	16.3	New Zealand	20.3	
41	United States of America	16.2	Belarus	20.3	
42	New Zealand	15.7	Montenegro	20.3	
43	Puerto Rico	15.6	Guadeloupe	20.2	
44	Slovakia	15.3	Russian Federation	20.0	
45	Armenia	15.1	Barbados	19.8	
46	Barbados	15.1	Puerto Rico	19.6	
47	Iceland	15.0	Cuba	19.4	
48	China, Hong Kong SAR	14.8	Georgia	19.3	
49	Curaçao	14.5	Iceland	19.2	
50	Ireland	14.5	Uruguay	19.1	

Rank	Country or area	2000		2015	
		Percentage aged 60 or over		Country or area	Percentage aged 60 or over
51	Cyprus	14.1		Luxembourg	19.1
52	Cuba	13.8		China, Taiwan Province of China	18.6
53	Guadeloupe	13.7		Republic of Korea	18.5
54	Republic of Moldova	13.7		TFYR Macedonia	18.5
55	TFYR Macedonia	13.6		Aruba	18.5
56	Argentina	13.5		Ireland	18.4
57	Israel	13.3		Cyprus	18.0
58	United States Virgin Islands	13.0		Singapore	17.9
59	China, Taiwan Province of China	11.9		Albania	17.8
60	Aruba	11.5		Republic of Moldova	16.6
61	Republic of Korea	11.2		Armenia	16.3
62	Kazakhstan	11.2		Israel	15.8
63	Chile	10.9		Thailand	15.8
64	Singapore	10.7		Chile	15.7
65	Albania	10.6		China	15.2
66	Seychelles	10.4		Réunion	15.1
67	Lebanon	10.4		Argentina	15.1
68	Grenada	10.4		China, Macao SAR	14.8
69	Jamaica	10.4		Mauritius	14.7
70	Dem. People's Rep. of Korea	10.2		New Caledonia	14.5
71	Saint Lucia	10.1		Trinidad and Tobago	14.2
72	Thailand	9.9		Sri Lanka	13.9
73	China	9.9		Guam	13.0
74	St. Vincent and the Grenadines	9.7		Jamaica	12.8
75	Tunisia	9.6		Costa Rica	12.8
76	Trinidad and Tobago	9.6		Saint Lucia	12.5
77	China, Macao SAR	9.5		Bahamas	12.5
78	Réunion	9.5		Dem. People's Rep. of Korea	12.5
79	Antigua and Barbuda	9.3		Brazil	11.7
80	Sri Lanka	9.3		Tunisia	11.7
81	New Caledonia	9.1		French Polynesia	11.6
82	Mauritius	8.9		El Salvador	11.5
83	Azerbaijan	8.8		Lebanon	11.5
84	Turkey	8.8		Turkey	11.2
85	Viet Nam	8.6		Panama	10.9
86	Gabon	8.4		St. Vincent and the Grenadines	10.9
87	Costa Rica	8.3		Seychelles	10.9
88	Guam	8.3		Colombia	10.8
89	El Salvador	8.3		Antigua and Barbuda	10.8
90	Suriname	8.3		Kazakhstan	10.7
91	Tonga	8.3		Viet Nam	10.3
92	Kyrgyzstan	8.2		Suriname	10.2
93	Bahamas	8.1		Grenada	10.2
94	Panama	8.0		Azerbaijan	10.0
95	Brazil	7.7		Peru	10.0
96	Morocco	7.7		Ecuador	9.9
97	Dominican Republic	7.5		Dominican Republic	9.7
98	Egypt	7.4		Morocco	9.6
99	Indonesia	7.4		Mexico	9.6
100	Cabo Verde	7.4		Venezuela (Bolivarian Republic of)	9.4
101	Peru	7.3		Fiji	9.3
102	Ecuador	7.2		Bolivia (Plurinational State of)	9.2
103	Bolivia (Plurinational State of)	7.2		Malaysia	9.2

Rank	Country or area	2000		2015	
		Percentage aged 60 or over		Country or area	Percentage aged 60 or over
104	Mexico	7.1		Algeria	9.0
105	Uzbekistan	7.1		Paraguay	9.0
106	Myanmar	7.1		India	8.9
107	Colombia	6.9		Myanmar	8.9
108	India	6.9		Nepal	8.6
109	French Polynesia	6.8		Guyana	8.3
110	Sao Tome and Principe	6.7		Indonesia	8.2
111	Venezuela (Bolivarian Republic of)	6.6		Iran (Islamic Republic of)	8.2
112	Turkmenistan	6.6		Tonga	8.2
113	Samoa	6.6		Egypt	7.9
114	Paraguay	6.5		Samoa	7.9
115	Lesotho	6.5		French Guiana	7.8
116	Algeria	6.4		Nicaragua	7.8
117	Haiti	6.3		South Africa	7.7
118	Pakistan	6.2		Brunei Darussalam	7.6
119	South Africa	6.2		Micronesia (Fed. States of)	7.5
120	Iran (Islamic Republic of)	6.2		Uzbekistan	7.4
121	Guyana	6.2		Bhutan	7.4
122	Malaysia	6.2		Philippines	7.3
123	Maldives	6.1		Gabon	7.3
124	French Guiana	6.1		Honduras	7.2
125	Central African Republic	6.0		Timor-Leste	7.2
126	Bangladesh	6.0		Kyrgyzstan	7.1
127	Bhutan	5.9		Haiti	7.1
128	Nepal	5.9		Guatemala	7.0
129	Guatemala	5.8		Libya	7.0
130	Libya	5.8		Bangladesh	7.0
131	Fiji	5.7		Turkmenistan	6.9
132	Nicaragua	5.6		Maldives	6.8
133	Mongolia	5.6		Cambodia	6.8
134	Honduras	5.6		Cabo Verde	6.7
135	Belize	5.6		Pakistan	6.6
136	Congo	5.6		Vanuatu	6.5
137	Tajikistan	5.5		Syrian Arab Republic	6.4
138	Lao People's Dem. Republic	5.4		Mongolia	6.4
139	Guinea	5.4		Djibouti	6.3
140	Equatorial Guinea	5.3		Lesotho	6.2
141	Kiribati	5.3		Kiribati	6.1
142	Micronesia (Fed. States of)	5.2		Lao People's Dem. Republic	6.0
143	Cameroon	5.2		Belize	5.9
144	Iraq	5.2		Central African Republic	5.9
145	Guinea-Bissau	5.1		Botswana	5.9
146	Philippines	5.1		Mayotte	5.6
147	Vanuatu	5.0		Swaziland	5.5
148	Liberia	5.0		Congo	5.5
149	Jordan	5.0		Western Sahara	5.5
150	Senegal	5.0		Namibia	5.5
151	Mozambique	5.0		Jordan	5.4
152	Namibia	5.0		Guinea-Bissau	5.3
153	South Sudan	5.0		Ghana	5.3
154	Mali	4.9		Ethiopia	5.2
155	Mauritania	4.9		Solomon Islands	5.2
156	Cambodia	4.9		Sudan	5.2

Rank	Country or area	2000		2015	
		Percentage aged 60 or over		Country or area	Percentage aged 60 or over
157	Ghana	4.8		South Sudan	5.1
158	Djibouti	4.8		Mozambique	5.1
159	Syrian Arab Republic	4.8		Equatorial Guinea	5.1
160	Ethiopia	4.8		Guinea	5.1
161	Côte d'Ivoire	4.7		Mauritania	5.1
162	Swaziland	4.7		Papua New Guinea	5.1
163	Zimbabwe	4.7		Saudi Arabia	5.0
164	Somalia	4.7		Tajikistan	5.0
165	Nigeria	4.7		Iraq	5.0
166	Botswana	4.7		Malawi	4.9
167	Sudan	4.6		Côte d'Ivoire	4.8
168	Dem. Republic of the Congo	4.6		Cameroon	4.8
169	Benin	4.6		Liberia	4.8
170	Malawi	4.6		United Republic of Tanzania	4.8
171	Madagascar	4.6		Yemen	4.7
172	Comoros	4.6		Madagascar	4.7
173	Togo	4.6		Benin	4.6
174	Mayotte	4.5		Comoros	4.6
175	United Republic of Tanzania	4.5		Dem. Republic of the Congo	4.6
176	Chad	4.5		Rwanda	4.5
177	Solomon Islands	4.4		Kenya	4.5
178	Sierra Leone	4.4		Senegal	4.5
179	Burundi	4.3		State of Palestine	4.5
180	Zambia	4.3		Nigeria	4.5
181	Burkina Faso	4.3		Somalia	4.5
182	Rwanda	4.3		Togo	4.5
183	Saudi Arabia	4.3		Sao Tome and Principe	4.4
184	Papua New Guinea	4.2		Sierra Leone	4.4
185	Kenya	4.1		Zimbabwe	4.4
186	Niger	4.1		Oman	4.4
187	Uganda	4.1		Zambia	4.3
188	Gambia	4.1		Niger	4.2
189	Yemen	4.1		Burundi	4.2
190	Oman	4.0		Eritrea	4.2
191	Timor-Leste	4.0		Mali	4.0
192	Western Sahara	3.9		Afghanistan	4.0
193	Brunei Darussalam	3.9		Chad	4.0
194	Angola	3.9		Bahrain	3.9
195	Bahrain	3.8		Angola	3.8
196	State of Palestine	3.7		Burkina Faso	3.8
197	Afghanistan	3.6		Uganda	3.8
198	Eritrea	3.4		Gambia	3.7
199	Kuwait	3.2		Kuwait	3.4
200	Qatar	2.9		United Arab Emirates	2.3
201	United Arab Emirates	1.7		Qatar	2.3

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

* 201 countries or areas with at least 90,000 inhabitants in 2015.

Table A.III.5. Ranking of countries or areas* according to the projected percentage of population aged 60 or over, 2030 and 2050

Rank	Country or area	2030		2050	
		Percentage aged 60 or over	Country or area	Percentage aged 60 or over	Country or area
1	Martinique	38.5	China, Taiwan Province of China	44.3	
2	Japan	37.3	Japan	42.5	
3	Italy	36.6	Republic of Korea	41.5	
4	Germany	36.1	Spain	41.4	
5	Portugal	34.7	Portugal	41.2	
6	China, Hong Kong SAR	33.6	China, Hong Kong SAR	40.9	
7	Spain	33.5	Greece	40.8	
8	Greece	33.2	Italy	40.7	
9	Slovenia	32.7	Bosnia and Herzegovina	40.5	
10	Austria	32.4	Singapore	40.4	
11	United States Virgin Islands	32.2	Cuba	39.7	
12	Netherlands	32.0	Poland	39.3	
13	Cuba	31.6	Germany	39.3	
14	Finland	31.5	Slovenia	39.0	
15	Republic of Korea	31.4	Austria	37.1	
16	China, Taiwan Province of China	31.3	Thailand	37.1	
17	Croatia	31.0	Czech Republic	37.0	
18	Channel Islands	31.0	Croatia	36.8	
19	Singapore	30.7	China	36.5	
20	Switzerland	30.6	Bulgaria	36.4	
21	Bosnia and Herzegovina	30.6	Romania	36.4	
22	Guadeloupe	30.5	Slovakia	36.2	
23	Malta	30.4	Malta	36.2	
24	Bulgaria	30.1	Martinique	35.9	
25	France	29.9	Estonia	35.1	
26	Romania	29.8	Channel Islands	34.9	
27	Belgium	29.5	Hungary	34.6	
28	Denmark	29.4	Switzerland	34.5	
29	Canada	29.4	China, Macao SAR	34.5	
30	Estonia	29.1	Guadeloupe	34.0	
31	Latvia	29.0	Puerto Rico	33.8	
32	Czech Republic	28.9	Republic of Moldova	33.6	
33	Lithuania	28.7	Netherlands	33.2	
34	Poland	28.6	Cyprus	33.2	
35	Sweden	28.6	Latvia	33.1	
36	Curaçao	28.4	Armenia	33.1	
37	Aruba	28.4	Georgia	33.0	
38	United Kingdom	27.8	Chile	32.9	
39	Barbados	27.7	TFYR Macedonia	32.8	
40	Hungary	27.6	Belgium	32.6	
41	Serbia	27.2	Canada	32.4	
42	New Zealand	27.0	Finland	32.4	
43	Thailand	26.9	Serbia	32.3	
44	Slovakia	26.4	United States Virgin Islands	32.1	
45	Norway	26.2	France	31.8	
46	United States of America	26.1	Ukraine	31.5	
47	Iceland	25.8	Iran (Islamic Republic of)	31.2	
48	China, Macao SAR	25.7	Barbados	31.1	
49	Ukraine	25.7	Ireland	31.0	
50	Réunion	25.5	Brunei Darussalam	30.9	

Rank	Country or area	2030		2050	
			Percentage aged 60 or over		Country or area
51	Puerto Rico	25.5		Albania	30.9
52	Albania	25.5		Iceland	30.9
53	China	25.3		Réunion	30.9
54	Montenegro	25.2		Lebanon	30.8
55	Belarus	25.2		United Kingdom	30.7
56	Georgia	25.1		Mauritius	30.6
57	TFYR Macedonia	24.8		Montenegro	30.5
58	Luxembourg	24.7		Costa Rica	30.4
59	Australia	24.6		Denmark	29.9
60	Ireland	24.4		Lithuania	29.9
61	Russian Federation	24.0		Belarus	29.7
62	Armenia	23.8		Sweden	29.6
63	Cyprus	23.7		Norway	29.5
64	Chile	23.7		New Zealand	29.4
65	Mauritius	23.3		Brazil	29.3
66	Republic of Moldova	22.4		Luxembourg	29.0
67	Uruguay	22.1		Aruba	28.8
68	Sri Lanka	21.0		Russian Federation	28.8
69	Costa Rica	20.5		Curaçao	28.7
70	Trinidad and Tobago	20.2		Sri Lanka	28.6
71	Bahamas	20.1		French Polynesia	28.4
72	Guam	19.9		Australia	28.3
73	French Polynesia	19.7		Trinidad and Tobago	28.2
74	Antigua and Barbuda	19.7		Jamaica	28.0
75	New Caledonia	19.6		Viet Nam	27.9
76	Dem. People's Rep. of Korea	19.4		United States of America	27.9
77	Lebanon	19.2		Colombia	27.6
78	Saint Lucia	19.1		Uruguay	27.5
79	Seychelles	19.1		Seychelles	27.4
80	Brazil	18.8		Saint Lucia	27.3
81	Jamaica	18.7		Bahamas	27.1
82	St. Vincent and the Grenadines	18.3		Turkey	26.6
83	Colombia	18.3		Tunisia	26.5
84	Israel	18.1		St. Vincent and the Grenadines	25.6
85	Tunisia	17.7		Maldives	25.3
86	Azerbaijan	17.6		Grenada	25.1
87	Viet Nam	17.5		New Caledonia	24.9
88	Argentina	17.5		Guam	24.9
89	Brunei Darussalam	17.1		Antigua and Barbuda	24.9
90	Turkey	17.0		Mexico	24.7
91	Panama	16.2		Bhutan	24.5
92	El Salvador	15.8		Oman	24.5
93	Suriname	15.7		Azerbaijan	24.4
94	Morocco	15.1		Dem. People's Rep. of Korea	24.4
95	Mexico	14.9		El Salvador	24.1
96	Guyana	14.9		Bahrain	23.7
97	Venezuela (Bolivarian Republic of)	14.8		Argentina	23.6
98	Peru	14.7		Malaysia	23.6
99	Ecuador	14.5		Panama	23.5
100	Iran (Islamic Republic of)	14.4		United Arab Emirates	23.5
101	Kazakhstan	14.4		Morocco	23.4
102	Malaysia	14.4		Nicaragua	23.4
103	Grenada	14.3		Peru	23.2

Rank	Country or area	2030		2050	
		Percentage aged 60 or over	Country or area	Percentage aged 60 or over	Country or area
104	Fiji	14.3	Algeria	23.0	
105	Dominican Republic	14.2	Western Sahara	22.0	
106	Algeria	13.3	Venezuela (Bolivarian Republic of)	21.9	
107	Myanmar	13.2	Israel	21.9	
108	Indonesia	13.2	Ecuador	21.8	
109	French Guiana	12.7	Libya	21.8	
110	India	12.5	Bangladesh	21.5	
111	Nicaragua	12.5	Suriname	21.4	
112	Western Sahara	12.4	Mongolia	21.1	
113	Samoa	12.1	Dominican Republic	21.1	
114	Libya	12.0	Saudi Arabia	20.9	
115	Paraguay	12.0	Cabo Verde	20.5	
116	Mongolia	11.9	Kuwait	20.1	
117	Uzbekistan	11.8	Fiji	19.9	
118	Maldives	11.7	Qatar	19.8	
119	Bhutan	11.6	Honduras	19.5	
120	Bangladesh	11.5	India	19.4	
121	Bolivia (Plurinational State of)	11.4	Indonesia	19.2	
122	Turkmenistan	11.4	Uzbekistan	19.1	
123	United Arab Emirates	11.3	Myanmar	18.8	
124	Kyrgyzstan	11.3	Kazakhstan	18.6	
125	Saudi Arabia	11.1	Paraguay	18.3	
126	Bahrain	10.8	Turkmenistan	18.2	
127	Nepal	10.8	Nepal	17.9	
128	Honduras	10.7	Cambodia	17.6	
129	Tonga	10.5	French Guiana	17.0	
130	South Africa	10.5	Bolivia (Plurinational State of)	17.0	
131	Cambodia	10.4	Syrian Arab Republic	16.4	
132	Cabo Verde	10.4	Kyrgyzstan	16.1	
133	Philippines	10.3	Jordan	15.8	
134	Egypt	9.9	Botswana	15.7	
135	Oman	9.4	Djibouti	15.5	
136	Haiti	9.3	South Africa	15.4	
137	Kiribati	9.3	Haiti	15.3	
138	Djibouti	9.2	Egypt	15.3	
139	Micronesia (Fed. States of)	9.1	Belize	14.7	
140	Vanuatu	9.1	Lao People's Dem. Republic	14.7	
141	Syrian Arab Republic	8.9	Guatemala	14.2	
142	Belize	8.9	Vanuatu	14.2	
143	Kuwait	8.9	Samoa	14.1	
144	Tajikistan	8.6	Philippines	14.0	
145	Jordan	8.6	Guyana	13.8	
146	Guatemala	8.6	Mayotte	13.3	
147	Equatorial Guinea	8.5	Tajikistan	13.2	
148	Pakistan	8.4	Tonga	12.9	
149	Lao People's Dem. Republic	8.1	Pakistan	12.9	
150	Mayotte	8.0	Micronesia (Fed. States of)	12.2	
151	Botswana	8.0	Rwanda	12.0	
152	Qatar	7.9	Kiribati	12.0	
153	Gabon	7.8	Gabon	11.8	
154	Namibia	7.1	Namibia	11.0	
155	Solomon Islands	6.9	Solomon Islands	10.8	
156	Timor-Leste	6.8	Ethiopia	10.4	

Rank	Country or area	2030		2050	
		Percentage aged 60 or over		Country or area	Percentage aged 60 or over
157	Papua New Guinea	6.7		State of Palestine	10.4
158	Mauritania	6.5		Zimbabwe	10.2
159	Ghana	6.5		Central African Republic	10.0
160	Sudan	6.4		Papua New Guinea	10.0
161	Rwanda	6.3		Yemen	9.9
162	Central African Republic	6.2		Ghana	9.7
163	State of Palestine	6.2		Sao Tome and Principe	9.6
164	Ethiopia	6.1		Kenya	9.6
165	Congo	6.1		Comoros	9.2
166	Comoros	6.0		Sudan	9.2
167	Iraq	5.8		Equatorial Guinea	9.2
168	Madagascar	5.8		Eritrea	9.2
169	Sao Tome and Principe	5.8		Lesotho	9.0
170	Guinea-Bissau	5.7		Afghanistan	9.0
171	Swaziland	5.7		Mauritania	9.0
172	South Sudan	5.7		Iraq	8.8
173	Liberia	5.6		Guinea-Bissau	8.3
174	Benin	5.6		Congo	8.3
175	Guinea	5.6		Madagascar	8.2
176	Kenya	5.5		Togo	8.1
177	Yemen	5.3		Cameroon	8.1
178	Lesotho	5.3		Senegal	8.1
179	Cameroon	5.2		Timor-Leste	8.1
180	Togo	5.2		Liberia	8.0
181	United Republic of Tanzania	5.2		Benin	7.9
182	Mozambique	5.2		Swaziland	7.7
183	Côte d'Ivoire	5.1		Sierra Leone	7.7
184	Afghanistan	5.1		Malawi	7.6
185	Senegal	5.1		Guinea	7.6
186	Dem. Republic of the Congo	4.9		South Sudan	7.5
187	Burundi	4.9		United Republic of Tanzania	7.2
188	Sierra Leone	4.8		Burundi	6.8
189	Nigeria	4.8		Zambia	6.6
190	Eritrea	4.6		Côte d'Ivoire	6.5
191	Malawi	4.6		Dem. Republic of the Congo	6.5
192	Zimbabwe	4.6		Burkina Faso	6.4
193	Somalia	4.5		Nigeria	6.3
194	Burkina Faso	4.4		Mozambique	6.2
195	Gambia	4.4		Uganda	6.0
196	Angola	4.2		Gambia	5.9
197	Niger	4.2		Mali	5.8
198	Zambia	4.1		Angola	5.5
199	Mali	4.0		Chad	5.4
200	Chad	4.0		Somalia	5.2
201	Uganda	3.7		Niger	4.1

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

* 201 countries or areas with at least 90,000 inhabitants in 2015.

Table A.III.6. Ranking of countries or areas* according to the percentage point change in the proportion of the population aged 60 years or over, 2000-2015 and 2015-2030

Rank	2000-2015		2015-2030	
	Country or area	Change in percentage aged 60 or over (percentage points)	Country or area	Change in percentage aged 60 or over (percentage points)
1	United States Virgin Islands	10.9	Cuba	12.8
2	Japan	9.9	Republic of Korea	12.7
3	Malta	9.3	China, Hong Kong SAR	12.3
4	Finland	7.3	China, Taiwan Province of China	12.1
5	Republic of Korea	7.2	Curaçao	11.7
6	Aruba	7.0	China, Macao SAR	11.4
7	Martinique	6.9	Thailand	11.2
8	China, Hong Kong SAR	6.9	Martinique	11.0
9	China, Taiwan Province of China	6.7	Brunei Darussalam	11.0
10	Curaçao	6.6	Singapore	9.9
11	Singapore	6.3	Aruba	9.8
12	Netherlands	6.2	Guadeloupe	9.5
13	Czech Republic	6.1	Antigua and Barbuda	8.9
14	Albania	6.0	China	8.9
15	Thailand	5.9	Germany	8.5
16	Mauritius	5.8	Chile	8.4
17	Slovenia	5.8	Seychelles	8.4
18	Cuba	5.7	United States Virgin Islands	8.2
19	Poland	5.6	Réunion	8.1
20	Canada	5.6	Azerbaijan	8.1
21	Guadeloupe	5.6	Mauritius	8.1
22	New Caledonia	5.4	Lebanon	8.0
23	China, Macao SAR	5.4	Spain	8.0
24	Bosnia and Herzegovina	5.3	Costa Rica	7.9
25	Slovakia	5.0	Viet Nam	7.9
26	Trinidad and Tobago	4.9	French Polynesia	7.9
27	China	4.9	Albania	7.6
28	Chile	4.8	St. Vincent and the Grenadines	7.5
29	French Polynesia	4.8	Netherlands	7.4
30	Denmark	4.8	Bahamas	7.3
31	Guam	4.7	Barbados	7.3
32	Germany	4.7	Tunisia	7.3
33	Bulgaria	4.6	Qatar	7.2
34	Hungary	4.4	Channel Islands	7.2
35	Bahamas	4.4	Austria	7.2
36	Brunei Darussalam	4.4	Armenia	7.1
37	United States of America	4.3	Portugal	7.1
38	Croatia	4.3	Bosnia and Herzegovina	6.9
39	New Zealand	4.3	Dem. People's Rep. of Korea	6.9
40	France	4.3	Italy	6.9
41	Channel Islands	4.2	Bahrain	6.9
42	Serbia	4.2	Guam	6.8
43	TFYR Macedonia	4.1	Brazil	6.8
44	Sri Lanka	4.1	Slovenia	6.7
45	Puerto Rico	4.1	Western Sahara	6.7
46	Réunion	4.0	Georgia	6.6
47	Cyprus	3.9	Trinidad and Tobago	6.6

Rank	Country or area	2000-2015		2015-2030	
		Change in percentage aged 60 or over (percentage points)		Country or area	Change in percentage aged 60 or over (percentage points)
48	Portugal	3.9		TFYR Macedonia	6.6
49	Australia	3.8		Jamaica	6.5
50	Austria	3.8		Saint Lucia	6.5
51	Brazil	3.8		Canada	6.3
52	Iceland	3.7		Sri Lanka	6.3
53	Republic of Moldova	3.7		Colombia	6.2
54	Switzerland	3.6		Malta	6.1
55	Costa Rica	3.6		Iran (Islamic Republic of)	6.1
56	Greece	3.6		Saudi Arabia	6.1
57	Fiji	3.6		Greece	6.1
58	Sweden	3.5		Suriname	6.0
59	Italy	3.4		Turkey	5.9
60	Estonia	3.4		New Zealand	5.9
61	Colombia	3.3		Mexico	5.9
62	Latvia	3.3		Iceland	5.7
63	Venezuela (Bolivarian Republic of)	3.3		Ireland	5.6
64	South Africa	3.1		Puerto Rico	5.6
65	Mexico	3.1		Indonesia	5.5
66	Montenegro	3.1		Cyprus	5.5
67	Malaysia	2.9		Slovakia	5.5
68	Panama	2.9		Belgium	5.4
69	United Kingdom	2.8		Morocco	5.4
70	Tunisia	2.8		Cabo Verde	5.4
71	Norway	2.7		Maldives	5.3
72	Turkey	2.7		Guyana	5.3
73	French Guiana	2.6		Mongolia	5.3
74	Ecuador	2.6		Poland	5.2
75	Cambodia	2.6		Croatia	5.1
76	Romania	2.6		Panama	5.1
77	Belgium	2.6		Libya	5.1
78	Peru	2.6		Fiji	5.1
79	Iran (Islamic Republic of)	2.5		Malaysia	5.1
80	Saint Lucia	2.4		Myanmar	5.1
81	Ireland	2.4		New Caledonia	5.1
82	Dem. People's Rep. of Korea	2.3		United States of America	5.1
83	Micronesia (Fed. States of)	2.3		Dominican Republic	5.0
84	Dominican Republic	2.2		Romania	5.0
85	Israel	2.2		Venezuela (Bolivarian Republic of)	4.9
86	Nepal	2.2		Belarus	4.9
87	Paraguay	2.1		Luxembourg	4.9
88	El Salvador	2.0		Montenegro	4.9
89	Lebanon	2.0		French Guiana	4.8
90	Spain	2.0		Lithuania	4.7
91	Georgia	2.0		Peru	4.7
92	Myanmar	2.0		Ecuador	4.7
93	Lithuania	2.0		Serbia	4.7
94	Syrian Arab Republic	1.9		United Kingdom	4.7
95	Argentina	1.9		Grenada	4.6
96	Algeria	1.9		Uzbekistan	4.6
97	India	1.9		Bangladesh	4.6
98	Barbados	1.9		Switzerland	4.6
99	Nicaragua	1.9		Turkmenistan	4.5

Rank	Country or area	2000-2015		2015-2030	
		Change in percentage aged 60 or over (percentage points)	Country or area	Change in percentage aged 60 or over (percentage points)	
100	Jamaica	1.9	Republic of Moldova	4.5	
101	Viet Nam	1.8	Cambodia	4.4	
102	Philippines	1.7	France	4.4	
103	Uruguay	1.6	Japan	4.3	
104	Suriname	1.6	Kiribati	4.2	
105	Libya	1.6	Nicaragua	4.2	
106	Morocco	1.6	Samoa	4.2	
107	Botswana	1.6	Australia	4.2	
108	Kiribati	1.5	Norway	4.1	
109	Antigua and Barbuda	1.5	Mayotte	4.1	
110	Ukraine	1.4	Finland	4.0	
111	Western Sahara	1.4	Belize	3.9	
112	Djibouti	1.4	Denmark	3.9	
113	Bhutan	1.4	Bhutan	3.9	
114	Samoa	1.3	Kyrgyzstan	3.9	
115	Russian Federation	1.3	Algeria	3.8	
116	Vanuatu	1.3	Jordan	3.7	
117	Bolivia (Plurinational State of)	1.3	Kazakhstan	3.7	
118	St. Vincent and the Grenadines	1.2	Russian Federation	3.6	
119	Indonesia	1.2	Equatorial Guinea	3.6	
120	Honduras	1.2	India	3.5	
121	Timor-Leste	1.2	El Salvador	3.2	
122	Bangladesh	0.9	Uruguay	3.1	
123	Egypt	0.9	Nepal	3.1	
124	State of Palestine	0.9	Bulgaria	3.1	
125	Papua New Guinea	0.9	Kuwait	3.1	
126	Luxembourg	0.8	Syrian Arab Republic	3.1	
127	Haiti	0.8	Tajikistan	3.0	
128	Swaziland	0.8	Estonia	3.0	
129	Belarus	0.8	Djibouti	3.0	
130	Guinea-Bissau	0.8	Israel	3.0	
131	Guatemala	0.8	Honduras	2.9	
132	Saudi Arabia	0.8	Ukraine	2.8	
133	Solomon Islands	0.7	Czech Republic	2.8	
134	Zimbabwe	0.7	Argentina	2.7	
135	Maldives	0.7	Philippines	2.7	
136	Namibia	0.6	Egypt	2.7	
137	Afghanistan	0.6	Paraguay	2.6	
138	Pakistan	0.6	Oman	2.5	
139	Mongolia	0.6	Vanuatu	2.5	
140	Lao People's Dem. Republic	0.6	United Arab Emirates	2.5	
141	Eritrea	0.6	Tonga	2.4	
142	Sudan	0.5	Latvia	2.4	
143	Ghana	0.5	Sweden	2.3	
144	Jordan	0.5	Lao People's Dem. Republic	2.3	
145	Uzbekistan	0.4	Pakistan	2.3	
146	Ethiopia	0.4	Namibia	2.0	
147	Yemen	0.4	Hungary	2.0	
148	Oman	0.4	Bolivia (Plurinational State of)	2.0	
149	Kenya	0.4	South Africa	2.0	
150	Azerbaijan	0.4	State of Palestine	2.0	
151	United Republic of Tanzania	0.3	Haiti	1.9	

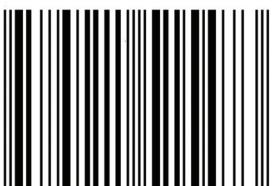
Rank	Country or area	2000-2015		2015-2030	
		Change in percentage aged 60 or over (percentage points)	Country or area	Change in percentage aged 60 or over (percentage points)	
152	Turkmenistan	0.3	Solomon Islands	1.7	
153	Cabo Verde	0.3	Papua New Guinea	1.6	
154	South Sudan	0.2	Mauritania	1.5	
155	Côte d'Ivoire	0.2	Ghana	1.5	
156	Seychelles	0.2	Micronesia (Fed. States of)	1.4	
157	Rwanda	0.2	Sao Tome and Principe	1.4	
158	Mauritania	0.2	Rwanda	1.4	
159	Malawi	0.1	Comoros	1.3	
160	Mozambique	0.1	Iraq	1.3	
161	Madagascar	0.1	Sudan	1.2	
162	Niger	0.0	Madagascar	1.2	
163	Sierra Leone	0.0	Kenya	1.2	
164	Benin	0.0	Afghanistan	1.2	
165	Armenia	0.0	Benin	1.0	
166	Belize	0.0	Guatemala	0.9	
167	Dem. Republic of the Congo	-0.1	Ethiopia	0.9	
168	Angola	-0.1	Liberia	0.8	
169	Iraq	-0.1	Eritrea	0.8	
170	Tonga	-0.1	Yemen	0.8	
171	Comoros	-0.1	Congo	0.8	
172	Togo	-0.1	South Sudan	0.8	
173	Liberia	-0.2	Togo	0.7	
174	Somalia	-0.2	Sierra Leone	0.7	
175	Bahrain	-0.2	Burkina Faso	0.7	
176	Nigeria	-0.2	Gambia	0.6	
177	Guinea	-0.2	Burundi	0.6	
178	Grenada	-0.3	Botswana	0.6	
179	Lesotho	-0.3	Angola	0.5	
180	Uganda	-0.3	Senegal	0.5	
181	Equatorial Guinea	-0.3	Guinea	0.5	
182	Congo	-0.3	Côte d'Ivoire	0.4	
183	Gambia	-0.3	Central African Republic	0.4	
184	Burundi	-0.3	Cameroon	0.4	
185	Cameroon	-0.3	Dem. Republic of the Congo	0.4	
186	Central African Republic	-0.4	Uganda	0.3	
187	Zambia	-0.4	Gabon	0.3	
188	Burkina Faso	-0.5	United Republic of Tanzania	0.2	
189	Tajikistan	-0.5	Mozambique	0.2	
190	Senegal	-0.5	Nigeria	0.2	
191	Mayotte	-0.5	Zambia	0.2	
192	Kazakhstan	-0.5	Swaziland	0.1	
193	United Arab Emirates	-0.6	Chad	0.0	
194	Chad	-0.6	Somalia	0.0	
195	Guyana	-0.9	Niger	-0.1	
196	Kuwait	-0.9	Timor-Leste	-0.2	
197	Mali	-1.1	Mali	-0.2	
198	Gabon	-1.2	Malawi	-0.3	
199	Qatar	-1.3	Guinea-Bissau	-0.5	
200	Sao Tome and Principe	-1.4	Zimbabwe	-0.6	
201	Kyrgyzstan	-1.5	Lesotho	-0.9	

Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

* 201 countries or areas with at least 90,000 inhabitants in 2015.



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Accurate, consistent and timely data on global trends in population age structure are critical for assessing current and future needs with respect to population ageing and for setting policy priorities to promote the well-being of the growing number and share of older persons in the population. This publication summarizes the trends in population aging drawn from the latest United Nations estimates and projections of population by age and sex of 233 countries or areas, as published in the World Population Prospects: the 2015 Revision. The report focuses in particular on the period from 2015 to 2030, the implementation period identified for the 2030 Agenda for Sustainable Development and discusses some implications of trends in the number and share of older persons for development planning, including with respect to poverty eradication and economic growth, social protection and the health and well-being of older persons.