

STATISTICAL REFLECTIONS

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World Population Day, 11 July 2018

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Summary

11 July was declared the World Population Day by the United Nations (UN) in 1989 to commemorate that our planet's population had reached 5 billion on this day two years earlier. Since that time this number has increased by nearly 2.6 billion, and the world's population was more than 7.6 billion people on 1 July 2018. The population of 2.5 billion people in 1950 has more than tripled by now. The upward trend in population size is expected to continue, although at a decelerating pace. According to the UN projection¹ calculating with a medium-level fertility, the world's population will reach 10 billion by 2055, and by 2100, it will increase to 11.2 billion, i.e. 1.5 times as high as the current figure and 4.5 times as high as it was in 1950. Considering the world's urbanization process, less than 30% of the population lived in cities in 1950. This rate was reversed by 2010, and 55% of the population are urban dwellers in 2018. According to projections, this trend will continue in the future, too, and the proportion of urban dwellers is expected to grow to 68% by 2050.

Decelerating world population growth

The population grew steadily at an accelerating rate in the past centuries, and the growth has been explosive since the middle of the last century. The growth was the most significant in the second half of the 1960s when the population number increased by more than 2% every year.

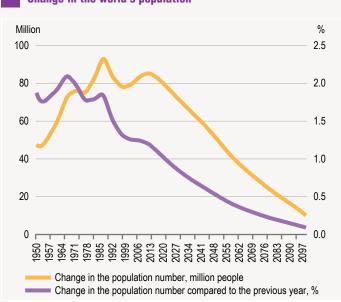
All this can be explained by the fact that also developing countries and regions underwent the second stage of demographic transition², which took place at the end of the 19th and during the 20th century in the

developed countries. Mortality conditions have greatly improved along with an increase in life expectancy. Although the decline in fertility has already started, people live longer due to the improving mortality, which resulted in a significant population growth.

The growth rate has declined since the second half of the 1980s. Nowadays, the world's population is increasing by 1.1% per year. Due to the decline in fertility, the population growth rate is expected to continue to decrease steadily, and the projections calculate with a population growth of 0.5% by 2050 and only about 0.1% by the end of the century. The growth in absolute terms increased from 47 million people per year in the first half of the 1950s to 92 million per year by the end of the 1980s. At present, the growth is lower, but still significant, 82–83 million people per year. According to estimates, a considerable reduction is expected also in absolute terms in the future, and the annual growth will be only 50 million in 2050 and fewer than 10 million at the end of the century.

Change in the world's population





According to UN projections³, the upward trend in the population number is expected to continue, although at a decelerating pace. According to the medium fertility variant, the world's population, being 7.6 billion at present, will grow to 9.8 billion by 2050, and by 2100, it will increase to 11.2 billion, i.e. 1.5 times as high as the current figure and 4.5 times as high as it was in 1950.

Source: The 2017 Revision of World Population Prospects, https://esa.un.org/unpd/wpp/

² Demographers distinguish four stages of demographic transition. The first stage is characterized by high and unchanged mortality and fertility for a long time, which ensures a slow growth in the population number. In the second stage, primarily due to the development of public health, mortality is decreasing considerably, while fertility remains unchanged. As a result, the population growth rate accelerates. In the third stage of transition, mortality continues and fertility begins to decline, as a consequence of which, the increase in the population number slows down. Finally, in the last stage, mortality and fertility are stabilized at a low level in a way that the initial level of the population growth is restored. The population evolution is different in each country depending on in which stage of demographic transition the country is.

³ Population projection is the forecast of the number and composition of the population for future dates, which is generally made in more than one variant based on assuming different future development of basic demographic processes (fertility, mortality, migration). UN projections mentioned in this publication were prepared on the basis of the medium-level fertility variant.

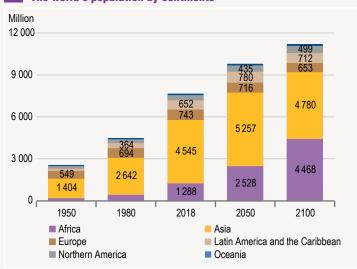
Based on the high fertility projection of UN, the population number is estimated at 10.8 billion by 2050 and 16.5 billion by the end of the century. Based on the low fertility variant, the world's population will reach its maximum with 8.8 billion people in 2053, then it will begin to decline, and the 7.3 billion people in 2100 will be slightly below the present figure. Among the projections, the population number would be the highest in case of the variant assuming that the current fertility is constant; the population number would grow exponentially from the middle of the century and would double in the last 36 years, for which there is a little chance. The most probable variant is the one calculating with medium-level fertility.

Redistribution of the population among continents

The evolution of fertility and life expectancy together determine the number and composition of the world's population. In addition, the population number of different continents and countries is also influenced by international migration. This is considered the third, most uncertain factor of the projections, since the changes in social and economic processes, the various armed conflicts, (civil) wars, environmental changes and the migration policy of different countries influence the migration behaviour in a way which is difficult to predict in advance.

The population evolution is different in each continent depending on in which stage of demographic transition the continent is. All this has a major impact on the distribution of the world's population by continents. Nowadays, 60% of the world's population, over 4.5 billion people live in Asia. This is followed by Africa (17%), Europe (10%), Latin America and the Caribbean (8.5%), Northern America (4.8%), and finally Oceania (0.5%) with the smallest population number.

The world's population by continents



According to the UN projection, Asia remains the most populous continent, but its weight is expected to decline in the future, while that of Africa will increase significantly. The growth rate has been already the highest in the 'black continent': between 1950 and 2018, its population number became 5.6 times higher, the current population number will double by 2050, and will be close to 4.5 billion by the end of the century. By 2100, the projected 40% share of people living in Africa within the world's population will be hardly below the 43% share of Asia. The population number of Northern America is also increasing steadily, and will rise 1.4-fold exceeding 499 million people by the end of the century. Meanwhile, Europe's weight will be decreasing constantly, its share of 22% in 1950 will fall to 9.7% in 2018 and by another 3.9 percentage points to 5.8% by 2100. Not only the share of the old continent is shrinking, but its population number will also decline, by 27 million people until 2050 and by another 89 million in the following 50 years.

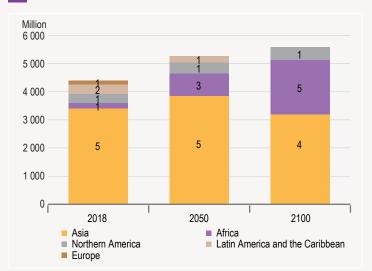
In addition to Europe, a decline is also expected in the population number of Asia and Latin America and the Caribbean in the last 50 years of the century, but Europe is the only continent where the figure predicted for 2050 is already lower than the current value.

Most populous countries of the world

China and India are the two most populous countries of the world where 19% (more than 1.4 billion people) and 18% (nearly 1.4 billion people) live, respectively. In both of these Asian countries, more people live than in the three continents with the smallest population number taken together. According to the projections, these two countries will remain the most populous countries of the world, and the population number of India is expected to reach that of China by 2024 when the population number of both countries will be around 1.4 billion. Then, the number of people living in India will exceed the number of those living in the currently most populous country. Then, India will be in the first place, and is expected to reach its maximum population number (1.7 billion) by the beginning of the 2060s. From the beginning of the 2030s, the population number of China will slightly decrease (China's one-child family policy introduced in 1979 is in the background of this). Among countries, the population growth is the most intensive in India and Nigeria, the two countries together will account for nearly one-quarter of the growth in the period between 2018 and 2050. Nigeria, at present the seventh most populous country of the world, may be the third most populous country of the world by 2047 overtaking even the United States.

Figure 3

Population of the 10 most populous countries by continents*



*The numbers written in the columns show the number of countries concerned in each continent.

More than half, 58% of the world's population live in the current 10 most populous countries. A Among them, 5 countries are in Asia, 2 in Latin America and the Caribbean, and one country is in Northern America, Africa and Europe each. By 2050, instead of the European country and one of the two countries of Latin America and the Caribbean, two more countries of the 'black continent' will be included in this group. By the end of the projection period, there will be already 5 African, 4 Asian countries and only 1 Northern American country in the top ten ranking. Much of the global growth is attributable to only a few African countries.

Urbanization process of the world

Since 1988, the United Nations has made separate estimates on the territorial location of the population within countries and on the urban and rural population, as well as on the population of urban agglomerations. In May 2018, the most recent calculations of the world's urbanization process

Figure 2

⁴ The ten most populous countries in 2018 in descending order of their population number: China, India, the United States, Indonesia, Brazil, Pakistan, Nigeria, Bangladesh, Russia, Mexico.

until 2050⁵ were published, based on the 2017 UN World Population Prospects described above. Information on urbanization processes in the world is indispensable for determining settlement development goals in both urban and rural areas.

The proportion of urban population is considered as one of the basic indicators of socio-economic development. Therefore, the temporal and spatial growth of urbanization shows well the evolution of development. The process of urbanization can be characterized by the increase in the number of cities and in their population number. In 1950, less than 30% of the population lived in cities. This rate was reversed by 2010, the number of urban dwellers was higher than that of the rural population, and in 2018, 55% of the population live in urban areas. The total number of urban dwellers in the world increased from 751 million in 1950 to nearly 4.2 billion (5.6-fold growth) by now, while the rural population grew to 3.4 billion (only doubled).

According to projections, this trend will continue in the future, too, and the proportion of urban dwellers will be 68% in 2050. Projections show that urbanization and the general increase in the world's population together will increase the number of urban dwellers by 2.5 billion by 2050. Nearly 90% of this will be concentrated in Asia and Africa. When examining by countries, the largest increase - similarly to the total population number is expected in India, China and Nigeria. These three countries will account for more than one-third of the increase in the urban population between 2018 and 2050. As a result, by the end of the period, the number of people living in cities will be by 416 million more in India, 255 million more in China and 189 million more in Nigeria than at present.

The rural population is expected to decline, while the urban population continues to grow steadily. Since 1950, there has been a slow upward trend in the number of people living in rural areas, which number is projected to reach its maximum at 3.4 billion by 2020. It will then decrease by nearly one-tenth to 3.1 billion by the end of the period. The number of people living in rural areas was roughly the same at the beginning of the 1990s, but this accounted for more than half (57%) of the world's population at that time, while this proportion projected for 2050 is only about 32%. Despite the rapid urbanization in Africa and Asia, almost 90% of the world's rural population still live in these continents. Considering countries, the rural population is currently the highest in India with 893 million people, followed by China with 578 million people. These two countries account for 43% of people living in rural areas.

At present, the most urbanized continent is Northern America, where more than 82% of the population are urban dwellers. This proportion is nearly the same, 81% in Latin America and the Caribbean, 74% in Europe and 68% in Oceania. The rate of urbanization in Asia approaches 50%, while in Africa only 43% of the population live in cities.

There are significant differences within the continents: in 2018, the level of urbanization is 28% in East Africa, 64% in Southern Africa, 36% in South-Central Asia and 72% in West Asia. The largest extremes are in Oceania: in Melanesia, the proportion of urban dwellers is only 19%, while it is exceptionally high, 86% in Australia and New Zealand. Europe shows a much more uniform picture: most urban dwellers live in Northern Europe (82%), their proportion is 80% in Western Europe, 70% in Eastern Europe and 72% in Southern Europe.

More than half, 54% of the world's urban dwellers live in Asia, despite the fact that, compared to the other continents except for Africa, the rate of urbanization is the lowest there. Europe and Africa are the next in the ranking of continents with a much smaller share of 13%, while Northern America, the most urbanized continent accounts for only 7% of the world's urban population. The exceptionally high share of Asia is due to the fact that 60% of the world's population live there, while in Northern America, this figure is only 5%.

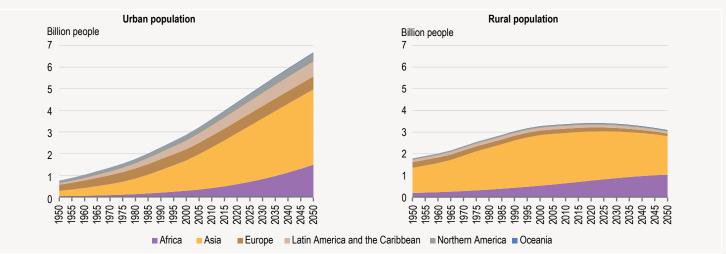
There are also significant differences between the continents in terms of the temporal process of urbanization. Despite the significant shift from the low level of 14% and 18%, respectively in 1950, urbanization is still the lowest in Africa and Asia in 2018 (43% and 50% respectively). The proportion of urban dwellers also rose rapidly, but from a much higher level, from 41% to 81% in Latin America and the Caribbean. The growth rate of urban population is the lowest in Oceania, where their proportion of 63%, which was already considered high in 1950, rose only by less than 6 percentage points. Over the past decades and based on the projections for the coming period, Northern America is considered to be the most urbanized area over the whole period (64% in 1950, 82% in 2018 and expected to be 89% in 2050).

It is projected that urbanization will continue to rise in the coming decades in each continent, but the growth rates will continue to be the highest in Africa and Asia. On both continents, a significant increase of 16 percentage points is expected, as a result of which, the proportion of urban dwellers will be 59% and 66%, respectively in 2050. The order of continents will not change, but significant approximation can be predicted: the difference between the highest rate of Northern America and the lowest one of Africa will diminish from 50 percentage points in 1950 to 30 percentage points.

While the global proportion of urban population is rising steadily, some cities have experienced a population decline in recent years. Most of them are in low fertility Asian and European countries where the total population is declining or stagnant. Economic downturn, significant emigration or natural disasters can also contribute to the decline in the population of certain cities.

Figure 4

Urban and rural population by continents



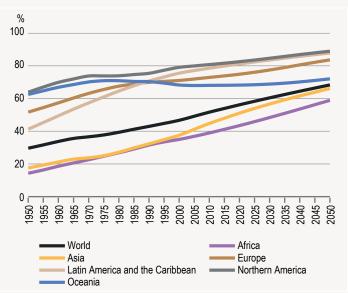
⁵ Source: The 2018 Revision of World Urbanization Prospects, https://esa.un.org/unpd/wup/. The territorial location of the population is examined in accordance with the administrative units of the respective country. The international comparison of urbanization is hindered by the lack of a uniform definition. Basically, countries are entrusted to define the criteria of cities, so primarily the concept of the city used in the country concerned is the basis of the projection of urban population.



Proportion of urban population by countries, 2018



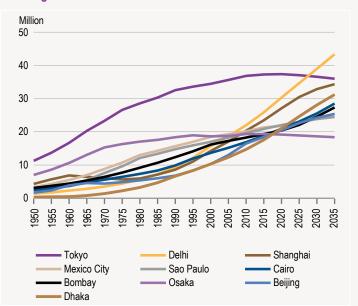




Growing megacities

An increasing proportion of the world's urban population live in megacities⁶; in 1950, there were only two cities with more than 10 million population, i.e. 'megacities': New York with 12 million and Tokyo with 11 million inhabitants. By 2018, their number rose to 33, among them 20 are in Asia, 6 in Latin America, 3 in Africa and 2 both in Northern America and Europe. The total number of people living in megacities is 463 million, accounting for 12% of the global urban population. According to projections, the number of megacities will reach 48 by 2035, the vast majority of them will be in the less developed regions.

Figure 7 Change in the population number of the current 10 largest megacities



At present, Tokyo, with a population of 37 million, is the world's most populous city, followed by Delhi (29 million), Shanghai (26 million), Mexico City and Sao Paulo (22 million each). The population number of 4 further megacities also reached 20 million. In the following period, Tokyo's population is expected to decline, while that of Delhi will continue to grow, so around 2028, the Indian megacity will be the world's most populous city.

The successful management of the urbanization process that will continue in the next decades is of key importance in respect of the implementation of the 2030 Sustainable Development Goals⁷. Such a

⁶ Megacity is a city having more than 10 million inhabitants.

⁷ Sustainable Development Goals (SDG), https://sustainabledevelopment.un.org/. HCSO publication in the topic is available on http://www.ksh.hu/sdg

significant increase in the urban population is a major challenge first of all for low-income, less developed countries: they have to provide adequate housing, infrastructure, public transport, jobs, as well as widespread access to basic services such as healthcare and education.

Population of the European Union⁸

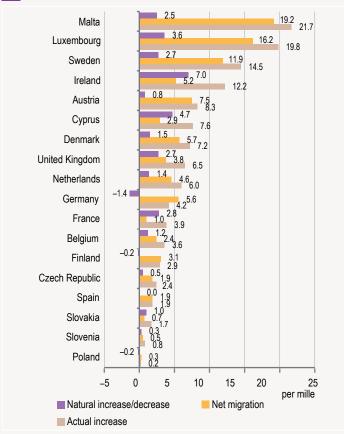
On 1 January 2017, the population number of the EU-28 member states⁹ was 511.5 million, 1.2 million more than a year earlier. Since 1960, the population growth has been unbroken, and the number of people living in the EU increased by 104.8 million or 26% in the last more than half a century. More than half of this growth occurred in the period until 1980, then the growth rate slowed down.

As a balance of births and deaths, the population number has risen by 73.3 million since 1960, accounting for 70% of the total increase. As a result of declining fertility and strengthening migration in the past decades, the effect of natural increase on population growth decreased steadily. In 2015, the increasingly shrinking positive balance turned to natural decrease. Primarily, the significant surplus in the number of deaths in almost all member states (5.6% on the whole) was in the background of this. 2015 was the first year when the population growth of 1.7 million was entirely due to the positive balance of international migration. In the following year, in 2016, a small natural increase (20 thousand people) was registered, so 98% of the growth of 1.2 million resulted again from the positive balance of international migration.

EU member states with increasing or declining population number

The direction and factors of changes in the population number developed variously in the different member states. In 2016, out of the EU-28 member states, the population number decreased in 10 and increased in 18 countries.

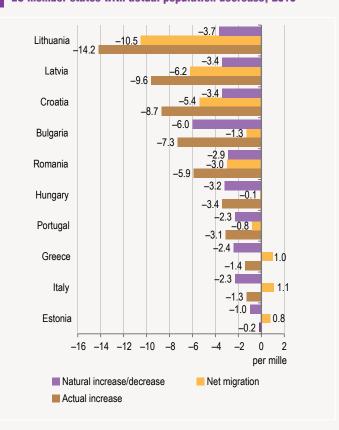
Figure 8 EU member states with actual population increase, 2016



Source: Eurostat database, http://ec.europa.eu/eurostat/data/database

With the exception of three countries, the latter group was characterized by natural increase and immigration surplus together. Out of these two factors, immigration played the major role in the majority of countries. The largest immigration surplus was recorded in Malta (19 per mille), Luxembourg (16 per mille), Sweden (12 per mille) and Austria (7.5 per mille), and natural increase was the highest in Ireland (7.0 per mille), Cyprus (4.7 per mille), Luxembourg (3.6 per mille) and France (2.8 per mille). Among countries with growing population number, the population decline resulting from natural decrease could be offset by the immigration surplus in Germany, Finland and Poland, while the natural increase was so low in Spain that the growth was almost entirely due to international migration.

Figure 9 EU member states with actual population decrease, 2016



Among EU member states, the population number declined in 10 countries. Except for three Southern European countries, all of them were new accession countries from Central and Eastern Europe. In each country with decreasing population number, the balance of live births and deaths was negative, which was moderated by the immigration surplus only in three member states, in Estonia, Italy and Greece. The population number of Lithuania fell at the fastest pace (-14 per mille) where the largest emigration in the EU (-11 per mille) was coupled with the second most considerable natural decrease (-3.7 per mille). The population loss due to international migration was also significant in Latvia (-6.2 per mille) and Croatia (-5.4 per mille), and the largest natural decrease was recorded in Bulgaria (-6.0 per mille).

Expected trends in the population of the European Union

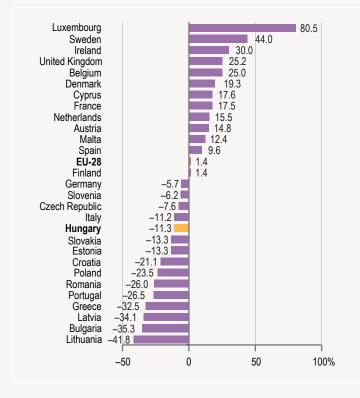
According to the baseline variant of the population projection prepared by Eurostat¹⁰, the population number of the EU continues to grow slowly until the middle of the 21st century and will reach the maximum of 529.1 million by 2045 which will represent a 3.4% growth compared to 2017. Following this, the trend turns into a slow decline, and finally, the

Results published treat the composition of EU member states as unchanged.

¹⁰ Source: The baseline variant of the population projection EUROPOP2015 prepared by Eurostat, http://ec.europa.eu/eurostat/data/database

population number will decrease to 518.8 million by 2080. By the end of the projection period, the estimated population number will be only by 7.3 million or 1.4% more than the number of people living in the EU member states at present. Due to the slightly increasing but still below replacement level fertility and improving life expectancy expected for the coming decades, natural decrease is projected for the EU as a whole which cannot be fully compensated by the positive international net migration any more.

Figure 10 Change in the population number of EU-28 member states, 2017–2080



It is projected that between 2017 and 2080, the number of countries with a decreasing population number will grow to 15. Out of the countries with increasing population at present, fewer people will live in Germany and in 4 Central and Eastern European countries (Slovenia, the Czech Republic, Slovakia, Poland) at the end of the period. So, all Central and Eastern European countries having joined the EU since 2004 are expected to be among the member states with declining population number.

Natural decrease, which is characteristic of each country with declining population number is further increased by international migration loss in 4 member states, i.e. in Lithuania, Latvia, Bulgaria and Romania, while in the other countries, the immigration surplus mitigates the unfavourable demographic processes. The largest decline is expected in Lithuania (42%), Bulgaria (35%), Latvia (34%) and Greece (33%). A significant population decline of between 20% and 30% is projected for Portugal, Romania, Poland and Croatia as well. In Hungary, the population decline is offset somewhat by the positive international net migration. According to the projection of Eurostat, along with an 11% decline, the population number of Hungary is projected to be 8.7 million by 2080, with which our country would remain in the middle of the ranking of EU-28 member states.

Positive international net migration is projected in each of the 13 member states, which will have a growing population number in the future. Among them, natural increase is expected only in 8 countries, in those developed Western and Northern European countries, e.g. in France, Sweden, Ireland and the United Kingdom where fertility is the highest, near the replacement level at present. Luxembourg will continue to be the most attractive target area of immigration in the coming period. The largest population growth of 81% is expected here. Considerable population growth is also expected in Sweden (44%), Ireland (30%), as well as in the United Kingdom and Belgium (25% each). In addition to them, natural increase will be coupled with immigration surplus in the Netherlands, France and Denmark.

Based on the projections, there will be marked differences in the demographic situation of Eastern and Western Europe even 60 years later. While in the higher developed Northern and Western European countries, higher fertility is coupled with longer life expectancy and immigration surplus, the Eastern and Southern European regions are still characterized by lower fertility, lower life expectancy and the large-scale emigration of young people.

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