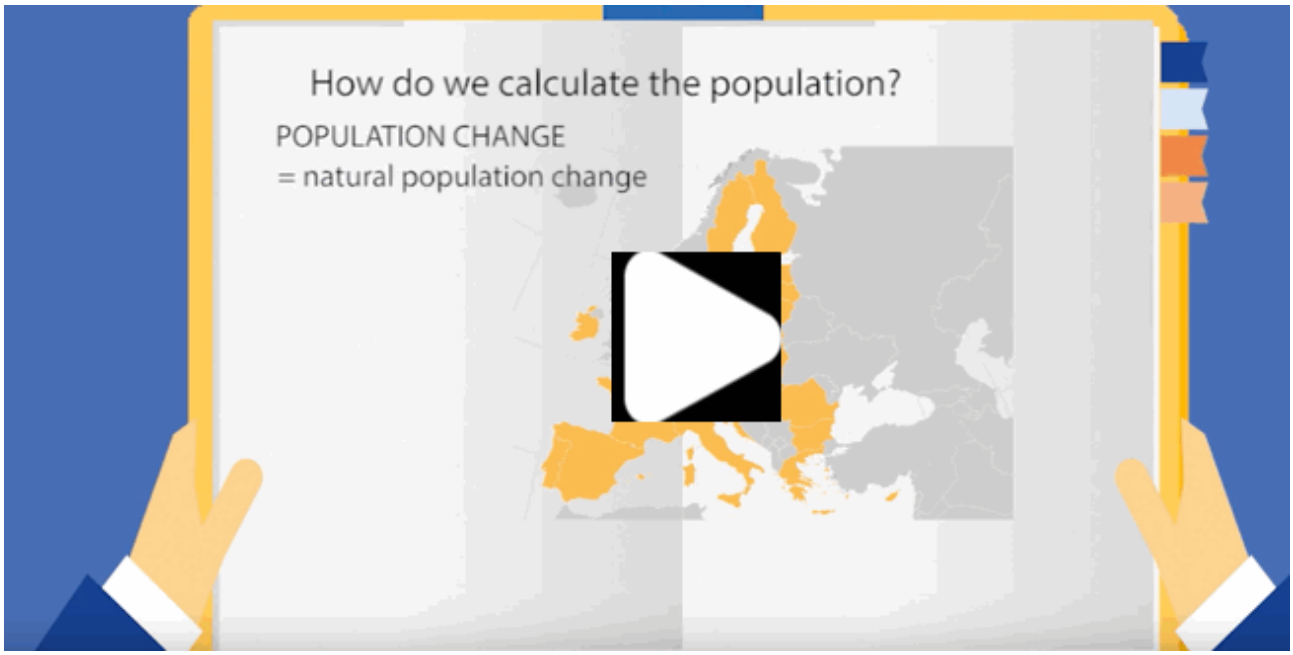
Beginners:Population

Statistics Explained

Highlights

Population statistics record the number of people living in a country or region, number of deaths and births, and calculates life expectancy and population growth predictions. Why is this information needed? Governments, for example, need to know how many inhabitants currently live in the country and how many there will be in the future. From this they can plan and make better decisions regarding infrastructure i.e. the construction of schools, hospitals, roads etc. Governments also need to know for example, how old the population is and will be in the coming years in order to plan for pensions, health care etc.



Watch the video explaining the population change

How is the population of a country or given area calculated?

The population of a given area is the number of people usually living in that particular area, and it is usually measured every 1 January.

The **source** is generally the most recent **population census** , which is an official survey to count the population, plus increasingly, population registers are also used. Since a census is normally carried out every 10 years, **each year the population figure is adjusted** to update the data collected, taking into account the natural population change and the net migration.

The **natural population change** is simply calculated by each year comparing the number of births with deaths, whereas **net migration** compares the number of people who have arrived in the country (immigrants) with the number of people who have left (emigrants).

Example

For instance, in the EU on 1 January 2020, the population was estimated at 447.49 million people, whereas on 1 January 2019 it was estimated at 446.59 million. Therefore, **during 2020 the population increased** by 930 thousand people. **Was this due to natural population change or net migration?** As 4.1 million babies were born and 5.2 million persons died, giving a negative natural population change (-1.1 million). Therefore, net migration was the reason for the increase.

What are some other important indicators about the population?

The **fertility rate** represents the average number of children that a woman could have during her childbearing age. It is calculated taking into consideration the current average number of children born alive for different age groups.

The **crude birth rate** , instead, defines the number of births that occurred during the year compared to the population measured in that same year. It is then expressed as the number of new-born children every one thousand people.

Example

In 2020, 4 million children were born in the EU, which means that 9.1 births were registered every 1 000 persons (crude birth rate). This rate has decreased over the last 50 years: it was 10.4 in 2010, 10.6 in 2000 and 16.4 in 1970.

Among the EU Member States, France reported the highest fertility rate in 2020, where on average a woman would give birth to 1.83 children over her lifetime, while the lowest fertility rate was recorded in Malta (1.13 live births per woman).

Inversely, the **crude death rate** is defined as the number of deaths occurred during a year compared to the population in that same year; the value is expressed as deaths occurring every 1 thousand persons.

The **infant mortality rate** records deaths of children aged less than one year compared to the number of live births, in a given year. The value expresses the number of infant deaths every 1 thousand live births.

Example

In 2020, some 5.2 million people died in the EU, registering almost 12 deaths for every 1 000 people (crude death rate). This rate was assessed around 10 over the last 40 years, but increased relevantly during the Covid-19 pandemic.

How long can a person expect to live? It is possible to have an idea thanks to the **life expectancy** indicator.

The life expectancy indicator at birth provides information on the number of years a new-born baby can expect to live. It takes into account the mortality conditions of today and how likely it is to die at each age.

Life expectancy is normally calculated for the population as a whole, but it is also measured separately for men and women. In fact, results show that generally women can expect to live longer than men.

Example

Over the past 70 years, life expectancy at birth has increased for around 10 years for both men and women in the EU. For example, a baby born in 2020 is expected to live around 80 years - up to 83 years for a baby girl and 78 for a baby boy, whereas babies born in the 1960s were expected to live around 10 years less.

Population pyramid

A **population pyramid** helps to visualise the number of people by age group in a certain year. It usually places the oldest age group on top and the youngest at the bottom, figures referring to men are usually shown on the left side and women on the right.

Population pyramids, EU, 2001 and 2015
(% of the total population)
Source: Eurostat (demo_pjangroup)

In the animation above, the population pyramids of 2001, 2015 and 2022 are compared. As you can see, in 2022, the age group with the highest share of the population was 50-54 years, while in 2015 it was 45-49 years, and in 2001 it was 30-34 years and 35-39 years. Only by looking at the shape of the pyramid, is it possible to see that the population is ageing, as the younger age groups' bars are getting smaller and the older age groups' bars are getting bigger. Furthermore, the trend is confirmed by the change in the median age of the population: while in 2001 it was 38.3 years, it rises to 42.4 years in 2015 and to 44.4 years in 2022.

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Explore further

Other articles

- All Statistics Explained articles on population

Glossary items in Statistics Explained:

- Fertility rate
- Natural population change
- Birth
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- Crude death rate
- Infant mortality
- Migration
- Population pyramid
- EU Member States

External links

- Eurostat interactive publication Demography of Europe
- Video INE Spain Life expectancy
- Video INE Spain Population pyramid
- Video INE Spain Net migration