

DEMOGRAPHIC CONTEXT

Data source

Demographic indicators are calculated on the basis of the official populations provided by the Italian National Institute of Statistics (Istat), in its Survey "Municipal resident populations by gender, year of birth and marital status". The data refer to all Italian municipalities, and are in line with the XV General Population and Housing Census (9 October 2011). Istat provides each year (on January 1st) the municipal populations, broken down by age and gender. The calculation of demographic indicators relating to Time X was performed with the average population between January 1st X and January 1st X+1.

Graphical representations and indicators

Age pyramid: this graph represents the percentage distribution of the population residing in the Local Health Unit (ASL) by age and gender. The population is reported by annual age classes on the Y axis, while on the X axis two mirrored bar graphs with males (left) and females (right) are positioned. In general, the shape of this type of graph depends on the demographic trend of a population, with visible variations in periods of strong population growth or birth declines due to wars or other events. The graph is called "pyramid" because historically, before the aging process became more accentuated, the age structure actually had a pyramidal shape with a large base of children and young people and an increasingly narrow range of older classes.

“Pie” chart: this graph represents the percentage composition of the population, by gender and total, in four selected age groups: 0-14 years, 15-64 years, 65-74 years and 75+ years.

Life expectancy: this indicator, distinguished by gender, is calculated at birth, at 15 years of age, at 65 years of age and at 75 years of age. It represents the average number of years remaining for survivors of the indicated age; in particular, life expectancy at birth expresses the average number of years lived by a generation of newborns. Life expectancy is calculated using Istat mortality tables of year X; the calculating method for death probability is the same used by Istat in its publications. Given L_x the years lived in age x, or the number of individuals of a hypothetical stationary population taken from the mortality tables, and l_x the survivors at age x, life expectancy at age x is calculated as follows:

$$e_x = \frac{L_x + L_{x+1} + \dots + L_{\omega-1}}{l_x}$$

Aging index: it is a synthetic indicator of the aging degree of the population, and it is obtained comparing the amount of the population defined as elderly (over 65 years) with that of children under 15 years of age. Aging index is calculated as follows:

$$IV = \frac{P_{65 e oltre}}{P_{0-14}}$$

Average age: this indicator is obtained by the average age weighted with the amount of the population in each age group; it grows according to the aging degree of the population. It is calculated as follows:

$$\bar{x} = \frac{\sum (x + \frac{1}{2}n) \cdot P_{x,x+n}}{\sum P_{x,x+n}}$$

Essential bibliography:

- Ricostruzione della popolazione residente per età, sesso e cittadinanza nei comuni- Direzione centrale delle statistiche socio-demografiche e ambientale. Istat, 26 settembre 2013.
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 - Tavole di mortalità della popolazione italiana per provincia e regione di residenza. Istat .Anno 1998.
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<http://demo.istat.it/>
- Livi Bacci M. (1999), Introduzione alla demografia. Loescher Editore, Torino.