

Standard Documentation Metainformation

(Definitions, Explanations, Methods, Quality)

on

Population and Labour Force Projections 2017-2051

This documentation applies to the reporting period:
2017

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1 Overview

The CSO produces population and labour force projections after every Census, estimating the population for 35 years after the Census and the labour force for 15 years. Estimates are provided under varying scenarios, six for the population and three for the labour force. They are also available broken down by single year of age and by gender.

2 General Information

2.1 Statistical Category

- Census data – The ‘usual residence’ concept is used to establish the ‘base population’ i.e. all persons usually resident and present in the State on census night *plus* absent persons who are usually resident in Ireland but are temporarily away from home *and outside the State* on census night.
- Survey data – The LFS provides current and historic migration flows to inform the future projections.
- Administrative data – The Vital Statistics unit provides current and historic births and deaths which it receives from the General Register Office (GRO) to inform the projections.

2.2 Area of Activity

Population estimates and projections

2.3 Organisational Unit Responsible, Persons to Contact

James Hegarty	Statistician	Telephone	+353 (21) 4535429
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2.4 Objectives and Purpose; History

Population and labour force projections are published to provide users with demographic estimates for the purposes of planning, both in the public and private sector.

2.5 Periodicity

Population and labour force projections are published every five years. The publication is currently around two months after the second anniversary of the Census of Population (usually April of years ending in 1 or 6). This allows for the incorporation of Census revisions into the ongoing inter-censal population estimates.

2.6 Client

The projections meet a wide range of national requirements. The Irish Government and various public sector bodies such as the HSE etc., are the primary clients and the data is used as an input for a wide range of public policy and planning activities.

2.7 Users

The data has wide national usage from government departments (particularly those involved in policy formation and planning), economists and research bodies. A number of special interest groups working in the area of migration and integration also require the data. There are also some international users.

2.8 Legal basis

There is no legal basis to the projections but there is also no actual data collected.

3 Statistical Concepts, Methods

3.1 Subject of the Statistics

The estimation of possible future population and labour force.

3.2 Units of Observation/Collection Units/Units of Presentation

There is no data collected. The data is presented at person level in thousands (rounded to one decimal place).

3.3 Data Sources

The Census ‘usual residence’ concept is used to establish the ‘base population’ i.e. all persons usually resident and present in the State on census night *plus* absent persons who are usually resident in Ireland but are temporarily away from home *and outside the State* on census night.

3.4 Reporting Unit/Respondents

Data is reported in thousands (rounded to one decimal place).

3.5 Type of Survey/Process

The Census (2016) is used to establish the base population. The process used to produce the estimates is called the demographic component method which projects the 2016 usually resident (base) population forward under the chosen assumptions governing births, deaths and net migration.

Population

After the usually resident based population is aged a year, the appropriate survivorship ratios are applied, accounting for mortality and giving the surviving population for that year. The gross inward and outward migration rates which this population is assumed to experience in the year is applied (at the appropriate age group and gender) by using the patterns derived from the inter-Censal migration flows.

The assumed fertility rates are applied to the female population aged 15 - 49 to give the number of births in the year (adjusted downward for infant mortality) to give the total projected population for that year. The age specific fertility rates for the projection year are applied to the projected female population to estimate the projected births. These births are then divided into males and females on the basis of the ratios experienced for recent years. The appropriate survivorship ratios are then applied to male and female births before these are added in to yield the total projected population.

This population then becomes the base population for the following year and the process continues from 2017 to 2051.

There are two fertility rates used (F1 and F2), one mortality rate and three migration rates (M1, M2 and M3), giving six population scenarios.

Labour force projections methodology

The assumed labour force participation rates for males, single females and married females are applied to the projected population aged 15 years and over to give the projected labour force. These participation rates are based on age, the estimated proportion of women who are married at that particular age, the proportion of young people who are students and the estimated proportion of these young people who are in the labour force.

There are three labour force scenarios used (M1, M2 and M3). Fertility does not impact on the labour force projections as these projections only go to 2031 and this is too short a time for anybody born in the period 2017 to 2031 to enter labour force.

3.6 Characteristics of the Sample/Process

3.6.1 Population and Sampling Frame

The Census of Population data (2016) is used to establish the base population. The population is incremented forward each year, using the process described in 3.5.

3.6.2 Sampling Design

Not relevant.

3.7 Survey Technique/Data Transfer

Not relevant.

3.8 Questionnaire (including explanations)

Not relevant.

3.9 Participation in the Survey

Not relevant.

3.10 Characteristics of the Survey/Process and its Results

The process used is the demographic components method as described above. This variable element of the process involves the fertility, mortality and migration assumptions used for the population and the participation rates for the labour force.

Population

- Fertility assumptions:
 - **F1:** Total fertility rate to remain at the 2016 level of 1.8 for the lifetime of the projections.
 - **F2:** Total fertility rate to decrease from 1.8 to 1.6 by 2031 and to remain constant thereafter to 2051.

- Mortality assumptions:

Mortality rates for males and females are assumed to improve at 2.5% and 2.0% per annum respectively in the short-term to 2040. The long-term rate of improvement is assumed to be 1.5% per annum (unchanged since the last report). The short-term rate declines linearly over a 25 year period to the long-term rate. These rates are assumed to apply to all ages up to age 90.

These assumptions will result in gains in life expectancy from 79.3 years in 2015 to 85.6 years in 2051 for males and from 83.3 years in 2015 to 88.3 years in 2051 for females

- Migration assumptions:
 - **M1:** Net migration +30,000 per annum to 2051.
 - **M2:** Net migration +20,000 per annum to 2051.
 - **M3:** Net migration +10,000 per annum to 2051.

Labour Force

- **Persons aged 15 – 24**
 - Gentle increases in labour force participation anticipated for younger males and females (students and non-students).
 - Convergence between males and female labour force participation rates.
 - 3rd Level attendance – Student rates expected to remain broadly in line with 2016 levels to 2031.
- **Persons aged 25 – 74+**

- Increased labour force participation across most 5 year age groups to 2031 for both males and females.
- The largest percentage increases in labour force participation are projected within the older age cohorts.
- The number of married women in the labour force is projected to decrease due to declining marriage rates.

These scenarios were agreed following consultation with an Expert Group on Population Projections.

3.11 Classifications used

The population and labour force data are classified by sex and single year of age.

3.12 Regional Breakdown of Results

There are no regional breakdowns available but there will be a regional projections release in the near future.

4.1 Production of the Statistics, Data Processing, Quality Assurance

4.2 Data Capture

Not Relevant.

4.3 Coding

Not Relevant.

4.4 Data Editing

Not Relevant.

4.5 Imputation (for Non-Response or Incomplete Data Sets)

Not Relevant.

4.6 Grossing and Weighting

Not Relevant.

4.7 Computation of Outputs, Estimation Methods Used

Not Relevant.

4.8 Other Quality Assurance Techniques Used

The data is estimated future population and labour force numbers.

5 Quality

5.1 Relevance

The CSO population and labour force projections are the primary source of such estimates and are critical with regards to providing evidence based data for future planning and policy formulation. External users who make significant use of the population estimates data include, but are not limited to:

The ESRI, The Department of Finance, The Department of Health, The Department of Children and Youth Affairs, The Department of Environment and Natural Resources, The Oireachtas, Special Interest Groups (particularly those with an interest in migration) and National media organisations.

5.2 Accuracy and Reliability

It is important to remember that these projections are not an attempt to predict the future but rather presents how the population could evolve under different scenarios.

5.2.1. Sampling Effect & Representivity

The base population is sourced from the national Census of Population and therefore is fully

representative and highly accurate. Precision estimates are not calculated as part of the process.

5.2.2 Non-Sampling Effects

Not relevant

5.2.2.1 Quality of the Data Sources used (other than survey register)

The Census which provides the base population is considered to be highly accurate. Future fertility, mortality and migration flows are difficult to estimate but the Expert Group use their expertise to provide the best estimates possible.

5.2.2.2 Register Coverage

Not relevant

5.2.2.3 Non-response (Unit and Item)

Not relevant.

5.2.2.4 Measurement Errors

Measurement error is not formally measured for this release. However new population and labour market projections are completed following the publication of the Census of Population (every 5 years).

5.2.2.5 Processing Errors

a. Data capture errors

Not relevant

b. Data editing

Not relevant

5.2.2.6 Model-related Effects

The components method model, with the different scenarios, is the entire basis for the projections. Therefore, altering the scenarios is the fundamental alteration possible for the process.

5.3 Timeliness and Punctuality

5.3.1 Provisional Results

No provisional outputs are published.

5.3.2 Final Results

The results have been published with various time lags.

Recent publication dates are:

Years covered in publication	Publication date	Timeliness (days since Census day)
2006-2036	15/12/2004	962
2011-2041	30/04/2008	731
2016-2046	30/04/2013	751
2017-2051	20/06/2018	787

5.4 Coherence

New population and labour market projections are completed following the publication of the Census of Population (every 5 years).

5.5 Comparability

Not relevant

5.6 Accessibility and Clarity

5.6.1 Assistance to Users, Special Analyses

Population and labour force projections publications dating back to 2008 are available on the CSO website while each release contains information on the methodology in the background notes of the publication.

A press conference is held on publication day to enable users and commentators to fully understand the data or seek further clarification.

The data is also available on the CSO databank, see:

[https://www.cso.ie/px/pxeirestat/Database/eirestat/Current%20Population%20and%20Labour%20Force%20Projections%20\(2016%20Based\)/Current%20Population%20and%20Labour%20Force%20Projections%20\(2016%20Based\) statbank.asp?SP=Current%20Population%20and%20Labour%20Force%20Projections%20\(2016%20Based\)&Planguage=0](https://www.cso.ie/px/pxeirestat/Database/eirestat/Current%20Population%20and%20Labour%20Force%20Projections%20(2016%20Based)/Current%20Population%20and%20Labour%20Force%20Projections%20(2016%20Based) statbank.asp?SP=Current%20Population%20and%20Labour%20Force%20Projections%20(2016%20Based)&Planguage=0)

5.6.2 Revisions

The projections are not revised but new projections are produced following each Census.

5.6.3 Publications

5.6.3.1 Releases, Regular Publications

The projections are published once every five years.

5.6.3.2 Statistical Reports

5.6.3.3 Internet

Publications are available in .PDF format prior to 2018 and in electronic release format thereafter, see:

<https://www.cso.ie/en/statistics/population/populationandlabourforceprojections/>

5.6.4 Confidentiality

The data relates to future population and labour force estimates. Additionally, single year of age it top-coded to 99 plus.

6 Additional documentation and publications

The main Population Estimates homepage can be accessed at the following link:

<http://www.cso.ie/en/statistics/population/>