National Records of Scotland

Projected Population of Scotland (Interim) 2020-based

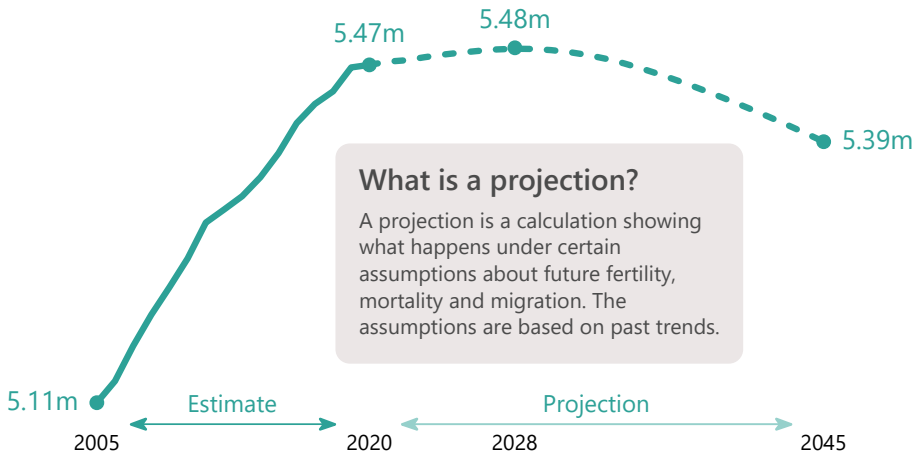
Published on 12 January 2022

This statistical report provides interim national population projections for Scotland based on the mid-2020 population estimates.

Scotland's population is projected to continue increasing until 2028, and then to fall

Scotland's population is projected to grow by 0.3% to 2028. Between 2029 and 2045 the projections show a decrease in population of 1.8%. These are the first recent projections to show a decline in population.

Number of people

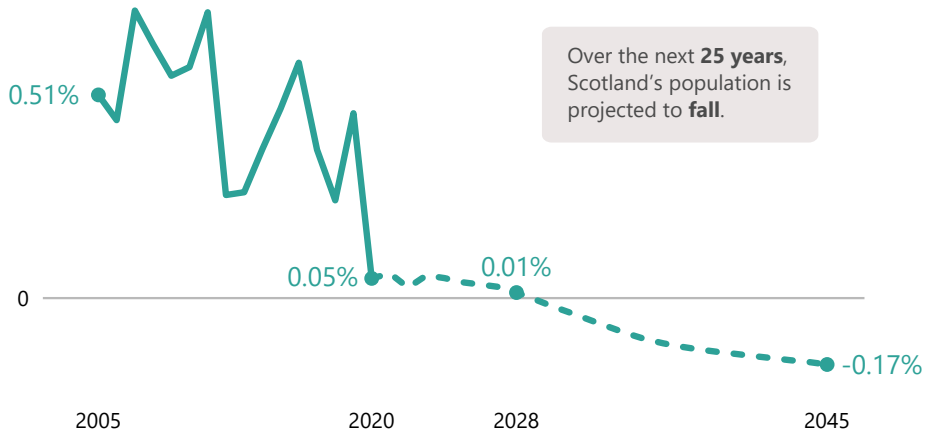


The rate of population change will move from an increase to a decrease

The rate of population increase has slowed recently, and the projections show the population starting to fall.

* Each data point is a year from July to June. So 2005 means July 2004 to June 2005.

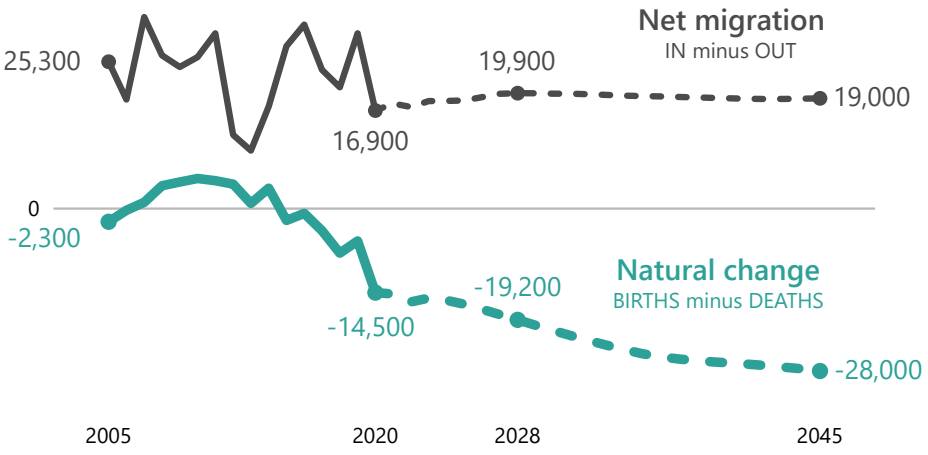
Annual population change (percent)



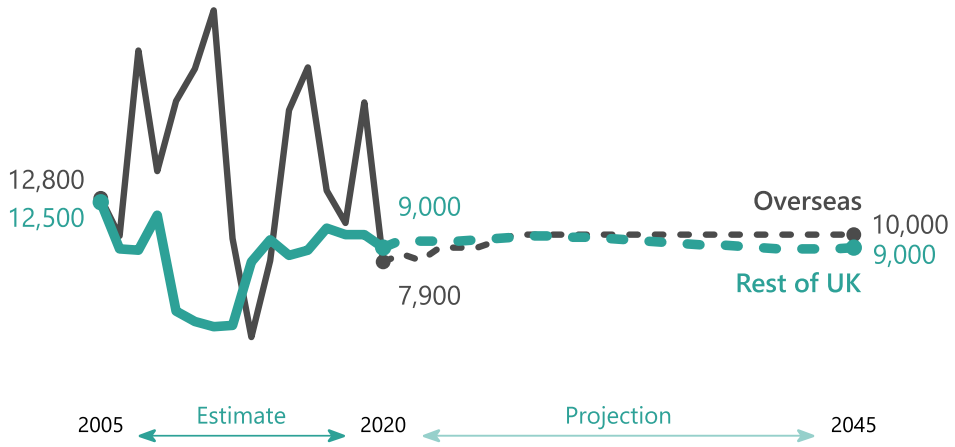
Migration is showing a different trend to births and deaths

Natural change is projected to fall to lower levels than have ever previously been recorded. Migration is projected to be the only source of population gain. 2028 is the last year where migration offsets natural change. After that the population is projected to fall.

Number of people



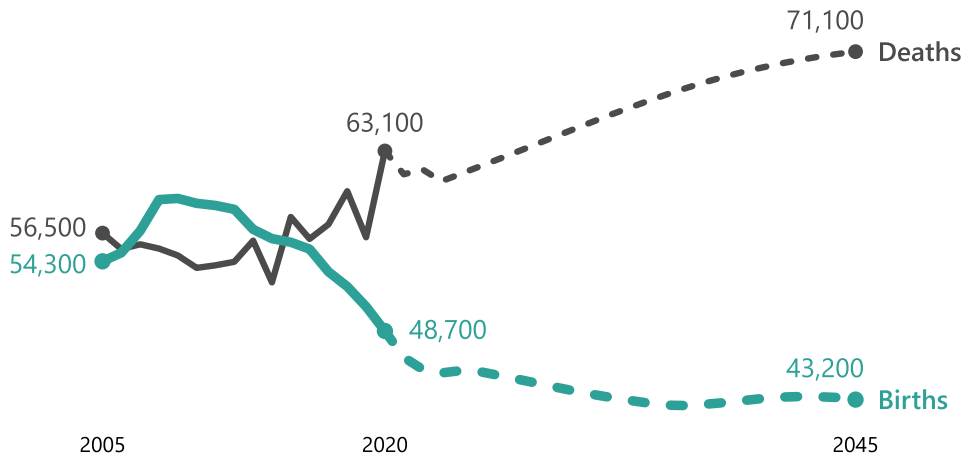
Net migration (IN minus OUT)



More people are projected to move to Scotland than leave

Net migration is projected to remain positive with more people moving to Scotland than leaving. Migration is evenly split between overseas and the rest of the UK.

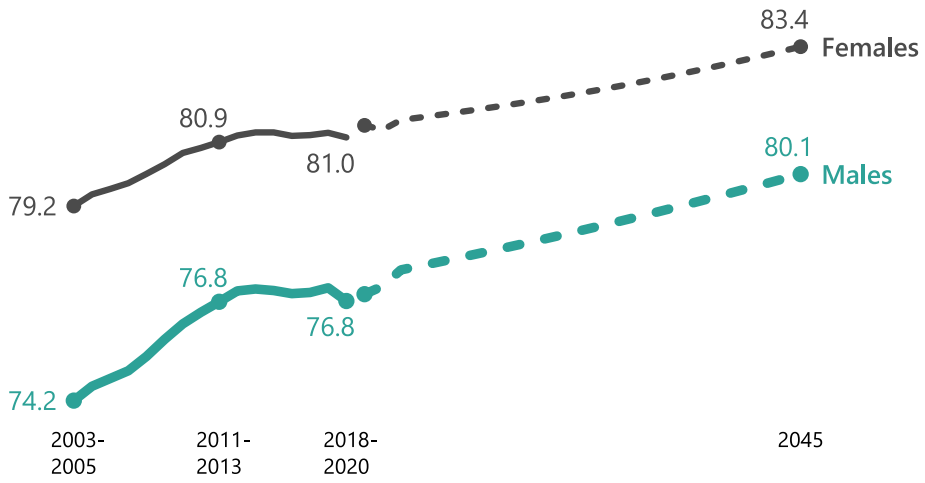
Number of births and deaths



More deaths than births are projected

The number of deaths has been increasing largely due to the ageing population. The number of births has been falling as people have fewer children. The gap between births and deaths is projected to widen each year.

Life expectancy



Life expectancy is higher for females than for males

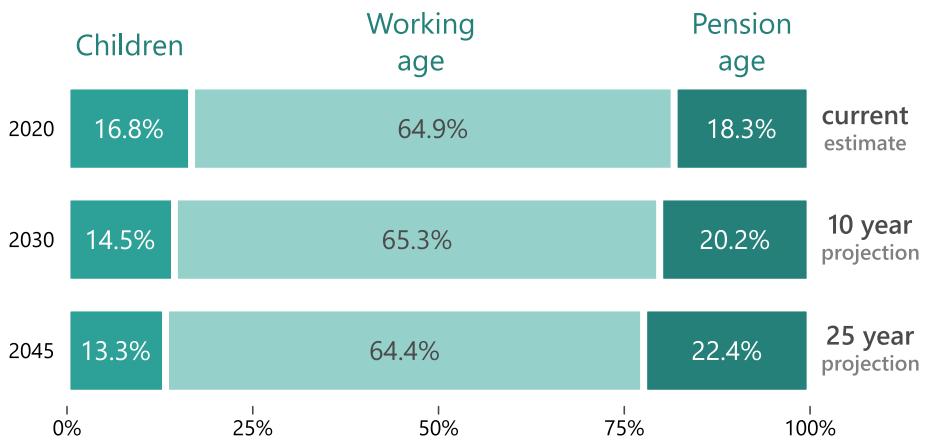
Life expectancy was increasing steadily, but this has stalled in recent years. The projections show life expectancy increasing again, but at a slower rate than previous projections.

* Figures up to 2018-2020 are based on three years of data. The projections are based on single years.

Scotland's population is ageing

The proportion of the population who are of pensionable age is projected to increase, reaching 22.4% by mid-2045. Children under 16 fall from 16.8% of the total population to 13.3% by mid-2045. The working age population is more stable at around 65% throughout.

Projected population by age group

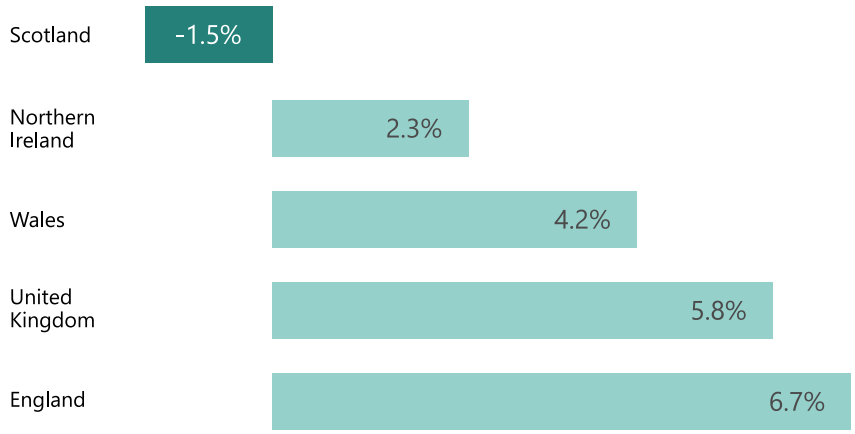


* State Pension Age is scheduled to change during the projection, and this has been taken into account.

Scotland is the only UK nation where the population is projected to fall

The UK population is projected to grow by 5.8% by 2045, which is lower than previous projections. This is compared to a 1.5% decrease for Scotland. If these projections were realised, Scotland's share of the UK population could fall from 8.1% to 7.6% by 2045.

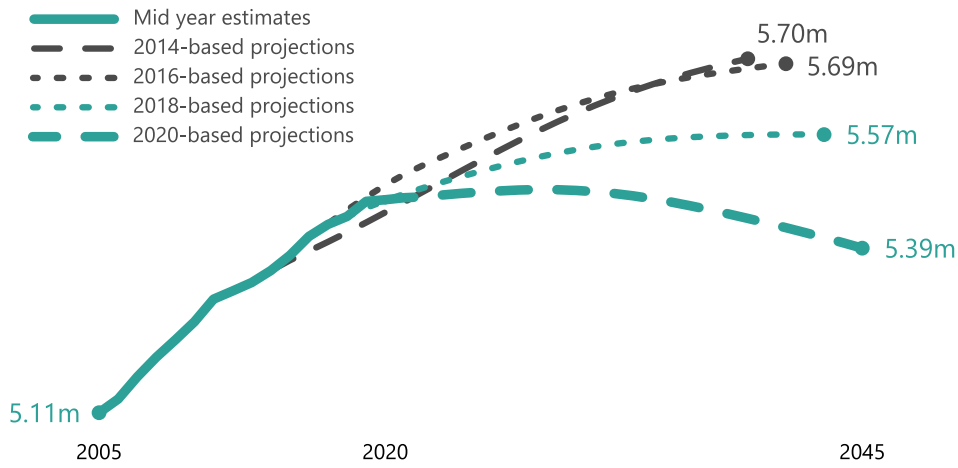
Projected population change, 2020 to 2045



The 2020-based projections are lower than previous projections

The last two sets of projections have been lower than previous ones. This is mainly due to them including lower fertility rates.

Comparisons with previous projections



Contents

Main Points

- The population of Scotland is projected to continue increasing until around mid-2028, peaking at 5.48 million. It is then projected to fall by 1.8% to 5.39 million by 2045.

- These projections are lower than the previous (2018-based) projections. The difference is mainly due to lower fertility rates[1]. These are the first projections for a number of years to show Scotland's population falling in the next decade. The previous (2018-based) projections suggested that the population could begin to fall at the end of the 25 year projection period.

- The population of the UK as a whole is projected to grow by 5.8% to 71 million by mid-2045. This is lower than the previous projections. Scotland is the only UK country where the population is projected to fall during the next 25 years. If these projections were realised, Scotland's share of the UK population would fall from 8.1% in mid-2020 to 7.6% by mid-2045.

- Scotland's population is projected to age. The number of people aged 65 and over is projected to grow by 29.7% by mid-2045, from 1.06 million to 1.37 million.

- The number of children is projected to fall. The number aged 0-15 is projected to fall from 916,800 in mid-2020 to 714,500 by mid-2045 (a fall of 22.1%).

- The population of working age is projected to be slightly smaller in mid-2045 than in mid-2020. In mid-2020 there were approximately 3.55 million working age people in Scotland, making up 64.9% of the population. In mid-2045, the working age population is projected to be 3.47 million, making up 64.4% of the population.

- During the 21st Century, more people have moved to Scotland than left each year. This trend is projected to continue.

- Since mid-2015, there have been more deaths than births each year. The gap between births and deaths is projected to widen. This is because we have a growing population of older people, and people are having fewer children. Over time, this gap is projected to outweigh the growth from migration.

- Life expectancy was increasing steadily, but improvements have stalled since 2012-14. The projections show life expectancy increasing again, but at a slower rate than previous projections. Life expectancy at birth is projected to increase to 83.4 years for females and 80.1 years for males by 2045.

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[1] In these projections, 'fertility' means the total number of children a woman would have, on average, at the end of her childbearing years.

1. What are population projections?

Overview

This publication looks at the projected future population of Scotland over the next 25 years to 2045. These projections are described as being 'interim' due to uncertainty in the mid-2020 base year, and in setting long-term demographic assumptions following the coronavirus (COVID-19) pandemic. Migration patterns following the withdrawal of the UK from the European Union on 31 January 2020 also add to the uncertainty.

These projections are prepared by the Office for National Statistics (ONS), on behalf of the National Records of Scotland (NRS). Population projections for the United Kingdom and its constituent countries are normally updated every two years. The projections are based on the most recently available mid-year population estimates. The underlying demographic assumptions regarding future fertility, mortality and migration are also updated. More information on the method and assumptions can be found in Section 5 of this publication.

Uses and limitations

The national population projections are produced on a consistent basis across the UK. They are commonly used for planning and providing public services, fiscal forecasting and developing policy for the future. When making use of these projections, it is helpful to know what they are and what they are not.

Projections…

	…are		…are not
✓	statistics on the potential future size and age structure of Scotland's population	✗	exact, as real population change will inevitably differ to some extent
✓	based on past trends and assumptions of future levels of fertility, mortality and migration	✗	forecasts based on predictions about future political and economic changes
✓	uncertain, and a degree of uncertainty already exists in the base-year data	✗	as accurate when you look at years in the distant future. This report focusses on the next 25 years
✓	available for Scotland, the UK and the other UK constituent countries	✗	available for areas within Scotland for mid-2020; these will be released alongside the next set of projections

Impact of COVID-19 on these figures

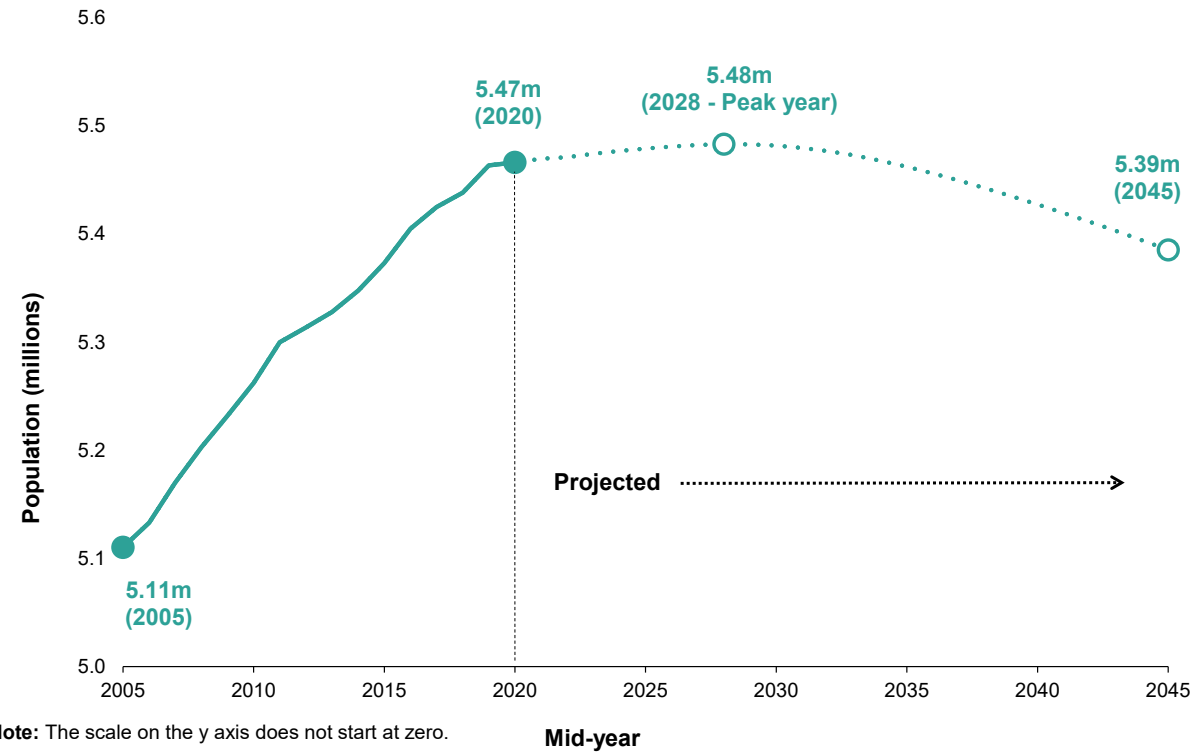
These statistics are based on the population estimates from 30 June 2020, which incorporated the impacts of the first part of the COVID-19 pandemic. The previous projections (2018-based) were produced before the pandemic. However, the main reason that these projections are lower is due to lower fertility figures. This is part of a long-term trend, rather than the effect of the pandemic.

2. How is Scotland's population projected to change?

The population of Scotland is projected to continue increasing until mid-2028, and then to fall

The population of Scotland is projected to continue increasing until around mid-2028, peaking at 5.48 million. It is then projected to fall by 1.8% to 5.39 million by 2045 (Figure 1).

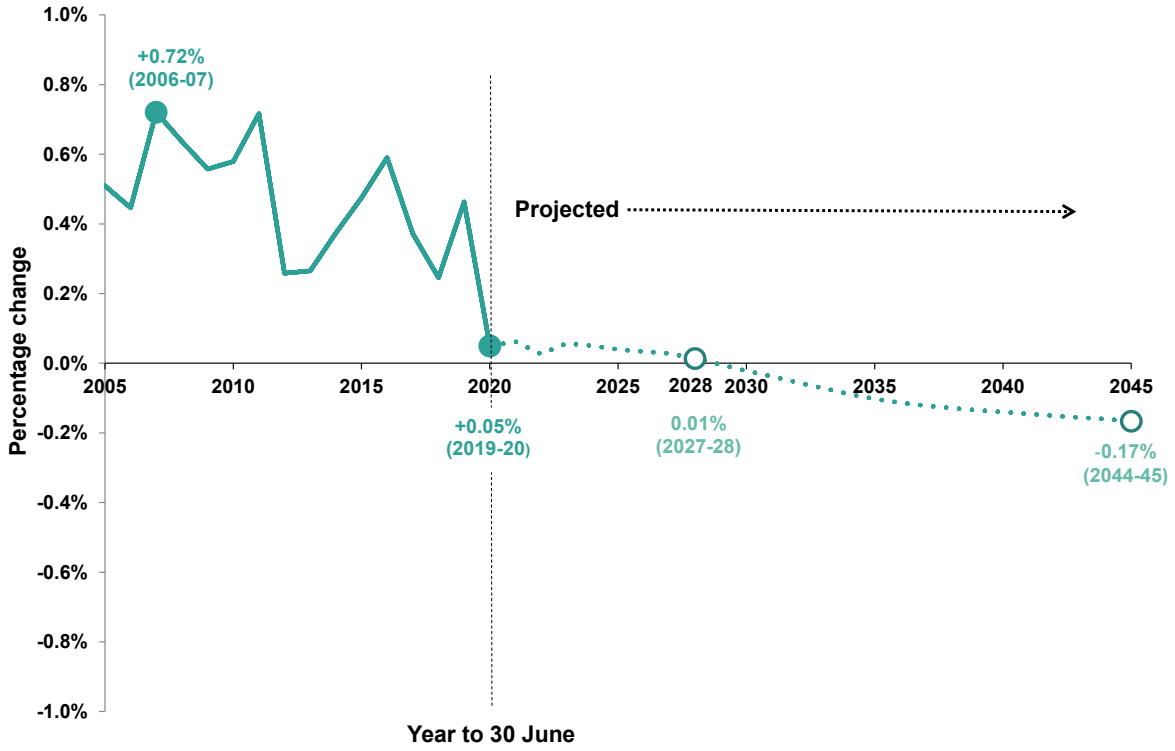
Figure 1: Population of Scotland, mid-2005 to mid-2045



Note: The scale on the y axis does not start at zero.

In the last 15 years, Scotland's population has increased from 5.11 million at mid-2005 to 5.47 million at mid-2020, the largest population ever recorded. The rate at which the population has increased has been changing, with growth slowing in recent years (Figure 2). Over the latest year, between mid-2019 and mid-2020, Scotland's population grew by +0.05%. Annual population change is projected to remain positive until mid-2028 after which population begins to fall. After that, the rate of population change is projected to remain negative through to mid-2045.

Figure 2: Annual population change for Scotland, 2004-05 to 2044-45



Why is the population projected to decrease?
The population increases through in-migration and births, and decreases through out-migration and deaths. The difference between the number of births and deaths is called natural change, and the difference between in and out migration is called net migration.

In the 25 years between mid-2020 and mid-2045, the projections for Scotland suggest that:

- 1.10 million babies will be born
- 1.66 million people will die
- ➢ This will lead to 0.56 million fewer people due natural change

- 1.97 million people will immigrate long-term to Scotland
- 1.49 million people will emigrate long-term from Scotland
- ➢ This will lead to 0.48 million more people due to migration

The combination of births, deaths and migration will lead to 0.08 million fewer people living in Scotland in mid-2045.

Why is Scotland's population changing?
More people are projected to move to Scotland than leave each year (Figure 3). Since 2015, there have been more deaths than births each year (Figure 4). The gap between births and deaths ('natural change') is projected to widen. This is because we have a growing population of older people, and people are having fewer children. Over time, this gap will offset the growth from migration, which means that the population will fall.

Figure 3: Net migration and natural change, 2004-05 to 2044-45

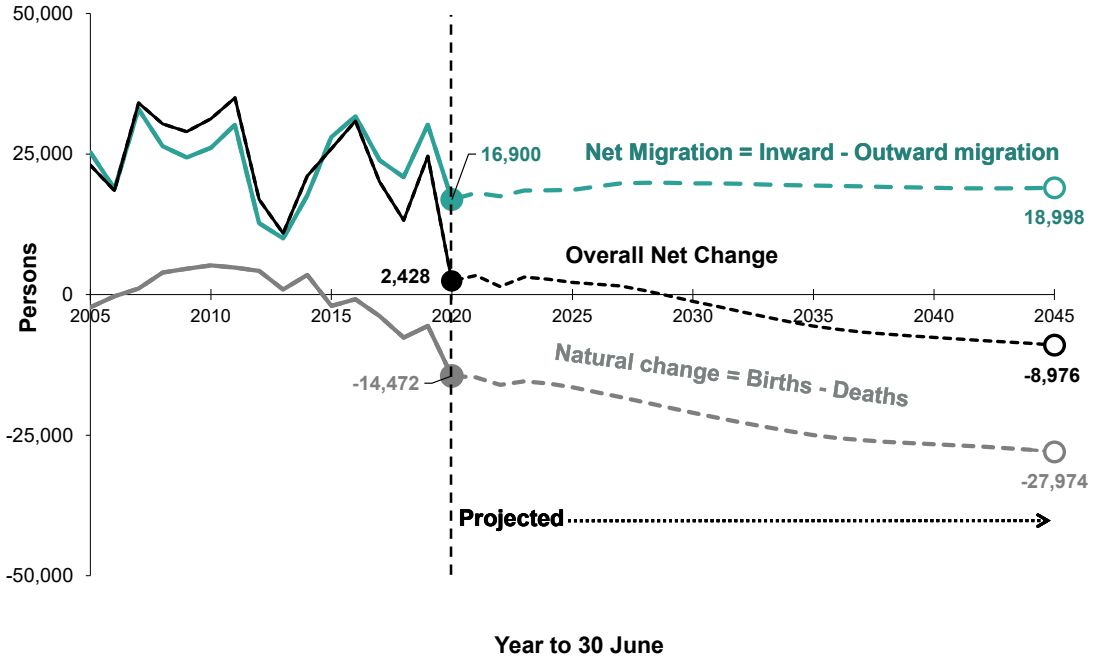
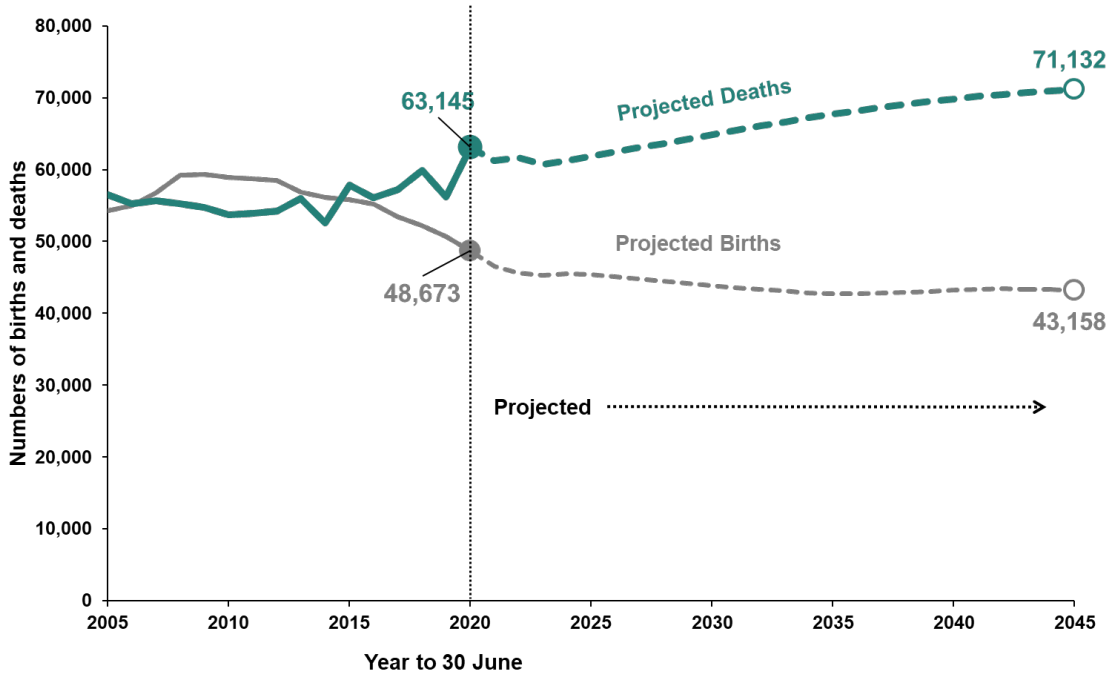


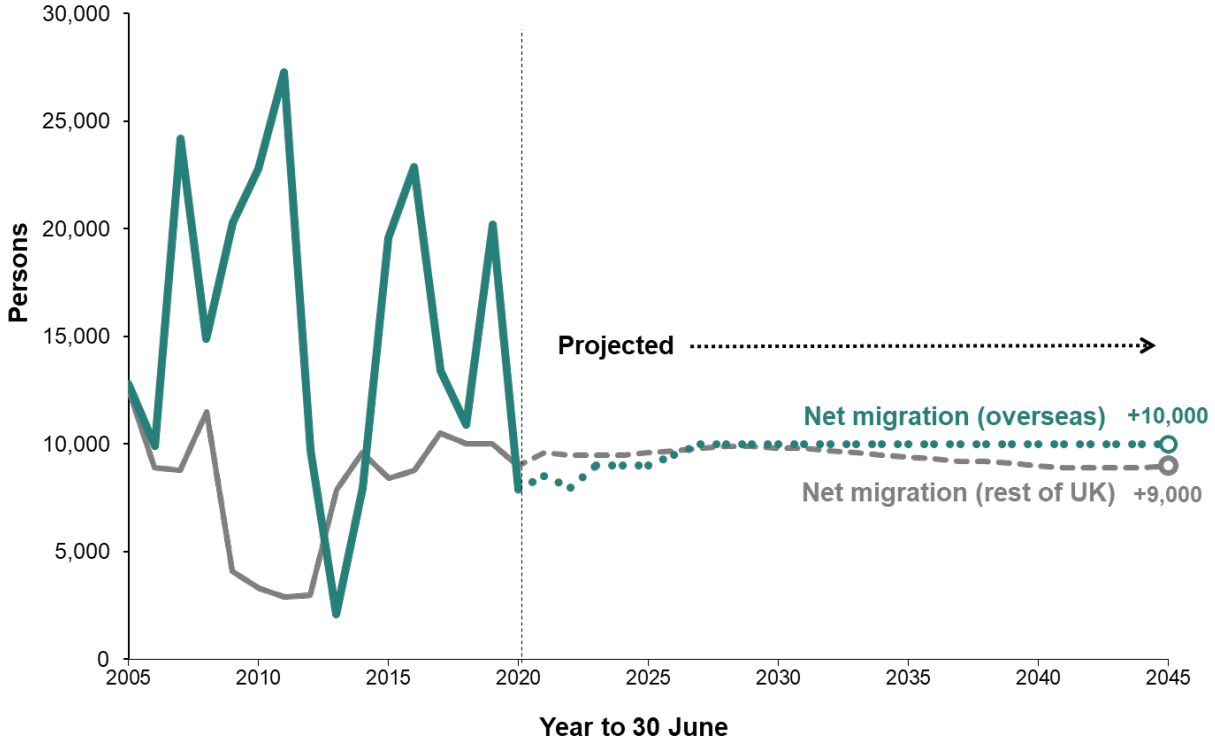
Figure 4: Births and deaths in Scotland, 2004-05 to 2044-45



Where is migration to Scotland projected to come from?
Figure 5 shows that in recent years, net migration from both overseas and the rest of the UK have added to the population. There are more people coming to Scotland than leaving. This trend is projected to continue in future. Over the next 25 years, net migration is projected to be fairly evenly split between people coming to Scotland from overseas, and those coming from the rest of the UK.

Figure 5 also shows that migration to/from overseas tends to fluctuate more over time than migration to/from the rest of the UK.

Figure 5: Net migration from the rest of the UK and overseas, 2004-05 to 2044-45

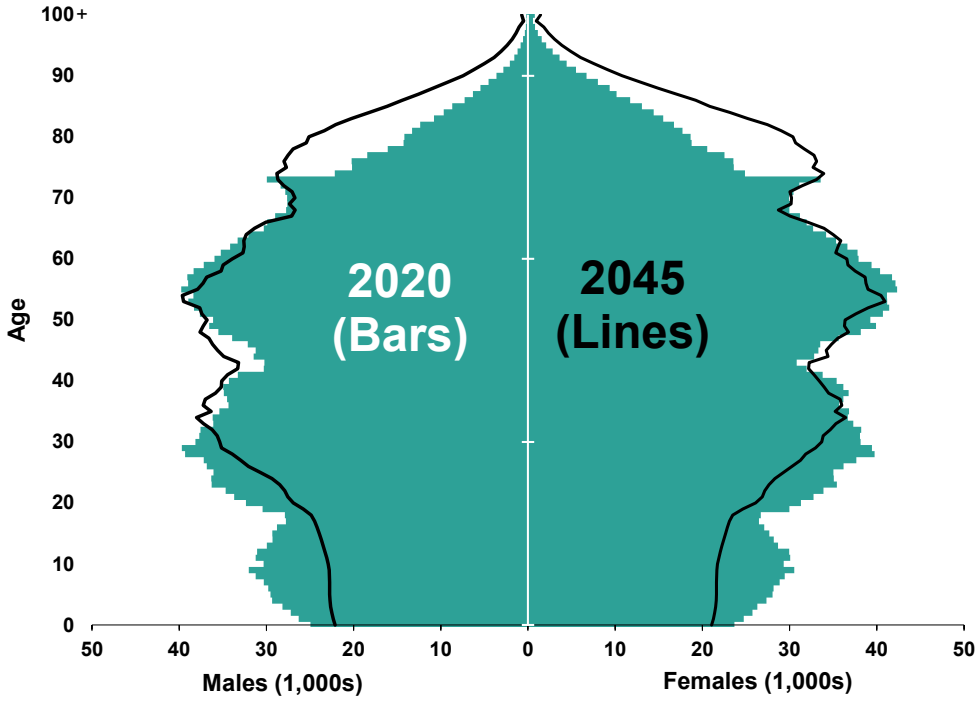


How is the age and sex structure of the population projected to change?
Age composition is one of the most important aspects of the population since changes in different age groups will have different social and economic impacts. For example, increases in the elderly population are likely to place a greater demand on health and social services.

Scotland is projected to have more older people and fewer younger people in mid-2045 than in mid-2020 (Figure 6).

The current (mid-2020) population structure includes a sharp peak at around age 73 (post-war baby boomers, born 1946-47), and a large bulge with people in their mid-50s (born during the 1960s baby boom). As these generations age, with higher life expectancy than in previous generations, they are projected to make up a growing proportion of the population. Also, as female life expectancy is higher than for males, more females are projected to live into older age.

Figure 6: Population of Scotland by age and sex, mid-2020 and mid-2045



The projections also indicate that the number of children in Scotland will be lower than current levels. This is because fertility rates are falling. In these projections, 'fertility' means the total number of children a woman would have, on average, at the end of her childbearing years.

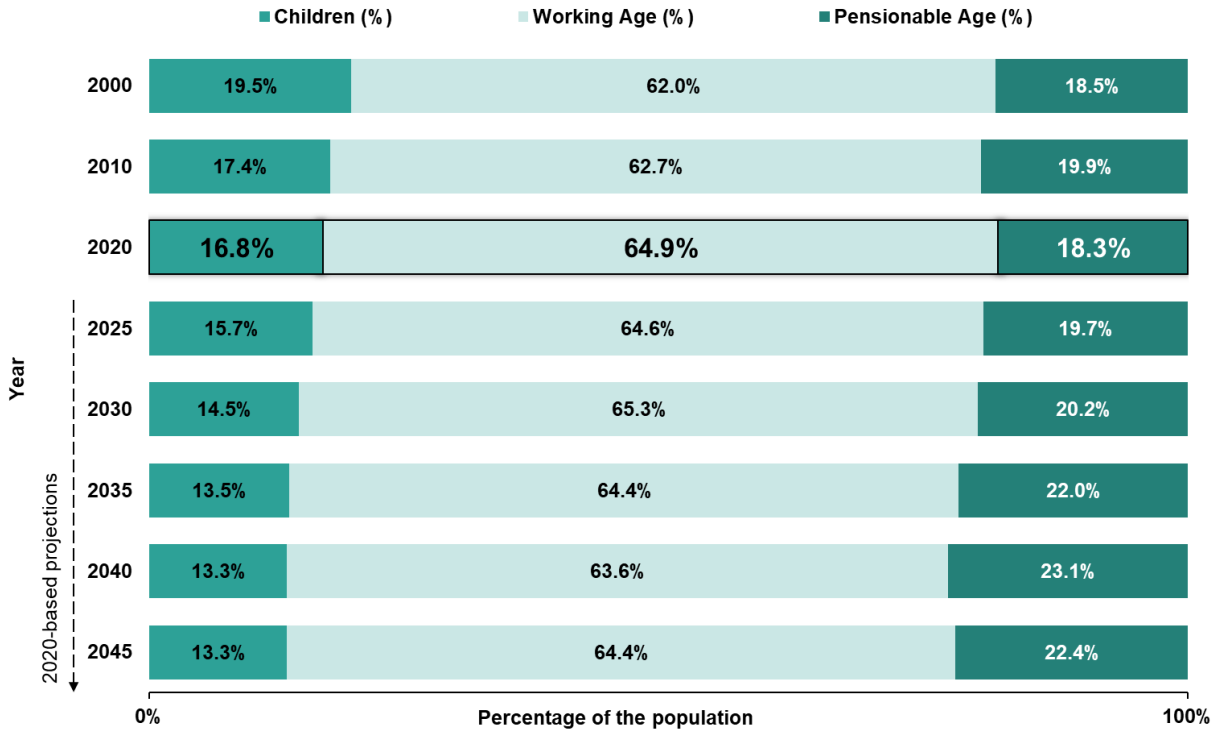
Online interactive charts allow you to explore how the population of each age group is projected to change.

How are the number of working and pensionable age people projected to change?

Overall, the proportion of the population who are of pensionable age is projected to increase, reaching 22.4% by mid-2045 (Figure 7). In contrast, the proportion who are children is projected to fall, and the proportion of working age is projected to stay fairly stable. Most of the changes are the result of the ageing population. Planned increases to the state pension age[2] will also have an impact on the relative proportions of people of working age and pensionable age.

[2] Working age and pensionable age populations are based on State Pension age (SPA) for the given year. Women's State Pension age increased to 65 between April 2016 and November 2018. From December 2018, the SPA for both men and women increased to reach 66 by October 2020 (Pensions Act 2011). Between 2026 and 2027 SPA will increase to 67 years for both sexes (Pensions Act 2014). SPA will increase to 68 years for both men and women between 2044 and 2046 (Pensions Act 2007).

Figure 7: Population by age group in Scotland, mid-2000 to mid-2045

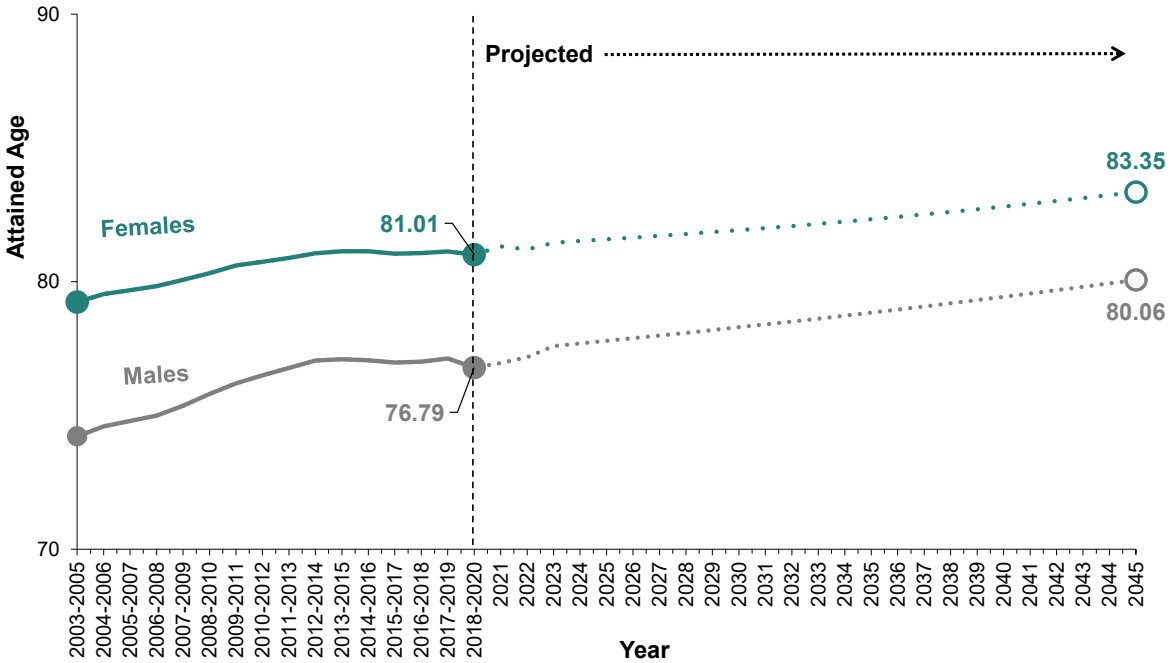


How is life expectancy projected to change in the future?

Life expectancy in Scotland had been increasing steadily for decades. However, since 2012-14, improvements in life expectancy have stalled. The projections show life expectancy increasing again, but at a slower rate than previous projections. Life expectancy at birth is projected to increase to 83.4 years for females and 80.1 years for males by 2045 (Figure 8). More information about the assumptions behind these projections can be found in Section 5.

The latest **life expectancy** figures for Scotland were published on the NRS website recently. Explore the publication to learn more about the latest trends.

Figure 8: Life expectancy for males and females in Scotland, 2003-2005 to 2045



Note: The scale on the y axis does not start at zero. Figures up to 2018-2020 are based on three years of data. The projections are based on single years

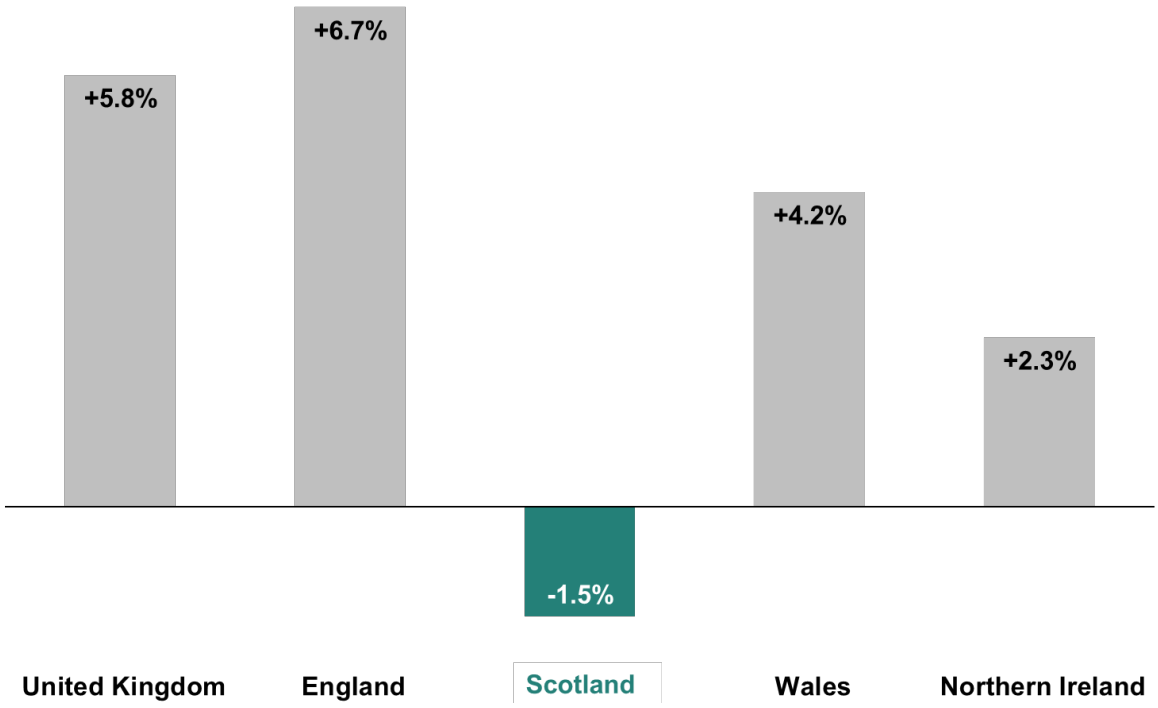
3. Comparisons with the United Kingdom

Changes across the constituent countries

The UK population is projected to increase from 67.1 million in mid-2020 to 71.0 million in mid-2045, an increase of 5.8% (Figure 9). This is lower than the previous (2018-based) projections. Scotland is the only UK constituent country with a projected fall in population over this period. In each part of the UK, population change is lower in the later part of the projection period than in the first decade.

Scotland's population (5.47 million people) made up 8.1% of the total UK population in mid-2020. This share is projected to fall to 7.6% by mid-2045.

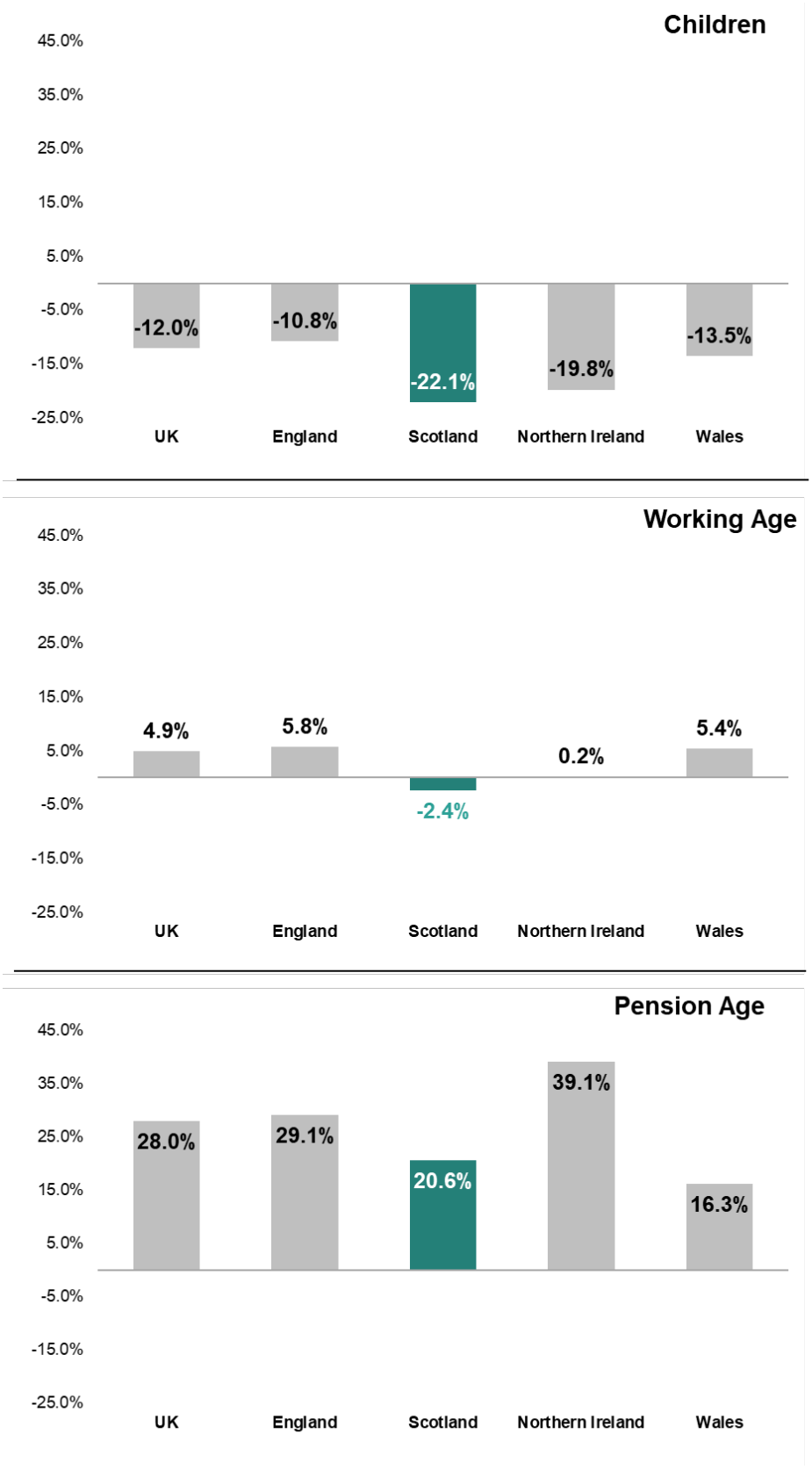
Figure 9: Projected population change in UK constituent countries, mid-2020 to mid-2045



Changes by age group

All areas of the UK are projected to see increases to the number of people of pensionable age, and decreases to the number of children between mid-2020 and mid-2045 (Figure 10). The number of people of working age is projected to change by a much smaller amount, in every part of the UK.

Figure 10: Projected population change by age group across the UK, mid-2020 to mid-2045



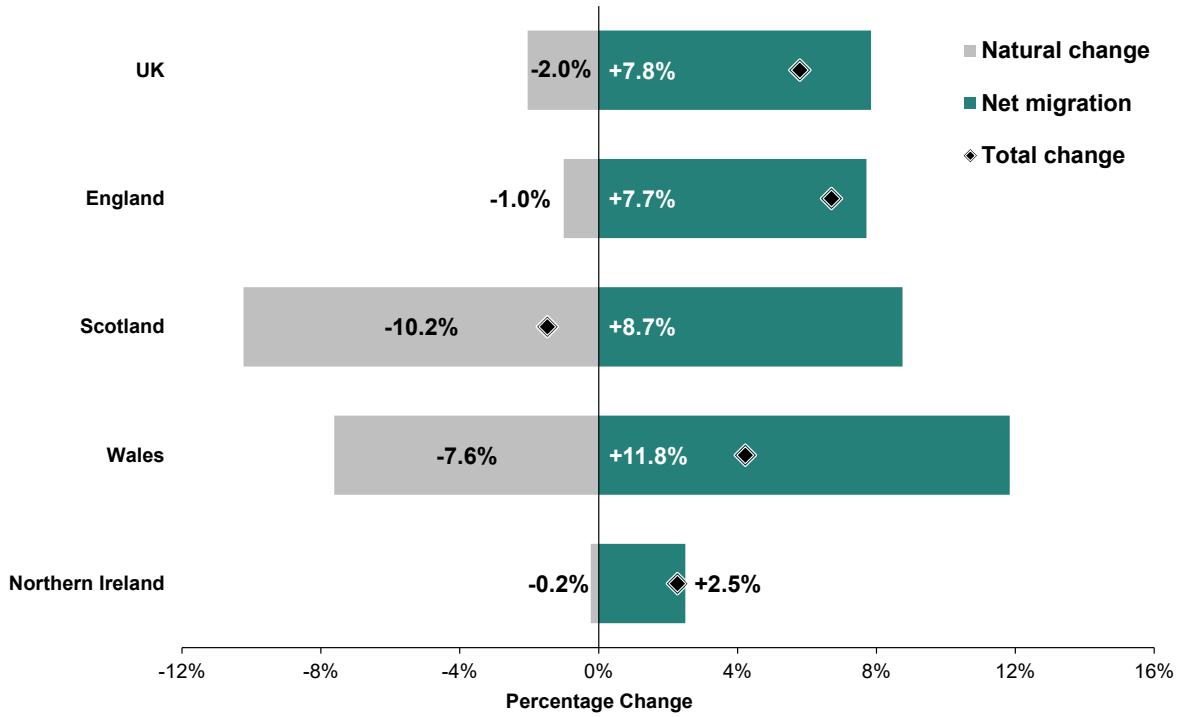
Components of population change

Figure 11 shows that in all parts of the UK, by 2045:

- more people are projected to move into the country than leave;
- there are projected to be more deaths than births.

In Scotland, the gap between births and deaths is projected to be wider than in other parts of the UK. This is due to Scotland having lower fertility rates and lower life expectancy. This explains why Scotland's overall population projections are lower than those for other parts of the UK. In contrast, Scotland has higher projected rates of net migration than England or Northern Ireland; only Wales has higher figures.

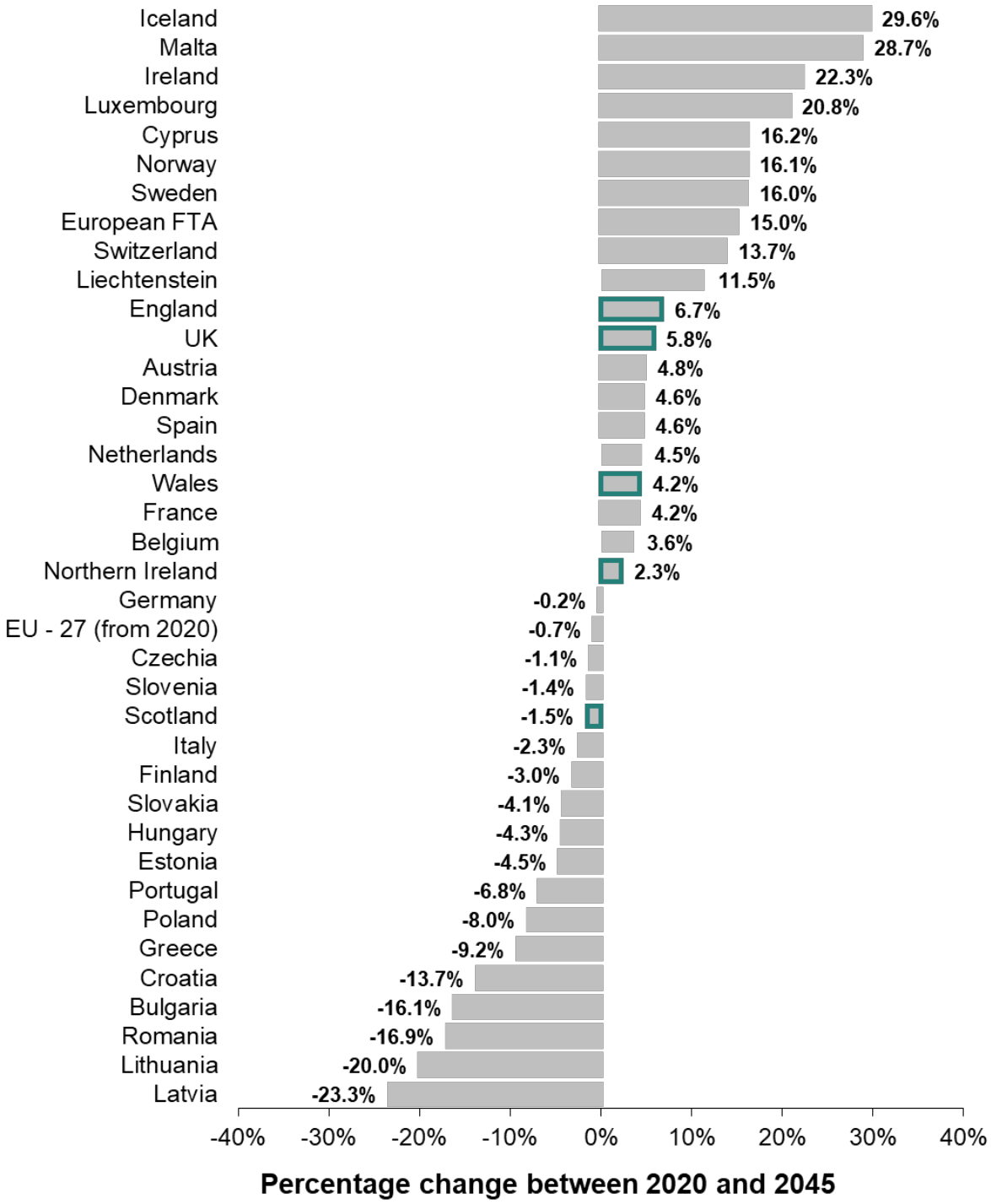
Figure 11: Components of population change across the UK, mid-2020 to mid-2045



4. Comparisons with the rest of Europe

Scotland's projected population change between 2020 and 2045 is -1.5%. The average population change for EU27 countries during this time is -0.7%. There are wide differences in the projected change in the population of different European countries, ranging from +29.6% in Iceland to -23.3% in Latvia (Figure 12). The countries with the biggest projected falls tend to be in eastern Europe, though there are several countries in western Europe with a larger projected fall in population than Scotland. These countries include Greece (-9.2%), Portugal (-6.8%), Finland (-3.0%) and Italy (-2.3%).

Figure 12: Projected population change across Europe, 2020-2045



Source: Office for National Statistics (ONS) 2020-based interim projections (UK and constituent countries) and Eurostat 2019-based projections (all other countries). The Eurostat projections may use different methodologies to the UK projections.

What are you looking for?	Where is it?
The data used in this publication	Publication data
Open data	statistics.gov.scot
Create your own projections charts	Interactive data visualisation

5. Methodology and assumptions used

Methodology

The 2020-based national population projections are based on the estimated population at 30 June 2020 and a set of demographic assumptions about future fertility, mortality and migration based on analysis of past trends and expert advice.

The assumptions underlying the 2020-based national population projections are compared with those used for the 2018-based projections in Table 1.

The National Population Projections are produced by the Office for National Statistics (ONS) on behalf of National Records of Scotland. This ensures that the projections for Scotland are consistent and comparable with those for the other constituent countries of the United Kingdom.

More information on the method used to produce these projections is available from the National Population Projections Quality and Methodology report on the ONS Website.

Assumptions

The assumptions used for Scotland and the UK in the principal (main) projections are shown below in Table 1. For comparison, the assumptions from the 2018-based projections are also provided.

Table 1: Assumptions for the 2020-based and 2018-based principal projections, Scotland and the UK

Assumptions	Scotland 2018-based principal projection	Scotland 2020-based principal projection	UK 2018-based principal projection	UK 2020-based principal projection
Long-term fertility (Total Fertility Rate)	1.50	1.30	1.78	1.59
Life expectancy males (2045)	80.6	80.1	82.6	82.1
Life expectancy females (2045)	83.8	83.4	85.5	85.3
Net migration from the rest of the UK (2045)	9,000	9,000	0	0
Net migration from overseas (2045)	9,500	10,000	190,000	205,000
Total Net migration (2045)	18,500	19,000	190,000	205,000

Fertility
In the projections, 'fertility' is taken to mean the total number of children a woman would have, on average, at the end of her child-bearing years. It is sometimes expressed as 'completed family size'. The long-term total fertility rate for Scotland is assumed to be 1.30. This is lower than the previous set of projections, which is the main reason the overall projections are lower. Each part of the UK has lower fertility rates in this set of projections, compared to the last set.

Life expectancy
For the 2020-based projections, life expectancy is slightly lower than for the previous set of projections.

Migration
Migration between Scotland and the rest of the UK is calculated using a rates based model based on trends in migration between the constituent countries of the UK over the last five years. Long-term net migration between Scotland and overseas is calculated using a 25 year average of migration trends. This methodology was also used in the 2018-based projections.

The net migration figures from the rest of the UK are the same as those used in the last set of projections (+9,000 per year). The net migration figures from overseas are slightly higher (+10,000 per year, which is 500 higher than the figure used in the last projections).

More details about the methodology and the assumption setting for the National Population Projections can be found on the ONS website, along with the assumptions for fertility, mortality and migration.

Strengths and limitations

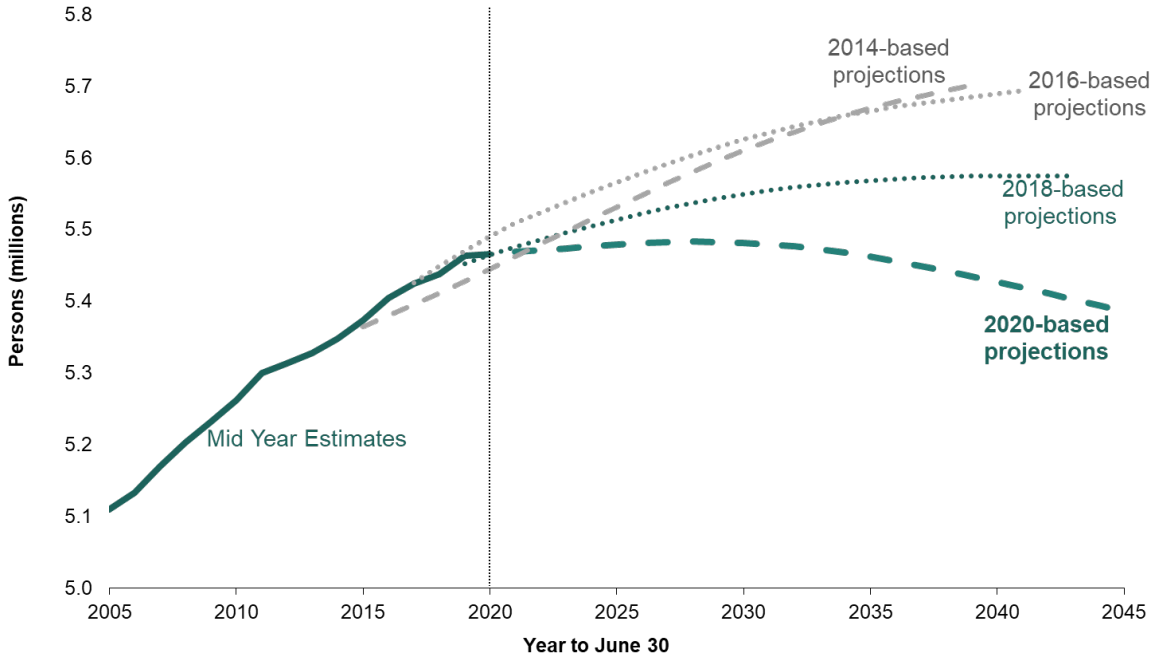
A summary of the strengths and limitations is provided on page 7 and more information is available in the uses and limitations of projections section of the NRS website.

6. Comparisons with previous projections

Population projections are usually produced every two years. The previous set of projections were based on the mid-year population estimates for 2018.

Figure 13 compares the 2020-based projections with previous projections. The 2018-based figures showed the population rising slowly and then levelling off. The 2020-based projections are lower – they show the population falling from 2028. The main reason for the difference is that the 2020-based projections include lower fertility rates.

Figure 13: Comparison of 2020-based population projections with previous projections



The scale on the vertical axis does not start at zero

7. Future plans for projections

NRS normally publish additional projections including:

- Population Projections for Scottish Areas - the 2018-based projections for Scottish areas were published in March 2020. This broke down the national projections to council areas, health board areas, National Parks and Strategic Development Planning areas. Note that these breakdowns will not be produced for this set of projections.

- Household projections - the 2018-based household projections for Scotland were published in July 2020. Household projections will not be produced for this set of projections.

- Variant projections – as these are interim projections, variant projections will not be produced for this set of projections.

It is currently planned for the next national population projections to be 2021-based and include Census 2021 data for England, Wales, and Northern Ireland and the latest mid-year population estimates for Scotland. These will also include an updated set of demographic assumptions and a range of variant projections. The plan is to publish these in 2023, although this plan is subject to change and yet to be confirmed. They will be followed by population projections for Scottish areas, and household projections.

NRS will keep users updated on developments and future plans for projections. If interested, please register your interest on the ScotStat website.

NRS have been supporting users interested in producing small area projections to inform planning and service delivery at local level. More information about this is available on the NRS website.

8. Links to related statistics

Population projections for the UK and its constituent countries are available from the Office for National Statistics website.

Population estimates for Scotland are available on the NRS website. Population estimates for the UK are available on the Office for National Statistics website.

Statistics for life expectancy in Scotland for 2018-2020 were published on 23 September 2021, and are available on the NRS website.

The latest statistics on births and deaths in Scotland are available in the Vital Events section of the NRS website.

Migration statistics for Scotland and Scottish areas are also available on the NRS website, showing the number of people moving to or from an area.

9. Notes on statistical publications

National Statistics

The United Kingdom Statistics Authority (UKSA) has designated these statistics as National Statistics, in line with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics (available on the UKSA website).

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is National Records of Scotland's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

Information on background and source data

Further details on data sources, timeframe of data and timeliness, continuity of data and accuracy can be found in the About this Publication document that is published alongside this publication on the NRS website.

National Records of Scotland

We, the National Records of Scotland, are a non-ministerial department of the devolved Scottish Administration. Our aim is to provide relevant and reliable information, analysis and advice that meets the needs of government, business and the people of Scotland. We do this as follows:

Preserving the past – We look after Scotland's national archives so that they are available for current and future generations, and we make available important information for family history.

Recording the present – At our network of local offices, we register births, marriages, civil partnerships, deaths, divorces and adoptions in Scotland.

Informing the future – We are responsible for the Census of Population in Scotland which we use, with other sources of information, to produce statistics on the population and households.

You can get other detailed statistics that we have produced from the Statistics section of our website. Scottish Census statistics are available on the Scotland's Census website.

We also provide information about future publications on our website. If you would like us to tell you about future statistical publications, you can register your interest on the Scottish Government ScotStat website.

You can follow us on Twitter @NatRecordsScot

Enquiries and suggestions

Please contact our Statistics Customer Services if you need any further information.
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