

Population Revision Guide

Updated: August 2025



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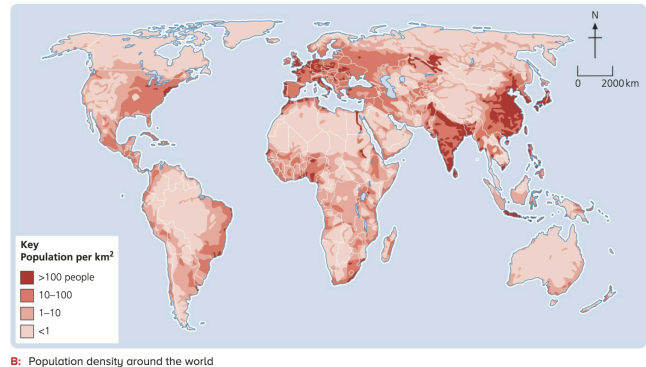
Topic 1: Where does everyone live, and why?

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Population figures are constantly changing. Currently the world's population is over eight billion and growing fast. The number increases by about 80 million each year - ten times the population of London.

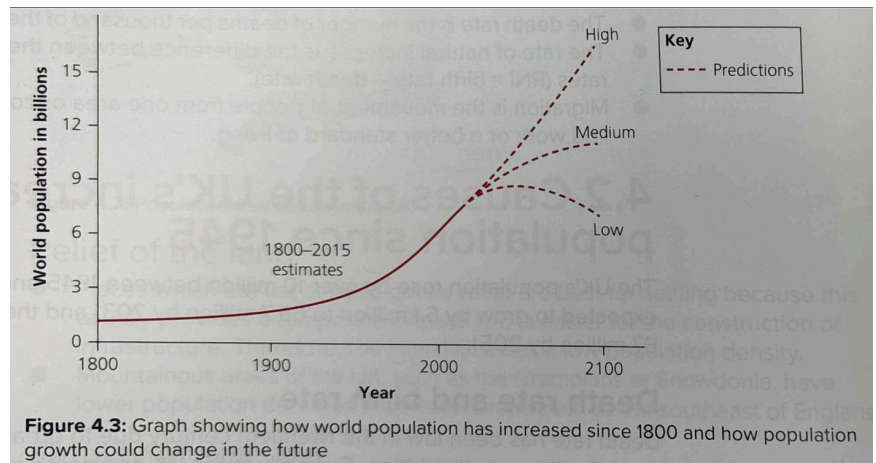
The current (2025) statistics are:

- World population: 8.2 billion
- World population density: 16 per km squared
- China's population: 1.42 billion
- India's population: 1.45 billion
- Switzerland's population: 8.9 million
- UK's population: 69.1 million
- London's population: 8.9 million



What population terminology do I need to know?

- **Population** - The number of people living in an area.
- **Population Density** - If there are many people living in a place close together we call it densely populated. If there are fewer people spread over a place we would describe the area as sparsely populated. If there are lots of people spread over a place we would describe the area as densely populated.
- **Birth Rate** - The birth rate is the number of births per thousand of the population per year.
- **Death Rate** - The death rate is the number of deaths per thousand of the population per year.
- **Natural Increase** - The rate of natural increase is the difference between the birth and death rates (NI = birth rate - death rate).
- **Migration** - Migration is the movement of people from one area or country to another to find work or a better standard of living.



When did the world's population explosion take place?

After 1950, the world's population increased rapidly. This was partly due to the birth rate being twice as high as the death rate. Advances in medicine led to the fall in the death rate.

Previous milestones:

- 1 billion: 1804
- 2 billion: 1930
- 3 billion: 1960
- 4 billion: 1974
- 5 billion: 1986
- 6 billion: 1998
- 7 billion: 2010
- 8 billion: 2022

What factors affect birth rate and death rate?



What are the factors that affect population density?

Climate:

- Climates which are temperate are ideal for settling.
- Places which are extremely hot, cold or dry tend to have lower population densities, for example the Sahara Desert is very hot and dry and therefore very few people live there.
- Mountainous areas of the UK, which are wetter, windier and colder than the rest of the UK, have comparably lower population densities than the places with more favourable climates.

Relief of the land:

- Places which are flat or have gentle relief are best for settling because this usually provides a temperate climate and is easier for the construction of infrastructure. Therefore, the Himalayas has a low population density.
- Mountainous areas of the UK, such as the Grampians or Snowdonia, have lower population densities than flatter areas such as the southeast of England.

Fertility of soil:

- Areas where soil is fertile provide for productive agriculture. Therefore, population densities are greater in these areas.

- Fertile areas include land near rivers and at the base of volcanoes.
- Bangladesh, on the Ganges floodplain, has a high population density.
- East Anglia, England, comprises fertile boulder clay soil, and has a reasonably high population density.

Availability of natural resources:

- Countries or areas which are rich in resources such as oil, coal and precious minerals are likely to have high population densities.

Perceived likelihood of natural disaster:

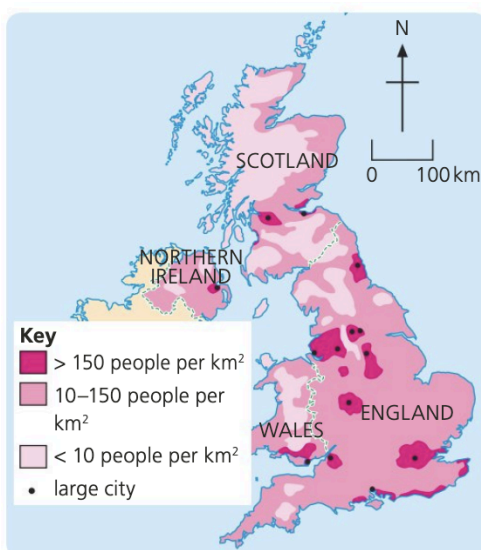
- Countries which are away from tectonic plate boundaries are less likely to experience other natural disasters such as hurricanes and floods are likely to be more densely populated. For example the UK is not likely to experience severe tectonic disasters or hurricanes and this is one reason why it has a high population density.

Stability of government:

- Countries with unstable governments often experience high levels of emigration. For example, the Central African Republic has experienced many coups and has low population density.

Job opportunities:

- Areas with many job opportunities are likely to have high population densities. For example, the southeast of the UK has a much higher population density than the rest of the UK, and this is partly due to the fact that London provides a multitude of jobs and high paid jobs.



E: Population density in the UK

Topic 2: How can I use statistics, line graphs and a model to investigate population change?

[Click here](#) to listen to a podcast about this topic.

A World population data,
<https://ourworldindata.org/>

Year	Population
10,000 BC	4 million
0	250 million
1700	600 million
1800	1 billion
1900	1.65 billion
1930	2 billion
1960	3 billion
1974	4 billion
1987	5 billion
1999	6 billion
2011	7 billion
2024	8 billion
2039	9 billion
2056	10 billion
2088	11 billion

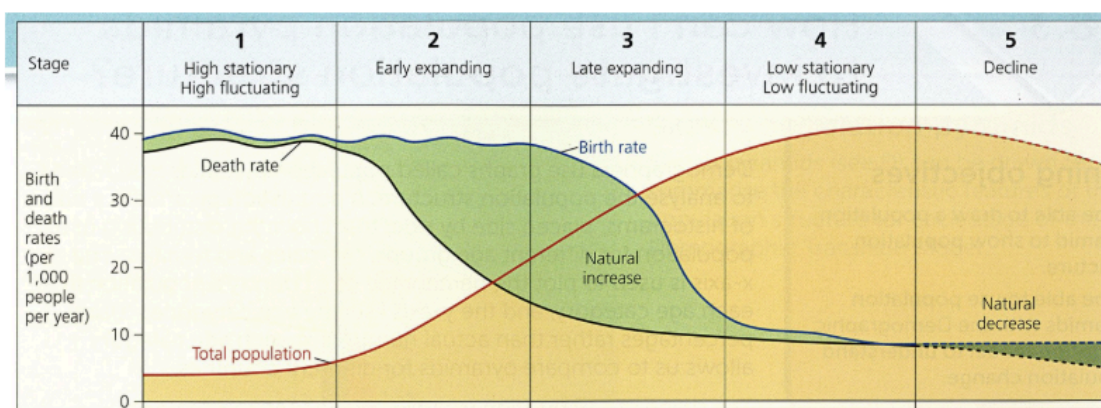
Demography is defined as the **study of human populations**: their size, composition and distribution as well as the causes and consequences of changes in these characteristics. Populations are constantly changing; they grow or decline through the changes in birth, death and migration rates. Demographers study these statistics and how they change. They use censuses, birth and death records and surveys. They search for explanations of demographic change and their implications for societies.

The **birth rate** is the number of **births per 1000 of the country's population**, each year, and the **death rate** is the number of **deaths per 1000 people of the country's population**. The **difference** between birth rate and death rate is the **natural increase or decrease** in a country's population. These rates change for a variety of reasons and a country develops and its population evolves.

Table A shows how the world's total population has changed through time. The **Demographic Transition Model (DTM)**, C, was developed and explains these changes - it is a **generalised model showing the total populations, birth rates, death rates,**

and natural increase / decrease change over time. The model is based on the observation of similar population

growth patterns in mainly European countries, over years, as their economies developed. Demographers suggest there may be a sixth stage. We still not sure how model will evolve. Rapidly developing countries in Asia and Africa may not follow the same population changes experienced by the more slowly developing European Cities.



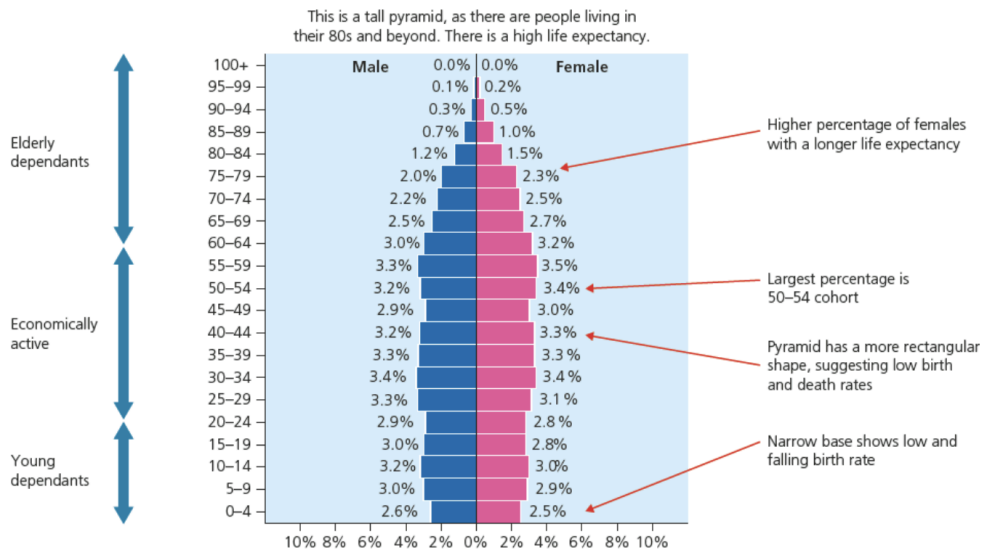
C The Demographic Transition Model (DTM)

What happens at each stage of the DTM?

- **Stage one** – Population is low but there are high birth and death rates.
- **Stage two** – Population begins to increase as death rates fall due to improvements in medicine and sanitation. Birth rates remain high.
- **Stage three** – Population is still increasing but more slowly now as birth rates fall due to increased access to contraception and family planning, improvements in health education and a general desire for smaller families. Death rate continues to fall but at a slower rate than at stage two.
- **Stage four** – Population is now high but as birth rates and death rates are now low, the rate of population change is steadier than before.
- **Stage five** – Population may start to decline at this point due to low birth rates and an ageing population leading to a slight increase in death rates.

Topic 3: How can I use population pyramids to investigate population structure?

[Click here](#) to listen to a podcast about this topic.



A A population pyramid, 2023

Population pyramids are used to analyse the population structure. A population pyramid is a pair of histograms, placed side by side, that **show the distribution of a population for different age groups, for males and females**. The x-axis is used to plot the percentage of a country's population in each age category, and the y-axis lists the age categories. Using percentages rather than actual numbers in each age category allows pyramids for different countries to be compared.

The shape of a population pyramid can be used to **interpret** a population. For example:

- A pyramid with a **very wide base** and a **narrow top section** suggests a population with both a **high birth rate** and **high death rate**.
- A pyramid with a **wider top half** and a **narrower base** would suggest an **ageing population** with **low birth rate** and **low death rate**.

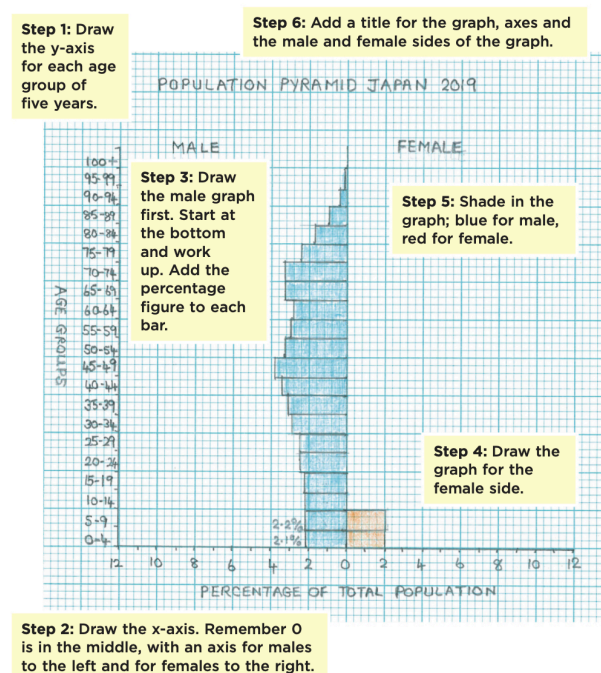
Population pyramids **provide information** about **birth** and **death rates** as well as **life expectancy** (the average age which men and women may expect to reach in a particular country).

A population pyramid tells us how **dependants** there are. There are groups of dependants; young dependants (aged below 15) and dependants (aged over 65). Dependants rely upon the **economically active** for economic support. These are people of working age 15 and 65.

These graphs are very **useful** to **governments** to better understand country's population structure, in plan for the future.

How do you draw a population pyramid?

A How to draw a population pyramid



B Data for population pyramid for Japan

Age group, years	Percentage of the total population, 2019	
	Males	Females
100+	0	0.1
95-99	0.1	0.3
90-94	0.4	1
85-89	1	1.8
80-84	1.7	2.4
75-79	2.4	3
70-74	3.3	3.8
65-69	3.3	3.5
60-64	2.9	3
55-59	3	3.1
50-54	3.3	3.3
45-49	3.9	3.8
40-44	3.5	3.4
35-39	3.1	3
30-34	2.9	2.7
25-29	2.5	2.4
20-24	2.5	2.3
15-19	2.3	2.2
10-14	2.2	2.1
5-9	2.2	2.1
0-4	2.1	2

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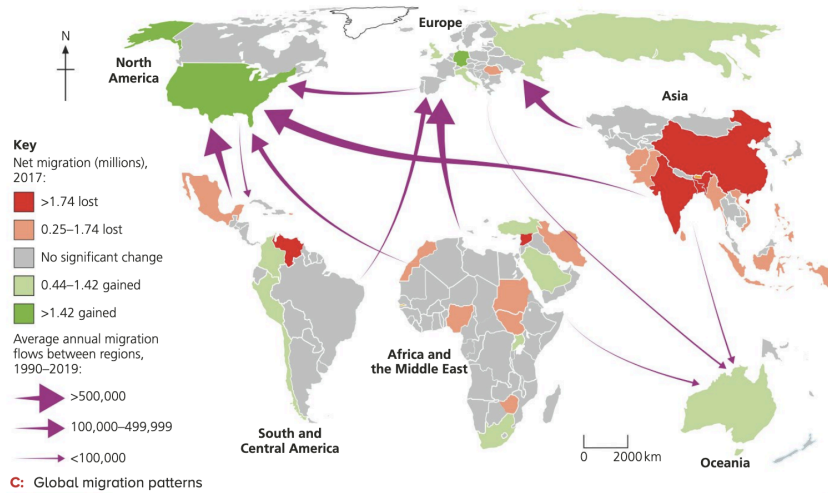
Topic 4: What are the causes and impacts of migration?

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People on the move

The movement of people from place to place is called **migration**. People are not alone in migrating - think about birds such as swallows, which migrate huge distances every year.

In the past, most people were born, grew up and died in the same area. Most people worked on the land or in local industry, and there was little transport to other areas. Today people can travel quickly over long distances and often choose to move to different places and even different countries (**photo A**).



What are the global migration patterns like?

3.5% of the world's population are international migrants (most migrants tend to go from low- to high-income countries (LICs to HICs). Most people choose to migrate, however, some are forced to migrate, due to war, famine, natural disasters or political persecution. These people become **refugees** - people who have left their home and do not have a new home to go to. There are about 25 million refugees worldwide.

There are two main driving forces for migration, whether internal or international migration.

- **Push factors** are reasons why people leave an area, e.g. famine, lack of security, few jobs, instability, no healthcare, no schools, no family.
- **Pull factors** are the reasons why they are attracted to another area to live, e.g. job opportunities, food, security, healthcare, schools, family, stable government.

Migration into the UK

The 2011 census revealed that the UK's population is growing. There are two reasons why populations get bigger:

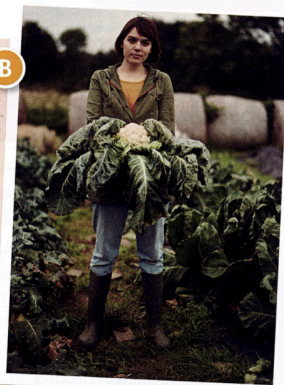
- More babies are born than the number of people that die.
- More people move into a country than move out.

Over 50% of the increase in the UK's population was from **international migration** - people moving from other countries to the UK. This is the key reason for ethnic diversity in the UK, since people come from all over the world.



Lara's story

I am from Poland, where my parents still live. There was little work in our village so I decided to come to England where I knew I could find work. The work is hard, but it is good to be earning money. When I can, I send some back to my parents to help make their lives a little easier.



Lara harvesting cauliflowers in Worcestershire

At the same time, people are also moving out of the UK. The difference between the number of people arriving (**immigrants**) and the number of people leaving (**emigrants**) is called **net migration**.

Why are people moving into the UK?

There are many reasons why people move to the UK.

- Some people wish to live and work in the UK because they can earn more money than in their home country. These people are called **economic migrants** (**photo B**).

- After they escape wars and natural disasters, some refugees seek safety in the UK. In recent years, the UK has accepted people from countries such as Afghanistan and Syria.
- Other people come to the UK for social reasons - to join family and friends or to study in the UK.

Table C shows the top ten countries for non-UK born residents recorded in the 2001 and 2011 censuses. Notice that in the 2011 census most immigrants came from India, Poland and Pakistan. Most of these people travelled to the UK to be with family and friends or to seek work.

Some of the immigrants came from other countries, most of which have long-standing ties with the UK or are English-speaking.

Internal Migration

Internal migration involves moving from one part of a country to another. In 2010 - 11, about 100,000 people moved out of England into another part of the UK. A similar number moved into England. Look at **table E**. It shows the net migration for the UK regions.

One of the most frequent types of internal migration is **rural to urban migration**. Today, this happens mainly in low-income countries (LICs), where cities are growing rapidly and people are leaving the countryside. In the past, it also happened in high-income countries (HICs). Today, over half of the world's population lives in cities.

Why do people migrate within the UK?

There are many reasons why people move around within the UK. Most are to do with jobs and family.

A closer look: migration to the South West

Look back at **table E**. Notice that the highest net migration is to the South West. There are several reasons why this region is so attractive to migrants from elsewhere in the UK.

- Bristol is one of the fastest growing cities in the UK. It is a centre for creative and technological industries.
- The region is well served by rail, motorways and air transport.
- Several universities attract large numbers of students into the region.
- The quality of life is high with relatively low levels of crime and pollution.
- Tourism brings many visitors and provides opportunities for businesses such as cafes and 'bed and breakfast'.
- The region has a mild climate, so many people choose to retire to the coast, for example on the 'English Riviera' at Torquay in Devon.

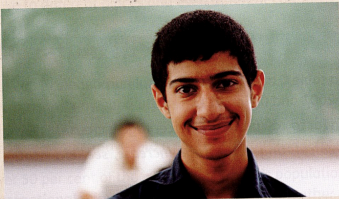
Country of birth	2001 Census	2011 Census
India	456,000	694,000
Poland	58,000	579,000
Pakistan	308,000	482,000
Republic of Ireland	473,000	407,000
Germany*	244,000	274,000
Bangladesh	153,000	212,000
Nigeria	87,000	191,000
South Africa	132,000	191,000
United States	144,000	177,000
Jamaica	146,000	160,000

* Includes the children of British Forces Germany

Top ten countries of origin for non-UK residents, 2001 and 2011

Region	Net migration rate (per 1000 of the population)
Northern Ireland	0.5
Scotland	1.9
Wales	2.4
South West	6.2
South East	0.8
London	-12.2
East	1.4
West Midlands	1.0
East Midlands	4.2
Yorkshire and the Humber	-0.1
North West	1.5
North East	1.1

Net internal migration rates, July 2016–June 2017



Mustafa is 18. He wants to study in Edinburgh or Manchester because the universities there offer the best courses for him.



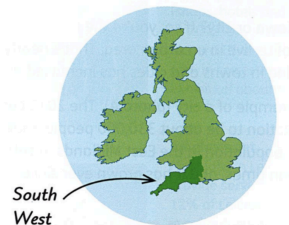
Amelia is 22. She wants a good job and to enjoy city nightlife. Cardiff has the most opportunities for her.



Chris and Katy have been living in London for several years. Now they have children and need a bigger house. Property is very expensive in London, so they want to move somewhere quieter and cheaper.



Sylvia has retired. She wants to move to the coast and also be closer to her grandchildren.



The 'English Riviera', Torquay, Devon

Topic 5: Case Study - Population and migration in the UK

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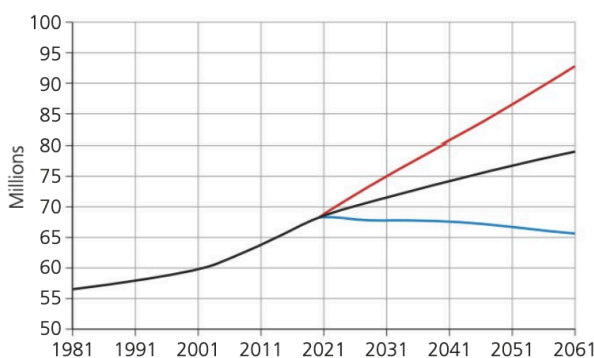
Population and migration in the UK

There is a lot of debate about population in the UK. We are a fairly densely populated country (an average of 280 people per kilometre squared) and some people think we are already too crowded. On the other hand, if you travel around the country, especially outside of cities, you notice that there is still a lot of space. Indeed, if you travel to some parts of the UK, there are hardly any people at all (photo **A**).



A: A remote area of the UK. Is the country really too crowded?

However, the UK's population is still growing. Our population now is about 68 million, and if it continues to grow at the same rate, it is projected to reach 70 million by 2030 and 80 million by 2060 (graph **B**). Projections vary - it depends on the birth rate, death rate, **life expectancy** (how long people can expect to live) and migration.



Key

- High projection (high birth rate, high life expectancy, high migration)
- Mid projection (birth rate, life expectancy and migration remain the same)
- Low projection (low birth rate, low life expectancy, low migration)

B: Projected population growth in the UK

If the UK government wanted to limit future population growth, it has only a few options:

- Reduce the birth rate
- Reduce life expectancy
- Reduce migration

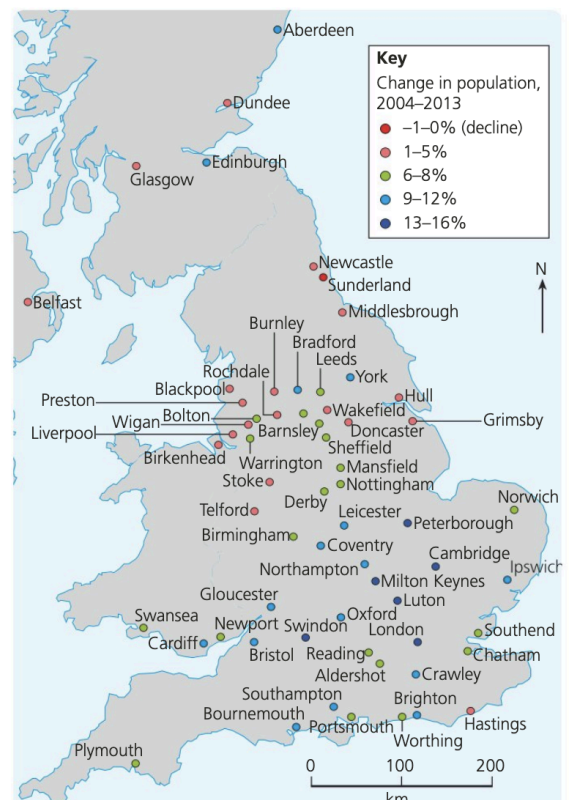
It would be hard to reduce the birth rate since the government cannot tell people how many children they can have. The Chinese government tried this by introducing the 'one-child' policy in 1979, whereby each family was only allowed to have one child. It could do this because the government in China is not democratically elected and so it is easier for them to tell people what to do. The policy succeeded in reducing the birth rate but, eventually,

was abandoned in 2015 because the country was running short of young people.

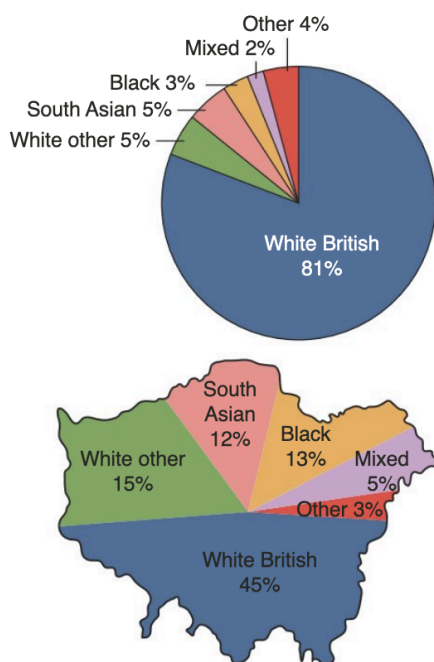
With the second option, no one seriously wants to reduce life expectancy - we all hope to live longer. The average life expectancy in the UK is now 81 (79 for men and 83 for women) and it has increased over the years because of improved healthcare and advances in medicine. No government is going to tell people they must live shorter lives!

So, this leaves reducing migration as the only practical way in which the government might be able to limit population growth - assuming that it wanted to.

Most population growth in recent years in the UK has been concentrated in cities. 83% of our population now lives in cities and the proportion has increased in the twenty-first century (map **C**). The fastest growing cities are in the southeast of England, including London, but nearly all of our cities are growing.



C: Cities in the UK, showing how their populations are changing



D: Ethnic diversity in the UK and in London

Of course, there is a reason for this. Cities tend to be where most employment opportunities are, so people move there to work. These can be internal migrants from within the UK or international migrants from other countries. Most migrants tend to be young people of working age who are more likely to have babies. So, not only do cities grow because of migration, they also tend to have higher rates of natural increase too.

We are also becoming a more ethnically diverse country, with most people from different **ethnic groups** (graph D). Most international migrants are attracted to London, because it has the widest range of jobs and is where many international companies have their headquarters. London is growing fastest and has the most ethnically diverse population of all the cities in the UK.

How is migration changing the UK?

We are sometimes called 'a nation of immigrants'. Most of us can trace our ancestry back to one of the many groups of people who came to Britain as immigrants. Throughout history, people have come here from all parts of the world. Celts, Romans, Saxons, Vikings and Normans were all part of our early

history. Most people came in the centuries that followed.

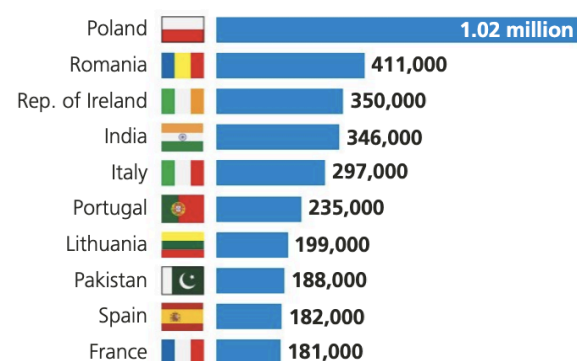
There have been several events in history that caused mass migration of different groups of people to Britain. For example, in 1945, after the Second World War, the UK was short of workers and needed people to rebuild its economy. The government turned to countries that they had colonised as part of the British Empire (later the Commonwealth). People were recruited to come to work in manufacturing, public transport and the newly created National Health Service (NHS). Initially, adverts went out to Caribbean countries, such as Jamaica (advert E). More people were recruited from India and other Asian and African countries.

During the 1950s and 1960s, more migrants came to Britain from the Commonwealth, as more countries achieved independence from the British Empire. Because of racism, many migrants were refused jobs or housing. In 1962, the UK government passed the Commonwealth Immigrants Act, which made it more difficult for migrants to come here (it was only during the 1970s that the government passed Acts against racial discrimination). However, more workers were still needed and they continued to come throughout the 1970s and 1980s.

When the UK joined the European Community (later the European Union, or EU) in 1973 it opened up new economic links and we became less dependent on the Commonwealth for our trade. The EU expanded in 2004 to include eastern European countries, providing a new source of workers for British companies. The free movement of people in the EU made it possible for people to come here to find work. The makeup of the British workforce was transformed once again by a large number of new arrivals (graph F).



E: A London Transport advert used in the Caribbean to recruit workers



F: Top ten countries of origin of migrants to the UK in 2017

Immigration into the UK has had both positive and negative impacts.

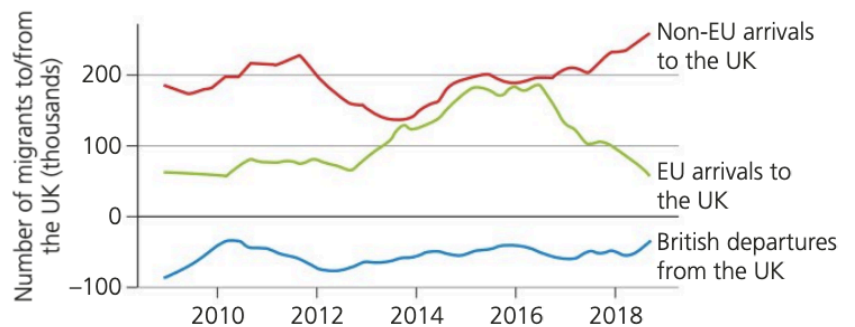
Among the positive impacts:

- Job vacancies are more likely to be filled
- Immigrants provide important services, especially in the NHS
- Immigrants bring energy and new ideas and cultures
- Immigrants pay taxes that help the economy

Among the negative impacts:

- Immigrants often work for lower wages, which reduces wages for everybody
- **Unemployment** among British people may rise if jobs are done by immigrants
- There is more pressure on housing and services, like schools
- There may be problems integrating with local people due to cultural misunderstandings as well as Racial abuse and discrimination

Among other things, it was the free movement of people within the EU and the impact of Eastern European immigration that resulted in the British vote to leave the EU 2016. For years, the government had been promising to reduce the number of migrants to the UK but, partly because of the EU rules, was not able to do so. Since 2016 there has been a large drop in migration from EU countries but, at the same time, an increase in migration from non EU countries (graph G). The number of British people leaving the country has also dropped.



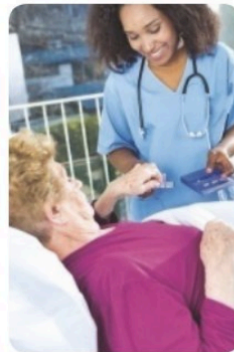
G: Migration to and from the UK, 2008–19

The UK's departure from Europe raises some important questions.

- Will the government be able to fulfill its promise to reduce the number of migrants?
- If fewer European migrants came here, who will do the work?
- Will we turn to other parts of the world to supply the workers we need?
- Will we be able to provide our own workforce?

The UK population is getting older and we need more young people to do the work. Some parts of our economy have become reliant on an immigrant workforce (photos H).

As the UK prepared to lead the EU in 2020, another crisis struck - the covid-19 pandemic spread around the world. It is too early to know what the long term effects will be on the UK. During the pandemic over 120,000, mainly older people in the UK died.



H: Some parts of the UK economy are reliant on immigrant workers