

Population

1





Introduction

Demographic changes in the [European Union \(EU\)](#) are likely to be of considerable importance in the coming decades as the vast majority of models concerning future population trends suggest that the EU's population will continue to age, due to consistently low fertility levels and extended longevity. Although migration plays an important role in the population dynamics of European countries, migration alone will almost certainly not reverse the ongoing trend of population ageing experienced in many parts of the EU. The social and economic consequences associated with population ageing are likely to have profound implications across Europe, both nationally and regionally. For example, low fertility rates will lead to a reduction in the number of students in education, there will be fewer working-age persons to support the remainder of the population, and a higher proportion of elderly persons (some of whom will require additional infrastructure, healthcare services and adapted housing). These structural demographic changes could impact on the capacity of governments to raise tax revenue, balance their own finances, or provide adequate pensions and healthcare services.

During the coming decade, younger cohorts entering the labour market will be much smaller as a result of prolonged low fertility. Despite efforts to increase employment rates, the total number of persons of working-age in the EU could begin to decline; this potential lack of labour could have implications for economic growth. At the other end of the life, baby-boomer cohorts will begin to retire and regional policymakers will probably have to address social changes such as the composition of families, particularly apparent in the growing number of elderly persons living alone.

Those areas that will face the greatest demographic challenges include peripheral, rural and post-industrial regions, where the population is likely to decline. Besides an east-west and north-south polarisation, the territorial dimension of demographic change is affected by other developments, most notably:

- an urban-rural split, with the majority of urban regions continuing to report population growth, while the number of inhabitants in many rural areas is declining;
- a capital region effect, as capitals and some of their surrounding regions (for example, around the larger capitals of Paris and London) display a 'pull effect' associated with increased employment opportunities.



AGEING EUROPE: POPULATION PROJECTIONS TO 2050

There is likely to be a significant ageing of Europe's population over the coming 35 years. Eurostat's main scenario for population projections (EUROPOP2013) provides some context as to probable developments. The projections suggest that the demographic shift towards an older population will result in the share of the EU-28's population that is 65 or over rising from 18.2 % at the start of 2013 to reach 28.1 % by 2050, while the share of the working-age population would fall from 66.2 % to 56.9 %. As such, there will be almost 40 million persons less in the working-age group. The size and relative weight of the population aged 65 and above will increase at a rapid pace throughout the projection period, with almost 150 million persons in this age group by 2050. The number of very old people (defined here as those aged 80 years and above) is projected to increase at an even more rapid pace, more than doubling to reach 57.3 million by 2050. As a result of these different trends among age-groups, the demographic old-age dependency ratio (people aged 65 or above relative to those aged 15–64) is projected to increase from 27.5 % at the start of 2013 to almost 50 % by 2050. This entails that the EU would move from having almost four working-age people for every person aged 65 and over to two working-age persons for every person aged 65 and over within the space of less than 40 years.

Source: Eurostat (online data code: [proj_13npms](#))

With such major structural changes in the EU's demographics, it is unsurprising that policymakers are concerned by future developments. The [Europe 2020](#) growth strategy is focused on five goals in the areas of employment, innovation, education, poverty reduction and climate/energy. These are addressed through [seven flagship initiatives](#), most of which touch upon demographic challenges in some way. The implementation of the Europe 2020 strategy and its flagship initiatives relies on financial support from cohesion policy instruments, including provisions for tackling demographic change and ageing. For more information on how the Europe 2020 growth strategy impacts upon the regions of the EU please refer to the introductory chapter.

Aside from the innovation union (see below), the [digital agenda](#) Europe 2020 flagship initiative promotes digital literacy and accessibility for older members of society, while the flagship initiative for an [agenda for new skills and jobs](#) supports longer working lives through lifelong learning and the promotion of healthy and active ageing. The flagship initiative of the [European platform against poverty and social exclusion](#) addresses the adequacy and sustainability of social protection and pension systems and the need to ensure adequate income support in old age and access to healthcare systems.



EUROPEAN INNOVATION PARTNERSHIP ON ACTIVE AGEING AND HEALTHY AGEING

Innovation partnerships are part of the [innovation union](#) flagship initiative (which forms part of the Europe 2020 growth strategy). Such partnerships provide an opportunity to bring together public and private actors at EU, national and regional levels to tackle challenges such as climate change, energy and food security, health and an ageing population; these challenges also represent opportunities for new business and the partnerships aim to give the EU a first-mover advantage in these markets.

The partnership on active ageing and healthy ageing was launched in 2011, with the aim of raising by two years the average healthy lifespan of each European by 2020. By doing so, this innovation partnership seeks to:

- enable the elderly to lead healthy, active and independent lives;
- improve the sustainability and efficiency of social and healthcare systems;
- boost and improve the competitiveness of markets for innovative products and services that respond to the ageing challenge both at EU and global level, thus creating new opportunities for businesses.

For more information:

European innovation partnership on active and healthy ageing:

http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing

Statistics on population change and the structure of population are increasingly used to support policymaking and to provide the opportunity to monitor demographic behaviour within a political, economic, social or cultural context. The European Parliament passed a resolution on '[Demographic change and its consequences for the future of the EU's cohesion policy](#)' (2013/C 153 E/02) which underlined that demographic developments in the regions should be statistically measured and stressed that demographic change should be considered as a horizontal objective in future cohesion policy. While demographic change will undoubtedly lead to considerable challenges, the resolution also identified that demographic change could provide opportunities for new markets, infrastructure developments and products tailored to the needs of the older generations.

This chapter describes regional demographic patterns across the EU. Statistics on regional demography are one of the few areas where detailed [NUTS 3](#) information is collected and published for each of the EU Member States. At the time of writing, the latest information is available for vital demographic events (births and deaths) and a range of demographic indicators generally through to the end of 2012, although earlier reference periods have been used for some countries (principally Ireland, Romania and the United Kingdom — see the footnotes under each map or figure for more information).

Main statistical findings

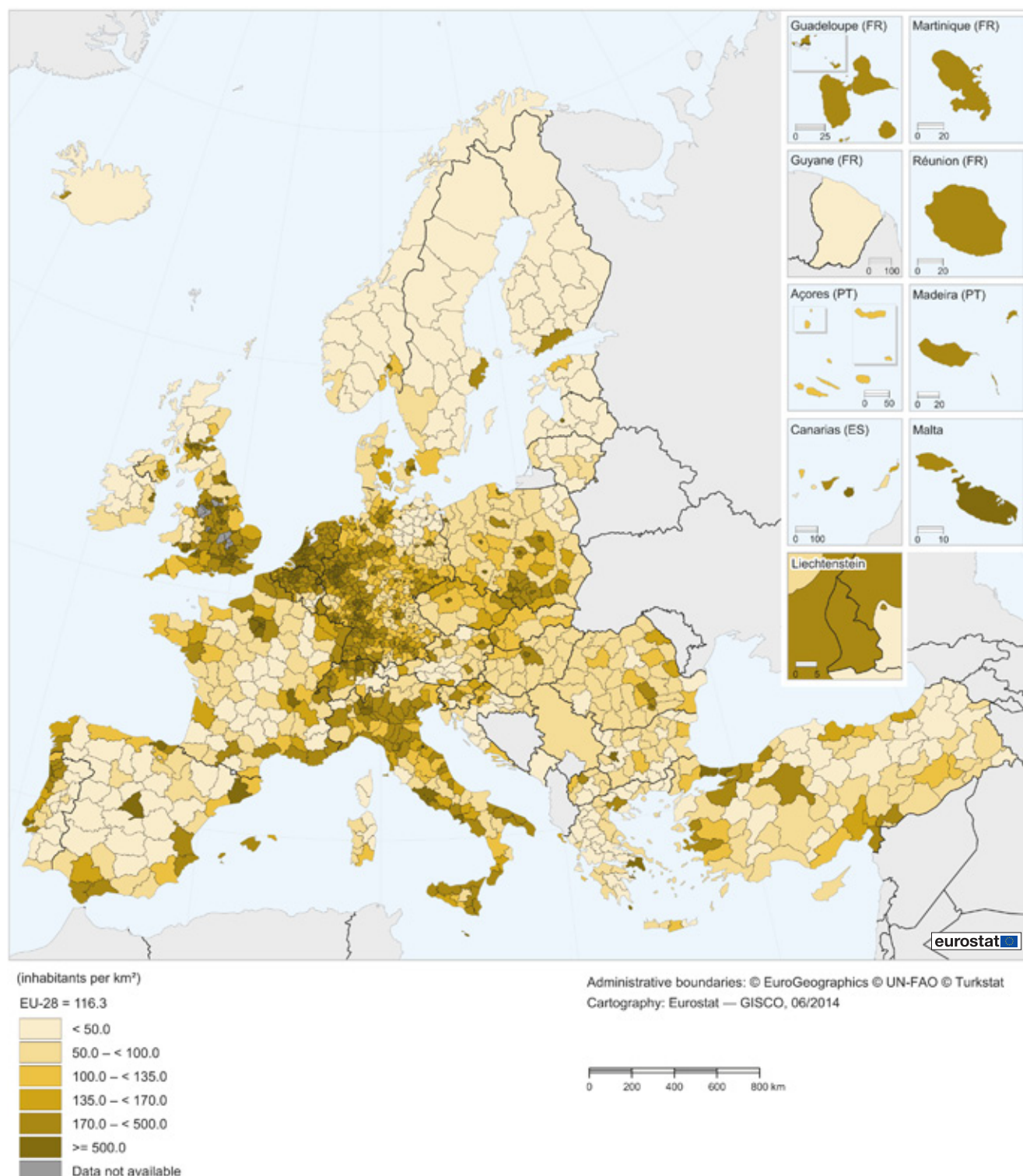
There were 505.7 million inhabitants living in the [EU-28](#) at the start of 2013; there were almost 100 million additional inhabitants when compared with aggregated 1960 population figures for the EU-28 Member States. Between the start of 2012 and the start of 2013, the EU-28's population increased by 1.1 million (or 0.2 %).

Population density

EU-28 [population density](#) was estimated at 116.3 inhabitants per square kilometre (km²) in 2012. **Map 1.1** shows the diversity of NUTS 3 regions across the EU: from the most densely populated areas, such as the capital cities of Paris (21 516 inhabitants per km² in 2012) and London (10 374 and 9 311 in 2010 for Inner London - West and Inner London - East), to remote, sparsely inhabited areas, such as those of northern Scandinavia, for example, the Swedish region of Norrbottens län had the largest total area of all NUTS 3 regions (105 205 km²) and the second lowest population density (2.6 inhabitants per km²). For comparison, the total area covered by Norrbottens län was almost 1 000 times as large as the area covered by Paris (105.4 km²).



Map 1.1: Population density, by NUTS 3 regions, 2012 ⁽¹⁾
(inhabitants per km²)



⁽¹⁾ Population density is calculated as the ratio between (annual average) population and the surface (land) area; land area is a region's total area, excluding the area under inland water. Mecklenburg-Vorpommern (DE8), Romania, Iceland, the former Yugoslav Republic of Macedonia: 2011. The United Kingdom: 2010. Serbia: national level.

Source: Eurostat (online data codes: [demo_r_d3dens](#), [demo_pjan](#) and [cpc_agmain](#))



There were 10 regions in the EU where population density was above 5 000 inhabitants per square kilometre

Aside from Paris and the two Inner London regions, the most densely populated regions in the EU-28 — with above 5 000 inhabitants per km² — included: the suburban regions surrounding Paris (Hauts-de Seine, Seine-Saint-Denis and Val-de-Marne); Bucuresti, the capital of Romania (data are for 2011); the Arrondissement de Bruxelles-Capitale/ Arrondissement van Brussel-Hoofdstad, the capital of Belgium; the Spanish autonomous city of Melilla; and Portsmouth on the southern coast of the United Kingdom (data are for 2010).

Within each EU Member State, the highest population density was generally recorded for the capital region

The highest population densities in 2012 in each of the individual EU Member States were generally recorded in the capital region. There were five exceptions to this rule among the multi-regional Member States: München, Kreisfreie Stadt had a higher population density than Berlin; Melilla and Ceuta had higher densities than Madrid; Napoli, Monza e della Brianza, Milano and Trieste had higher densities than Roma; the Agglomeratie 's-Gravenhage had a higher density than Groot-Amsterdam; and Grande Porto had a higher density than Grande Lisboa.

Among the EFTA countries, the highest population density in Switzerland was registered in Basel-Stadt (5 049.7 inhabitants per km²), considerably above the ratio recorded for the capital of Bern (169.3). Within the candidate countries, the population density of İstanbul (2 644.2 inhabitants per km²) was also much higher than that of the Turkish capital, Ankara (201.0).

There were almost 11 000 times as many persons living on each square kilometre of land in Paris as there were in Lappi (in the north of Finland)

The least densely populated regions in the EU were generally located around the periphery in remote environments. Lappi (the most northerly region of Finland) had the lowest regional population density among NUTS 3 regions in the EU, at 2.0 inhabitants per km² in 2012. As such, there were almost 11 000 times as many persons living on each square kilometre of land in Paris as there were in Lappi. There were 13 other NUTS 3 regions that reported population density below 10.0 inhabitants per km²: four of these were in central and northern Sweden (Norrbottens län; Jämtlands län; Västerbottens län; and Dalarnas län); three were in the north-west of Scotland (Lochaber, Skye and Lochalsh,

Arran and Cumbrae, and Argyll and Bute; Caithness and Sutherland, and Ross and Cromarty; Eilean Siar (Western Isles) — data are for 2010); two more were in Finland (Kainuu and Pohjois-Karjala); two in central Spain (Soria and Teruel); while there was also a single region from each of France (the overseas region of Guyane) and Croatia (the rural, quite mountainous region of Ličko-senjska županija to the north of Zadar).

There were seven level 3 regions in Norway that reported population densities of less than 10.0 inhabitants per km² in 2012. However, the lowest population density among EFTA regions was recorded by Landsbyggð (a region which covers the Icelandic countryside outside of Greater Reykjavík), where, on average, there were 1.2 inhabitants per km² in 2011; as such, this region was the most sparsely populated shown in **Map 1.1**. None of the candidate countries had any level 3 region with fewer than 10.0 inhabitants per km².



**SPOTLIGHT ON THE REGIONS:
LAPPI (FI1D7), FINLAND**



Lake Inari, northern Finland

The most northerly region of Finland, Lappi, was the least densely populated region in the EU-28 in 2012, with just 2.0 inhabitants per square kilometre (km²). This figure can be compared with the average for the whole of Finland, which was 17.8 inhabitants per km² — the lowest population density among any of the EU Member States — or with the EU-28 average of 116.3 inhabitants per km².

Photo: Karlis Strazdins



Population structure and demographic ageing

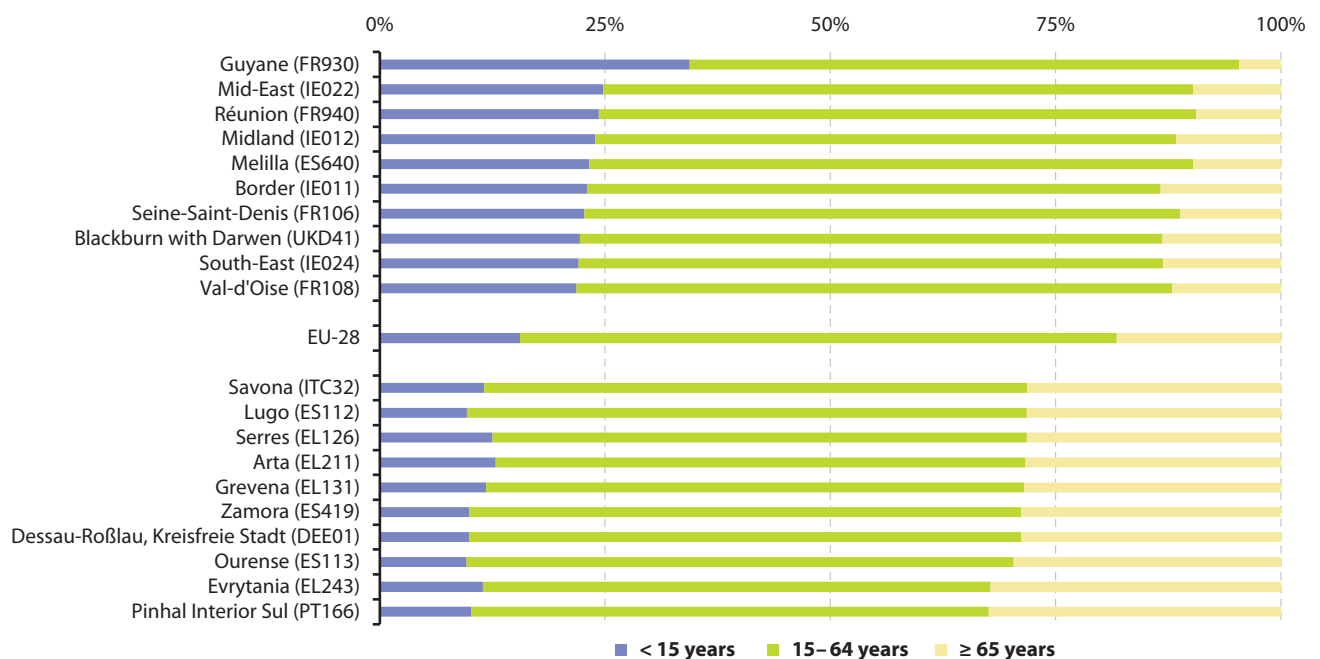
Across the whole of the EU-28, younger persons (0–14) accounted for 15.6 % of the total population as of 1 January 2013, while people of working-age (15–64) accounted for almost two thirds (66.2 %) of the total, leaving some 18.2 % of the population as elderly persons (aged 65 and above).

Demographic structures within individual Member States often show irregular patterns, which have the potential to impact on regional competitiveness and cohesion. Sometimes these divides are quite apparent, such as in Germany (where there is often a contrast between regions in the east and west), France (north-east and south-west), Italy (north and south) and Turkey (east and west). These differences may be attributed to a wide range of factors including: climatic, landscape, historical, political, social and economic developments.

Urban regions tended to have younger populations ...

Figure 1.1 presents information on the 10 NUTS 3 regions in the EU with the highest shares of younger persons (aged less than 15) and the 10 NUTS 3 regions in the EU with the highest shares of elderly persons (aged 65 and above) in their respective populations as of the start of 2013. Those NUTS 3 regions in the EU with the highest shares of young persons were generally located in those Member States which recorded the highest birth and fertility rates (see **Map 1.5** and **Figure 1.4**), thereby boosting the relative importance of younger persons in the total population. This was particularly the case in several Irish and French regions, for example, the overseas regions of Guyane and Réunion or suburban regions around Paris. Age structures of largely urban areas may display a higher proportion of young and working-age persons as a result of a 'pull effect' associated with increased employment opportunities attracting both internal migrants (from different regions of the same country) and international migrants (from other Member States and non-member countries).

Figure 1.1: Population structure, by broad age groups, by NUTS 3 regions, 1 January 2013 ⁽¹⁾
(% of total population)



⁽¹⁾ The figure shows the 10 EU regions with the highest share of their population aged 65 years and above and the 10 regions with the highest share of their population aged less than 15 years. Romania and the United Kingdom (except Northern Ireland): 1 January 2012. Mecklenburg-Vorpommern (DE8) and Northern Ireland (UKN): 1 January 2011.

Source: Eurostat (online data codes: [demo_r_pjanaggr3](#) and [demo_pjangroup](#))



... while the relative importance of elderly persons has grown in most EU regions

By contrast, most regions in the EU have witnessed the relative share of their elderly populations becoming progressively larger — as a result of a significant and continuous increase in life expectancy and the entry into retirement of the post-World War II baby-boom generation. Those regions with the highest shares of elderly persons are often characterised as being rural, relatively remote and sparsely populated areas, where the low share of working-age persons may, at least in part, be linked to a lack of employment and education opportunities, thereby motivating younger generations to leave in search of work or to pursue further studies.

The elderly accounted for a particularly high share of the total population in rural and remote regions of Greece, Spain, France and Portugal, as well as a number of regions in eastern Germany. Elderly persons accounted for almost one third (32.4 %) of the total population in the central, inland Portuguese region of Pinhal Interior Sul as of 1 January 2013 — the highest share in the EU. The central Greek region of Evrytania was the only other NUTS 3 region in the EU where elderly persons accounted for upwards of 30 % of the total population, and was one of four Greek regions among the ten regions in the EU with the highest shares (over 28 %) of elderly persons in their respective populations.

Old-age dependency: an increasing burden on those of working-age

Structural changes in the EU-28's population can be further analysed through dependency ratios that are derived by comparing numbers of dependent persons (young and/or old) with the size of the working-age population, irrespective of whether the latter are actually in employment or not. These ratios are designed to provide information relating to the burden that may be placed on those of working-age, for example, to support the education of children, healthcare expenditure, or pension provisions. As such, rising dependency ratios may be a concern to governments in relation to their public expenditure plans and government finances.

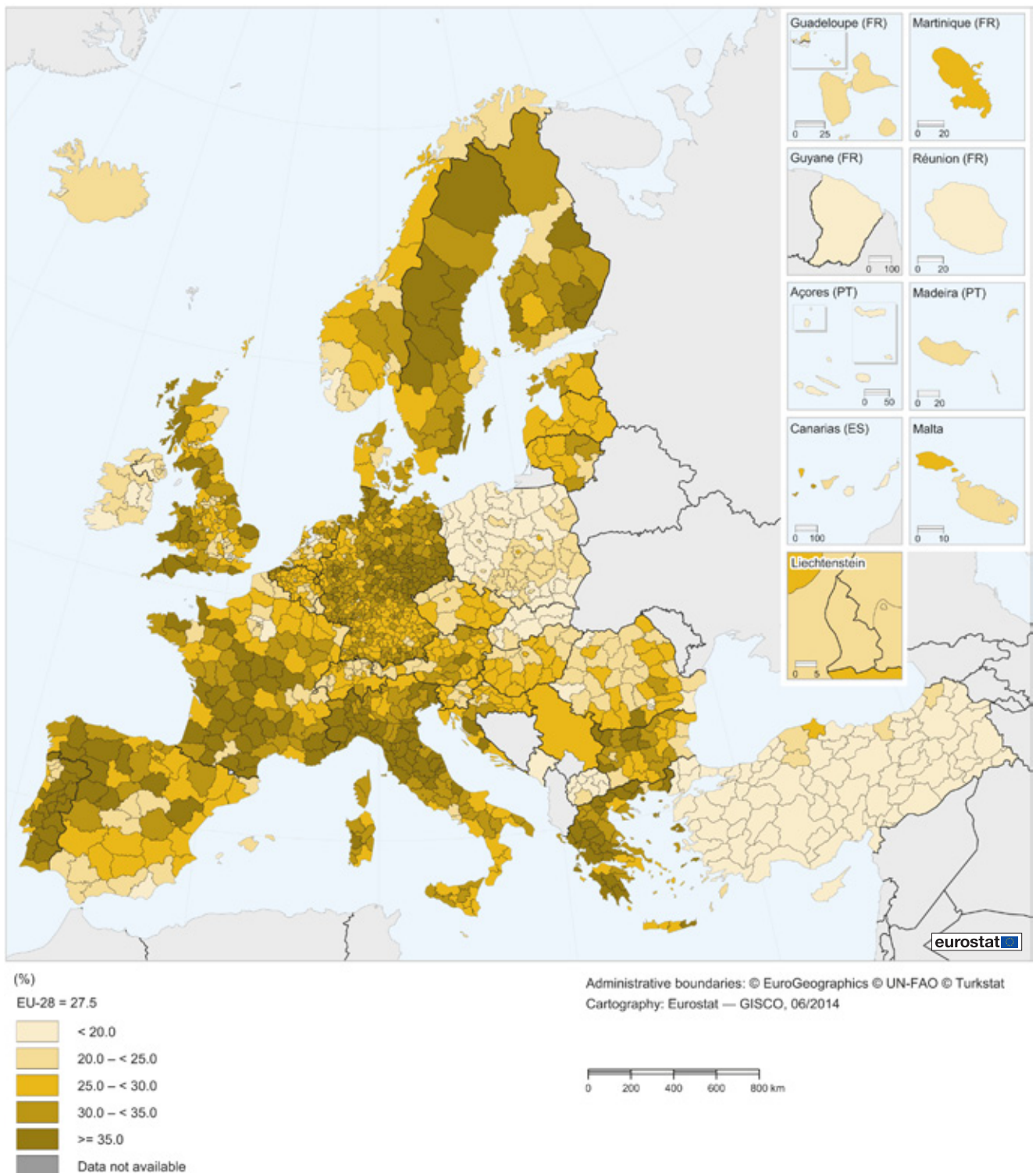
The **old-age dependency ratio** measures the relationship between the number of elderly persons and the working-age population; it stood at 27.5 % for the whole of the EU-28 as of 1 January 2013. The highest old-age dependency ratios across NUTS 3 regions were recorded in the two regions with the highest shares of elderly persons in their total populations, the Greek region of Evrytania (57.2 %) and the Portuguese region of Pinhal Interior Sul (56.4 %); they were the only regions to report old-age dependency ratios above 50 % (in other words, in both of these regions there were less than two persons of working-age 'supporting' a person aged 65 or over).

Old-age dependency ratios particularly high in rural and remote regions

Looking in more detail, **Map 1.2** shows there were 274 NUTS 3 regions where the old-age dependency ratio was 35.0 % or higher (those regions with the darkest shading); many of these are characterised as having some of the lowest birth rates in the EU. These regions tended to be located in rural, remote and mountainous regions (especially in north-west Spain, inland Portugal and central-southern France). They are often characterised by falling population numbers, in part due to younger persons being 'pushed' to leave the region in search of work, thereby causing the relative importance of the elderly population to increase. By contrast, some regions with relatively high old-age dependency ratios reported a growing number of elderly persons, as they are 'pulled' into retirement destinations that appeal for their climate or services that are on offer to the elderly. For example, the three regions with the highest old-age dependency ratios in the United Kingdom were all popular retirement destinations on the south coast of England (Dorset CC, the Isle of Wight, and Torbay), while one of the highest old-age dependency ratios in Germany was recorded in the spa town of Baden-Baden, Stadtkreis.



Map 1.2: Old-age dependency ratio, by NUTS 3 regions, 1 January 2013 ⁽¹⁾
(%)



(¹) Romania and the United Kingdom (except Northern Ireland): 1 January 2012. Mecklenburg-Vorpommern (DE8) and Northern Ireland (UKN): 1 January 2011. Serbia: national level.
Source: Eurostat (online data codes: [demo_r_pjanagr3](#) and [demo_pjanind](#))



Population change

On the basis of a comparison for the EU-28 Member States, the population increased each and every year between 1 January 1960 and 1 January 2013, with overall growth of 98.9 million inhabitants, equivalent to an annualised growth rate of 0.4 %. Historically, **population growth** in the EU has largely reflected developments in **natural population change** (the total number of **births** minus the total number of **deaths**), as opposed to migratory patterns. A closer examination shows that natural population growth for an aggregate composed of the EU-28 Member States peaked in 1964, when 3.6 million more births than deaths were recorded. **Birth rates** progressively fell and **life expectancy** gradually increased, resulting in a slowdown of the natural rate of population growth. By 2003, natural population growth for the EU-28 Member States was almost balanced, as the number of births exceeded the number of deaths by less than 100 000. Subsequently, the birth rate and natural population growth increased again somewhat in several Member States, although this pattern was generally reversed with the onset of the financial and economic crisis.

Since 1985 there has consistently been a net inflow of migrants to the EU-28 Member States

Overall population change results from the interaction of two components: natural population change and net **migration** including statistical adjustment (hereafter simply referred to as net migration). These components can combine to reinforce population growth (positive rates of net migration and natural increase) or population decline (negative net migration and a natural decrease) or they may cancel each other out to some extent when moving in opposite directions. Historically, migratory patterns were relatively balanced during the 1960s and by 1970 there was a net outflow of 707 028 persons migrating from the EU-28 Member States to other destinations around the globe; this was the highest number of net emigrants during the whole of the period 1961–2012. The next time there was a net outflow of migrants leaving the EU was between 1982 and 1984 (a recessionary period); thereafter, there were consistently more immigrants arriving in the EU-28 Member States than emigrants leaving. Some of the highest population increases resulting from migration took place during the 1990s and early 2000s, with net migration for the EU-28 Member States peaking at 1.8 million persons in 2003, after which the rate of change slowed somewhat. The EU-28's population grew by almost 900 000 persons in 2012 as a result of net migration.

Ilfov in Romania recorded the highest population growth during the period 2008–11

Map 1.3 presents the crude rate of total population change over the period 2008–12 (in other words, changes that result from the combined effects of natural change and net migration between 1 January 2008 and 1 January 2013). During this period, the population of the EU-28 rose each year, on average, by 2.6 per thousand inhabitants. Among the 1 277 NUTS 3 regions for which data are shown in **Map 1.3** there

was a relatively even split between those regions reporting an increase in their number of inhabitants (699 regions) and those where the population was in decline (572 regions); there were six regions where the population remained unchanged and 38 regions for which no data are available.

The darkest shade on the map shows the 157 NUTS 3 regions where the population grew, on average, by at least 8.0 per thousand inhabitants each year during the period 2008–12. Of these, there were 18 regions where population growth was more than 15.0 per thousand inhabitants, with the highest growth recorded for Ilfov (33.4 per thousand inhabitants for the period 2008–11), a region which surrounds the Romanian capital of Bucharest. Four of these 18 regions with the highest population growth were capital cities, namely the Arr. de Bruxelles-Capitale / Arr. van Brussel-Hoofdstad (Belgium), Byen København (Denmark), Stockholms län (Sweden) and Luxembourg (which is a single region at this level of analysis). Of the remaining 13 regions, there were: six urban regions spread across England (data cover the period 2008–10); three regions in Spain; two largely urban Polish regions; and a single region from each of Germany and France.

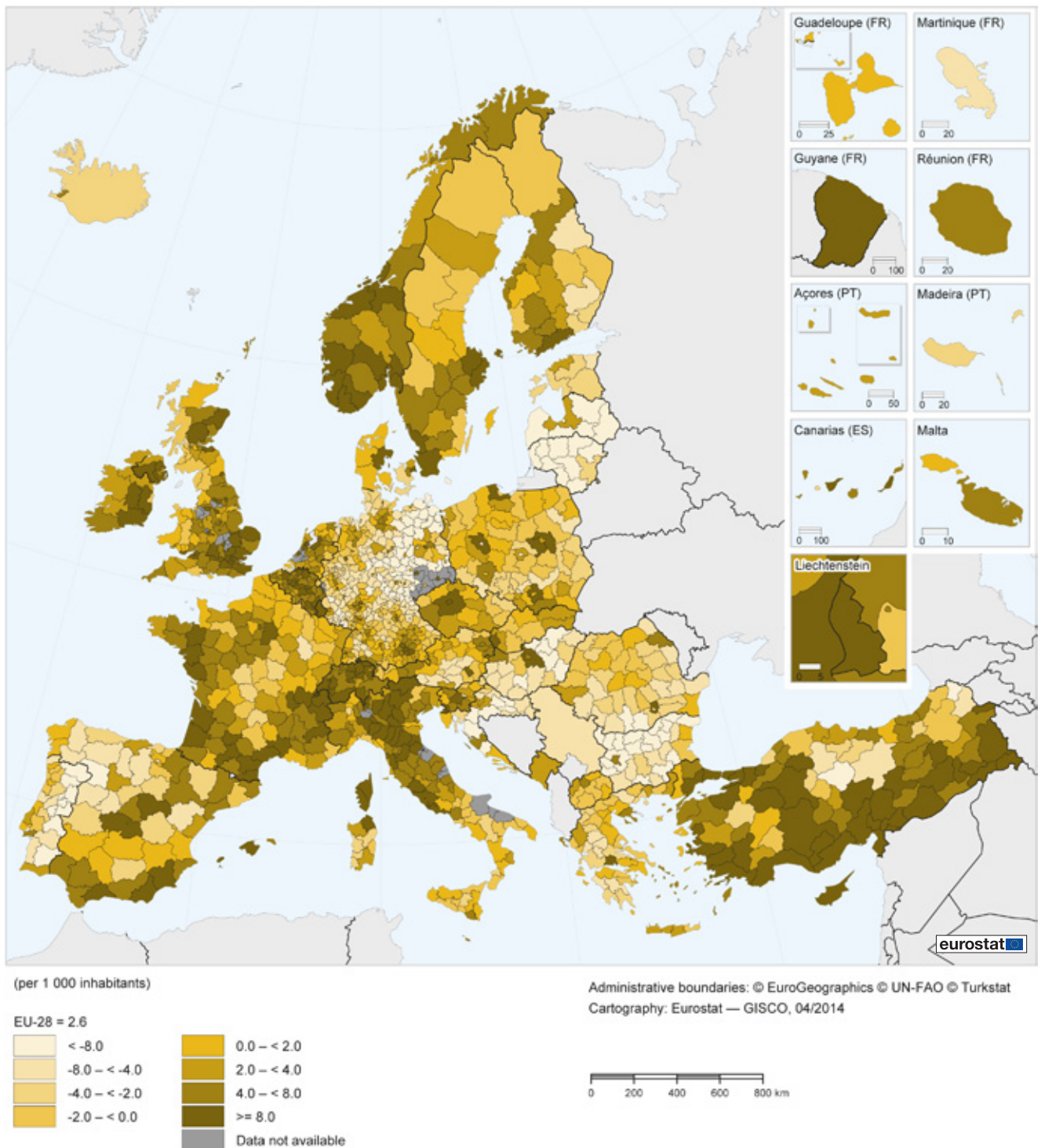
Falling regional populations in an arc from Croatia, through Hungary, Romania, Bulgaria and down into Greece

There were 117 NUTS 3 regions in the EU where the population fell, on average, by more than 8.0 per thousand inhabitants during the period 2008–12 (the lightest shade in **Map 1.3**); please note that when a shorter time series was available, information is only presented for those regions with at least three reference periods. These 117 regions were largely spread across: the **Baltic Member States** of Lithuania and Latvia; an arc in south-east Europe, starting in Croatia and moving through Hungary, Romania (2008–11), Bulgaria and down into Greece; several inland regions of Portugal and Spain; and many eastern German regions. The biggest reduction in population (20.8 per thousand inhabitants per year) was registered in the Lithuanian region of Šiauliai apskritis, while Utenos apskritis (also in Lithuania) was the only other region to report that its population had declined by at least 20.0 per thousand inhabitants per year.

In absolute terms, the highest overall increases in population during the period 2008–12 were registered in Madrid, Stockholms län, Barcelona, Berlin, the Arr. de Bruxelles-Capitale / Arr. van Brussel-Hoofdstad and Sevilla; these were the only regions where the population rose by more than 100 000 persons (subject to data availability; information for this analysis is not available for Romania or the United Kingdom, nor for a limited number of German regions). The largest population decline in absolute terms was recorded in the Greek capital region of Attiki (where the population fell by more than 100 000 inhabitants between 2008 and the start of 2013); there were two NUTS 3 regions in the EU-28 where the population fell by around 50 000: the Lithuanian region of Kauno apskritis and the Latvian capital of Riga).



Map 1.3: Average crude rate of population change, by NUTS 3 regions, 2008–12 ⁽¹⁾
(per 1 000 inhabitants)



⁽¹⁾ Mecklenburg-Vorpommern (DE8), Romania, Iceland and the former Yugoslav Republic of Macedonia: 2008–11. The United Kingdom: 2008–10. Greece, Spain, France, Croatia, Hungary, Poland, Romania, the United Kingdom and the former Yugoslav Republic of Macedonia: provisional. Serbia: national level.

Source: Eurostat (online data codes: [demo_r_gind3](#) and [demo_gind](#))



Among the EFTA and candidate country regions, the highest variation in population growth was recorded across Turkish regions

Population growth during the period 2008–12 was generally more common among the EFTA and candidate country regions, as shown in **Map 1.3**, with a positive development registered in 117 regions, while only 22 regions recorded a decline in their number of inhabitants. Among the EFTA countries, population grew in every region of Norway and Switzerland, as well as in Liechtenstein (a single region at this level of analysis) and the Icelandic capital region of Höfuðborgarsvæði (2008–11). The fastest population growth (in relative terms) was recorded in Oslo (the capital of Norway) and in Freiburg (western Switzerland). There was only one EFTA region where the population declined, namely, Landsbyggð (which covers the vast majority of Iceland outside of Greater Reykjavík; data are for 2008–11).

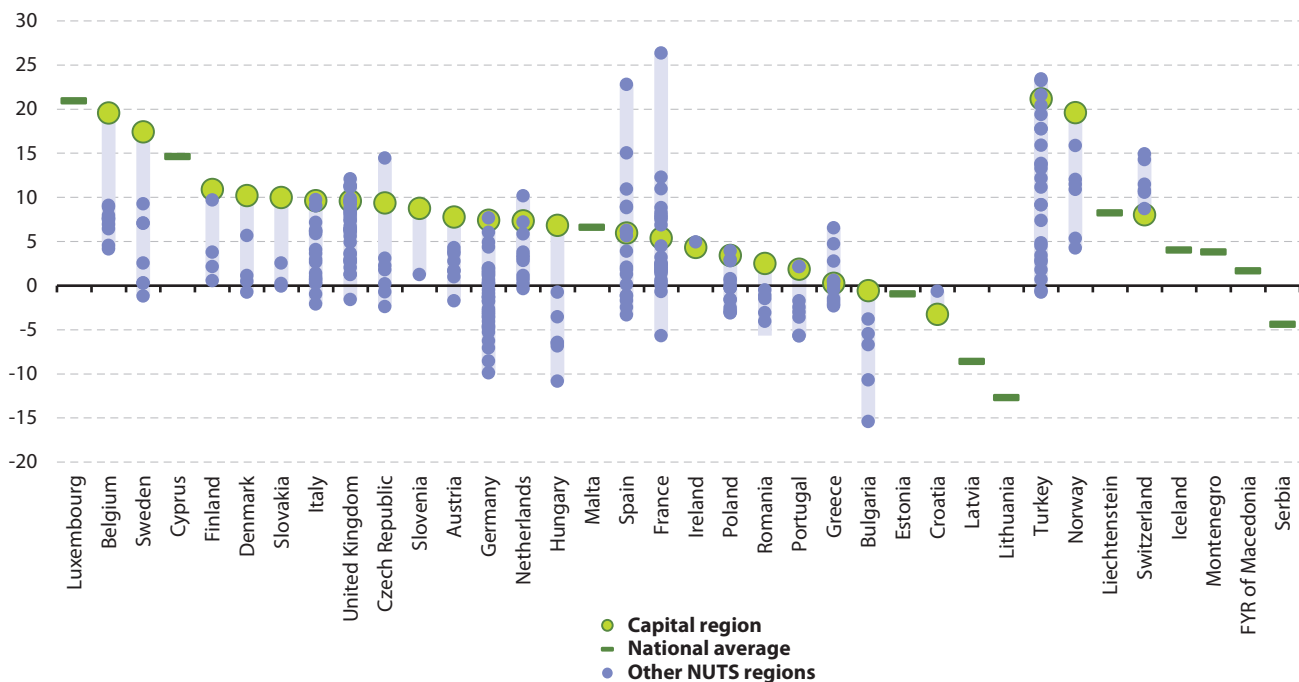
Across the candidate countries there was a more mixed picture, with the population declining in Serbia (only national data are available), half of the eight regions from the former Yugoslav Republic of Macedonia (data are for 2008–11), and 16 regions in central and north-eastern Turkey. Declining population numbers in central and north-eastern Turkey could be contrasted with high population growth rates in other parts of the country. Indeed, Turkey displayed the highest degree of variation in population change between level 3 regions, with the crude rate of population

growth ranging from a low of -16.5 per thousand inhabitants in Yozgat (in the centre of the country) to a high of 31.4 per thousand inhabitants in Tekirdag (in the far north-west). The considerable differences in population developments across Turkish regions can often be attributed to internal migratory patterns, with a general flow of migrants from eastern to the western regions.

Capital regions recorded some of the highest population growth

There was generally a relatively large variation in crude rates of population change across the regions of each EU Member State, as shown in **Figure 1.2**; note that the figure is based on NUTS 2 regions. The particularly wide variation between the regions of Spain and France is, in part, due to the outlying territories of the Ciudad Autónoma de Melilla (Spain) and Guyane (France) at the top of their distributions. The highest rate of population change in each EU Member State was often recorded in the capital region, and when this was not the case, the capital region was generally among those regions with the highest rates of change. There was a negative development to population change during the period 2008–12 in the majority of German, Hungarian, Polish, Portuguese and Romanian regions (data for the latter cover the period 2008–11), while the population of every region fell in Bulgaria and Croatia (the latter is covered by just two regions at the NUTS 2 level).

Figure 1.2: Average crude rate of population change, by NUTS 2 regions, 2008–12 (°) (per 1 000 inhabitants)

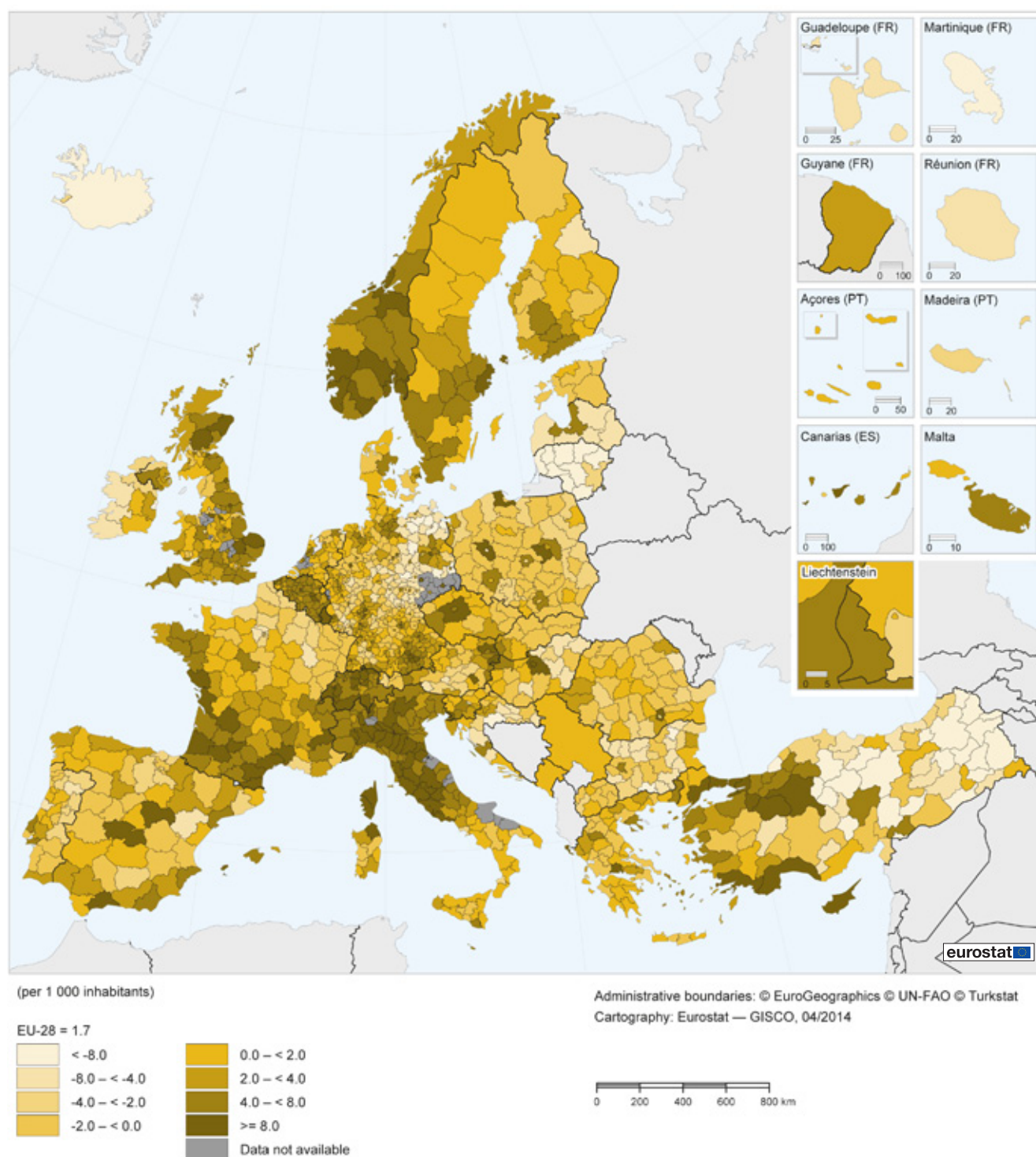


(°) The light purple shaded bar shows the range of the highest to lowest region for each country. The dark green bar shows the national average. The green circle shows the capital city region. The dark purple circles show the other regions. Mecklenburg-Vorpommern (DE8), Romania, Iceland and the former Yugoslav Republic of Macedonia: 2011. The United Kingdom: 2010. The former Yugoslav Republic of Macedonia: provisional.

Source: Eurostat (online data codes: [demo_r_gind3](#) and [demo_gind](#))



Map 1.4: Average crude rate of net migration (including statistical adjustment), by NUTS 3 regions, 2008–12 ⁽¹⁾ (per 1 000 inhabitants)



⁽¹⁾ Turkey: 2009–12. Ireland, Romania, Iceland and the former Yugoslav Republic of Macedonia: 2008–11. Mecklenburg-Vorpommern (DE8) and the United Kingdom: 2008–10. Greece, Spain, France, Croatia, Hungary, Poland, Romania, the United Kingdom and the former Yugoslav Republic of Macedonia: provisional. Serbia: national level.

Source: Eurostat (online data codes: [demo_r_gind3](#) and [demo_gind](#))



Net migration particularly concentrated across southern France, northern Italy, the Benelux countries and much of the United Kingdom

Map 1.4 presents the crude rate of net migration per thousand inhabitants for the period 2008–12, which averaged 1.8 per thousand inhabitants in the EU-28 over the period under consideration; please note that when a shorter time series was available, information is only presented for those regions with at least three reference periods. There is a striking resemblance between **Maps 1.3** and **1.4**, emphasising the close relationship between migratory patterns and overall population change, a development which is enhanced as the rate of natural population change was close to being balanced in many regions. The net inflow of migrants (from other regions of the same Member State, from other EU regions, or from non-member countries) was particularly concentrated across southern France, northern Italy, the Benelux countries and much of the United Kingdom, while there were also pockets of relatively high net migration in a number of urban regions.

Urban regions across the EU (except in France) tended to record the highest population growth resulting from net migration

There were 784 NUTS 3 regions in the EU-28 that had positive net migration (more immigrants than emigrants) during the period 2008–12. Among these, the highest influx of migrants was registered in the two regions that recorded the highest overall population growth, namely, the Ilfov region that surrounds the Romanian capital and the Spanish Balearic islands of Eivissa and Formentera, where crude rates of net migration averaged 32.7 and 22.6 per thousand inhabitants respectively. The next highest net migration rate was recorded in Luxembourg (a single region at this level of analysis), where the population rose by 16.9 per thousand inhabitants. The only other regions where the crude rate of net migration was above 15.0 per thousand were the central Greek mainland region of Fokida and York in the north of England. There were a further 100 NUTS 3 regions across the EU where the net change in the population as a result of migration was, on

average, an increase of at least 8.0 per thousand during the period 2008–12, as shown by the darkest shade in **Map 1.4**. These regions were predominantly urban, including the capital regions of Belgium (Arr. de Bruxelles-Capitale/Arr. van Brussel-Hoofdstad), Denmark (Byen København), Italy (Roma), Hungary (Budapest) and Sweden (Stockholms län), and a range of cities across Germany (for example, Leipzig, Frankfurt am Main, München, Dresden and Wolfsburg), Italy (for example, Parma, Bologna, Firenze, Pisa and Perugia) and the United Kingdom (for example, Portsmouth, Edinburgh, Luton, Nottingham, Sheffield, Tyneside, Bristol and Greater Manchester South; all data cover the period 2008–10). However, this pattern was reversed in France, where the regions with the highest crude rates of net migration were generally rural and often located in the south of the country (for example, Tarn-et-Garonne, the Dordogne, the Landes, Hérault, Gers, Gard and the Hautes-Alpes).

Lithuanian regions characterised by net emigration

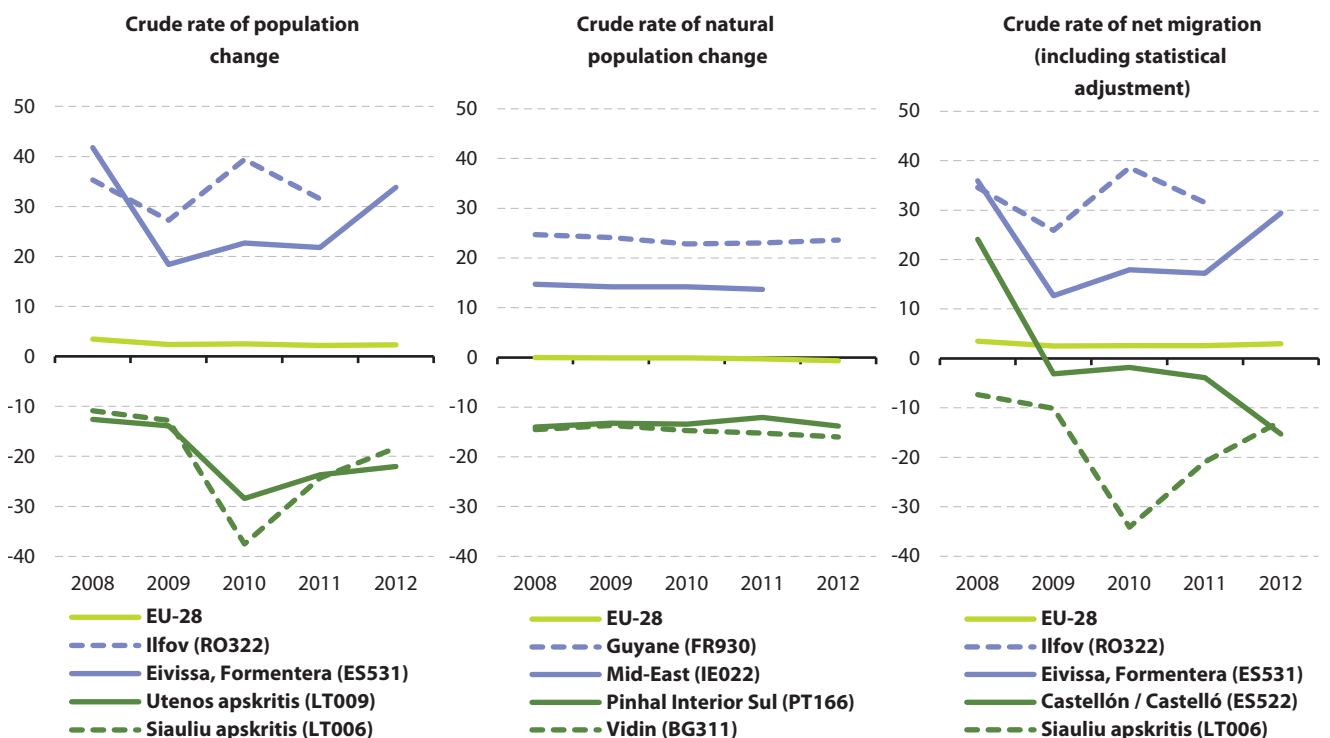
There were 481 NUTS 3 regions in the EU-28 where net migration during the period 2008–12 was negative (in other words, where more people left a region than arrived in it). These were spread across much of eastern Europe (particularly Bulgaria, Hungary, Poland and Romania), as well as Latvia, Lithuania, eastern Germany, north-eastern France, pockets of Spain and the southern and western regions of Ireland. The 14 NUTS 3 regions with the biggest negative crude rates of net migration (each in excess of -10.0 per thousand inhabitants) featured 9 of the 10 regions contained within Lithuania (the exception being the capital region of Vilniaus apskritis). The only other regions to report double-digit net outflows of migrants (relative to their respective number of inhabitants) were the three German regions of Suhl, Kreisfreie Stadt, Mecklenburg-Strelitz and Demmin (data for the latter two cover the period 2008–10) and Dublin, the capital region of Ireland (data for 2008–11). Note that these figures may, to some degree, be affected by the shorter time series available for some regions, for example, the number of migrants leaving Dublin was likely to be at a high during the peak of the financial and economic crisis when the economy was particularly badly hit.



Figure 1.3 shows the NUTS 3 regions in the EU with the highest and lowest crude rates of population change; the dotted lilac and dark green lines show, for each graph, the regions with the highest/lowest average growth for the period 2008–12 and the solid lilac and dark green lines show the regions with the highest/lowest growth for the latest period (generally 2012). The graphs show the wide variations that exist between regions, compared with the EU-28 average which remained relatively unchanged. Perhaps the most striking aspect of **Figure 1.3** is the relatively constant nature of natural population change in relation to the fluctuating pattern of developments for the crude rate of net migration, confirming that migratory patterns are the main determinant/driving force of population change during periods when natural population change is close to zero. This was particularly true in Ilfov and Siauliu apskritis, the two NUTS 3 regions with the highest and lowest rates of population change.

To conclude, while the overall number of inhabitants in the EU-28 continues to rise at a relatively slow pace, there is considerable variation in population developments at a regional level (both between regions of the same Member State and across the EU as a whole). Some regions continue to see their populations expand through a combination of natural population growth and net migration; this is principally the case in many (urban) regions in northern and western Europe. By contrast, the number of inhabitants in most German, Italian and Austrian regions is only sustained through migration, where natural population change is generally negative. Population levels are also in decline across much of Bulgaria, Greece, Spain, Croatia, Hungary, Poland, Portugal, Romania and the Baltic Member States as a result of natural population decline — however, this development is often accentuated by net emigration, which has been particularly apparent in some regions following the financial and economic crisis.

Figure 1.3: Population change, selected NUTS 3 regions, 2008–12 (°) (per 1 000 inhabitants)



(°) The figures show the EU-28 average, the region with the highest and lowest value for the latest reference period and the region with the highest growth/biggest contraction over the period 2008–12. Mid-East (IE022) was the region with the second highest rate average rate of natural population change (Guyane was higher). Pinhal Interior Sul (PT166) was the region with the second lowest average rate of natural population change (Vidin was lower). Eivissa, Formentera (ES531) was the region with the second highest average rate for net migration (Ilfov was higher). Ilfov (RO322) and Mid-East (IE022): 2008–11. See Maps 1.3 and 1.4 for details of data availability.

Source: Eurostat (online data codes: [demo_r_gind3](#) and [demo_gind](#))



Birth and fertility rates

Women in the EU are having fewer children, contributing to a slowdown and even reversal of natural population growth. This section presents information on regional **crude birth rates** (the ratio of the number of births to the average population, expressed per thousand inhabitants) and the **fertility rates** (the mean number of children born per woman). The EU-28 crude birth rate was 10.4 births per thousand inhabitants in 2012. Across the EU Member States the crude birth rate peaked at 15.7 births per thousand inhabitants in Ireland and was also relatively high in the United Kingdom (12.8) and France (12.6). At the other end of the range, the crude birth rate was 10.0 births per thousand inhabitants or lower in much of eastern Europe (Bulgaria, Croatia, Hungary, Poland and Romania), southern Europe (Greece, Spain, Italy, Malta and Portugal), as well as in Germany, Latvia and Austria.

On the basis of a comparison between 2009 and 2012, crude birth rates fell in most EU Member States — suggesting that the financial and economic crisis impacted upon the decision to have children. Germany, Austria and the United Kingdom were the only Member States to report an increase in their crude birth rates from 2009 to 2012 (in the case of Germany and Austria from very low starting rates), while birth rates remained unchanged in Luxembourg, Malta and Slovenia. Demographic and family policy experts are divided over the reasons for this apparent reluctance to have children; however according to the latest Eurostat population projections there will probably be a reduction in population numbers in the coming decades, with Germany, Spain and the Baltic Member States among the most affected Member States.

Some of the highest crude birth rates in the EU were recorded in the capital regions of Belgium, Ireland, France and the United Kingdom

Map 1.5 shows crude birth rates at the NUTS 2 level for 2012. Aside from the outlying, overseas regions of Guyane, Réunion (both France) and the Ciudad Autónoma de Melilla (Spain), the highest crude birth rates in the EU were recorded in the capital regions of Inner and Outer London (the United Kingdom), Southern and Eastern (Ireland), the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk

Gewest (Belgium) and the Île de France (France). Each of these regions, together with the other Irish region (Border, Midland and Western), Northern Ireland (the United Kingdom), and three largely urban regions from the United Kingdom (West Midlands, Greater Manchester and West Yorkshire) recorded crude birth rates of at least 14.0 births per thousand inhabitants in 2012 (as shown by the darkest shade in **Map 1.5**); note that the data for the United Kingdom relate to 2010 and that for Ireland to 2011.

The lowest crude birth rates (less than 8.0 births per thousand inhabitants in 2012) are shown on the same map in the lightest shade; they were concentrated in Germany (19 regions), while the remainder were located in Italy and Portugal (four regions each), Spain (three regions), Greece (two regions), and the eastern Austrian region of Burgenland. The lowest crude birth rate was recorded in the western German region of Saarland (6.8 births per thousand inhabitants).

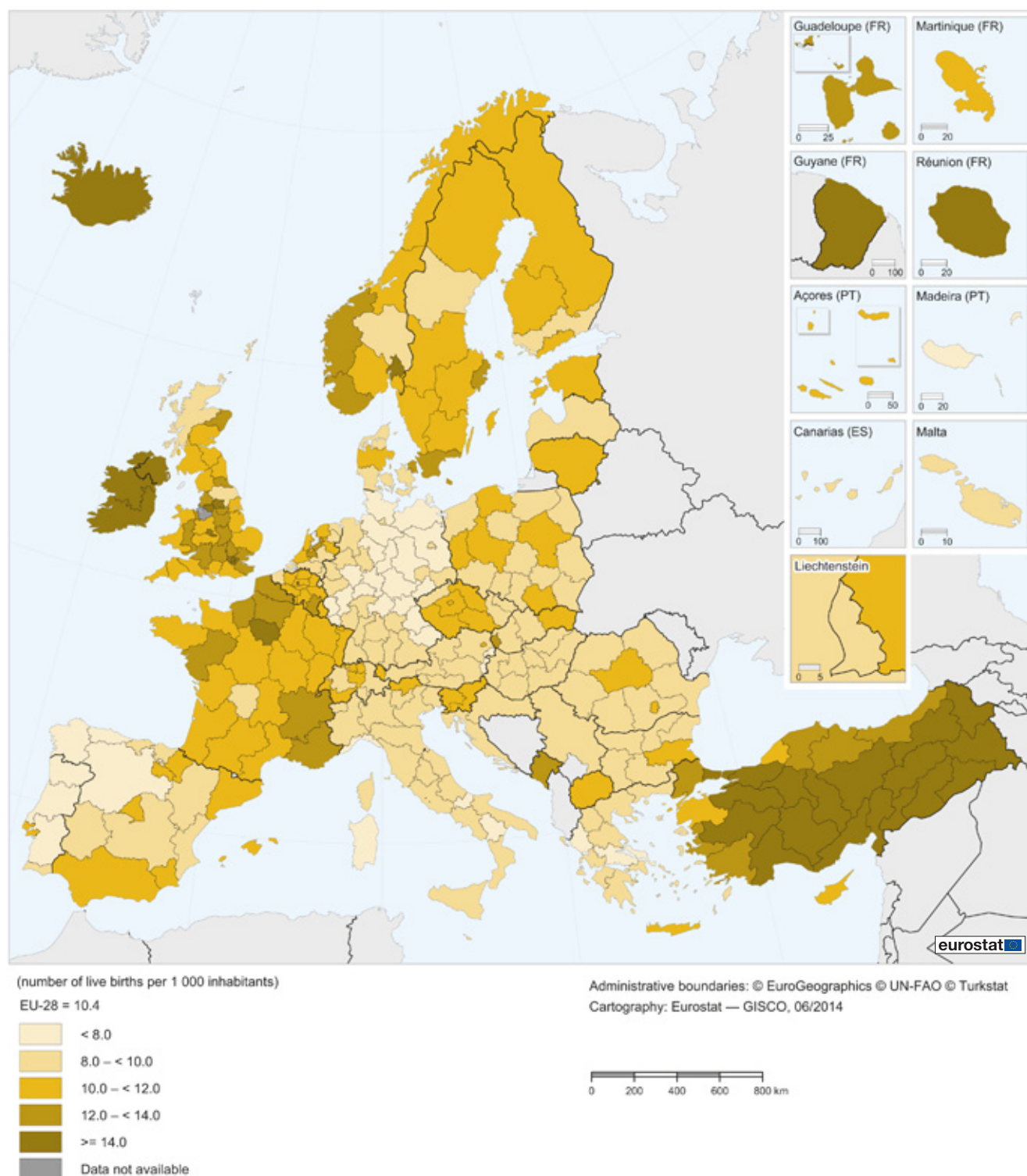
Fertility rates fell after the financial and economic crisis

The total fertility rate of the EU-28 reached an historic low of 1.45 live births per woman in 2002; it subsequently saw a slight recovery, climbing to 1.61 in 2008, before declining again after the onset of the financial and economic crisis to 1.58 by 2012. In developed parts of the world, a total of around 2.1 live births per woman is considered to be the natural replacement rate — in other words, the level at which the size of the population would remain stationary, in the long-run, if there were no inward or outward migration.

The highest fertility rates across the EU Member States in 2012 were recorded in Ireland and France (both 2.01 live births per woman), followed by the United Kingdom (1.92) and Sweden (1.91). Fertility rates were often higher in those Member States where the family as a unit was relatively weak (a low proportion of people being married and a high proportion of births outside marriage), couple instability relatively common (relatively high divorce rates), and women's labour market participation was high. Fertility rates were lower than 1.50 live births per woman in 13 Member States; the lowest rate being recorded in Portugal — one of the countries most severely hit by the financial and economic crisis — at 1.28 live births per woman.



Map 1.5: Crude birth rate, by NUTS 2 regions, 2012 ⁽¹⁾
(number of live births per 1 000 inhabitants)



⁽¹⁾ Ireland and Romania: 2011. The United Kingdom: 2010. France, Poland, Romania, the United Kingdom and the former Yugoslav Republic of Macedonia: provisional. Serbia: national level.
Source: Eurostat (online data codes: [demo_r_gind3](#) and [demo_gind](#))



Differences in regional fertility may be linked to a range of factors, among others: the socio-economic structure of the population (for example, educational attainment, occupational status, income or age); place of residence (for example, the availability of infrastructure, childcare facilities, or the housing market); or cultural factors (for example, religious beliefs and customs, attitudes to giving birth outside of marriage, or attitudes to contraception). The distribution of fertility rates is shown in **Figure 1.4**: it appears very homogeneous, as most regions within the same Member State rarely displayed rates that were far from their national average in 2012. The exceptions to this rule included the outlying regions of the Ciudad Autónoma de Melilla (Spain) and Guyane, Réunion and Guadeloupe (overseas regions of France); these were the only NUTS 2 regions to record fertility rates above the natural replacement rate in 2012. The latest data available for the United Kingdom pertains to 2010, when there were five regions that reported fertility rates equal to or above the natural replacement rate, namely: Outer London, Dorset and Somerset, the West Midlands, Lincolnshire and Kent.

Of the 37 NUTS 2 regions in the EU that had a total fertility rate of 2.00 or above (in 2012, unless otherwise noted), a high proportion were regions in either the United Kingdom (19 regions, data are for 2010) or France (13 regions), while the remainder included both regions from Ireland (data are for 2011) and a single region from each of Spain (the Ciudad Autónoma de Melilla), Finland (Pohjois- ja Itä-Suomi) and

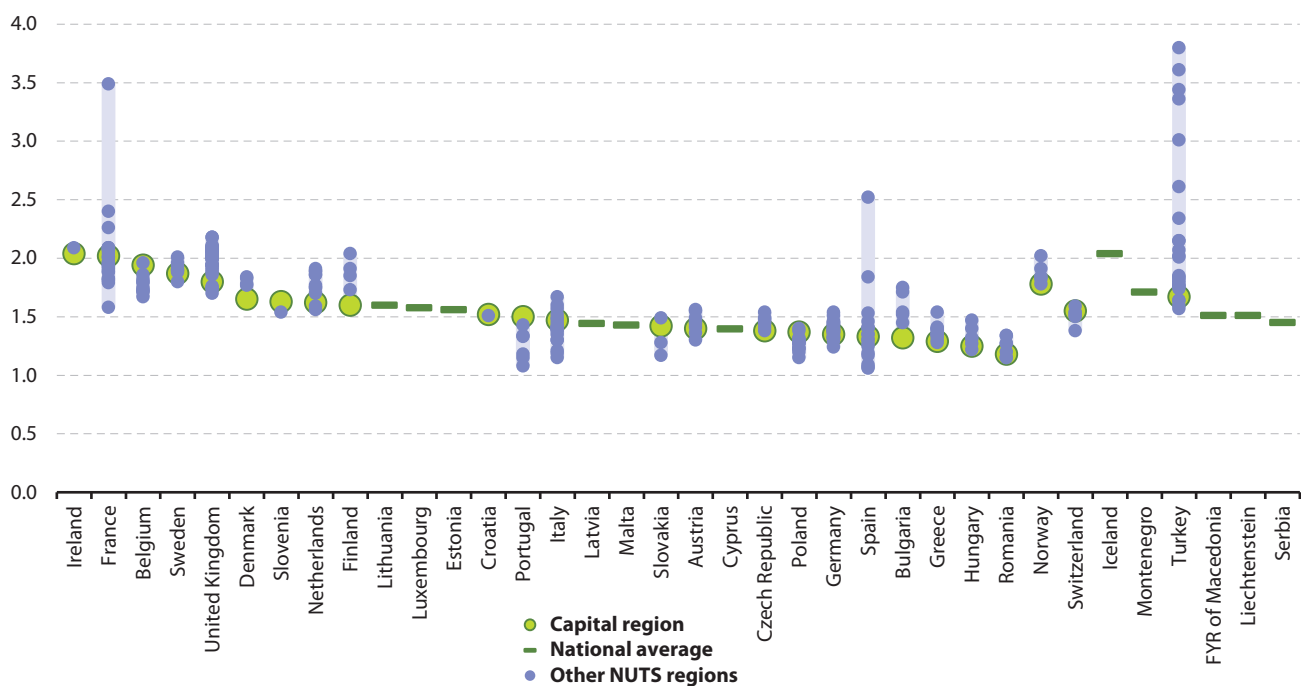
Sweden (Småland med öarna). Among the EFTA countries, the fertility rate also rose above this threshold in Iceland (2.04) and the Norwegian region of Agder og Rogaland (2.02).

Among the candidate countries, the highest fertility rates in 2012 were recorded in the eastern Turkish regions of: Şanlıurfa, Diyarbakır (3.80); Mardin, Batman, Sırtak, Şiirt (3.61); Van, Muş, Bitlis, Hakkari (3.44); Ağrı, Kars, Iğdir, Ardahan (3.36); and Gaziantep, Adiyaman, Kilis (3.01); four additional Turkish regions reported fertility rates above the natural replacement rate. There was a sharp contrast between these relatively high fertility rates recorded in eastern Turkey and those recorded in western Turkish regions, as fertility rates in the latter were generally in the range of 1.6–1.9 live births per woman.

The lowest fertility rate in the EU was in the north-west Spanish region of the Principado de Asturias

Generally, the lowest fertility rates were generally recorded in southern and eastern Europe. There were four NUTS 2 regions in the EU that reported a fertility rate below 1.10 in 2012: three of these were Spanish regions, two from the north-west of the country — the Principado de Asturias (an average of 1.06 live births per woman, the lowest in the EU) and Galicia (1.09) — and the island region of the Canarias (1.07); the Portuguese Região Autónoma da Madeira was the fourth, with a fertility rate of 1.08.

Figure 1.4: Total fertility rate, by NUTS 2 regions, 2012 ⁽¹⁾ (average number of live births per woman)



⁽¹⁾ The light purple shaded bar shows the range of the highest to lowest region for each country. The dark green bar shows the national average. The green circle shows the capital city region. The dark purple circles show the other regions. Ireland and Romania: 2011. The United Kingdom: 2010. Serbia: national level.

Source: Eurostat (online data code: [demo_r_frate2](#))



Death and infant mortality rates

There were 5.01 million deaths across the whole of the EU-28 in 2012, which was 2.9 % more than in 2011. The EU-28's **crude death rate** was 9.9 deaths per thousand inhabitants in 2012, ranging from 15.0 in Bulgaria, 14.3 in Latvia and 13.7 in Lithuania, to less than 8.0 deaths per thousand inhabitants in Luxembourg, Cyprus and Ireland.

Map 1.6 shows the regional distribution of the crude death rate: the number of deaths generally reflects the population structure (elderly persons are more likely to die) as well as the likelihood of catching/contracting a specific illness/disease; more information on causes of death is provided in the chapter on **regional health statistics**. Five out of the six Bulgarian regions (Yugozapaden was the exception), Latvia (a single region at this level of analysis) and two Hungarian regions (Észak-Magyarország and Dél-Alföld) recorded the highest death rates across the EU in 2012 (as shown by the darkest shade on the map). The highest crude death rate was in Severozapaden (Bulgaria), the second poorest region in the EU (based on GDP per inhabitant), with 19.9 deaths per thousand inhabitants.

At the other end of the range, many of the regions with the lowest crude death rates were characterised as having relatively young populations. The two lowest crude death rates were recorded for the French overseas regions of Guyane (3.2 deaths per thousand inhabitants) and Réunion (5.0), while the other two French overseas regions (Martinique and Guadeloupe) and four outlying Spanish regions (Illes Balears, Canarias, Ciudad Autónoma de Ceuta and Ciudad Autónoma de Melilla) were also present among the 27 NUTS 2 regions where the crude death rate was less than 8.0 per thousand inhabitants. Otherwise, many of the remaining regions were capital regions, such as Helsinki-Uusimaa, Stockholm, Inner and Outer London, the Comunidad de Madrid, Southern and Eastern (Ireland) and the Île de France; Luxembourg and Cyprus were also present among this group (these two Member States are both covered by a single region at this level of analysis).

Many regions with relatively low living standards had high infant mortality rates

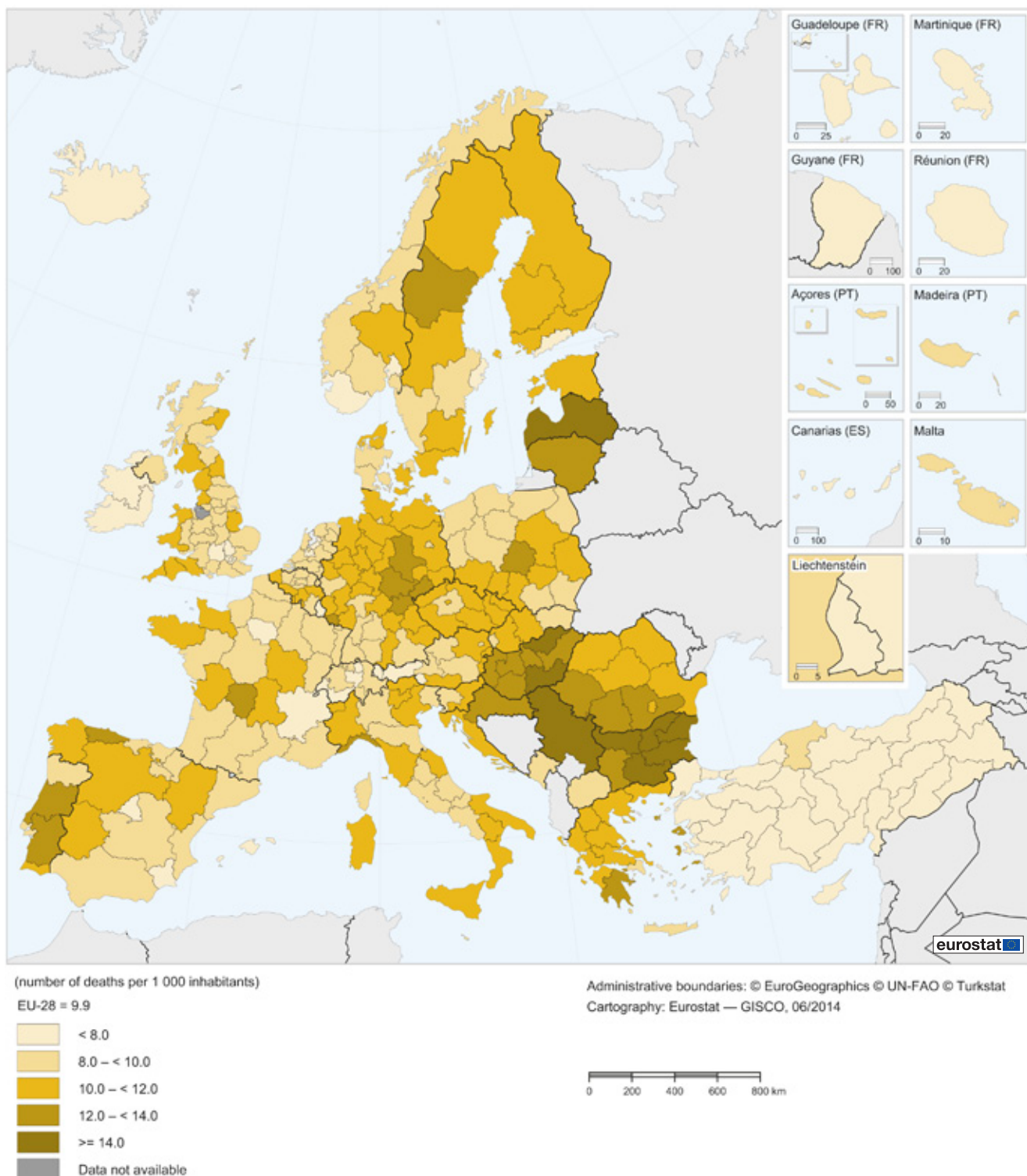
The **infant mortality rate** (the number of deaths of children under one year of age compared with the number of live births) in the EU has fallen in recent decades, among others, due to: improvements in (access to) healthcare; an increase in immunisation against diseases; a reduction in child malnutrition; and general improvements in living standards (improved sanitation, access to clean water, or the ability to keep a home warm). Although Europe has some of the lowest infant mortality rates in the world, it is commonplace for statistical systems to collect this information, as this indicator is often used to assess the overall health of a nation. The EU-28 infant mortality rate stood at 3.8 deaths (among children under one year of age) per thousand live births in 2012.

Across the EU Member States, the highest infant mortality rates were registered in Romania (9.0 deaths per thousand live births) and Bulgaria (7.8), while Latvia (6.3), Slovakia (5.8) and Malta (5.3) were the only other Member States to record infant mortality rates in 2012 that were above 5.0 deaths per thousand live births. At the other end of the range, the lowest infant mortality rates were recorded in Slovenia (1.6 deaths per thousand live births), Finland (2.4) and Luxembourg (2.5).

There were four NUTS 2 regions in the EU where infant mortality rates in 2012 were in double figures (see **Figure 1.5**). They included the French overseas region of Guadeloupe, the two Bulgarian regions of Severozapaden and Yugoiztochen, and the Sud-Est region of Romania (where the highest infant mortality rate was recorded, 11.6 deaths per thousand live births); both of these Bulgarian regions and the Sud-Est region of Romania featured among the 10 NUTS 2 regions with the lowest levels of GDP per inhabitant in 2011.



Map 1.6: Crude death rate, by NUTS 2 regions, 2012 ⁽¹⁾
(number of deaths per 1 000 inhabitants)



⁽¹⁾ Ireland and Romania: 2011. The United Kingdom: 2010. France, Poland, Romania, the United Kingdom and the former Yugoslav Republic of Macedonia: provisional. Serbia: national level.
Source: Eurostat (online data codes: [demo_r_gind3](#) and [demo_gind](#))



No infant mortality in the Åland islands in three out of the last four years

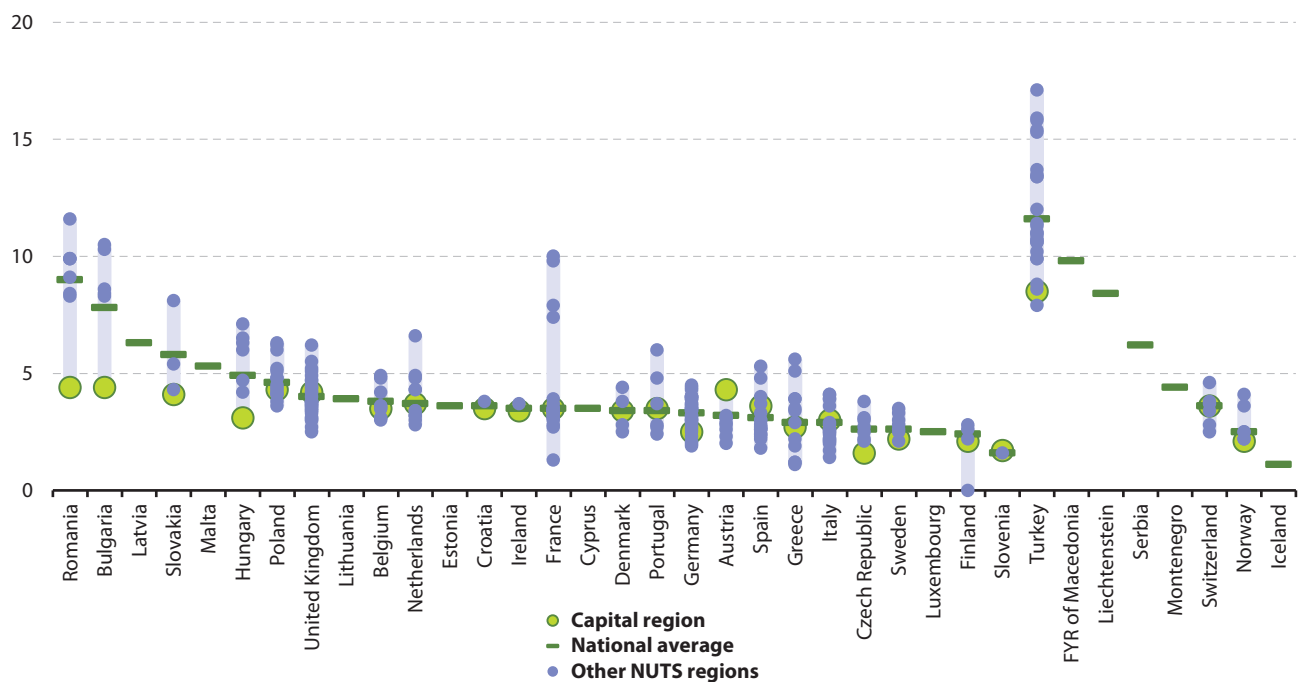
At the other end of the range, infant mortality fell to zero in the Åland islands (off the south-west coast of Finland) in 2012 — the third time in four years that a rate of zero was recorded for this region. There were 13 NUTS 2 regions across the EU in 2012 that reported infant mortality rates of less than 2.0 deaths per thousand live births. These were spread across eight different countries and included four Greek regions, two regions from Italy, both Slovenian regions, and a single region from each of the Czech Republic, Germany, Spain, France and Finland.

The widest variation in infant mortality rates was recorded across the regions of France, where the four outliers at the top of the distribution were the overseas regions of Guadeloupe, Martinique, Guyane and Réunion. Otherwise,

Figure 1.5 shows that the degree of variation (between regions of the same country) was also relatively wide in those Member States which recorded some of the highest infant mortality rates — Romania, Bulgaria, Slovakia and Hungary — each of these was characterised by their capital region having the lowest infant mortality rate, considerably below their respective national averages.

By contrast, in those Member States with relatively low infant mortality rates, the capital region tended to record a rate that was close to the national average. The main exceptions to this rule were Wien (which was the only Austrian region to record an infant mortality rate above the national average) and Praha (which recorded the lowest infant mortality rate among the Czech regions); the capital regions of Berlin and Stockholm also recorded relatively low infant mortality rates compared with their respective national averages.

Figure 1.5: Infant mortality rate, by NUTS 2 regions, 2012 ⁽¹⁾
(per 1 000 live births)



⁽¹⁾ The light purple shaded bar shows the range of the highest to lowest region for each country. The dark green bar shows the national average. The green circle shows the capital city region. The dark purple circles show the other regions. Ireland: 2011. Serbia: national level.

Source: Eurostat (online data codes: [demo_r_minfind](#) and [demo_minfind](#))



Life expectancy

Over the last 50 years life expectancy at birth has increased by about 10 years on average across the EU, due in large part to improved socio-economic and environmental conditions and better medical treatment and care. **Map 1.7** presents life expectancy at birth for NUTS 2 regions in 2012: it is important to note that while the map presents information for the total population, there remain considerable differences in life expectancy between men and women — despite evidence showing that this disparity between the sexes has been closing gradually in most EU Member States.

On average, a European born in 2012 could expect to live 80.3 years

Map 1.7 shows that life expectancy at birth averaged 80.3 years across the EU-28 in 2012; the figure for women was 83.1 years, while that for men was 5.6 years lower. It is interesting to note that while there was a relatively wide gap between the sexes in relation to life expectancy, the difference in terms of the expected number of **healthy life years** was considerably narrower, as a woman born in the EU-28 in 2012 could expect to live 61.9 years in a healthy condition (in other words, in the absence of limitations in functioning/disability), while the corresponding figure for men was just 0.6 years lower, at 61.3 years.

There were 16 NUTS 2 regions where life expectancy at birth was 83.0 years or more in 2012; these were spread across just three of the EU Member States: with seven Spanish regions, five from France and four from Italy. The majority of these regions spread from the Spanish capital region up to the northern Spanish coast, through southern France (including Corsica) and into north-eastern Italy; exceptions included the French capital region and the French overseas region of Martinique. The highest life expectancy in 2012 (across NUTS 2 regions) was recorded in the Spanish capital region of the Comunidad de Madrid, at 84.2 years.

At the other end of the range, there were 47 NUTS 2 regions predominantly from the eastern European countries of Bulgaria, the Czech Republic, Croatia, Hungary, Poland, Romania and Slovakia. The three Baltic Member States (each being a single region at this level of detail), the two Portuguese regiões autónomas da Madeira and dos Açores, as well as South Western Scotland (the United Kingdom) were the only other regions in the EU-28 to record life expectancy below 78.0 years (as shown by the lightest shade in **Map 1.7**). The lowest life expectancy at birth in 2012 (across NUTS 2 regions) was recorded in the Bulgarian region of Severozapaden, at 72.9 years. As such, the difference in life expectancy between Severozapaden and the Comunidad de Madrid was 11.3 years.



SPOTLIGHT ON THE REGIONS: COMUNIDAD DE MADRID (ES30), SPAIN



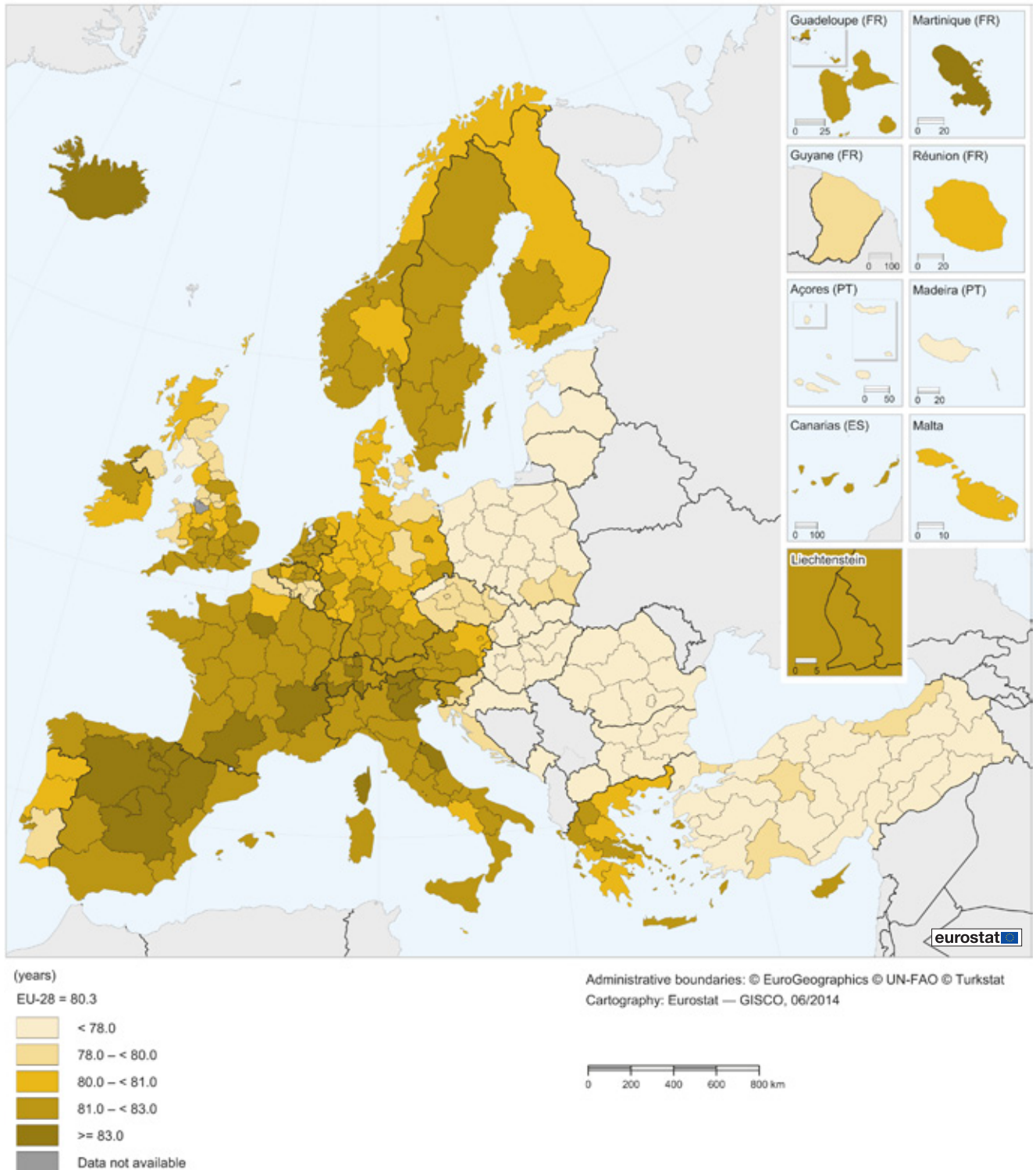
Puerta de Europa, Madrid

The highest life expectancy (at birth) across NUTS 2 regions in the EU was recorded in the Spanish capital region of the Comunidad de Madrid, at 84.2 years in 2012. The EU-28 average for life expectancy (at birth) was 80.3 years in 2012. Every NUTS 2 region in Spain recorded life expectancy above this rate, while the average for the whole of Spain was 82.5 years — the highest among any of the EU Member States.

Photo: Luis Garcia



Map 1.7: Life expectancy at birth, by NUTS 2 regions, 2012 ⁽¹⁾
(years)



(¹) Sachsen-Anhalt (DEE0), Ireland, Romania and Turkey: 2011. Guadeloupe (FR91) and the United Kingdom: 2010. Serbia: national level.
Source: Eurostat (online data codes: [demo_r_mlifexp](#) and [demo_mlexpec](#))



Data sources and availability

Eurostat collects a wide range of demographic data: these include statistics on national and regional populations, as well as data for various demographic events which influence the population's size, structure and specific characteristics. These statistics may be used for a wide range of planning, monitoring and evaluating actions across a number of important policy areas in social and economic fields, for example, to:

- analyse population ageing and its effects on sustainability and welfare;
- evaluate the economic impact of demographic change;
- calculate 'per inhabitant' ratios and indicators — such as regional GDP per inhabitant, which may be used to allocate structural funds to economically less advantaged regions;
- develop and monitor immigration and asylum systems.

Census results and likely revisions to population data

The population data presented in this chapter are those available as of March 2014. For most of the countries, the population data for the year 2011 and after take into account the results of the latest population census (held in 2011). The time series of populations between the previous census taking place in these countries and 2011 will be revised by end-2014 by some countries, taking into account Eurostat recommendations. The comparison of populations between a pre-census and a post-census year (see breaks in series in the online database) may result in differences partially explained by changes in population structure and partially explained by the lack of revisions to pre-census population data at the time of writing of this publication.

Indicator definitions

The old-age dependency ratio is the ratio of the number of elderly persons of an age when they are generally economically inactive (65 and over in this publication) to the number of persons of working age (15–64 years old by convention). When analysing dependency ratios it is important to note that within the working-age population there are often considerable numbers of people who choose not to work (for example, students, those bringing-up a family, or those caring for other family members), while — especially in times of recession or depression — there are large numbers of people who are unable to find work and leave the labour force. Furthermore, a growing proportion of elderly persons continue to work beyond what has traditionally been considered the retirement

age, while others have made adequate financial provisions for their retirement and could therefore be considered as 'independent' rather than dependent on the working-age population.

Population change is the difference in the size of a population between the end and the beginning of a period (for example, one calendar year). A positive population change is referred to as population growth, while a negative population change is referred to as population decline. Population change consists of two components:

- Natural change which is calculated as the difference between the number of live births and the number of deaths. Positive natural change, also known as natural increase, occurs when live births outnumber deaths. Negative natural change, also known as natural decrease, occurs when live births are less numerous than deaths.
- Net migration including statistical adjustment, which is calculated as the difference between the total change in the population and natural change; the statistics on net migration are therefore affected by all the statistical inaccuracies in the two components of this equation, especially population change. Net migration including statistical adjustment may cover, besides the difference between inward and outward migration, other changes observed in the population figures between 1 January for two consecutive years which cannot be attributed to births, deaths, immigration or emigration.

Crude rates of change are calculated for total population change, natural population change and net migration (including statistical adjustment). In all cases, the level of change during the year is compared with the average population of the area in question in the same year and the resulting ratio is expressed per thousand inhabitants.

Crude rates of vital demographic events (births and deaths) are defined as the ratio of the number of demographic events to the average population of the region in the same year, again expressed per thousand inhabitants.

The total fertility rate is defined as the average number of children that would be born to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates that have been measured in a given year.

The infant mortality rate is defined as the ratio of the number of deaths of children under one year of age to the number of live births in the reference year, and the resulting ratio is expressed per 1 000 live births.

Life expectancy at birth is the mean number of years that a new born child can expect to live if subjected throughout his or her life to current mortality conditions.

