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Foreword

The European Union places considerable emphasis on cohesion policy, with the objective of bringing Europe's regions and cities closer together in economic, social and environmental spheres.

The *Eurostat regional yearbook* provides an overview of official, regional statistics that are available within Europe. It is thus a helpful tool to understand the regional diversity that exists and also shows that considering national figures alone does not reveal the full and sometimes complex picture of what is happening in the European Union; indeed, there are often significant differences between regions of the same country when one looks at smaller geographical areas. This publication may therefore be seen as a valuable complement to the online version of *Europe in figures — Eurostat's yearbook*, which concentrates on national statistics for the European Union and its Member States.

Regional statistics are based on a harmonised convention in the definition of regions which is contained in the classification of territorial units for statistics, known by the acronym NUTS. This classification has implications beyond the direct field of statistics: it is used more and more in other areas, and thus contributes to shaping the perception of EU citizens as regards how they identify with a certain regional structure and a common notion of regions.

The *Eurostat regional yearbook* maintains its emphasis on the most recent data available, but also provides (when possible) analysis of changes over a period of five or 10 years — thereby analysing structural changes. The analysis is supported by a range of tables, figures and maps, which seek to reveal regional variations at a glance. This edition contains a new chapter on EU regional policies and the regional dimension of the Europe 2020 strategy. There are also three special focus chapters: providing regional data on gender differences, statistics by degree of urbanisation for the quality of life, and information relating to life in European cities.

The content of this book is available online in Statistics Explained on the Eurostat website. The latest data can be downloaded from Eurostat's database, where more disaggregated data can often be found.

Eurostat is the statistical office of the European Union. Working together with national statistical authorities in the European statistical system, our mission is to be the leading provider of high quality statistics on Europe.

I wish you an enjoyable reading experience!

Walter Radermacher

Director-General, Eurostat

Chief statistician of the European Union

Abstract

Statistical information is an important tool for understanding and quantifying the impact of political decisions in a specific territory or region. The *Eurostat regional yearbook 2015* gives a detailed picture relating to a broad range of statistical topics across the regions of the Member States of the European Union (EU), as well as the regions of EFTA and candidate countries. Each chapter presents statistical information in maps, figures and tables, accompanied by a description of the policy context, main findings and data sources. These regional indicators are presented for the following 12 subjects: regional policies and Europe 2020, population, health, education, the labour market, the economy, structural business statistics, research and innovation, the information society, tourism, transport, and agriculture. In addition, three special focus chapters are included in this edition: these look at gender issues, the quality of life, and information relating to life in European cities.

Chief editor

Mariana Kotzeva

Editors

Teodóra Brandmüller and Åsa Önnerfors

Eurostat, Unit E.4., Regional statistics and geographical information

Production

Informa Sàrl — Giovanni Albertone, Simon Allen and Andrew Redpath

Map production

Bilbomática S.A., Guadaltel S.A. — Alex Garitaonandia, Elena Hinojosa and Miguel Peña,

coordinated by Michael Harrop, Åsa Önnerfors, Jørgen Rasmussen and Atanas Trifonov

(Eurostat, Unit E.4., Regional statistics and geographical information)

Dissemination

Isabelle Fiasse

Eurostat, Unit B.4., Dissemination

For more information / contact details

Eurostat
Bâtiment Joseph Bech
5, rue Alphonse Weicker
2721 Luxembourg
LUXEMBOURG
Internet: http://ec.europa.eu/eurostat/
E-mail: estat-user-support@ec.europa.eu

Data extraction

Acknowledgements

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Introduction

Eurostat, the statistical office of the European Union (EU), collects and publishes statistics for the EU and euro area aggregates, as well as national and regional data, primarily for the 28 Member States of the EU, but also for the EFTA and candidate countries. The *Eurostat regional yearbook* aims to provide a taste of the wide selection of European statistics that are collected on regions and cities across a range of subjects.

Statistics on regions and cities

The EU Member States are often compared with each other, but in reality it is very difficult to compare a small Member State like Malta, which has around 425 000 inhabitants, or Luxembourg, which has around 550 000 inhabitants, with Germany, the most populous EU Member State, at close to 81 million inhabitants. Comparing data at a regional level is often more meaningful, and such an analysis may also highlight potential disparities hidden when studying national data.

The NUTS classification

At the heart of regional statistics is the NUTS classification — the classification of territorial units for statistics. This is a regional classification for the EU Member States based on a hierarchy of regions: the NUTS classification subdivides each Member State into regions at three different levels, covering NUTS levels 1, 2 and 3 from larger to smaller areas.

Table 1: Number of NUTS regions and statistical regions by country

	(number of NUTS 2010 regions)		
	NUTS level 1	NUTS level 2	NUTS level 3
EU-28	98	272	1 315
Belgium	3	11	44
Bulgaria	2	6	28
Czech Republic	1	8	14
Denmark	1	5	11
Germany	16	38	412
Estonia	1	1	5
Ireland	1	2	8
Greece	4	13	51
Spain	7	19	59
France	9	26	100
Croatia	1	2	21
Italy	5	21	110
Cyprus	1	1	1
Latvia	1	1	6
Lithuania	1	1	10
Luxembourg	1	1	1
Hungary	3	7	20
Malta	1	1	2
Netherlands	4	12	40
Austria	3	9	35
Poland	6	16	66
Portugal	3	7	30
Romania	4	8	42
Slovenia	1	2	12
Slovakia	1	4	8
Finland	2	5	19
Sweden	3	8	21
United Kingdom	12	37	139
	(number of statistical regions)		
	Level 1	Level 2	Level 3
Iceland	1	1	2
Liechtenstein	1	1	1
Norway	1	7	19
Switzerland	1	7	26
Montenegro	1	1	1
FYR of Macedonia	1	1	8
Albania	1	3	12
Serbia ([1])	:	:	:
Turkey	12	26	81

([1]) There is currently no agreement on statistical regions with Serbia and so information is presented only at the national level.

It should be noted that some EU Member States have a relatively small population and may therefore not be subdivided at some (or even all) of the different levels of the NUTS classification. For example, six of the EU Member States — Estonia, Cyprus, Latvia, Lithuania, Luxembourg and Malta — are each one single NUTS level 2 region according to the 2010 version of the NUTS classification. This situation also occurs for the level 2 statistical regions of Iceland, Liechtenstein, Montenegro and the former

Yugoslav Republic of Macedonia ([1]) where in each case, the whole country consists of a single level 2 statistical region. Note also that there is currently no agreement on statistical regions with Serbia and so information for this country is presented only at a national level.

Table 1 provides an overview of the number of NUTS regions and statistical regions for each of the EU Member States and non-member countries that are covered within the *Eurostat regional yearbook*.

([1]) The name of the former Yugoslav Republic of Macedonia is shown in tables and figures in this online publication as FYR of Macedonia. This does not prejudge in any way the definitive nomenclature for this country, which is to be agreed following the conclusion of negotiations currently taking place on this subject at the United Nations.

THE NUTS REGULATION AND CLASSIFICATION

The NUTS classification is defined in Regulation (EC) 1059/2003 of the European Parliament and of the Council, which has to be amended by a European Commission regulation for each update of the classification (each NUTS version). The NUTS regulation specifies that there should be a minimum period of three years stability during which time the classification should not be changed. Exceptions are made for the inclusion of regions from new EU Member States into the classification. Since 2003, the NUTS classification has been amended several times, partly due to regular amendments, partly due to the accession of new EU Member States.

The second regular amendment (Commission Regulation No 31/2011) was adopted in January 2011 and has applied since 1 January 2012 and is referred to as the NUTS 2010 version; the 2010 version is the basis for classifying regional statistics used in this edition of the *Eurostat regional yearbook*.

The main principles of the NUTS classification

Principle 1: the NUTS regulation defines minimum and maximum population thresholds for the size of NUTS regions (as shown in **Table 2**).

Table 2: Size constraints for NUTS 2010 regions, by population
(number of inhabitants)

	Minimum population	Maximum population
NUTS level 1 regions	3 000 000	7 000 000
NUTS level 2 regions	800 000	3 000 000
NUTS level 3 regions	150 000	800 000

Principle 2: NUTS favours administrative divisions (normative criterion). If available, administrative structures are used for the different NUTS levels. In those Member States where there is no administrative layer corresponding to a particular level, regions are created artificially by aggregating smaller administrative regions.

Principle 3: NUTS favours general geographical units. These are normally more suitable for any given indicator than geographical units specific to certain fields of activity.

Regions have also been defined and agreed with the EFTA and candidate countries on a bilateral basis; these are called statistical regions and follow exactly the same rules as the NUTS regions in the EU, although they have no legal basis. There is currently no agreement on statistical regions with Serbia and so information for this country is presented only at the national level.

Future developments?

The NUTS 2013 version has already been adopted by the European Commission (Commission Regulation No 1319/2013). It is applicable for the collection of data from 1 January 2015 and as such applies to annual data from reference period 2015 onwards (therefore, it has not been used for this edition of the *Eurostat regional yearbook* where time series are generally provided through to 2013 or 2014). Furthermore, Commission Regulation No 868/2014 provides an amendment to take account of a substantial reorganisation of the administrative territorial divisions of Portugal; it is applicable for the collection of data from 1 January 2016 and as such applies to annual data from reference period 2016 onwards (and is therefore not used for this edition).

For more information: history of NUTS

The use of NUTS in this publication

The data presented in the *Eurostat regional yearbook* are based exclusively on NUTS 2010. Most of the regional statistics shown are for NUTS level 2 regions, but, subject to data availability, some tables, figures and maps are shown for NUTS level 1 regions (more aggregated geographical information) or NUTS level 3 regions (the most detailed geographical information; this is available for a limited selection of indicators that includes population data and regional accounts).

There may also be specific cases (normally related to the limits of data availability) where particular regions are presented using a different NUTS level compared with the remainder of the regions in the same map, table or figure — these cases are documented in footnotes and are generally made in order to improve data coverage. Where little or no regional data exist for a particular Member State and indicator combination, use has been made of national data; these exceptions are again documented in footnotes.

Regional statistics by NUTS are used widely across the *Eurostat regional yearbook* and may be found in Chapters 1–13.

Cities and rural areas: statistics on cities and by degree of urbanisation

City statistics

European cities face a variety of challenges: ranging from ageing populations, through migration and urban sprawl, to counteracting climate change. By contrast, Europe's dynamic cities attract investment, people and services, encouraging research, creativity and innovation. Cities can

therefore be seen as part of both the source of and solution to some economic, social and environmental challenges, which makes them central to the Europe 2020 growth strategy for smart, sustainable and inclusive growth.

The OECD and the European Commission developed a new harmonised definition of a city in 2011. This definition identified almost 1 000 cities with an urban centre of at least 50 000 inhabitants in the EU, Iceland, Norway and Switzerland.

Eurostat's statistics on cities provide information to assess the quality of urban life and living standards in European cities, supplementing regional statistics based on the NUTS classification. The data collection exercise consists of several hundred variables and indicators, including statistics on: demography, housing, health, crime, the labour market, economic activity, income disparities, local administration, civic involvement, educational qualifications, cultural infrastructure and tourism.

Within this edition of the *Eurostat regional yearbook*, city statistics are presented in their own chapter that focuses on European cities.

Degree of urbanisation

The degree of urbanisation is a classification originally introduced in 1991 to distinguish densely, intermediate and thinly populated areas. The definition was based on the population size, population density and contiguity of local administrative units at level 2 (LAU2 or municipalities).

The new degree of urbanisation classification is based on three types of area, which are defined using a criterion of geographical contiguity based on a population grid of 1 km² in combination with a minimum population threshold

Table 3: Spatial concepts in relation to the revised degree of urbanisation

Concept	Common terminology	UN classification	Criteria
Thinly populated areas	Rural areas	Rural areas	> 50 % of the population lives in rural grid cells Rural grid cells = grid cells outside urban clusters
Intermediate urbanised areas	Towns and suburbs	Small urban areas	< 50 % of the population lives in rural grid cells < 50 % of the population lives in high-density clusters Urban clusters = contiguous grid cells of 1 km² with: ≥ 300 inhabitants per km²; population ≥ 5 000 inhabitants
Densely populated areas	Cities	Large urban areas	≥ 50 % of the population lives in high-density clusters (urban centres) High density clusters = contiguous grid cells of 1 km² with: ≥ 1 500 inhabitants per km²; population ≥ 50 000 inhabitants

Source: Eurostat, the European Commission Directorate-General for Regional Policy, OECD

(**Table 3** presents a summary of the spatial concepts employed), identifying:

- thinly populated areas (referred to hereafter as rural areas);
- intermediate density areas (referred to hereafter as towns and suburbs);
- densely populated areas (referred to hereafter as cities).

The revision also created the opportunity to streamline and harmonise a number of similar but not identical spatial concepts for which data was being collected. The revised degree of urbanisation classification uses urban centres to identify European cities that have a centre with at least 50 000 inhabitants. Each of these has subsequently been included in the cities data collection exercise, while those cities without a centre of this magnitude were dropped.

The new degree of urbanisation classification may also be used to supply data to the United Nations on rural and urban areas (the latter being a simple aggregate of towns and suburbs and cities).

Map 1 shows the degree of urbanisation in the EU, detailing the distribution of rural areas, towns and suburbs, and cities.

For more information on the new definition, refer to a working paper released by the Directorate-General for Regional and Urban Policy: A harmonised definition of cities and rural areas: the new degree of urbanisation Lewis Dijkstra and Hugo Poelman, WP01/2014.

Within this edition of the *Eurostat regional yearbook*, statistics by degree of urbanisation are used in Chapter 5 on the labour market and Chapter 14 which focuses on the quality of life.

Coverage and timeliness

The *Eurostat regional yearbook* contains statistics for the 28 Member States of the EU and, where available, data are also shown for the EFTA countries (Iceland, Liechtenstein, Norway and Switzerland) and the candidate countries (Montenegro, the former Yugoslav Republic of Macedonia, Albania, Serbia and Turkey).

Since 1 March 2012, Serbia has been a candidate country to the EU. There is currently no agreement on its regional boundaries, especially concerning Kosovo (²) — the latter is not covered in this publication — and so only national statistics are presented for Serbia (subject to data availability). On 27 June 2014, the European Council granted candidate country status to Albania and data are included for the first time (subject to availability) in this edition of the *Eurostat regional yearbook*.

As with other Eurostat publications, the geographical descriptions used to group EU Member States, for example, 'northern', 'eastern', 'southern' and 'western' are not intended as political categorisations. Rather, these references are made in relation to the geographical location of one or more EU Member States, as listed within the geography domain of the European Commission's multilingual thesaurus.

There are a wide range of surveys and data collection exercises whose data are used within the *Eurostat regional yearbook*. As a result, there may be differences with respect to the latest available reference year across the different chapters: each chapter aims to show the latest information

available for that subject area. **Table 4** provides an overview of the latest reference period for which statistics are presented.

The statistical information in the *Eurostat regional yearbook* was extracted during March and April 2015. It is therefore possible that Eurostat's website has fresher data available due to the continuous nature of data collection and processing (resulting in updates and new reference periods being added).

Regional data sets on Eurostat's website generally include national data alongside regional information. As such, both national and regional statistics may be accessed through a single online data code. The online data code(s) below each table, figure or map helps users to locate the freshest data (see below for more information pertaining to online data codes). In some exceptional cases, use has been made of national data sets on Eurostat's website in order to fill gaps in the regional data sets.

Eurostat's data are published with accompanying metadata that provide background information on each source, as well as specific information (flags) for individual data cells. The flags provide information pertaining to the status of the data, for example, detailing whether the data are estimated, provisional or forecasted. These flags have either been converted into footnotes which appear under each figure or map or, in tables, shown by way of italic text.

(²) This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

Map 1: Degree of urbanisation for local administrative units level 2 (LAU2) ([1])
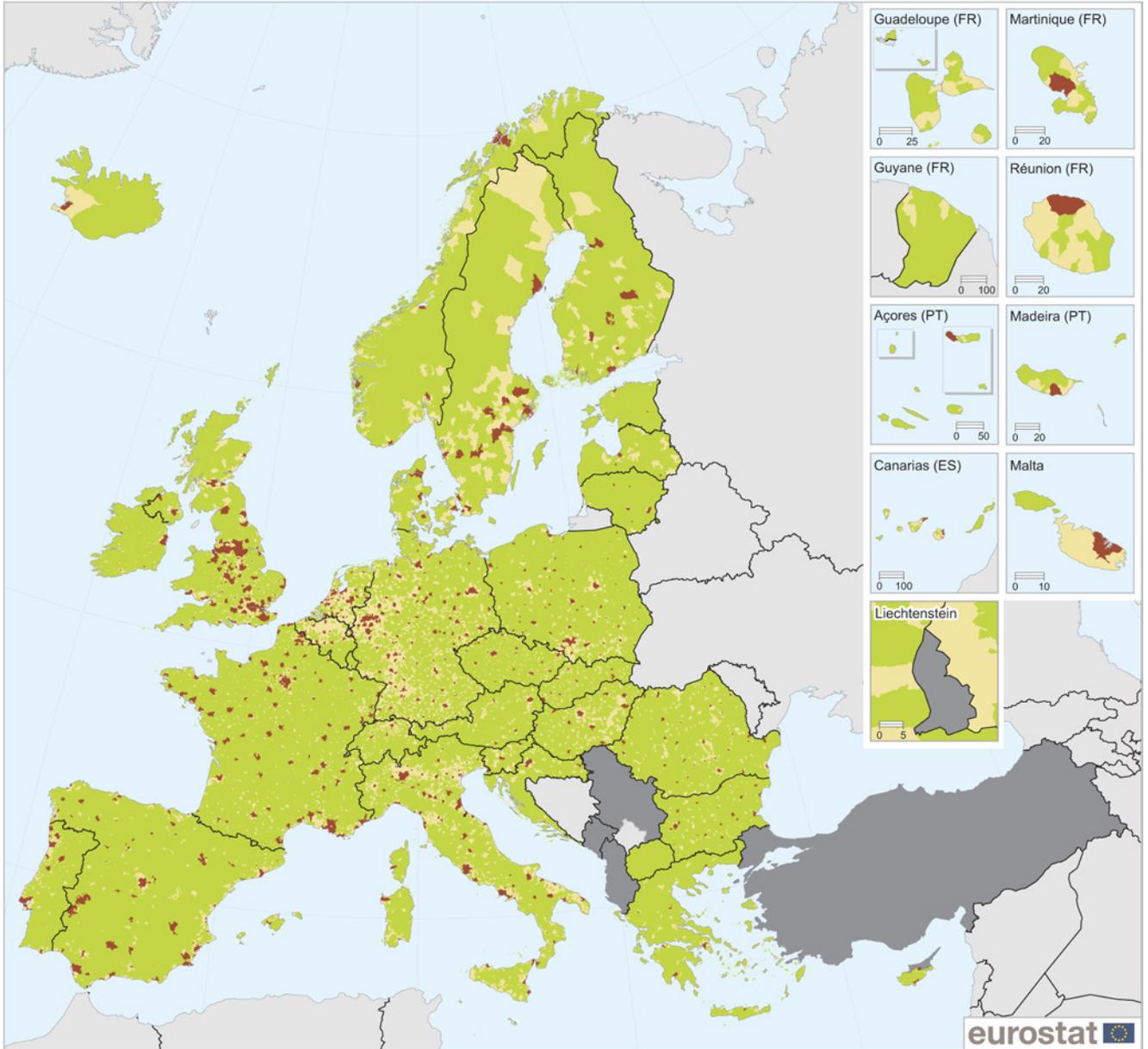
Cities / densely populated areas
(>= 50 % of the population lives in high-density clusters)

Towns and suburbs / intermediate urbanised areas
(< 50 % of the population lives in rural grid cells and
< 50 % of the population lives in high-density clusters)

Rural areas / thinly populated areas
(> 50 % of the population lives in rural grid cells)

Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 04/2015

0   200   400   600   800 km
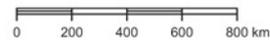
([1]) Based on population grid from 2006 and LAU 2011.
Source: Eurostat, JRC and European Commission Directorate-General for Regional Policy

Table 4: Summary of the latest available reference period for each chapter in the *Eurostat regional yearbook* (2015 edition)

Chapter number and title	Latest available reference period for regional data
1. EU regional policies and the regional dimension of Europe 2020	Demography, education and labour force survey, 2014; EU-SILC, regional accounts and R & D, 2013
2. Population	Population and housing census, 2011
3. Health	Causes of death, 2011; healthcare resources, 2012
4. Education	Education, 2013; labour force survey, 2014
5. Labour market	Labour force survey, 2014
6. Economy	Regional accounts, 2013
7. Structural business statistics	Structural business statistics, 2012; business demography, 2010
8. Research and innovation	HRST, trademarks and Community designs, 2013; R & D and researchers, 2012; patents, 2011
9. Information society	Information society, 2014
10. Tourism	Tourism, 2013
11. Transport	Transport, 2013
12. Agriculture	Survey of agricultural production methods, 2010; livestock and agricultural products, 2013
13. Focus on gender statistics	Life expectancy, 2012; causes of death, 2011; labour force survey, 2014
Chapter number and title	**Latest available reference period for data by degree of urbanisation**
5. Labour market	Labour force survey, 2014
14. Focus on quality of life	EU-SILC, 2013
Chapter number and title	**Latest available reference period for data on cities**
15. Focus on European cities	2013

Changes compared with the previous edition

Compared with the 2014 edition of the *Eurostat regional yearbook*, this edition includes some new chapters and data sources. The main differences include:

- a new chapter on EU policy and Europe 2020;
- information in the population chapter is dedicated entirely to census data at the regional level;
- the timeliness of regional data for the labour market has been significantly improved;
- the timeliness of regional accounts data has been significantly improved and data has been aligned with ESA 2010;
- an additional section has been added on enterprise business demography within the chapter on structural business statistics;
- there is a new chapter on gender differences;
- there is a new chapter on the quality of life (by degree of urbanisation).

Data presentation

In order to improve readability, only the most significant information has been included as footnotes under the tables, figures and maps. In addition to footnotes, in tables, the following formatting and symbols are used, where necessary:

italic data value is forecasted, provisional or estimated and is likely to change;

: not available, confidential or unreliable value;

− not applicable.

Where appropriate, breaks in series are indicated in the footnotes provided under each table, figure or map.

Note that throughout this publication billion is used to indicate a thousand million and trillion is used to indicate a thousand billion.

More information about regions and cities on Eurostat's website

Eurobase — Eurostat's online database

The simplest way to access Eurostat's broad range of statistical information is through the Eurostat website (http://ec.europa.eu/eurostat). Eurostat provides users with free access to its databases and all of its publications in portable document format (PDF) via the internet. The website is updated daily with the latest and most comprehensive statistical information available on: the EU and euro area, the EU Member States, EFTA countries, candidate countries, and potential candidates.

Eurostat online data codes, such as tps00001 and nama_10_gdp [3], provide easy access to the most recent data available. In this publication these online data codes are given as part of the source below each table, figure or map. In the PDF version, readers are led directly to the freshest data when clicking on the hyperlinks provided. For readers of the paper publication, the freshest data can be accessed by typing a standardised hyperlink into a web browser, http://ec.europa.eu/eurostat/product?code=<data_code> &mode=view , where <data_code> is to be replaced by the online data code in question. Online data codes can also be fed into the 'Search' function on Eurostat's website, which is found in the upper-right corner of the Eurostat homepage.

Statistics on regions

Eurostat's regional database provides a wealth of information that extends well beyond that shown in the *Eurostat regional yearbook* — with a wider range of indicators, longer time series, and different levels of the NUTS classification.

A dedicated section containing background information on regional statistics may be found on Eurostat's website under the heading Regions.

Eurostat's website also provides users with a set of MS Excel files that contain the data found in the tables, figures and maps for each chapter of the *Eurostat regional yearbook*; these are presented alongside a set of PDF files, one for each chapter.

Statistics on cities

Eurostat's statistics on cities (the Urban Audit database) provides access to data on towns, cities, greater cities and larger urban zones, as well as a perception survey that presents data on how urban city dwellers perceive their quality of life.

A dedicated section containing background information on cities may be found on Eurostat's website under the heading Cities (Urban Audit).

Statistics by degree of urbanisation

Eurostat's database with statistics by degree of urbanisation contains a range of population and social indicators covering: education and training, living conditions and welfare, the labour market, tourism and the information society.

A dedicated section containing background information on data by degree of urbanisation may be found on Eurostat's website under the heading Degree of urbanisation.

Statistics on metropolitan regions

Eurostat's database on metropolitan regions covers the following topics: demography, economic accounts, the labour market and patents; these statistics cover agglomerations with at least 250 000 inhabitants.

A dedicated section containing background information on metropolitan regions and agglomerations may be found on Eurostat's website under the heading Metropolitan regions.

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[3] There are two types of online data codes: Tables (accessed using the TGM interface) have 8–character codes, which consist of 3 or 5 letters — the first of which is 't' — followed by 5 or 3 digits, e.g. tps00001 and tsdph220. Databases (accessed using the Data Explorer interface) have codes that use an underscore '_' within the syntax of the code, for example, nama_10_gdp.

Statistics Explained

Statistics Explained is a wiki-based system which presents statistical topics in an easy-to-understand way; all of the chapters from the *Eurostat regional yearbook* are included. Statistics Explained articles form an encyclopaedia of European statistics, which is completed by a statistical glossary clarifying the terms used. In addition, numerous links are provided to data, metadata, and further information; as such, Statistics Explained is a portal for regular and occasional users of official European statistics.

Statistics Explained is used to publish new content from the *Eurostat regional yearbook* as each chapter is finalised. This means that the latest text on a particular topic may be made available in Statistics Explained earlier than in the printed version. In this way, the most recent results are provided to users without the inevitable delays that are part of the process of producing printed publications. The tables, figures and maps for each chapter are included on Statistics Explained as MS Excel workbooks.

Since the 2011 edition of the *Eurostat regional yearbook*, the German and French versions of the publication are only available on Statistics Explained, rather than in printed form. Since the 2012 edition, the analysis for three chapters from the *Eurostat regional yearbook* — those on population, education and the economy — has been made available on Statistics Explained in an additional 19 European languages (besides German, English and French). The tables, figures and maps used to illustrate data within the *Eurostat regional yearbook* are only provided in English (for all 22 language versions).

Online glossary

Many terms and abbreviations used in this publication are linked to glossary pages (http://ec.europa.eu/eurostat/statistics-explained/index.php/Thematic_glossaries) on Statistics Explained.

Regional Statistics Illustrated

Eurostat offers two interactive applications on its website which provide tools for visualising and analysing sub-national data. The first of these, Regional Statistics Illustrated, contains data for a wide range of statistical indicators across European regions and cities. There are four standard visualisations (a distribution plot, a scatter plot, a bar chart and a data table); these provide an opportunity to make deeper analyses of regional data as well as comparisons and rankings of different regions and cities. In addition, an animated timeline can be used to explore how indicators for specific regions have developed over time.
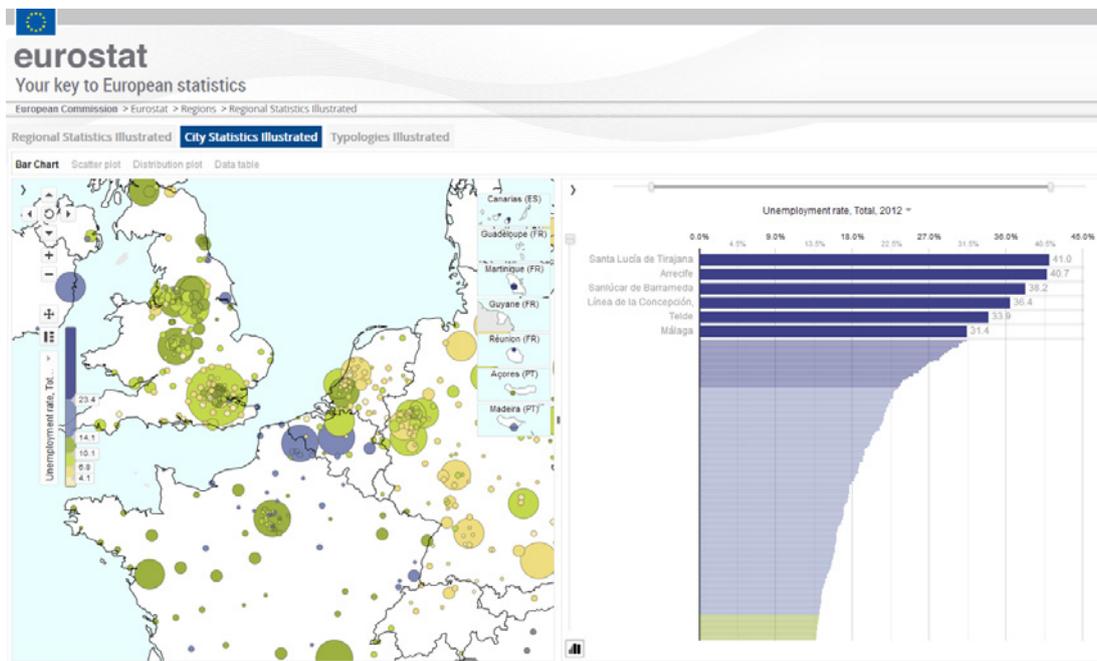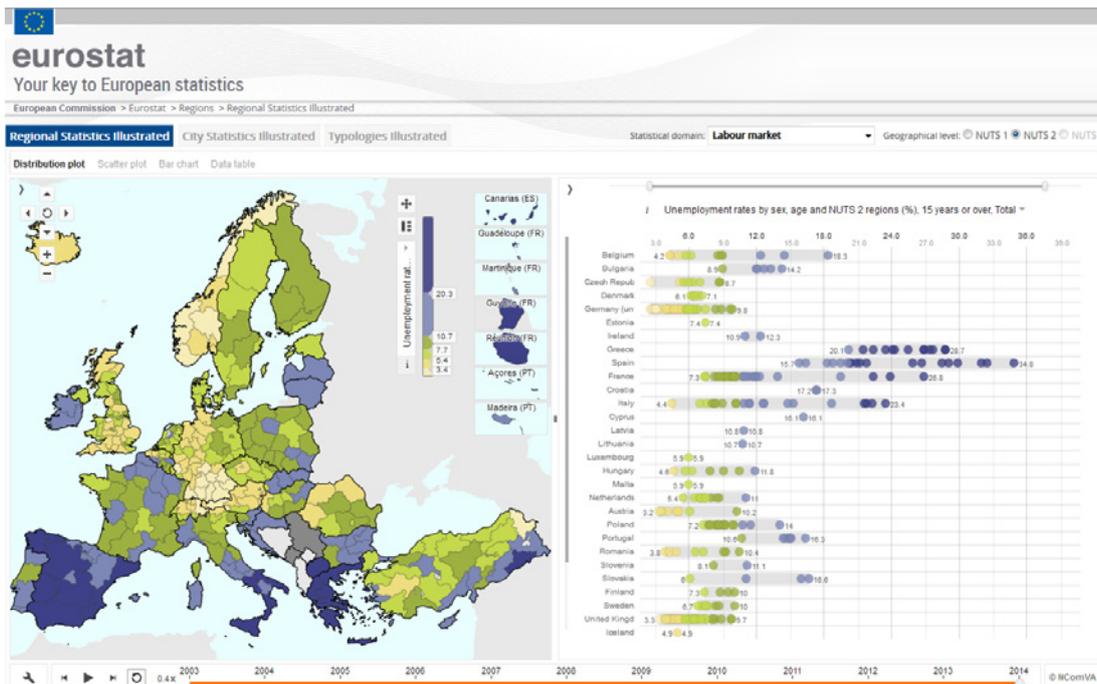
Screenshots from Regional Statistics Illustrated

Statistical Atlas

The second application, Eurostat's Statistical Atlas, is an interactive viewer that allows users to study layers of statistical data in combination with layers of geographical information (for example, statistical regions, cities, roads or rivers). The Statistical Atlas can be used for viewing all of the maps that are contained within the *Eurostat regional* *yearbook* and provides users with an opportunity to focus on information for a single administrative region or city in Europe; the maps can be downloaded as high-resolution PDFs. This application is also used to present results from the EU's land cover and land use survey known as LUCAS).
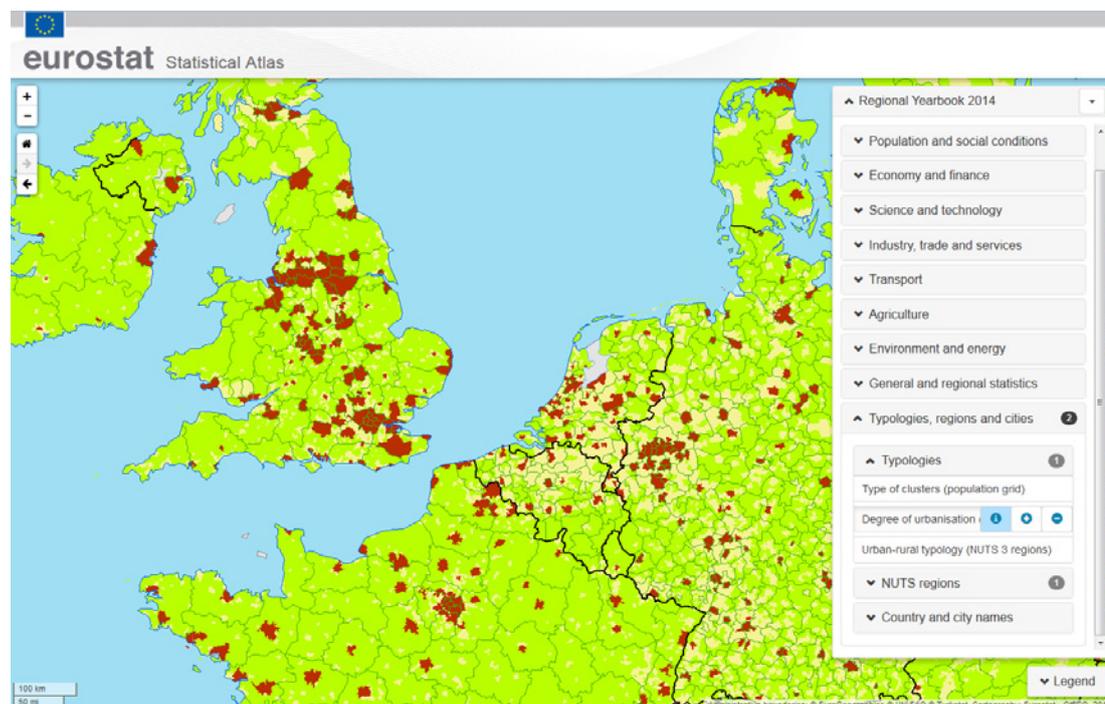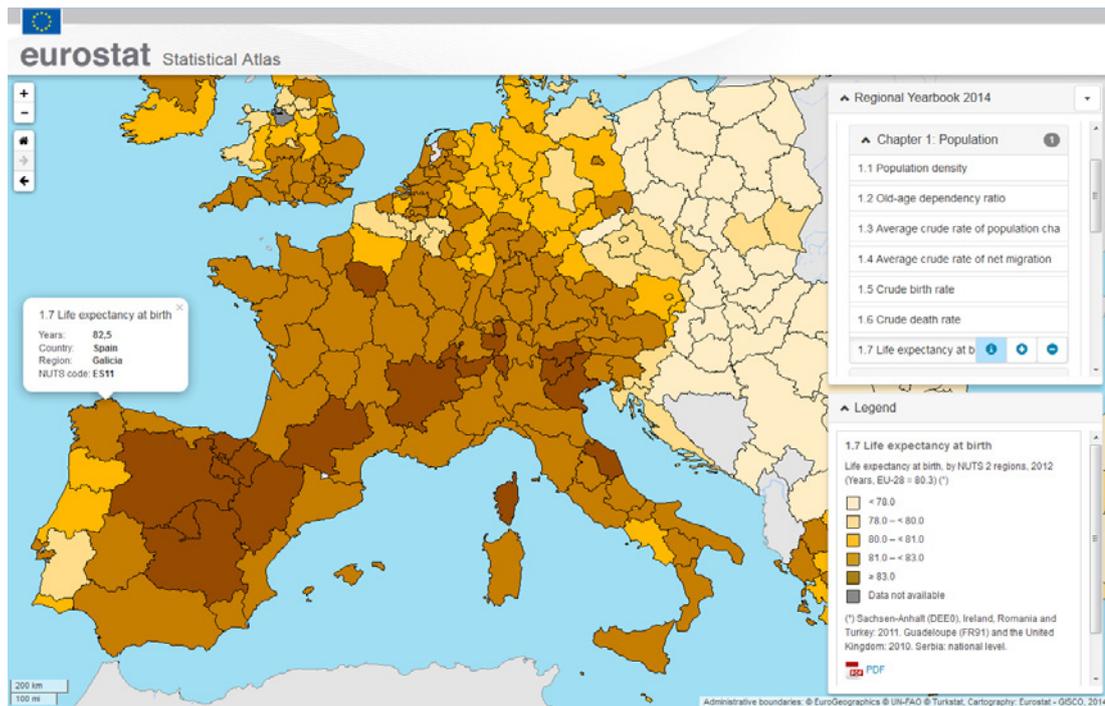
Screenshots from the Statistical Atlas

Regional policies and Europe 2020

Introduction

This chapter is divided into two distinct parts: the first provides an overview of EU policy developments that potentially impact Europe's regions (starting with the Europe 2020 strategy), while the second provides an analysis of the latest data available, measuring the performance of EU regions, highlighting developments since the financial and economic crisis, and looking at regional performance in relation to the Europe 2020 targets.

Principal EU policies impacting upon Europe's regions

The Europe 2020 strategy: creating a smart, sustainable and inclusive economy

The Europe 2020 strategy seeks to achieve the following five targets by 2020.

- Employment — increase the employment rate among those aged 20–64 to at least 75 %.
- Research and development — increase combined public and private investment in R & D to 3 % of GDP.
- Climate change and energy sustainability — reduce greenhouse gas emissions by at least 20 % compared with 1990 levels, increase the share of renewable energy in final energy consumption to 20 %, and encourage a 20 % increase in energy efficiency.
- Education — reduce school drop-out rates to less than 10 % and increase the proportion of those aged 30–34 having completed tertiary education to at least 40 %.
- Fighting poverty and social exclusion — lift at least 20 million people out of the risk of poverty and social exclusion.

The European Commission adopted seven flagship initiatives in order to drive progress towards these Europe 2020 goals; they are grouped together under three headings for:

- smart growth — the digital agenda for Europe, the innovation union, and youth on the move, the latter ended as of December 2014;
- sustainable growth — resource efficient Europe and an industrial policy for the globalisation era;
- inclusive growth — an agenda for new skills and jobs, and the European platform against poverty and social exclusion.

A mid-term review of the Europe 2020 strategy

On 5 March 2014, the European Commission released a Communication titled, 'Taking stock of the Europe 2020 strategy for smart, sustainable and inclusive growth' (COM(2014) 130). This provided a review of the achievements made and difficulties encountered during the first four years of the Europe 2020 strategy and launched a mid-term

review. After endorsement by the European Council in March 2014, the European Commission launched a public consultation of the strategy which took place from May–October 2014. The results of the public consultation on the Europe 2020 strategy for smart, sustainable and inclusive growth (COM(2015) 100) concluded, among others, that:

- the delivery of objectives linked to jobs and economic growth was mixed, notably due to the impact of the financial and economic crisis;
- the crisis had also affected progress towards the Europe 2020 headline targets;
- the mixed progress towards Europe 2020 targets could also be attributed to the time lag with which structural reforms produce their full impact;
- growing divergences across and often within EU Member States had hampered progress towards the Europe 2020 targets (the second half of this chapter develops this aspect, providing a regional analysis of indicators for monitoring Europe 2020).

The European Commission is in the process of reflecting on the results of the public consultation and is also taking account of contributions from the European Parliament, the Council, national parliaments, the European Economic and Social Committee and the European Committee of the Regions; it plans to present new proposals for the strategy before the end of 2015.

More information about the Europe 2020 strategy is provided on the European Commission's website.

Cohesion policy

What is cohesion policy?

The EU's cohesion policy has the goal of investing in growth and jobs and promoting territorial cooperation. It is behind thousands of projects that have taken place all over Europe. Cohesion policy aims to reduce the disparities that exist between EU regions, promoting a balanced and sustainable pattern of territorial development. The EU's cohesion policy is established on the basis of seven-year programming periods; the current period covers 2014–20,

> ## *i* EU COHESION POLICY — THE THREE PRINCIPLE FUNDS
>
> The EU's cohesion policy for 2014–20 has 11 thematic objectives, which are covered by three principal financial tools that have been set up to implement regional policy within the EU. The first two of these are known as structural funds, while the cohesion fund is intended for those Member States whose GDP per capita is less than 90 % of the EU average.
>
> The European Regional Development Fund (ERDF) concentrates its actions on innovation and research, the digital agenda, support for small and medium-sized enterprises (SMEs), and the low-carbon economy. The resources allocated to each of these priorities depends upon the region — for example, in more developed regions, at least 80 % of any funding should focus on at least two of these priorities, whereas in less developed regions this share falls to 50 %.
>
> The European Social Fund (ESF) aims to improve employment and education opportunities, as well as the situation of the most vulnerable people, for example, those at risk of poverty. During the period 2014–20 the ESF will focus on supporting four thematic objectives: promoting employment and supporting labour mobility; promoting social inclusion and combating poverty; investing in education, skills and lifelong learning; enhancing institutional capacity and an efficient public administration.
>
> The Cohesion Fund supports investment in the environment, trans-European networks and other infrastructure projects, through a focus on the following areas: the shift towards a low-carbon economy; promoting climate change adaptation and risk prevention; preserving and protecting the environment and promoting resource efficiency; promoting sustainable transport and removing key bottlenecks in network infrastructures; enhancing institutional capacity. It is subject to the same rules of programming, management and monitoring as the ERDF and ESF.
>
> *For more information:* Directorate-General for Regional and Urban Policy — regional policy, the EU's main investment policy

during which time expenditure of almost EUR 352 billion has been allocated for cohesion policy measures in the EU Member States, equivalent to almost one third (32.5 %) of the total EU budget. Priority is given to those regions whose development is lagging behind the EU average, with more than half (EUR 182 billion) of the total allocation set aside for less developed regions whose GDP is lower than 75 % of the EU average.

How is the budget decided?

The total budget for cohesion policy and the rules associated with its allocation are jointly decided by the Council and the European Parliament. A legislative package for cohesion policy for 2014–20 was adopted on 17 December 2013. This included a common provisions regulation (CPR) which lays down general provisions and the simplification of European Structural and Investment (ESI) funds.

ESI funds are attributed through a collective process which involves European, national, regional and local authorities, as well as social partners and organisations from civil society. There have been a number of changes to the design and implementation of cohesion policy for the 2014–20 programming period, with a shift in funding so that it is concentrated on the Europe 2020 priorities of smart, sustainable and inclusive growth. The revised policy seeks to reward performance, support integrated programming, focus on results (through monitoring progress towards agreed objectives) and simplify delivery.

The EU does not directly fund individual projects—rather, ESI funds are attributed to multi-annual national programmes in each of the EU Member States — these programmes should be aligned with general EU objectives and priorities. Each Member State produces a draft partnership agreement, which outlines their strategy and proposes a list of programmes; the European Commission negotiates with the national authorities on the content of these agreements. The programmes are implemented by individual Member States and their regions, through one or more managing authorities.

The NUTS classification — an objective basis for the allocation of cohesion funds

Regional statistics are employed when allocating funds. The NUTS classification is used to define regional boundaries and determine geographic eligibility for ESI funds. Regional eligibility for the ERDF and the ESF during the programming period 2014–20 was calculated on the basis of regional GDP per inhabitant (in PPS) averaged over the period 2007–09. NUTS 2 regions were ranked and split into three groups:

- less developed regions where GDP per inhabitant was less than 75 % of the EU-27 average;
- transition regions where GDP per inhabitant was between 75 % and 90 % of the EU-27 average; and
- more developed regions where GDP per inhabitant was more than 90 % of the EU-27 average.

Map 1.1: Regional eligibility for structural funds, by NUTS level 2 region, 2014–20 ([1])
(% of EU-27 average)

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015
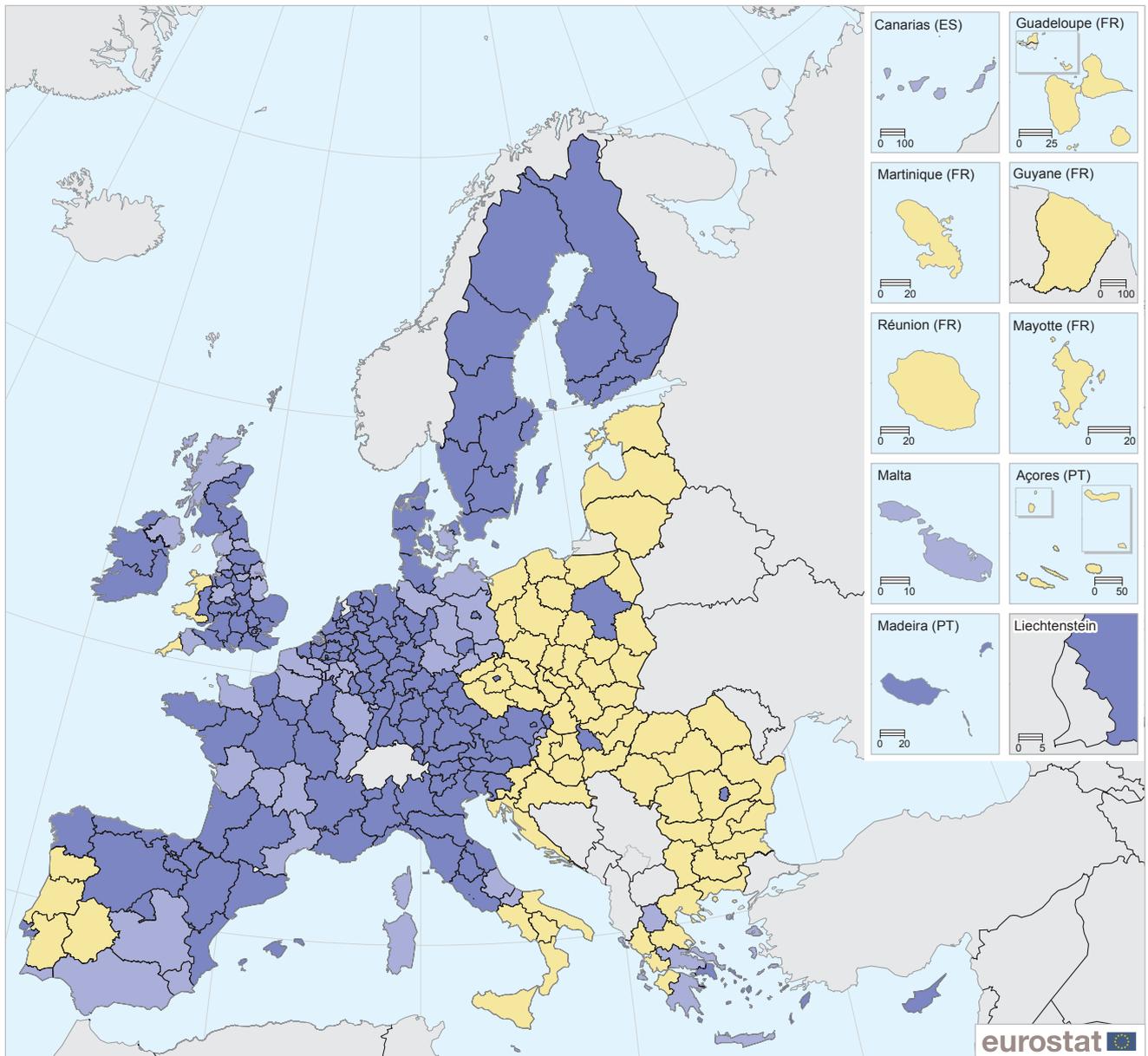
(% of EU-27 average)

- Less developed regions (GDP per inhabitant, < 75)
- Transition regions (GDP per inhabitant, ≥ 75 – < 90)
- More developed regions (GDP per inhabitant, ≥ 90)

0   200   400   600   800 km
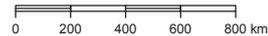
([1]) GDP per inhabitant over the period 2007–09 was used as the basis for the allocation of structural funds for 2014–20; as such, calculations relating to regional eligibility were based on the NUTS 2006 classification. EU-28 regions in this publication are delineated on the basis of the NUTS 2010 classification and as a result there are two regions where regional eligibility does not follow the new NUTS boundaries: Chemnitz (DED4) and Merseyside (UKD7). Both regions are partly eligible as transition regions and partly as more developed regions.

Source: European Commission, Directorate-General for Regional and Urban Policy

Map 1.1 shows the eligibility of NUTS 2 regions for structural funds over the programming period 2014–20. The less developed regions, which receive the highest proportion of funds, are predominantly in the east and south of the EU, and also include the Baltic Member States.

Regional eligibility for the Cohesion Fund was calculated on the basis of gross national income per inhabitant (in PPS) and averaged over the period 2008–10. Only Member States whose gross national income per inhabitant was less than 90 % of the EU-27 average are supported. Eligibility for the Cohesion Fund during the programming period 2014–20

therefore covers actions in Bulgaria, the Czech Republic, Estonia, Greece, Croatia, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Romania, Slovenia and Slovakia; Cyprus is eligible for a phase-out fund.

Table 1.1 provides an overview of the allocation of cohesion policy funds (for the two structural funds and the Cohesion Fund) for the programming period 2014–20. Over this period, Poland has been allocated 22.0 % of the EU's cohesion policy funds, while the next highest allocations were for Italy (9.3 %) and Spain (8.1 %).

Table 1.1: Allocation of cohesion policy funds for the programming period 2014–20
(million EUR)

	European Regional Development Fund and European Social Fund			Cohesion Fund	Total cohesion policy (¹)	Share of EU-28 cohesion policy funds (%)
	Less developed regions	Transition regions	More developed regions			
EU-28	182 171.8	35 381.1	54 350.5	63 399.7	351 854.2	100.0
Belgium	-	1 039.7	938.6	-	2 283.9	0.6
Bulgaria	5 089.3	-	-	2 278.3	7 588.4	2.2
Czech Republic	15 282.5	-	88.2	6 258.9	21 982.9	6.2
Denmark	-	71.4	255.1	-	553.4	0.2
Germany	-	9 771.5	8 498.0	-	19 234.9	5.5
Estonia	2 461.2	-	-	1 073.3	3 590.0	1.0
Ireland	-	-	951.6	-	1 188.6	0.3
Greece	7 034.2	2 306.1	2 528.2	3 250.2	15 521.9	4.4
Spain	2 040.4	13 399.5	11 074.4	-	28 559.5	8.1
France	3 407.8	4 253.3	6 348.5	-	15 852.5	4.5
Croatia	5 837.5	-	-	2 559.5	8 609.4	2.4
Italy	22 324.6	1 102.0	7 692.2	-	32 823.0	9.3
Cyprus	-	-	421.8	269.5	735.6	0.2
Latvia	3 039.8	-	-	1 349.4	4 511.8	1.3
Lithuania	4 628.7	-	-	2 048.9	6 823.1	1.9
Luxembourg	-	-	39.6	-	59.7	0.0
Hungary	15 005.2	-	463.7	6 025.4	21 905.9	6.2
Malta	-	490.2	-	217.7	725.0	0.2
Netherlands	-	-	1 014.6	-	1 404.3	0.4
Austria	-	72.3	906.0	-	1 235.6	0.4
Poland	51 163.6	-	2 242.4	23 208.0	77 567.0	22.0
Portugal	16 671.2	257.6	1 275.5	2 861.7	21 465.0	6.1
Romania	15 058.8	-	441.3	6 935.0	22 993.8	6.5
Slovenia	1 260.0	-	847.3	895.4	3 074.8	0.9
Slovakia	9 483.7	-	44.2	4 168.3	13 991.7	4.0
Finland	-	-	999.1	-	1 465.8	0.4
Sweden	-	-	1 512.4	-	2 105.8	0.6
United Kingdom	2 383.2	2 617.4	5 767.6	-	11 839.9	3.4

(¹) The totals presented include a number of allocations which are not detailed in this table: European territorial cooperation, special allocations for outermost and northern sparsely populated regions, additional allocations for the Youth Employment Initiative, urban innovative actions and technical assistance.
Source: European Commission, Directorate-General for Regional and Urban Policy

Cohesion policy — the EU's principal investment tool for Europe 2020 targets

To conclude, cohesion policy during the 2014–20 programming period seeks to encourage a more results-orientated approach with more transparent controls and less red tape; these initiatives are designed to boost growth and jobs across Europe. Programming is, for the first time, embedded within overall economic policy coordination, in particular the European semester, an annual cycle of economic policy coordination that is designed to coordinate the individual efforts of EU Member States so they result in the desired impact on growth. As such, the EU's cohesion policy is closely integrated with the Europe 2020 strategy and cohesion policy will, over the coming years, be the EU's principle investment tool for delivering the Europe 2020 targets.

European Committee of the Regions

The European Committee of the Regions is the EU's assembly of regional and local representatives. It was created in 1994 and is composed of 350 members who are regional presidents, mayors or elected representatives of regions and cities. Successive European treaties have broadened its role: indeed, since the entry into force of the Lisbon Treaty it has to be consulted throughout the European legislative process.

The European Committee of the Regions works closely together with the European Commission, the European Parliament and the Council of the European Union, and in the EU Member States with the various tiers of authority, in order to promote multi-level governance. It aims to ensure that European policy developments uphold the principles of subsidiarity and proportionality and promotes economic, social and territorial cohesion in the EU through autonomy for regional and local authorities, encouraging decentralisation and cooperation at a regional and local level.

A territorial dimension for Europe 2020

At its 6th European summit of regions and cities on 7/8 March 2014, the European Committee of the Regions adopted its Athens Declaration, which called for a stronger territorial dimension in the shaping and implementation of the Europe 2020 strategy. It made the case for shifting the focus of the Europe 2020 strategy towards a regional and local dimension. The declaration included a seven-point plan for the Europe 2020 strategy, to:

• give Europe 2020 a territorial dimension;
• make local and regional authorities partners in the preparation of national reform programmes;
• make multi-level governance the standard approach;
• align the European semester more closely with the objectives of the Europe 2020 strategy;
• use the Europe 2020 flagship initiatives for enhanced policy coordination;
• mobilise funding for long-term investment, ensuring better spending;
• strengthen administrative capacity for more effective implementation.

13th European Week of Regions and Cities
OPEN DAYS Brussels 12 - 15 October 2015

Open Days is an annual four-day event during which cities and regions showcase their capacity to create growth and jobs, implement EU cohesion policy, and provide evidence of the importance of the regional level for good European governance.

The event was created in 2003 by the European Committee of the Regions and it has subsequently become a networking platform for regional and local development, which is viewed as a key event for policy practitioners. It welcomes around 6 000 participants each year (local, regional, national and European decision-makers) for around 100 workshops and debates, exhibitions and networking opportunities.

The next Open Days event is due to be held in October 2015 under the title, 'Europe's regions and cities: partners for investment and growth', with three principal themes:

• modernising Europe — regions in the energy union and the single digital market;
• regions open for business — SME development, innovation and job creation;
• places and spaces — urban and rural development, urban-rural integration.

For more information: Open Days 2015 — European Committee of the Regions

The Athens Declaration also called for '… the introduction of an enhanced monitoring system for Europe 2020 at regional level, which requires the timely development of an adequate statistical basis at regional and local level and the possible development of regional progress indicators'. More evidence in support of the Athens Declaration is available in a European Committee of the Regions report, Mid-term assessment of Europe 2020: rethinking Europe's growth and jobs strategy, which is available online. A full report on the proceedings of this Athens summit, including the Declaration, is available on the European Committee of the Regions website.

Europe 2020: monitoring platform

The European Committee of the Regions has set up a Europe 2020 monitoring platform to analyse the implementation of the Europe 2020 strategy at a regional and local level with the help of experienced practitioners. The platform provides a means for regional and local authorities to have a say in this policy area and is designed to ensure better implementation of policies linked to Europe 2020 strategic goals, such as the evolving relationship between the Europe 2020 strategy and cohesion policy, linking the annual governance process of the European Semester to the longer time perspective of Europe 2020.

Building on the Athens Declaration, a steering committee of the Europe 2020 monitoring platform released a Blueprint for a revised Europe 2020 strategy. The Blueprint underlines that when the European Committee of the Regions surveyed local and regional authorities most of these stated that while the goals of the Europe 2020 strategy were generally considered to be relevant, headline EU targets and country-specific targets were often perceived as being of limited practical use at a regional or even more devolved level.

The Blueprint argues that Europe 2020 headline and national targets should be regionally differentiated as, for example, one region may already have met the national target for the employment rate although it might not be realistic for the same region to meet the national target for R & D expenditure. To allow local and regional policymakers to monitor progress and performance more closely in relation to the Europe 2020 strategy, the Blueprint calls for the timely release of more detailed sub-national statistics (at NUTS levels 2 and 3) for headline (and possibly additional) indicators.

For more information, refer to the European Committee of the Regions' portal for the Europe 2020 monitoring platform.

Urban development policies

Europe's towns and cities are centres of economic activity, attracting innovation and employment: around three quarters of the EU's population lives in urban areas, and they account for even higher shares of energy use and wealth creation. Yet, many cities face a range of problems, for example, a relatively high proportion of their populations may be troubled by crime, poverty, unemployment, inadequate housing, traffic congestion or environmental pressures. Indeed, Europe's towns and cities symbolise the two-fold challenge currently being faced within the wider EU: namely, how to improve competitiveness while meeting social, cultural and environmental demands. As such, urban areas are considered as being central to achieving the Europe 2020 targets of smart, sustainable and inclusive growth.

Urban policy was initially founded upon the URBAN Community initiatives. As of 2007, the EU reinforced the urban dimension of its policies and integrated these into the broader goals of cohesion policy, with particular attention for promoting economic growth, social cohesion and environmental sustainability. The EU's cohesion policy for the 2014–20 seeks to support towns and cities through a range of European Regional Development Fund (ERDF) investment priorities (like urban mobility, economic and social regeneration, the digital agenda, improvements in research and innovation capacity, or the low-carbon economy). There are a range of urban initiatives, including: green cities (environmentally-friendly cities, sustainable mobility in cities, cities targeting zero carbon dioxide emissions), open cities (promoting integration between various sub-groups of the population, age-friendly cities), innovative cities (which focus on support for research and innovation), resilience in cities and creative cities (that promote culture). In each EU Member State, at least 5 % of the funding allocated through the ERDF should be invested in sustainable urban development.

More detailed information on the EU's urban development policy is provided on the European Commission's website.

Rural development policies

As with many towns and cities, rural areas face considerable (but usually different) challenges. These include improving the competitiveness of their agricultural and forestry sectors and encouraging younger persons to remain in the region. Average income per inhabitant is generally lower in rural regions than in urban areas, while the skills base is often narrower and the service sector is invariably less developed. By contrast, rural areas provide raw materials, opportunities for recreation, and have a role to play in actions against climate change. The EU's rural development and cohesion policies complement each other by promoting the diversification of economic activity in rural areas and seeking to improve the quality of life in these areas.

In line with Europe 2020 strategy and the objectives of the common agricultural policy (CAP), three strategic objectives can be identified for EU rural development policy from 2014–20:

- improving the competitiveness of agriculture;
- the sustainable management of natural resources and climate action; and
- a balanced territorial development of rural areas.

Figure 1.1: Main indicators for EU regions according to their structural funds eligibility, 2000–14 (^{1})

GDP per inhabitant (PPS) (^{2})

Population change (%) (^{3})

Unemployment rate (%) (^{4})

- – – **EU-28 average**
- —— **More developed regions**
- —— **Transition regions**
- —— **Less developed regions**
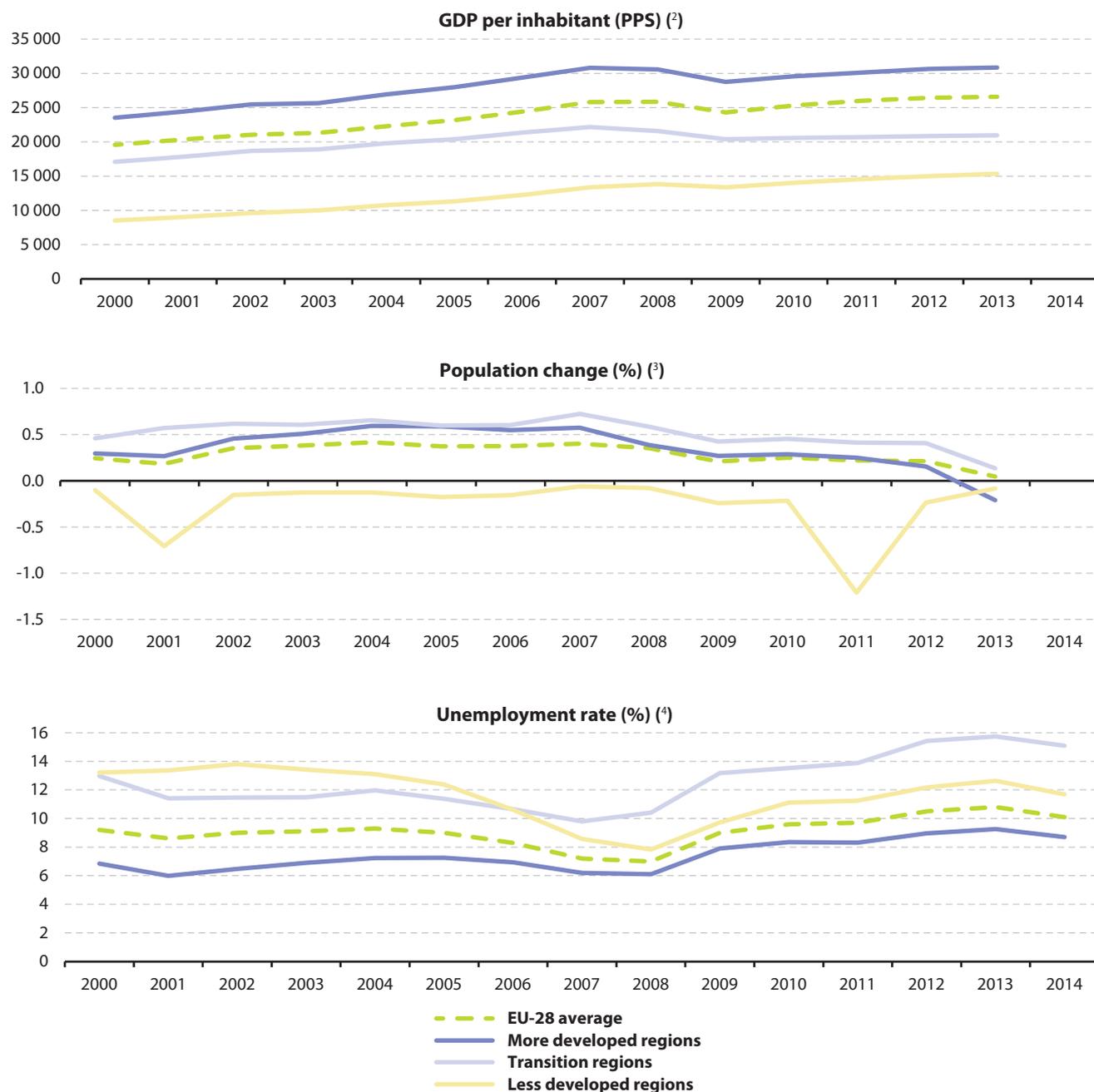
(^{1}) Regions are defined in terms of GDP per inhabitant in relation to the EU-27 average; less developed regions < 75 %; transition regions ≥ 75 % – < 90 %; more developed regions ≥ 90 %. Data for several regions have breaks in series (too numerous to document).

(^{2}) Belgium, Germany, Italy, Lithuania and the Netherlands: excluded.

(^{3}) Estimates. Denmark, Chemnitz (DED4) and Leipzig (DED5): excluded. 2014: not available. France: provisional data. Portugal, Romania and the United Kingdom: estimates. Data for several regions have breaks in series (too numerous to document).

(^{4}) EU-27 instead of EU-28: 2000–01. Denmark, Chemnitz (DED4), Leipzig (DED5), Ciudad Autónoma de Ceuta (ES63), Ciudad Autónoma de Melilla (ES64), Corse (FR83), Croatia, Valle d'Aosta/Vallée d'Aoste (ITC2), Emilia-Romagna (ITH5), Marche (ITI3), Região Autónoma dos Açores (PT20), Região Autónoma da Madeira (PT30), Finland (except Länsi-Suomi (FI19)), Cheshire (UKD6), Merseyside (UKD7) and North Eastern Scotland (UKM5): excluded.

Source: Eurostat (online data codes: nama_10r_2gdp, demo_r_d2jan, lfst_r_lfu3rt, lfst_r_lfp2act and lfst_r_lfu3pers)

Figure 1.2: Regional disparities in GDP per capita, by NUTS level 2 region, 2008 and 2013 (¹)
(PPS)
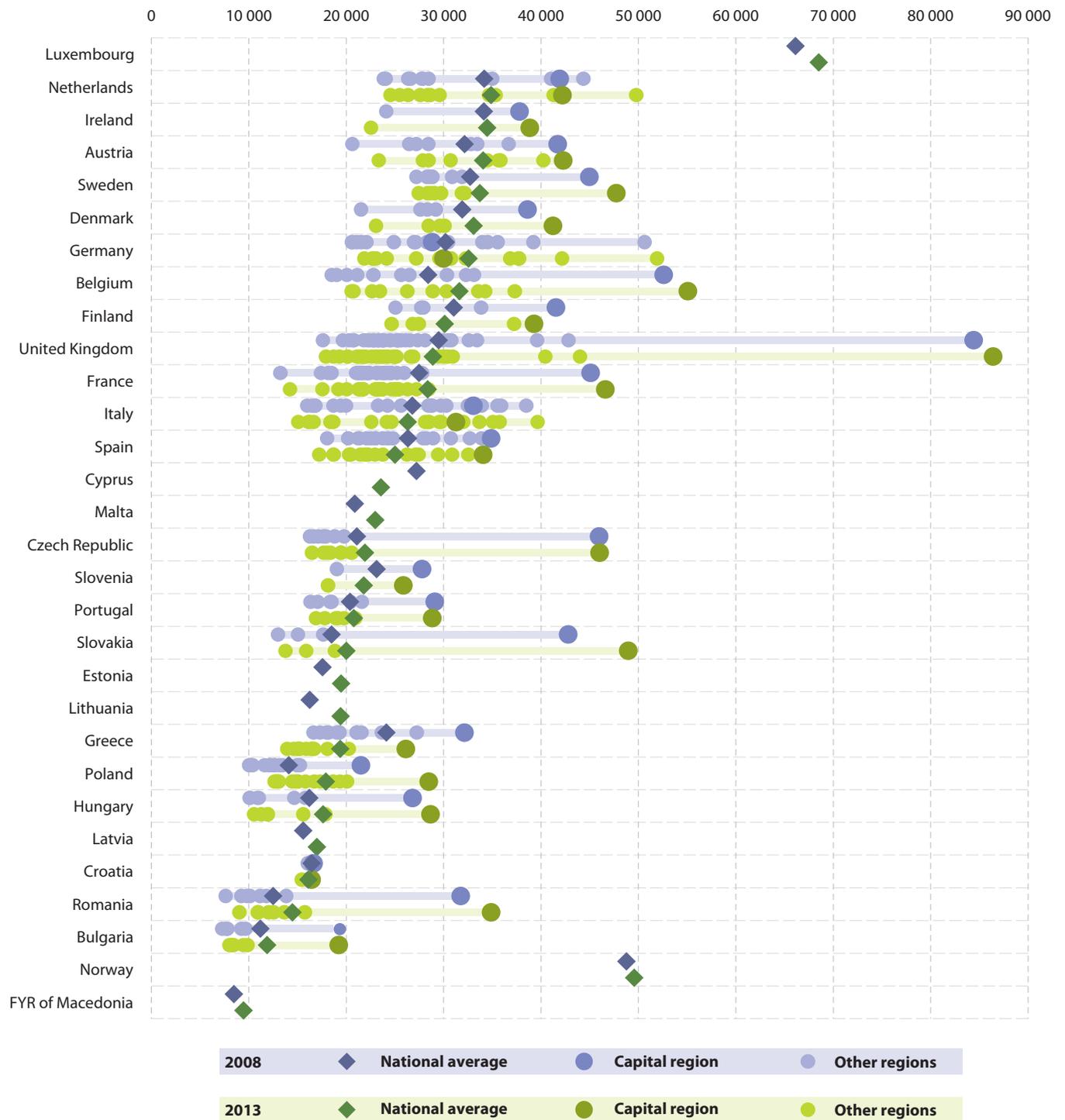
| 2008 | ◆ National average | ● Capital region | ● Other regions |
| 2013 | ◆ National average | ● Capital region | ● Other regions |

(¹) The figure is ranked on national values for 2013. The purple shade is used for 2008 and the green shade is used for 2013. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for 2008 (purple) and 2013 (green). The dark circles show the values for the capital city for 2008 (purple) and 2013 (green). The light circles show the values for the other regions (subject to data availability) for 2008 (purple) and 2013 (green). Germany: only available for NUTS level 1 regions. Belgium: 2009 instead of 2008. Germany and the Netherlands: 2010 instead of 2008. Italy: 2011 instead of 2008.

Source: Eurostat (online data code: nama_10r_2gdp)

rates from 2000 to 2005 were recorded among the less developed regions of the EU. However, there was a decline in unemployment rates prior to the financial and economic crisis with the fastest reductions recorded among less developed regions. From 2006 onwards, the unemployment rate of transition regions was higher than that for less developed regions.

From a relative low in 2007 for transition regions and a relative low in 2008 for more developed and less developed regions, EU unemployment rates rose largely uninterrupted through to 2013, reaching 15.7 % for transition regions, 12.6 % for less developed regions and 9.3 % for more developed regions. In 2014, unemployment rates started to fall again, with the largest reduction being recorded for less developed regions (down 0.9 percentage points). Note that, as with GDP per inhabitant, changes in the unemployment rate may, at least in part, be explained by changes in the number of inhabitants (or more precisely in the size of the labour force) as opposed to changes in the number of unemployed persons.

Capital regions often generated the highest levels of GDP per capita

Figure 1.2 presents regional information for GDP per capita, with a comparison of the situation between 2008 and 2013. The indicator is presented in purchasing power standards (PPS), and therefore provides an opportunity not only to compare regions that differ in demographic size but also to do so without the impact of differences in purchasing power due to different price levels.

Across the EU, capital regions and large metropolitan / urban areas tended to generate higher levels of GDP per capita than more rural and peripheral regions. Many of these regions with relatively high GDP per capita were also characterised as having a high degree of specialisation in a range of financial

or business services (for example, scientific, technological and ICT activities). Note that this regional comparison is based upon a numerator that reflects the place of work (the GDP produced in the region) which is divided by a denominator whose value reflects the place of residence (the population living in the same region). Areas that are characterised by a considerable number of inflowing commuters often display regional GDP per inhabitant that is extremely high (when compared with surrounding regions). These high levels of GDP per inhabitant for regions with net commuter inflows do not necessarily translate into correspondingly high levels of income for the people living in the same region.

The ratio between the regions with the highest and lowest GDP per capita in each of the EU Member States was particularly pronounced — at least a factor of three — in the United Kingdom, Romania, Slovakia and France, as a result of relatively high levels of GDP per capita recorded for their capital regions. Among those EU Member States which have more than two NUTS level 2 regions, there were only three where the capital region did not register the highest level of GDP per capita in 2013, they were: Germany (highest regional GDP per capita was in Hamburg), Italy (Bolzano / Bozen) and the Netherlands (Groningen).

Population numbers in some eastern and Baltic Member States were falling

Figure 1.3 presents the overall change in the number of inhabitants for each of the EU Member States between 2008 and 2014 (these figures relate to the population on 1 January). During this six-year period, the population of the EU-28 rose overall by 1.3 % to reach almost 507 million inhabitants.

Population change varied considerably between the EU Member States between 2008 and 2014: there were double-

Figure 1.3: Overall change in population, 2008–14 ([1])
(%)
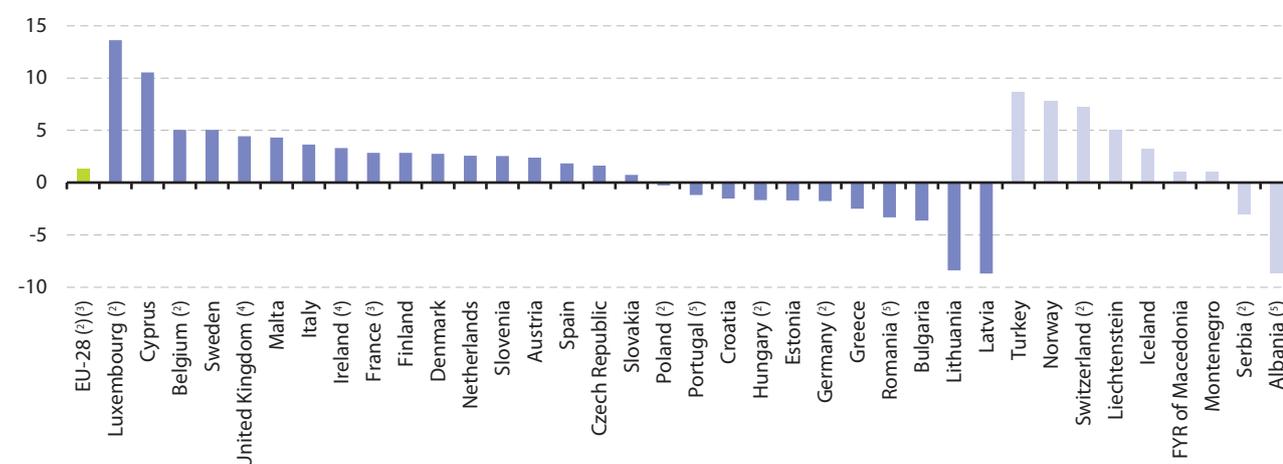
([1]) Population: as of 1 January.
([2]) Breaks in series.
([3]) 2012–14: provisional.
([4]) 2013 and 2014: provisional.
([5]) 2014: estimate.
Source: Eurostat (online data code: demo_gind)

Figure 1.4: Regional disparities in unemployment rates, persons aged 15–74, by NUTS level 2 region, 2008 and 2014 (¹)
(%)
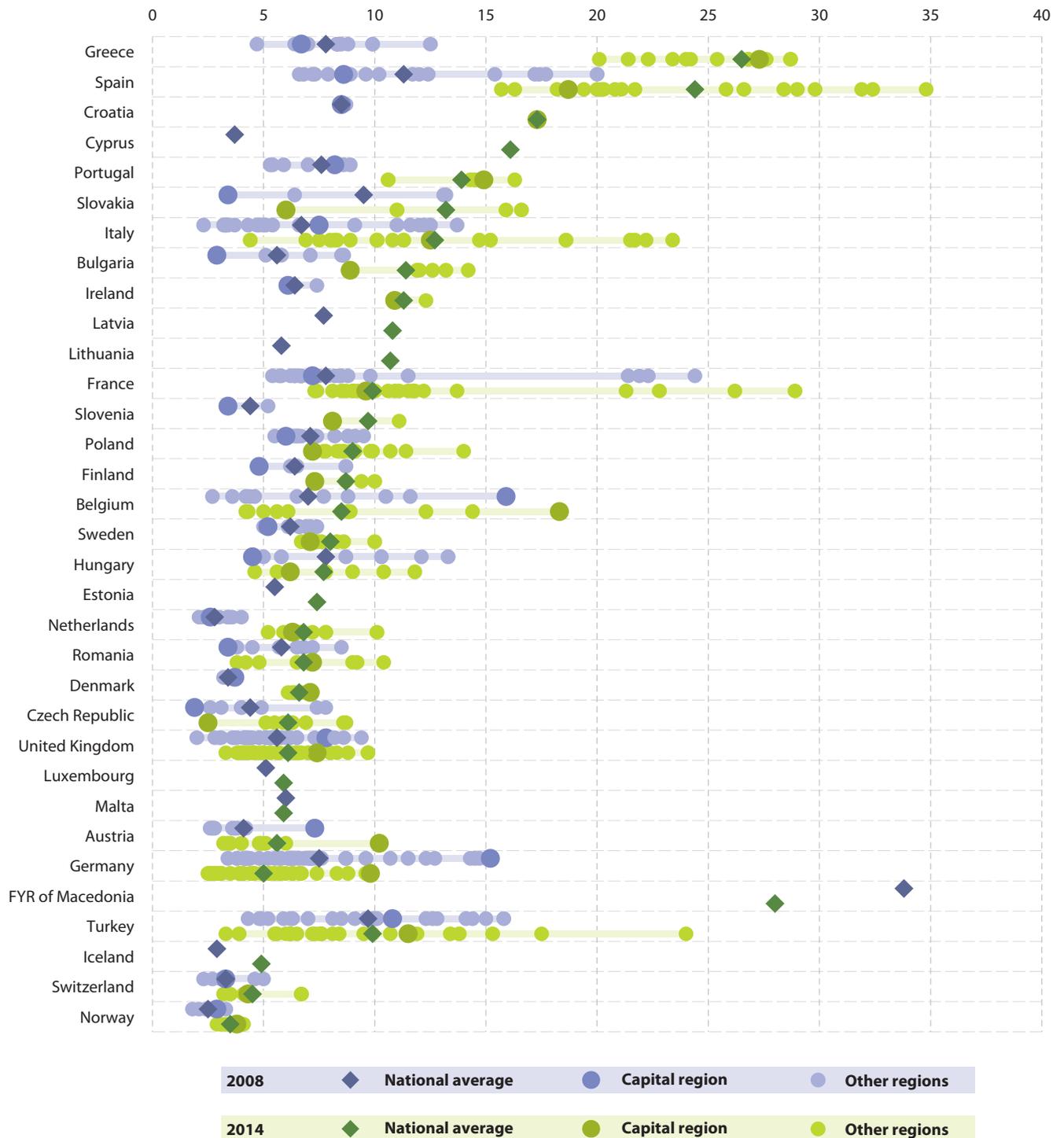
(¹) The figure is ranked on national values for 2014. The purple shade is used for 2008 and the green shade is used for 2014. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for 2008 (purple) and 2014 (green). The dark circles show the values for the capital city for 2008 (purple) and 2014 (green). The light circles show the values for the other regions (subject to data availability) for 2008 (purple) and 2014 (green). Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013 instead of 2014. France, the Netherlands and Turkey: break in series. Corse (FR83) and Highlands and Islands (UKM6): low reliability. Valle d'Aosta/Vallée d'Aoste (ITC2), Burgenland (AT11), Cumbria (UKD1) and North Eastern Scotland (UKM5): low reliability in 2008. Åland (FI20): not available.

Source: Eurostat (online data code: lfst_r_lfu3rt)

digit increases recorded in Luxembourg and Cyprus and growth of 4–5 % in Malta, the United Kingdom, Sweden and Belgium; in contrast, the number of inhabitants fell by 3–4 % in Romania and Bulgaria, and by as much as 8–9 % in Latvia and Lithuania.

Southern Member States recorded some of the highest unemployment rates

In 2014, the EU-28 unemployment rate remained relatively high at 10.2% (although this did mark a 0.7 percentage point reduction compared with its relative high of 10.9 % a year before). Between 2008 and 2014, the national unemployment rate fell in Germany, Hungary and Malta; this was also the case in the former Yugoslav Republic of Macedonia. Note that even in some of the fastest growing regional economies of the EU, young people continued to face considerable difficulties in finding a job; this was particularly true for those with a low level of educational attainment.

The financial and economic crisis had a considerable impact on labour markets and this was particularly the case in the southern EU Member States (**Figure 1.4**). Unemployment rates in most Greek and Spanish regions, as well as in Cyprus, increased at a rapid pace, although the ratio of the highest regional unemployment rate to lowest rate was reduced. A comparison between 2008 and 2014 shows that the ratio between the region with the highest unemployment rate and the region with the lowest unemployment rate became smaller across most of the EU Member States, as unemployment rates rose, with only Austria, Poland and Romania reporting an increase in this ratio (all three of these Member States recorded national unemployment rates below the EU-28 average); there was no change in the ratio for Denmark, the Netherlands or Sweden.

Figure 1.4 shows there were considerable differences in unemployment rates between the capital regions of the EU Member States. In 2014, unemployment rates in the capital regions of Bulgaria, the Czech Republic, Ireland, Poland, Slovakia, Slovenia and Finland were lower than in any other region. By contrast, this pattern was reversed in Belgium, Denmark, Austria and Germany, where the capital region recorded the highest unemployment rate among NUTS level 2 regions; the capital regions of Greece, Portugal, Romania and the United Kingdom also recorded unemployment rates that were above the national average.

ⓘ LOOKING FOR MORE INFORMATION?

The latest edition of Eurostat's publication titled 'Smarter, greener, more inclusive? — Indicators to support the Europe 2020 strategy' was released in March 2015. It provides statistical analyses in relation to the Europe 2020 strategy, monitoring its five headline targets. Other indicators focusing on specific subgroups in society or on related issues are used to deepen the analyses or to present a broader picture of the situation. The publication is designed to investigate the reasons behind changes observed in the historical time series that are available for headline indicators, rather than to predict whether (or not) the Europe 2020 targets will be reached; it also provides a set of country profiles that present a detailed picture of the situation at a national level in relation to the headline indicators and national targets.

The Joint Research Centre (JRC) and the European Commission's Directorate-General for Regional and Urban Policy have released two studies based on composite indicators linked to the socio-economic performance of EU regions:

- the Europe 2020 regional index, which found that those regions that were closest to meeting the Europe 2020 targets included:
  - Vlaams-Brabant in Belgium;
  - Praha in the Czech Republic;
  - Oberbayern and Dresden in Germany;
  - Bratislavský kraj in Slovakia;
  - Helsinki-Uusimaa in Finland;
  - Trento and Emilia-Romagna in Italy;
  - Västsverige and Stockholm in Sweden.
- the Regional Competitiveness Index (RCI 2013), which found that the most competitive regions in the EU included:
  - Utrecht, Flevoland and Noord-Holland (which includes Amsterdam) in the Netherlands;
  - London; Bedfordshire, Hertfordshire and Essex; Berkshire, Buckinghamshire and Oxfordshire; Surrey, East and West Sussex in the United Kingdom;
  - Stockholm in Sweden.

Further reading:

Smarter, greener, more inclusive? – Indicators to support the Europe 2020 strategy, 2015 (Eurostat);

The Europe 2020 Regional Index, 2014 (Athanasoglou S. and Dijkstra L.);

EU Regional Competitiveness Index, 2013 (Annoni P. and Dijkstra L.).

Recent economic developments: a Europe 2020 perspective

While Europe 2020 strategy does not specifically touch upon regional policy, there has been a growing volume of work — for example, by the European Committee of the Regions, the European Parliament, the Joint Research Centre (JRC) and the Directorate-General for Regional and Urban Policy — on the relationship between regional development and the Europe 2020 strategy. As these regional and territorial aspects have been highlighted, there have been calls to align more closely regional funding with the Europe 2020 strategy and to monitor in more detail the performance of EU regions with respect to Europe 2020 targets.

The Europe 2020 strategy seeks to overcome the impact of the financial and economic crisis and structural weaknesses in the EU economy to deliver higher levels of employment, productivity and social cohesion, while reducing environmental pressures. Each of the headline targets for Europe 2020 has been translated into national targets to reflect the different needs and starting points of each Member State; in some countries the targets have been further broken down to reflect the regional situation. As such, care should be taken in interpreting statistics for a single region and comparing these with EU-wide or indeed national targets, as individual regions may have decided to follow a different development path. Note that there are no regional statistics available for Europe 2020 headline targets on climate change and energy sustainability and these have been excluded from the analyses that follow.

EUROPE 2020 TARGET: increase the employment rate of those aged 20–64 to at least 75 %

The employment rate is considered to be a key social indicator for analytical purposes when studying developments within labour markets. In the face of demographic changes and the ageing of the EU's population, raising the employment rate is considered essential for the sustainability of the EU's social model, welfare and its public finances.

The employment rate peaked in 2008 and has yet to return to its pre-crisis level

The Europe 2020 strategy has set a target of raising the employment rate among those aged 20–64 to 75 %. In 2008, the EU-28 employment rate peaked at 70.3 %, following a period of relatively steady increases (rising by 3.6 percentage points between 2002 and 2008). This pattern was reversed during the financial and economic crisis and the employment rate fell to a relative low of 68.4 % in 2012 and remained unchanged in 2013. There was a rebound in 2014 as the employment rate rose to 69.2 %; as such, the latest figure available shows the rate some 5.8 percentage points below the Europe 2020 target.

There were five EU Member States where the employment rate was already above 75 %

The employment situation varies considerably between the EU Member States and across regions. In 2014, the highest employment rates (above 75 %) were recorded in Denmark, the Netherlands, the United Kingdom and Germany, peaking in Sweden at 80.0 % (**Figure 1.5**). By contrast, the employment rates of Spain, Italy, Croatia and Greece were all below 60 % in 2014.

There were nine EU Member States where the employment rate rose between 2008 and 2014. The most rapid changes were a 7.1 percentage point increase in Malta and a 5.2 point increase in Hungary, while the employment rates of Luxembourg and Germany rose by 3–4 percentage points. The remaining countries which moved closer to their national 2020 targets included Poland, Romania, the Czech

Figure 1.5: Employment rates, persons aged 20–64, 2008 and 2014 ([1])
(%)

■ 2008   ■ 2014   — Europe 2020 target
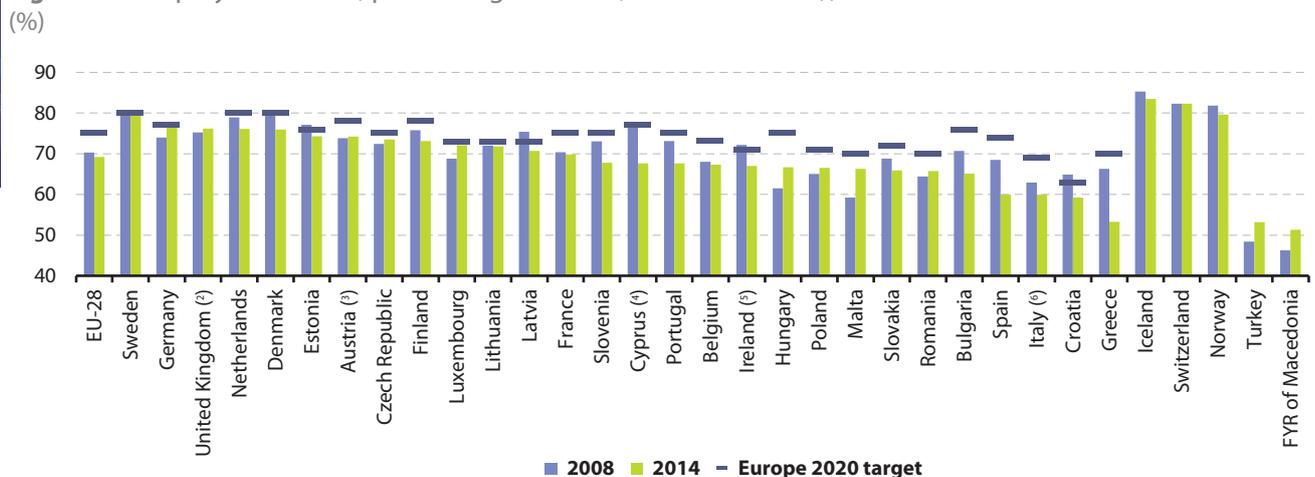
([1]) Note the y-axis has been cut. Belgium, Bulgaria, the Czech Republic, Germany, Ireland, Greece, France, Cyprus, Luxembourg, the Netherlands, Poland, Portugal, Romania, Slovakia, the United Kingdom and Turkey: breaks in series.
([2]) No target in national reform programme.
([3]) Target: 77–78 %.
([4]) Target: 75–77 %.
([5]) Target: 69–71 %.
([6]) Target: 67–69 %.
Source: Eurostat (online data code: lfsa_ergan)

Figure 1.6: Regional disparities in employment rates, persons aged 20–64, by NUTS level 2 region, 2008 and 2014 (¹)

(%)

(¹) The figure is ranked on national values for 2014. The purple shade is used for 2008 and the green shade is used for 2014. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for 2008 (purple) and 2014 (green). The dark circles show the values for the capital city for 2008 (purple) and 2014 (green). The light circles show the values for the other regions (subject to data availability) for 2008 (purple) and 2014 (green). Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013 instead of 2014. France, the Netherlands and Turkey: break in series.

Source: Eurostat (online data code: lfst_r_lfe2emprt)

Republic and Austria; note that the employment rate also increased in the United Kingdom, where there is no target specified in the national reform programme.

At the other end of the range, the employment rate fell in a majority of the EU Member States between 2008 and 2014 and some of the largest declines were in those economies most affected by the financial and economic crisis. Rates fell by 5–6 percentage points in Slovenia, Ireland, Portugal, Bulgaria and Croatia, by 8–9 percentage points in Spain and Cyprus, and by 13 percentage points in Greece.

As part of the Europe 2020 strategy, national targets for the employment rate range from 62.9% in Croatia to 80 % in Denmark, the Netherlands and Sweden. Note that in the event that all of the EU Member States attain their national targets by 2020 this will not be sufficient for an overall employment rate of 75 % in the EU (the target would be missed by about 1 percentage point).

Germany and Sweden were the only EU Member States that had already attained their national targets for the employment rate by 2014

In 2014, Germany was the only EU Member State to have surpassed its national target, with an employment rate of 77.7 % (compared with a national target of 77.0 %), while the employment rate in Sweden was equal to its national target. Estonia, the Czech Republic, Ireland, Lithuania and Luxembourg each reported employment rates that were within 2 percentage points of their national targets; note that the target for Ireland is within a range of 69–71 %. By contrast, there were three Member States whose latest employment rates were more than 10 percentage points below their national targets, namely: Bulgaria (10.9 percentage points), Spain (14.1 points) and Greece (16.7 points).

Figure 1.6 analyses the regional disparities in employment rates for NUTS level 2 regions. In 2014, the largest differences

between the highest and lowest regional values for a single EU Member State were observed in Italy (where southern regions generally recorded much lower employment rates), France (where low employment rates were recorded in the départements d'outre mer), Spain (with low employment rates in most southern regions and the autonomous cities) and Belgium (where the lowest employment rates were recorded in the capital region and the Walloon region).

Between 2008 and 2014, a majority of the EU Member States reported an increase in the range of their regional employment rates between the highest and lowest region. The gap widened considerably in Romania and Italy, and to a somewhat lesser degree in Poland, Portugal, Austria and Belgium. By contrast, regional employment rates converged at a relatively fast pace in Germany, Hungary and Croatia, and at a somewhat slower pace in Bulgaria, Slovakia, Finland and the United Kingdom. Some of these developments may be linked to migratory flows, with the number of persons in registered employment declining or increasing as a result of emigration or immigration (from or to another region in the same country or to another country).

For more information on labour market developments in the EU regions, refer to Chapter 5.

EUROPE 2020 TARGET: reduce the share of early leavers from education and training to less than 10 %

There is no harmonised concept of compulsory education in the EU Member States. Nevertheless, most people would agree that a basic level of education is desirable, so that everyone has the opportunity to participate in economic and social life, raising their chances of finding employment and reducing their risk of falling into poverty. The Europe 2020 headline target for education is composed of two parts: the first of these seeks to reduce the proportion of early leavers from education

EUROPE 2020 HEADLINE INDICATOR

Figure 1.7: Early leavers from education and training, 2008 and 2014 ([1])
(% of population aged 18–24)
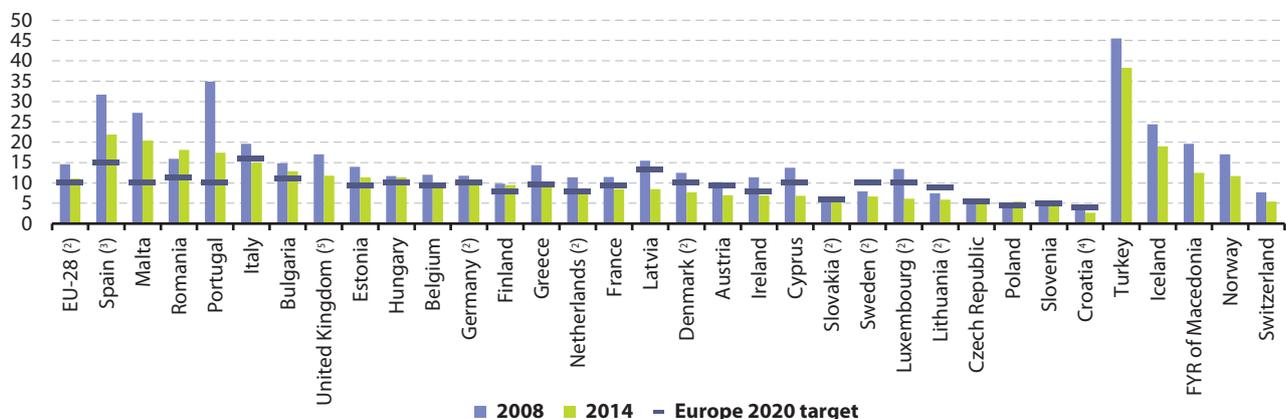
(1) Breaks in series.
(2) The target is set at less than the value shown.
(3) The target is defined for the school drop-out rate.
(4) 2014: unreliable data.
(5) No target in national reform programme.
Source: Eurostat (online data code: edat_lfse_16)

Figure 1.8: Regional disparities in early leavers from education and training, by NUTS level 2 region, 2008 and 2014 (¹)
(% of population aged 18–24)

| 2008 | National average | Capital region | Other regions |
| 2014 | National average | Capital region | Other regions |

(¹) The figure is ranked on national values for 2014. The purple shade is used for 2008 and the green shade is used for 2014. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for 2008 (purple) and 2014 (green). The dark circles show the values for the capital city for 2008 (purple) and 2014 (green). The light circles show the values for the other regions (subject to data availability) for 2008 (purple) and 2014 (green). Bratislavský kraj (SK01): not available. Breaks in series.
Source: Eurostat (online data code: edat_lfse_16)

and training (measured as the percentage of the population aged 18–24 without an upper secondary level of education and not in further education or training) to less than 10 %.

Having stood at 17.0 % in 2002, the proportion of EU-28 early leavers from education and training fell consistently each and every year to stand at 11.1 % in 2014 (**Figure 1.7**); if these developments continue the Europe 2020 target of 10 % will be attained. Young men were more likely than young women to leave education and training early: in 2014, the early leavers rate for young men was, at 12.7 %, some 3.2 percentage points higher than that recorded for young women (9.5 %).

In several southern EU Member States a relatively high proportion of young people left school early

In 2014, the proportion of early leavers from education and training was particularly high in several southern EU Member States: Spain (21.9 %), Malta (20.4 %), Portugal (17.4 %) and Italy (15.0 %); it was also relatively high in Romania (18.1 %). Between 2008 and 2014, the biggest reductions in early leaver rates were recorded in some of these countries: Portugal recorded a 17.5 percentage point reduction for this indicator, while the rate also fell by a relatively large amount in Spain (9.8 points) and Malta (6.8 points).

The proportion of early leavers from education and training was often very low in eastern Member States

A majority of the national targets under the Europe 2020 agenda for the proportion of early leavers from education and training were less than or equal to the overall EU-28 target of 10 %. This was particularly true in several eastern Member States, as the national target for Croatia was 4 % and those for Poland, Slovenia, the Czech Republic and Slovakia were no higher than 6 %. There were only five EU Member States that had national targets above 10 %: Bulgaria (11.0 %), Romania (11.3 %), Latvia (13.4 %), Spain (15.0 %) and Italy (16.0 %).

In 2014, there were 15 EU Member States which had already attained their national target for 2020 in relation to the proportion of early leavers from education and training. Lithuania, Cyprus, Sweden, Latvia and Luxembourg recorded early leaver rates that were 3–5 % lower than their national targets. Among those Member States that had yet to attain their national target, the majority recorded early leaver rates that were within 2 percentage points of their national targets. The gap was however considerably wider in Romania, Spain and Portugal (around 7 percentage points), rising to a difference of 10.4 points in Malta; note that the United Kingdom does not have a target in its national reform programme (**Figure 1.8**).

Some of the lowest shares of early leavers from education and training were often recorded in capital regions. However, an atypical pattern was observed in 2014 in Belgium, Germany, and to a lesser degree, Austria, Finland, Croatia and Sweden, where the capital region recorded a rate that was higher than the national average.

EUROPE 2020 TARGET: increase the share of the population aged 30–34 having completed tertiary education to at least 40 %

In an increasingly knowledge based society, many jobs require a relatively high level of educational attainment, qualifications or specific skills and this is reflected in the second part of the Europe 2020 headline target for education, namely, that at least 40 % of those aged 30–34 should have completed tertiary education.

Despite considerable pressures on public finances during the financial and economic crisis, the proportion of young people (aged 30–34) having completed tertiary education in the EU-28 increased rapidly from 23.6 % in 2002 to 37.9% by 2014, rising each and every year. If this pattern continues then it is likely that the Europe 2020 target of 40 % will be met.

The growth in tertiary educational attainment has been considerably faster among women than men during the last decade and the gap between the sexes has widened. Across the whole of the EU-28, the share of young women aged 30–34 having completed tertiary education was 42.3 % in 2014, compared with 33.6 % for young men.

In Lithuania, Luxembourg, Cyprus and Ireland more than half of the population aged 30–34 had a tertiary level of educational attainment

In 2014, more than 50 % of all young people (aged 30–34) had attained a tertiary level of education in Lithuania, Luxembourg, Cyprus and Ireland, while the share was at least 40 % in a further 12 EU Member States (**Figure 1.9**). At the other end of the range, there were five Member States where the proportion of 30–34 year olds that had completed a tertiary level of education was below 30 %, with the lowest share recorded in Italy (23.9 %). Note that the relatively low share of young people with a tertiary level of education in Slovakia, Germany, Croatia and Hungary as well as the former Yugoslav Republic of Macedonia may, at least in part, be attributed to particularities of the education systems that place a relatively high degree of importance on apprenticeships combined with vocational training; such practices are also common in other Member States with higher rates, such as Austria and Slovenia, as well as in Switzerland.

Figure 1.9: Tertiary educational attainment, 2008 and 2014 (¹)
(% of population aged 30–34)

■ 2008   ■ 2014   ▬ Europe 2020 target
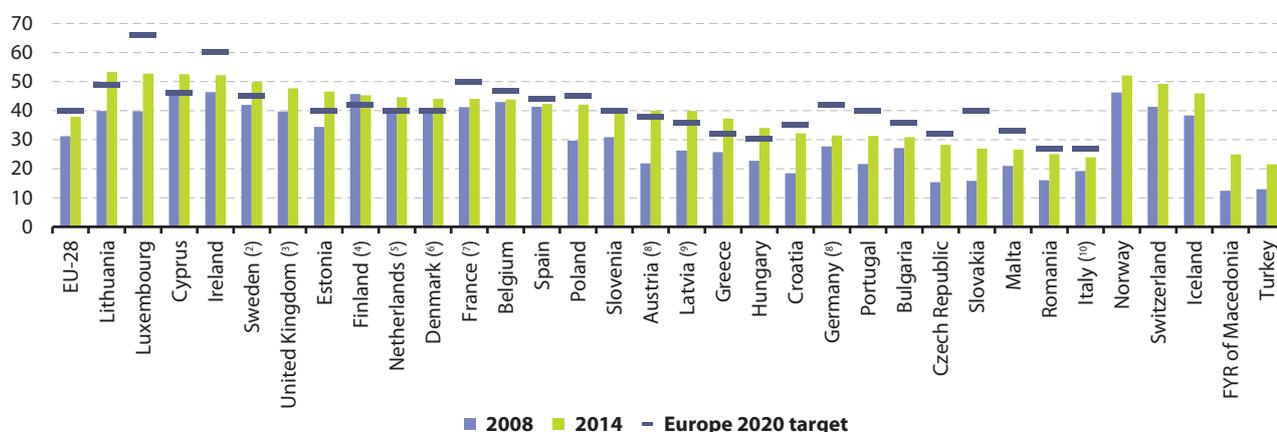
(¹) Breaks in series.
(²) Target: 40–45 %.
(³) No target in national reform programme.
(⁴) The target refers to a narrower national definition.
(⁵) The target is to exceed rather than reach 40 %.
(⁶) 2014: unreliable data.
(⁷) 17–33 year-olds.
(⁸) Includes post-secondary non-tertiary education (ISCED level 4).
(⁹) Target: 34–36 %.
(¹⁰) Target: 26–27 %.
Source: Eurostat (online data code: edat_lfse_12)

Several of the Member States that joined the EU since 2004 recorded a rapid increase in their share of 30–34 year-olds with a tertiary level of educational attainment

Between 2008 and 2014 the proportion of 30–34 year olds having attained a tertiary level of education rose in all but one of the EU Member States. The exception was Finland, where the share of young people with a tertiary education fell slightly (by 0.4 percentage points), but remained high at 45.3 %. In general, there was a relatively rapid increase in the proportion of young people having attained a tertiary level of education between 2008 and 2014, with the share rising by upwards of 10 percentage points in 12 of the Member States. These were principally located in those Member States that joined the EU since 2004, but also included Greece, Luxembourg and Austria (where the largest gain was recorded, up 18.1 percentage points to 40 %; note that much of this increase may be explained by a break in series).

Within the context of the Europe 2020 strategy, the national targets for the share of young people with a tertiary level of education vary from 26.7 % in Romania and 27.0 % in Italy to 50 % in France, 60 % in Ireland and 66 % in Luxembourg; there is no target for the United Kingdom.

There were 12 EU Member States that had, by 2014, already attained their national target under the Europe 2020 strategy. Of those that had not yet reached their target, there remained relatively wide gaps between the latest data for

2014 and the 2020 target in Luxembourg (13.3 percentage points difference), Slovakia (13.1 points) and Germany (10.6 points), while there was a gap of 5–9 points in Bulgaria, France, Malta, Ireland and Portugal.

Capital regions act as a magnet for the young, highly qualified and mobile generation …

The highest regional share was recorded in Inner London, where just over two thirds (67.3 %) of all young people had attained a tertiary level of education. More generally, **Figure 1.10** shows that the capital region often had the highest regional share of tertiary graduates among its population of 30–34 year-olds. This likely reflects the professional opportunities that are available in many of Europe's capital regions, with particularly high shares of those young people living in Copenhagen, Paris, Warsaw, Stockholm, London and Oslo having a tertiary level of education, suggesting these cities attract qualified young people from the rest of the country and increasingly from further afield.

Outside of capital cities, some of the regions that tend to maintain a high share of young people with a tertiary level of educational attainment include those characterised by strong links between academia and the private sector, for example, those characterised by science parks and / or technology clusters.

Figure 1.10: Regional disparities in tertiary educational attainment, by NUTS level 2 region, 2008 and 2014 ([1])
(% of population aged 30–34)

… leaving rural and peripheral regions with retention difficulties

Between 2008 and 2014 the difference between regions from the highest to the lowest levels of tertiary educational attainment of young people generally widened. This was most apparent in Slovakia as a result of a rapid increase in the proportion of young people living in the capital region of Bratislavský kraj with a tertiary level of education (up 24.5 percentage points). This pattern was repeated in most of the 16 other EU Member States where the gap between regions widened, with the attraction of capital regions often increasing at a fast pace. By contrast, the proportion of young people with a tertiary level of education fell between 2008 and 2014 in the capital regions of Finland and Belgium, albeit by a relatively small margin.

For more information on education developments across EU regions, refer to Chapter 4.

EUROPE 2020 TARGET: lifting at least 20 million people out of the risk of poverty or social exclusion

This Europe 2020 headline target for people at risk of poverty or social exclusion is defined in terms of those people who fulfil at least one of the following conditions: at risk of poverty; facing severe material deprivation; or living in a household with very low work intensity. The indicator is based on a comparison with the situation in 2008 and uses the EU-27 aggregate as its baseline, aiming to take at least 20 million people out of the risk of poverty or social exclusion by 2020.

In 2013, there were considerable differences between EU Member States, with almost half the population of Bulgaria and just over 40 % of the population in Romania facing the risk of poverty or social exclusion (**Figure 1.11**). The risk of poverty and social exclusion was also relatively high — touching at least 30 % of the population — in Greece, Latvia, Hungary, Lithuania, Croatia and Ireland.

Almost one in four of the EU population was at risk of poverty or social exclusion

Between 2008 and 2013, the number of people at risk of poverty or social exclusion in the EU-27 increased by approximately five million to reach 121.6 million persons; the latest total for the EU-28 was 122.9 million. As such, there has been an increase rather than a reduction in the number of people and the proportion of the population that faces the risk of poverty or social exclusion. This increase may be attributed, at least in part, to the financial and economic crisis and a subsequent downturn in economic activity, although it also reflects a growing pattern of poverty affecting the 'working poor' (for example, among part-time workers or workers with a temporary work contract). In this context, meeting the Europe 2020 target — which foresees lowering the number of people in the EU-27 at risk of poverty of social exclusion to below 100 million — will require additional efforts.

Those Member States most affected by the financial and economic crisis saw a rapid increase in poverty and social exclusion

Looking at the development of this indicator over the period 2008–13, those at risk of poverty or social exclusion rose from 23.8 % of the EU-27 population in 2008 to 24.5 % of the EU-28 population in 2013. Among the EU Member States, the share of the population at risk of poverty or social exclusion rose by 7.6 percentage points in Greece during the period under consideration to reach 35.7 %, while there were increases of just over 5 points in Hungary (to 33.5 %) and Ireland (to 29.5 %); another 16 Member States reported

Figure 1.11: Share of people at risk of poverty or social exclusion, 2008 and 2013 (¹)
(%)
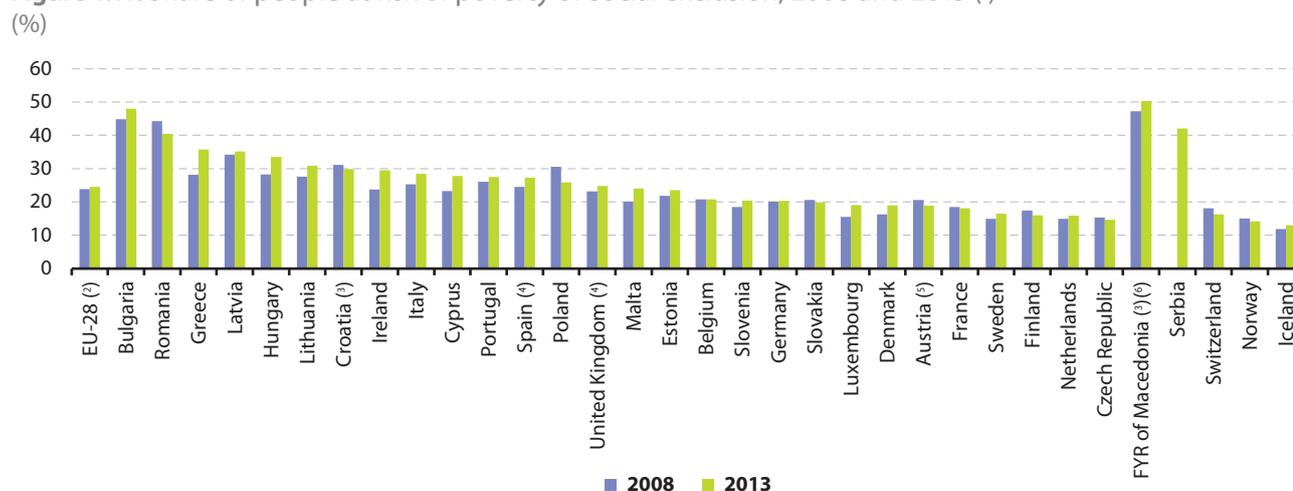
(¹) EU Member States have set national targets in relation to poverty and social exclusion based on different indicators. The Europe 2020 target is to lift 20 million people in the EU out of the risk of poverty and social exclusion by 2020.
(²) 2008: EU-27 instead of EU-28.
(³) 2010 instead of 2008.
(⁴) Break in series.
(⁵) 2013: provisional.
(⁶) 2012 instead of 2013.
Source: Eurostat (online data code: ilc_peps01)

a higher share of their population faced the risk of poverty or social exclusion in 2013 than had done so in 2008. By contrast, there were reductions in the overall risk of poverty or social exclusion in eight of the Member States, with the largest declines recorded in Romania (down 3.8 percentage points) and Poland (down 4.7 points).

The risk of poverty or social exclusion is often found to be at its highest in eastern and southern Member States, in particular, among some regions in Bulgaria, Poland, Romania, Italy and Spain. There are sometimes considerable regional disparities, for example, between northern and southern parts of Italy and Spain where there are growing income disparities.

For more information on the quality of life by degree of urbanisation, refer to Chapter 14.

EUROPE 2020 TARGET: increase investment in R & D to at least 3 % of GDP

EU-28 intramural research and development expenditure (GERD), as a percentage of GDP reached 2.01% in 2013. This figure could be compared with a ratio of 1.85 % at the onset of the financial and economic crisis in 2008 and 1.79 % back in 2000. The modest increases in R & D expenditure during this 13-year period suggests that it will be a considerable challenge to meet the headline target of at least 3 % of GDP by 2020, as R & D expenditure in the EU-28 remained almost a full percentage point lower.

All three of the Nordic Member States surpassed the 3 % target in 2013, although R & D expenditure as a share of GDP fell in both Finland and Sweden between 2008 and 2013, moving away from their national targets (4 %). By contrast, GERD as a percentage of GDP rose by 0.28 percentage points in Denmark (**Figure 1.12**).

There was a faster pace of growth in several of the other EU Member States, as R & D expenditure as a share of GDP rose by 0.96 percentage point in Slovenia, by 0.67 points in the Czech Republic and by 0.3–0.5 points in Malta, the Netherlands, Belgium, Slovakia, Hungary and Estonia. There was a decline in the relative share of GERD in GDP in six additional Member States (besides Finland and Sweden), namely: the United Kingdom, Croatia, Spain, Portugal, Romania and Luxembourg.

Only two of the EU Member States had attained their R & D targets by 2013

The highest national targets among the individual EU Member States are 4.0 % for Finland and Sweden, 3.76 % for Austria, and a target of 2.7–3.3 % for Portugal. Otherwise, none of the EU Member States have targets above the 3.0 % set for the EU as a whole. As such, even if all of the national targets were achieved by 2020, it would still be insufficient to achieve the EU-28 target of 3.0 %, as national targets for 15 of the Member States were no higher than 2.0 %, falling to 1.0 % for the Czech Republic and 0.5 % for Cyprus.

EUROPE 2020 HEADLINE INDICATOR

Figure 1.12: Gross domestic expenditure on R & D (GERD), 2008 and 2013 (% of GDP)
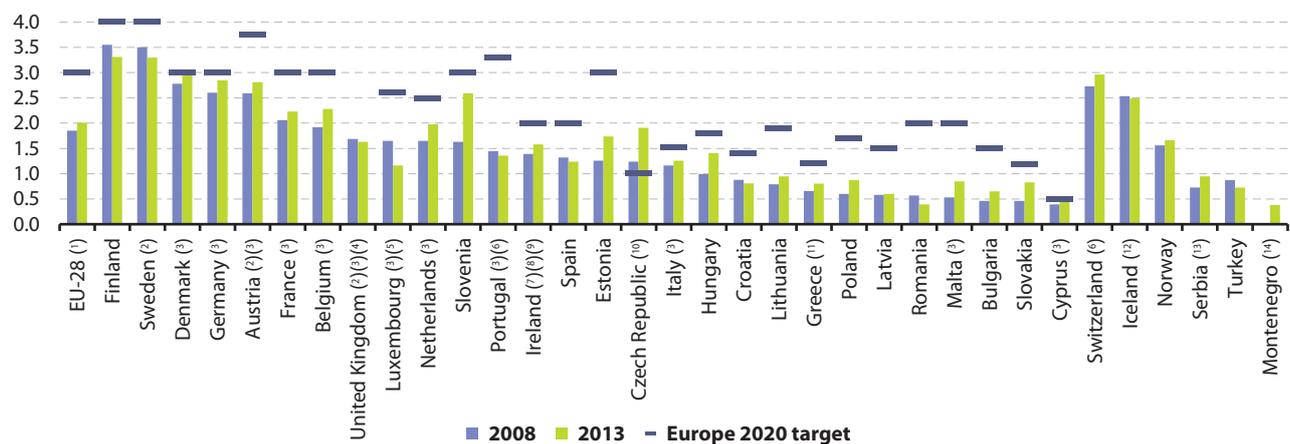
(¹) 2013: estimate.
(²) Estimates.
(³) Provisional: 2013.
(⁴) No target in national reform programme.
(⁵) Target: 2.3–2.6 %.
(⁶) Target: 2.7–3.3 %.
(⁷) 2012 instead of 2013.
(⁸) Estimate: 2012.
(⁹) Approximately 2 % of GDP (target set at 2.5 % of GNP).
(¹⁰) Public sector only.
(¹¹) Estimate: 2008.
(¹²) 2011 instead of 2013.
(¹³) 2009 instead of 2008.
(¹⁴) 2008: not available.
Source: Eurostat (online data code: rd_e_gerdtot)

Figure 1.13: Regional disparities in gross domestic expenditure on R & D (GERD), by NUTS level 2 region, 2008 and 2013 (¹)
(% of GDP)
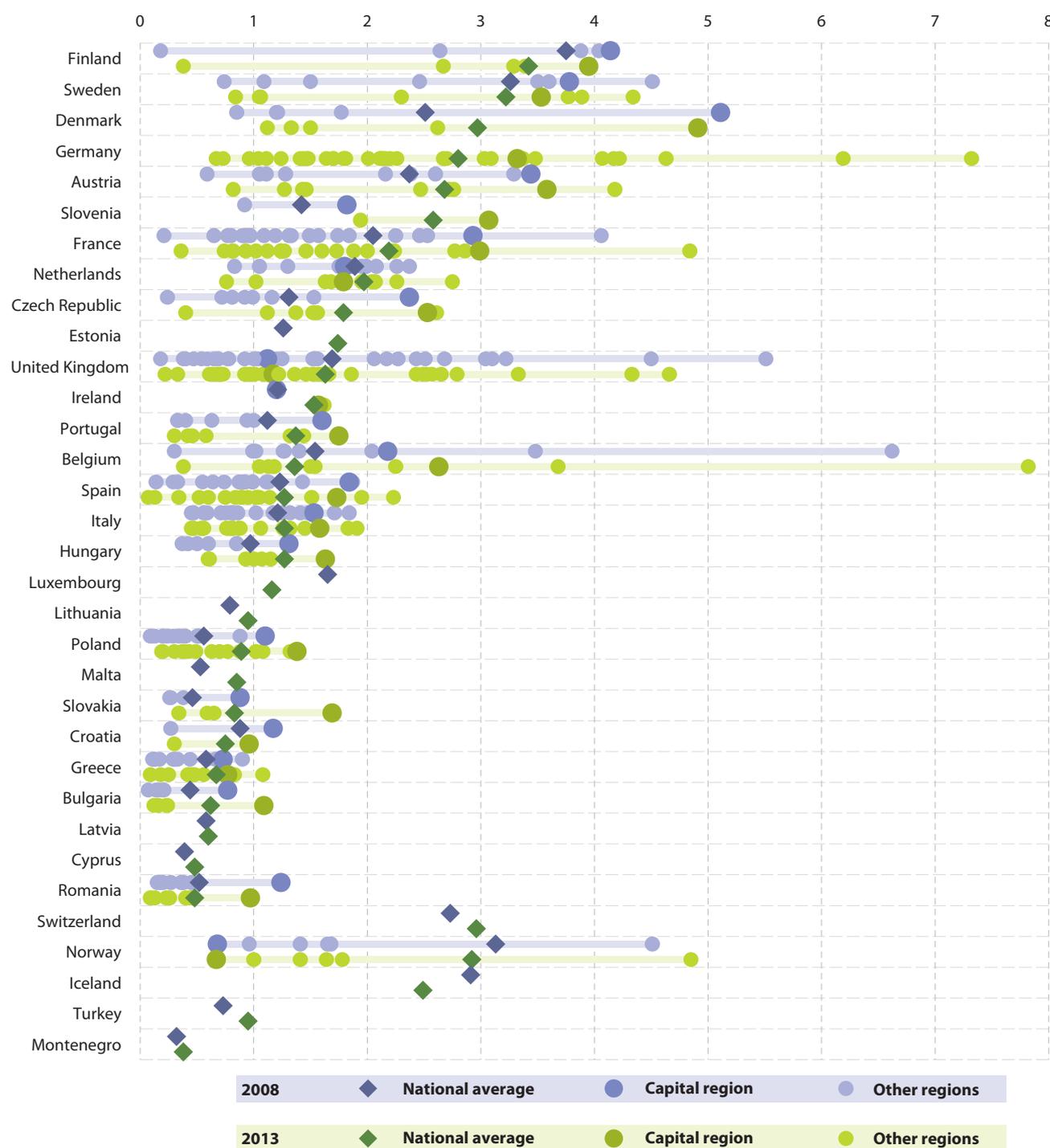
(¹) The figure is ranked on national values for 2013. The purple shade is used for 2008 and the green shade is used for 2013. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for 2008 (purple) and 2013 (green). The dark circles show the values for the capital city for 2008 (purple) and 2013 (green). The light circles show the values for the other regions (subject to data availability) for 2008 (purple) and 2013 (green). Switzerland and Turkey: only available at national level. Belgium: 2009 instead of 2008; 2011 instead of 2013. Bulgaria, the Czech Republic, Spain, Hungary, Poland, Portugal, Romania, Slovenia and the United Kingdom: 2007 instead of 2008; 2012 instead of 2013. Denmark and Sweden: 2007 instead of 2008; 2011 instead of 2013. Germany: 2011 instead of 2013; no earlier reference period available. Greece: 2005 instead of 2008; 2011 instead of 2013. Ireland, France, Austria and Iceland: 2006 instead of 2008; 2011 instead of 2013. Croatia and Switzerland: 2012 instead of 2013. Italy and the Netherlands: 2011 instead of 2008; 2012 instead of 2013. Finland: 2009 instead of 2008; 2012 instead of 2013. Montenegro: 2011 instead of 2008. Breaks in series and estimates (too numerous to document).
Source: Eurostat (online data codes: rd_e_gerdreg and rd_e_gerdtot)

In 2013, there were only two EU Member States which had already attained their national target in relation to expenditure on R & D, the Czech Republic (note, its target is set with respect to the public sector) and Denmark.

There were quite wide regional disparities for R & D expenditure as a share of GDP (**Figure 1.13**). The largest differences were observed in those EU Member States that had a particular specialisation in a research activity, clustered in a specific region, for example: the Belgian region of Province Brabant Wallon (with its science parks), the German regions of Braunschweig (biotechnology and aerospace) and Stuttgart (engineering and natural sciences), the Danish region of Hovedstaden (health and food), the French region of Midi-Pyrénées (aerospace) or the British region of East Anglia (high-tech, biotechnology and agri-environment).

For more information on research and innovation developments across EU regions, refer to Chapter 8.

Conclusions: a varied picture of development across the EU

This section has shown a diverse pattern of recent developments across the different EU Member States both with respect to overall economic performance and in relation to the Europe 2020 headline targets. These differences between Member States are often considerable, although they are frequently matched by inter-regional differences within Member States. The different patterns of development may be summarised as follows:

- while considerable progress has been made with respect to some of the Europe 2020 targets (in particular those linked to education), there are considerable challenges if all of the headline targets are to be met by 2020;
- some Member States are still clearly affected by the aftermath of the financial and economic crisis with sovereign debt issues also having hampered the recovery of some of them;
- in many northern and western EU regions performance is often close to or already exceeding the Europe 2020 targets;
- although progress has been made, many regions in the eastern and Baltic Member States are still playing 'catch-up';
- the capital region in most Member States tends to outperform other regions, acting as a magnet for labour market opportunities;
- there are considerable disparities between regions within some Member States: these are most apparent in the north-south divides of Spain, Italy, and the United Kingdom, or the east-west divide of Germany.

These different patterns are considered in more detail in the chapters that follow.

Data sources and availability

Background information on most of the data sources and legal requirements for data collection may be found in the specific chapters that cover each of the Europe 2020 indicators:

- for more information on education statistics, refer to Chapter 4.
- for more information on labour market statistics, refer to Chapter 5.
- for more information on regional accounts and GDP, refer to Chapter 6.
- for more information on research and innovation, refer to Chapter 8.

Chapter 2 on population is based exclusively on the results of a population and housing census. By contrast the population data presented in the present chapter is derived from the annual collection of demography statistics, which includes statistics on national and regional populations, as well as data for various demographic events which influence the population's size, structure and specific characteristics.

The population data presented in this chapter are those available as of March 2015. 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 comparison of population data for years before and after the most recent census may reflect demographic changes or may in part reflect breaks in series caused by a lack of revision to the population data for years before the 2011 census.

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, and; net migration including statistical adjustment, which is calculated as the difference between the total change in the population and the natural change.

Population

2

Introduction

Demographic changes in the EU are likely 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 EU Member States, it is unlikely that migration alone will 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.

Those regions projected to face the greatest demographic challenges include peripheral, rural and post-industrial regions, where the population is likely to decline. The territorial dimension of demographic change is seen most notably through:

- an east–west effect, whereby many of the Member States that have joined the EU since 2004 are still playing catch-up;
- a north–south effect, whereby there are often considerable differences between Mediterranean regions and more temperate regions in the north and west of the EU;
- an urban–rural split, with the majority of urban regions continuing to report population growth, while the number of persons usually resident in many rural areas is declining;
- a capital region effect, as capitals and some of their surrounding regions (for example, around the EU's two global metropolises of Paris and London) display a 'pull effect' associated with increased employment opportunities;
- several examples of regional disparities at a national level, which have the potential to impact on regional competitiveness and cohesion, for example, in Germany and Turkey (between those regions in the east and the west), or in France, Italy and the United Kingdom (between regions in the north and those in the south).

Policy development

Concerned by future demographic developments, it is unsurprising that policymakers have addressed a range of issues. The European Commission adopted a Communication (COM(2006) 571), titled 'The demographic future of Europe — from challenge to opportunity' which highlighted five key policy responses:

- promoting demographic renewal through better conditions for families and an improvement in the reconciliation of working and family life;
- promoting employment, through more jobs and longer working lives of better quality;
- a more productive and dynamic EU, raising productivity and economic performance through investing in education and research;
- receiving and integrating migrants in the EU;
- ensuring sustainable public finances to guarantee adequate pensions, social security, health and long-term care.

Europe 2020

Furthermore, most of the seven flagship initiatives of the Europe 2020 strategy also touch upon demographic challenges, and in particular demographic ageing. The innovation union flagship initiative provides an opportunity to bring together public and private actors at various territorial levels to tackle a variety of challenges, and in 2011 a European innovation partnership on active and healthy ageing was launched: its aim is to raise by two years the average healthy lifespan of Europeans by 2020. Another flagship initiative, the digital agenda, promotes digital literacy and accessibility for older members of society, while an EU agenda for new skills and jobs supports longer working lives through lifelong learning and the promotion of healthy and active ageing. Finally, 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.

Migration

In May 2015, the European Commission presented a European agenda on migration outlining immediate measures to respond to the influx of migrants and asylum seekers from across the Mediterranean, as well as providing

a range of policy options for the longer-term management of migration into the EU. The agenda recognises that there is a need to respond to humanitarian challenges, but seeks to increase the number of returns among irregular migrants, while providing for the continued right to seek asylum.

The agenda sets our four levels of action for EU migration policy, namely:

- a new policy on legal migration — maintaining the EU as an attractive destination for migrants, notably by reprioritising migrant integration policies, managing

migration through dialogue and partnerships with non-member countries, and modernising the blue card scheme for highly educated persons from outside the EU;
- reducing incentives for irregular migration — through a strengthening of the role of Frontex, especially in relation to migrant returns;
- border management — helping to strengthen the capacity of non-member countries to manage their borders;
- a strong common asylum policy — to ensure a full and coherent implementation of the common European asylum system.

Main statistical findings

This chapter, based on data from a population and housing census conducted in 2011, looks at a range of demographic issues, focusing on: the movement of individuals both into and within the EU; single-person households; and the formation of different types of family units.

Foreign citizens

Increased mobility has contributed to a higher number of migrants in recent decades (inter-regional migration, intra-EU migration and migration from non-member countries into the EU). Some migrants move in order to improve their living standards (for example, for improved employment opportunities), while others may be driven from their homes, for example to escape conflict and / or oppression.

Immigration is one of the most contentious issues in the EU: while some regions are characterised as having built vibrant, diversified communities, others face important challenges linked to improving migrant integration; note that while

there are some regional aspects to migrant integration, this issue is generally dealt with at a national level.

Net migration (the number of immigrants minus the number of emigrants) has been the principal driver of EU population change since the 1990s. Migration from non-member countries is generally restricted (such as by quotas) or is subject to particular conditions (such as holding a job offer, certain levels of skills of qualifications, or having a place at an educational establishment). International migrants have the potential to increase economic output, filling unskilled posts or skilled ones where there is a lack of qualified labour, for example, in the health sector. Some EU Member States are characterised by higher levels of non-economic international migration, principally concerned with family reunification, study or humanitarian reasons.

When referring to foreign populations, an important distinction should be made between people who were born in a foreign country and those who are foreign citizens. The information that follows is based on the number of foreign

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ⓘ **SETTING THE SCENE: DEMOGRAPHIC DEVELOPMENTS IN THE EU**

Demographic changes are one of the main drivers that shape the lives of Europeans. There were 507 million persons usually resident in the EU-28 in 2014. This equated to just over 7 % of the world total, compared with a share that was almost twice as high some five decades earlier.

The structure and profile of the EU's population has changed considerably, due in part to: lower fertility rates; changes in patterns of family formation; a desire for greater personal independence; shifts in the roles of men and women; higher levels of migration; greater geographic mobility; and increases in life expectancy.

These demographic changes have resulted in the characteristics of families changing and have given rise to: a decline in the average size of households; different forms of living arrangements (consensual unions or registered partnerships); and record numbers of people living alone. As a result, there are considerable differences in the way that we live today compared with say 50 years ago and it is likely that significant changes will continue to take place in the coming decades, for example as the EU's population grows progressively older.

Indeed, the pace of population growth in the EU-28 is expected to slow further, such that within the next 30–40 years the total number of persons usually resident in the EU-28 is projected to stagnate and may start to decline.

🔍 SPOTLIGHT ON THE REGIONS: RĪGA, LATVIA

Several regions in the Baltic Member States recorded relatively high shares of residents who were citizens of non-member countries. This was particularly true in the Estonian region of Kirde-Eesti and the Latvian capital region of Rīga. In 2011, just over a quarter (25.6 %) of the resident population in Rīga was composed of citizens of a non-member country.

Photo: Alexander Tolstykh / Shutterstock.com

citizens usually resident in the EU in 2011. Note that the statistics presented refer to the number of foreign citizens usually resident in the EU, not to the stock of migrants or to migratory flows that occur each year, and that foreign citizens are not necessarily migrants (as in some of the EU Member States a relatively high share of foreign citizens are native born).

There were almost 32 million foreign citizens living in the EU's Member States

In 2011, there were almost 32 million foreign citizens in the EU's Member States, as such, foreign citizens accounted for 6.3 % of the total population of the EU's 28 Member States (**Map 2.1**). Approximately 60 % of the foreign citizens living in EU Member States were citizens of a non-member country (in other words, from outside of the EU), while the remainder were citizens of other EU Member States.

The largest populations of foreign citizens were recorded in Germany (6.1 million), Spain and the United Kingdom (which both had just over 5 million foreign citizens), Italy (4 million) and France (3.8 million). Belgium (1.2 million foreign citizens) was the only other EU Member State to have more than a million foreign citizens.

In relative terms, the largest shares of foreign citizens in the population of the EU Member States were recorded in Luxembourg (42.7 %), Cyprus (20.2 %), Latvia (16.5 %), Estonia (14.8 %), Ireland (11.8 %), Spain (11.2 %), Austria (11.1 %) and Belgium (10.5 %); none of the remaining Member States recorded double-digit shares. By contrast, at the other end of the range, foreign citizens accounted for less than 1 % of the total population in Bulgaria, Croatia, Lithuania, Poland, Romania and Slovakia.

Almost half of the population in north-eastern Estonia was composed of foreign citizens, principally from non-member countries …

Map 2.1 reveals, for NUTS level 3 regions, the distribution of foreign citizens as a share of the total population; the proportion of foreign citizens was generally higher in the west of the EU compared with the east.

Within individual EU Member States there were often specific pockets where foreign citizens accounted for a higher proportion of the population. Indeed, this was true in the region with the highest proportion of foreign citizens, Kirde-Eesti, in the north-eastern corner of Estonia, where foreign citizens accounted for almost half (46.0 %) of the total number of persons usually resident. The share of foreign citizens in Kirde-Eesti was more than three times as high as the national average, with almost all (99.2 %) of these with citizenship of non-member countries, principally Russia (**Figure 2.1**).

Map 2.1: Foreign citizens, by NUTS level 3 region, 2011 (¹)
(% of the population)
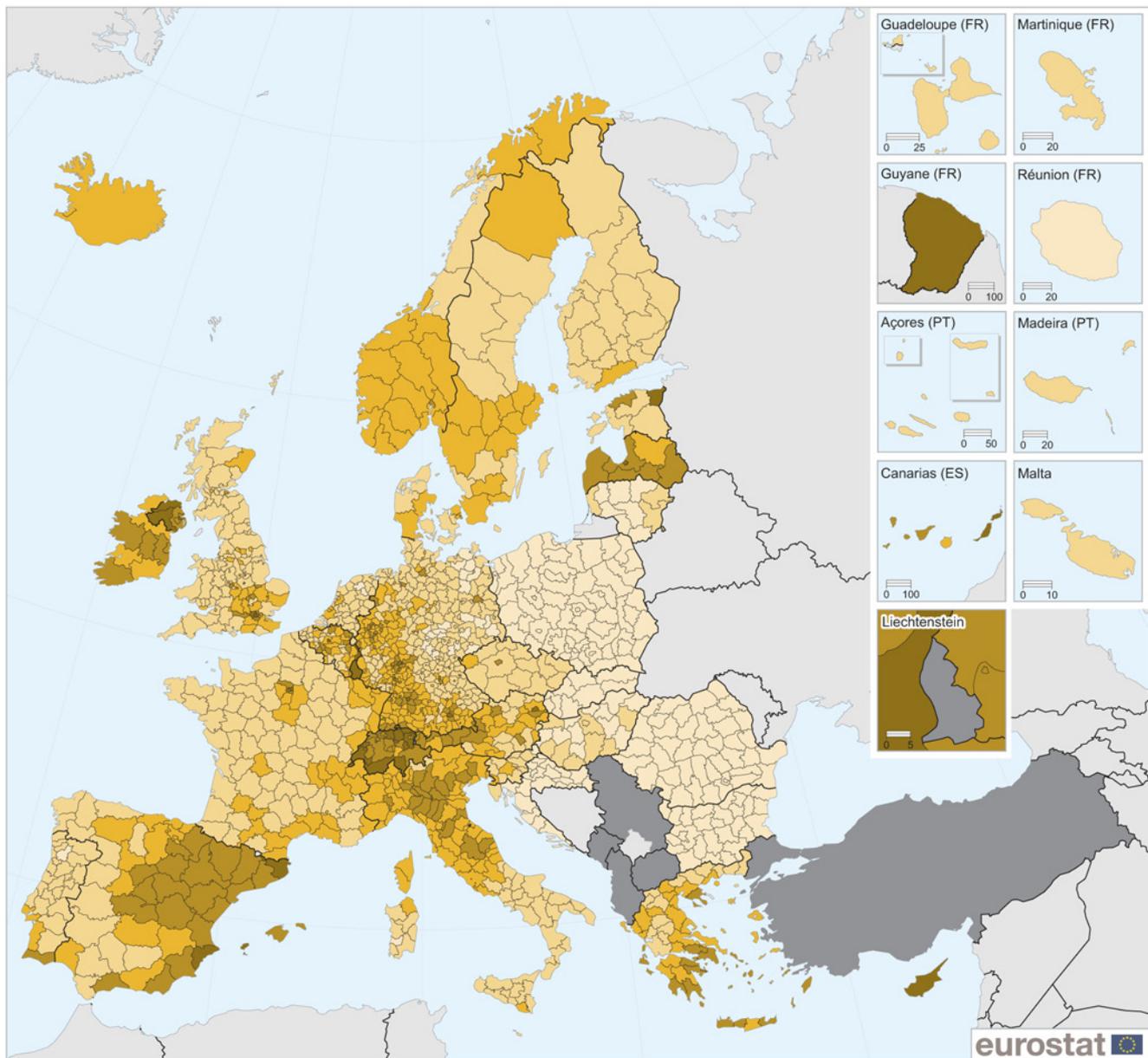
(% of the population)

EU-28 = 6.3

- < 1
- 1 – < 5
- 5 – < 10
- 10 – < 20
- >= 20
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

(¹) Oświęcimski (PL216), Tarnowski (PL217), Bytomski (PL228), Tyski (PL22C), Krośnieński (PL323), Sandomiersko-jędrzejowski (PL332), Suwalski (PL345), Pilski (PL411), Koniński (PL414), Leszczyński (PL417), Stargardzki (PL423), Grudziądzki (PL614), Włocławski (PL615), Elbląski (PL621), Ełcki (PL623), Starogardzki(PL635): low reliability.
Source: Census hub (https://ec.europa.eu/CensusHub2)

Figure 2.1: Analysis of foreign citizens, by NUTS level 3 region, 2011 (¹)
(% of the population)

Kirde-Eesti (EE007)
Luxembourg (LU000)
Guyane (FR930)
West and South of Northern Ireland (UKN05)
Arr. de Bruxelles-Capitale / Arr. van Brussel-Hoofdstad (BE100)
Fuerteventura (ES704)
North of Northern Ireland (UKN04)
Inner London - West (UKI11)
Offenbach am Main, Kreisfreie Stadt (DE713)
Belfast (UKN01)
Rīga (LV006)
Eivissa y Formentera (ES531)
Lanzarote (ES708)
Inner London - East (UKI12)
Frankfurt am Main, Kreisfreie Stadt (DE712)
Outer London - West and North West (UKI23)
Wien (AT130)
Seine-Saint-Denis (FR106)
Arr. Mouscron (BE324)
München, Kreisfreie Stadt (DE212)

■ **Citizens from another EU Member State**   ■ **Citizens from non-member countries**

(¹) The figure shows the 20 NUTS level 3 regions with the highest proportion of foreign citizens within their respective populations.
Source: Census hub (https://ec.europa.eu/CensusHub2)

… while the vast majority of the foreigners living in Luxembourg were citizens of other EU Member States

Luxembourg (a single region at this level of analysis) had the second highest proportion of foreign citizens within its population (42.7 %). However, their origin was completely different, as citizens from other EU Member States accounted for 87.6 % of all foreigners living in the Grand-Duchy.

There were four EU regions where the share of foreign citizens in the total population was within the range of 30–40 %, namely: the French overseas region of Guyane (where the foreign citizens were almost exclusively from non-member countries); the West and South of Northern Ireland (where the foreign citizens were almost exclusively from other EU Member States); the Belgian capital of Arrondissement De Bruxelles-Capitale / Arrondissement Van Brussel-Hoofdstad (where a majority of the foreign citizens were from other EU Member States); and Fuerteventura (one of the Canary islands, where a small majority of the foreign citizens were from non-member countries). There were three more such regions in Switzerland — Genève, Basel-Stadt and Vaud (a canton in the extreme west of the country, with Lausanne as its capital) — each of them shared an EU border and a majority of their foreign citizens were from EU Member States.

Foreign citizens accounted for a relatively high share of the population in some of Europe's largest cities

Outside of the Belgian capital region (see above), there were seven NUTS level 3 regions shown in the darkest shade in **Map 2.1** which had in excess of one million persons usually resident and where foreign citizens accounted for 20–30 % of the population. Three of these were located in and around London (Inner London - West; Inner London - East; Outer London - West and North West); one was on the outskirts of Paris (Seine-Saint-Denis); one was the Austrian capital region of Wien; while there was also a single region from each of Germany (München) and Spain (Alicante). In Alicante and in all three London regions, a small majority of the foreign citizens were from other EU Member States. By contrast, just over four out of every five (81.4 %) foreigners living in Seine-Saint-Denis were from non-member countries; a majority of the foreign citizens living in Wien (64.6 %) and München (59.8 %) were also citizens of non-member countries.

Persons whose usual residence changed during the year prior to the census

A job opportunity is just one of several reasons why people may decide to move. They may wish to relocate in order to move closer to family or friends, or they might be looking for

a change in lifestyle (for example, moving between the city and the countryside), or changes in their family situation (for example, a growing family, a divorce, or growing older) may dictate that they need to change location or the size or type of dwelling they live in.

Labour force mobility within the EU increased gradually up until the financial and economic crisis, largely driven by income and wage differentials (at first between southern and northern EU Member States and more recently between eastern and western EU Member States). The effects of the crisis initially resulted in a reduction in labour mobility (as employment opportunities dried up) and has for the last couple of years been increasingly driven by growing unemployment differentials (principally between members of the euro area).

Housing markets are likely to influence the degree of labour mobility, with the combination of high levels of home ownership and high transaction costs tending to 'lock-in' people, making it relatively expensive for them to change residence, whereas regions that are characterised by a higher proportion of rental accommodation and / or lower transaction costs are likely to have a more fluid housing market.

Country differences appear to be a major explanatory factor in explaining patterns of changes in residence

Some 6.4 % of the EU-28 population changed their usual residence during the course of the 12-month period prior to the census in 2011 (**Map 2.2**). One interesting feature of the map is that the differences observed are almost exclusively between EU Member States rather than between individual regions, suggesting that national labour and housing markets play a considerable role in determining the pace at which people move from one house to another.

The share of the population whose usual residence changed during the year prior to the census was particularly high in

Slovakia and a number of cities in the United Kingdom. It was also relatively high in most of Belgium, Denmark, France, parts of the Netherlands, Portugal, Finland, Sweden and the remainder of the United Kingdom (other than Northern Ireland); this was also the case in Iceland and Norway.

Capital regions often recorded the most people changing address

In 2011, at least 16 % of the population in every one of the NUTS level 3 regions of Slovakia changed their usual residence (as shown by the darkest shade in **Map 2.2**). The most dynamic changes were recorded in the capital region of Bratislavský kraj (30.7 % of the population changed residence). The other NUTS level 3 regions with high shares were predominantly in the United Kingdom, with the highest share also recorded in the capital, as 21.5 % of the Inner London - West population changed residence in the year prior to the census in 2011.

Younger generations often live in and around cities, where there are more education and employment opportunities; this may explain why some cities have a higher proportion of their population changing address. Indeed, the remaining regions in the United Kingdom characterised by a high proportion of people changing their residence were all centred on cities, namely: Nottingham, Brighton and Hove, Southampton, Edinburgh, Bristol, Inner London - East, Portsmouth, York, Cardiff (and the Vale of Glamorgan), Liverpool, Bournemouth and Poole.

Outside of Slovakia and the United Kingdom, there were only three regions where at least 16 % of the population changed residence in the 12-month period prior to the last census. Each of these was a capital region, namely, the Belgian capital of Arrondissement de Bruxelles-Capitale / Arrondissement van Brussel-Hoofdstad, the Danish capital of Byen København and the Norwegian capital of Oslo.

Map 2.2: Persons whose usual residence changed during the year prior to the census, by NUTS level 3 region, 2011 (% of the population)


(% of the population)

EU-28 = 6.4

- < 2
- 2 – < 4
- 4 – < 8
- 8 – < 16
- >= 16
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015
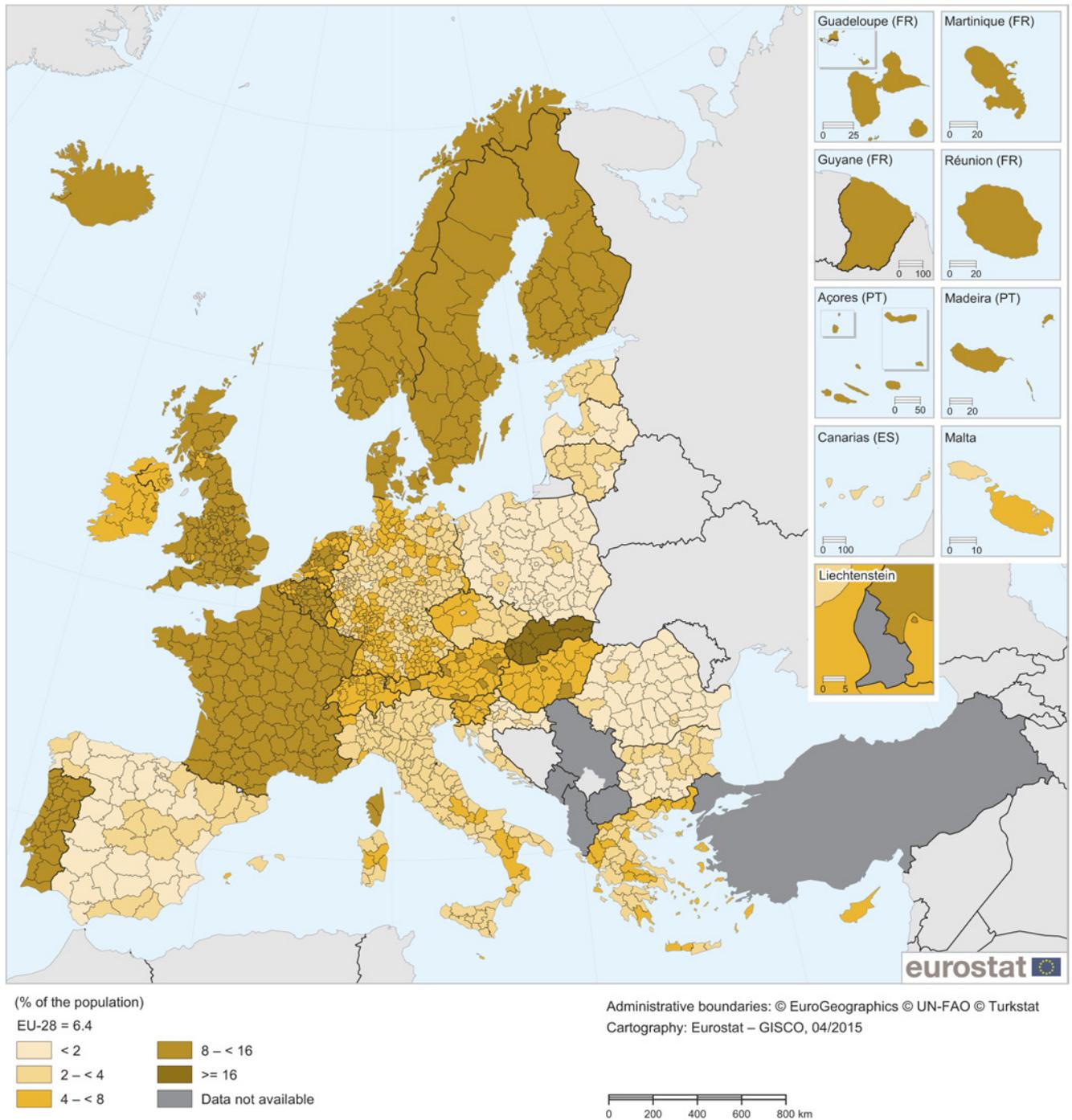
(¹) Menorca (ES533), Melilla (ES640), El Hierro (ES703), La Gomera (ES706), France, Łódzki (PL114), Piotrkowski (PL115), Sieradzki (PL116), Skierniewicki (PL117), Ciechanowsko-płocki (PL121), Ostrołęcko-siedlecki (PL122), Radomski (PL128), Warszawski-wschodni (PL129), Częstochowski (PL224), Bytomski (PL228), Gliwicki (PL229), Tyski (PL22C), Bialski (PL311), Chełmsko-zamojski (PL312), Puławski (PL315), Sandomiersko-jędrzejowski (PL332), Łomżyński (PL344), Suwalski (PL345), Pilski (PL411), Koniński (PL414), Kaliski (PL416), Leszczyński (PL417), Poznański (PL418), Stargardzki (PL423), Miasto Szczecin (PL424), Szczeciński (PL425), Gorzowski (PL431), Nyski (PL521), Grudziądzki (PL614), Elbląski (PL621), Ełcki (PL623), Słupski (PL631), Gdański (PL634), Starogardzki (PL635): low reliability.
Source: Census hub (https://ec.europa.eu/CensusHub2)

A majority of the people who changed their usual residence in the EU moved within the same region …

A more detailed analysis is provided in **Figure 2.2**, which shows the top 10 regions in terms of the highest proportion of persons moving to a particular region from within the same region or from another country (another EU Member State or a non-member country); note that the figure does not take account of the absolute number of people who actually moved.

On average, some 56.6 % of the EU-28 population who changed their usual residence during the course of the 12-month period prior to the census in 2011 moved within the same NUTS level 3 region. Just over one third (34.3 %) of those moving residence came from another region of the same Member State, while less than 1 in 10 (9.1 %) originated from another country.

… this pattern was particularly pronounced across a diverse range of Portuguese regions …

There were several Portuguese regions that reported very high shares of those changing residence doing so within the same NUTS level 3 region. This was the case for almost 9 out of every 10 persons (89.9 %) who changed residence in the autonomous island region of the Açores, while the share in Grande Porto was only marginally lower, at 87.0 %. Aside from this peripheral overseas island region and the metropolitan region of Porto, some largely rural Portuguese areas — such as Alto Alentejo and Alentejo Central — also recorded a high share of residents who had moved having done so within the same region.

The proportion of people having moved who had done so within the same region was also relatively high in two regions of Finland (the capital region of Helsinki-Uusimaa and Pohjois-Pohjanmaa) and in the north-eastern Hungarian region of Borsod-Abaúj-Zemplén.

… while new residents from another country systematically accounted for a minority of those who changed their residence

By contrast, the bottom part of **Figure 2.2** shows those regions with the highest proportion of new residents originating from another country; this share did not attain 50 % in any of the NUTS level 3 regions for which data are available.

These regions were characterised as being around the periphery of the EU. Five of the highest rates were recorded in Bulgaria, including the provincial region of Sofia (stolitsa) around the Bulgarian capital, where just over one third (34.9 %) of new residents came from another country, and two northerly regions (Vidin and Ruse) close to the border with Romania; note however that the overall proportion of the population who changed residence in Bulgaria was relatively low at approximately 2 %. Elsewhere, the proportion of new residents originating from another country was also relatively high in: two Spanish regions, the autonomous city of Melilla, which had the highest share (48.3 %) of new residents moving from another country, and Fuerteventura; two Latvian regions, the capital Rīga and Latgale, which is on the Russian border; and Drama, a region in the north of Greece which borders onto Bulgaria.

Figure 2.2: Analysis of persons whose usual residence changed during the year prior to the census, according to the origin of their previous residence, by NUTS level 3 region, 2011 (^{1})
(% of residents whose usual residence changed during the year prior to the census)
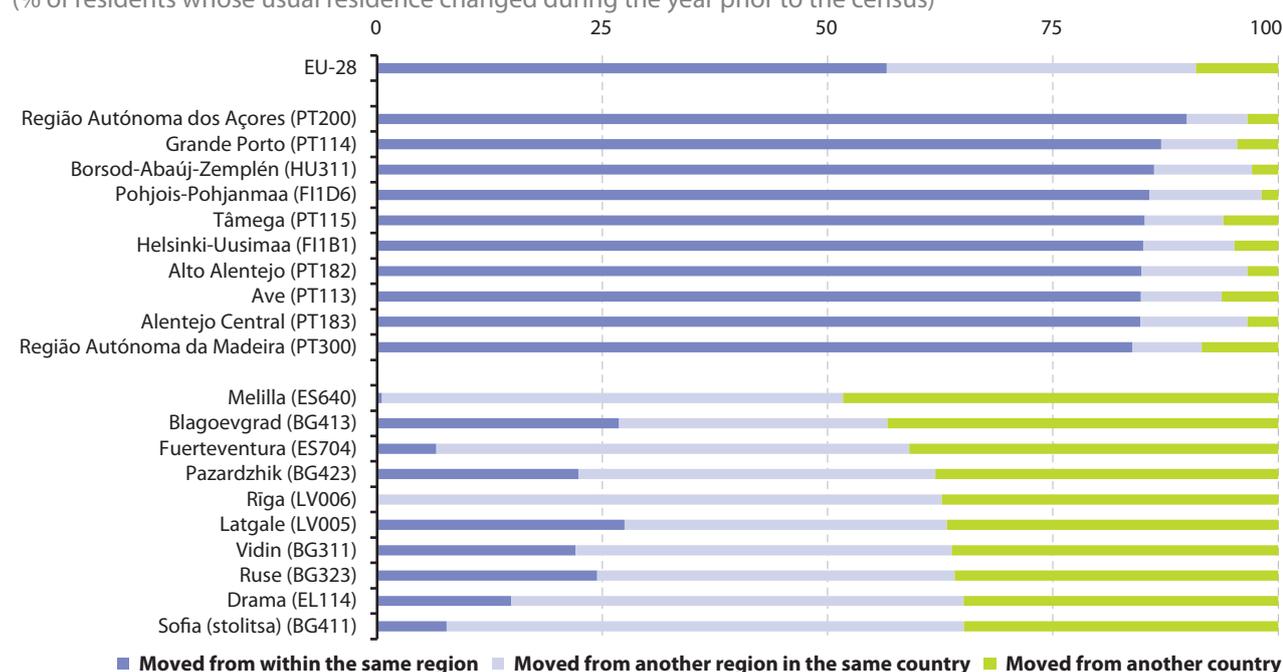
■ **Moved from within the same region** ■ **Moved from another region in the same country** ■ **Moved from another country**

(^{1}) The figure shows the 10 NUTS level 3 regions with the highest proportion of persons moving from within the same region and the 10 NUTS level 3 regions with the highest proportion of persons moving from another country.
Source: Census hub (https://ec.europa.eu/CensusHub2)

> *i* **DEFINING HOUSEHOLD STATUS**
>
> Within the population and housing census, household status is based on what is referred to as the 'housekeeping concept', whereby each private household is either:
>
> - a single-person household, someone living alone in a separate housing unit or who occupies, as a lodger, a separate room (or rooms) of a housing unit but does not join with any of the other occupants of the housing unit to form part of a multiperson household (as defined below); or
> - a multiperson household, that is a group of two or more persons who combine to occupy the whole or part of a housing unit and to provide themselves with food and possibly other essentials for living (members of the group may pool their incomes to a greater or lesser extent).
>
> A non-family household can be a single-person household (someone living alone) or a multiperson household without any family nucleus (for example, a group of young workers or a group of students that share a house together).
>
> *For more information:* Commission Regulation (EC) No 1201/2009

Single-person households

There have been considerable changes in the household composition and living arrangements of Europeans: one of the most striking developments has been the increase in the number of people who live alone. This pattern is partly driven by choice (people seeking some independence), but also results from a higher number of divorces and separations, and from the increasing longevity of the population (particularly among women) which may lead to the elderly population being widowed and living alone in their final years.

Almost one third of all households in the EU were composed of someone living alone

In 2011, single persons accounted for almost one third (31.4 %) of all the households in the EU-28. **Figure 2.3** shows the regional disparities in the proportion of single-person households across NUTS level 2 regions.

Typically, a higher proportion of the population in capital regions were living alone

In 2011, all but one of the multi-region EU Member States recorded a share of one-person households in their capital region that was above the national average. This was particularly true in Berlin and the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest, where almost half of all households were composed of single persons. There were also relatively high shares in Wien, Noord-Holland (which includes Amsterdam), Helsinki-Uusimaa and Hovedstaden (which includes Copenhagen), as single-person households accounted for 40–45 % of all households. Sometimes the difference between the proportion of single-person households in the capital region and the remaining regions of the same Member State was so great that the capital was the only region where the share of one-person

households was above the national average; this was the case in Denmark, Austria and Slovakia, as well as in Norway. The Irish capital region of Southern and Eastern was atypical insofar as it was the only capital region to record a proportion of single-person households that was lower than the national average.

Persons who are widowed or divorced

One subset of people living alone is those who have been widowed or divorced and have not remarried / re-entered a registered partnership. In 2011, some 12.9 % of the EU-28 population was living with this status (**Map 2.3**). A closer analysis reveals that 7.0 % of the EU-28's population was widowed (and not remarried or in a registered partnership), while 5.9 % of the population was divorced (and not remarried or in a registered partnership).

High proportion of widowed and divorced people in the Baltic Member States and Hungary

Map 2.3 shows that widowed / divorced people who had not remarried / entered into another form of partnership accounted for a relatively high share of the population in central and southern France and Portugal, a band of regions running from eastern Germany, through the Czech Republic, Slovakia and Hungary, into parts of Romania and Bulgaria, as well as most regions in Finland and several (often less densely populated) regions in Sweden and the United Kingdom. However, the highest shares of widowed / divorced people who had not remarried / entered into another form of partnership were recorded in the Baltic Member States and Hungary, where those with this status accounted for approximately one in five of the population.

Looking in more detail, the NUTS level 3 region with the highest proportion of widowed / divorced people who had not remarried / entered into another form of partnership

Figure 2.3: Regional disparities in the proportion of one-person households, by NUTS level 2 region, 2011 (¹)
(% of all households)
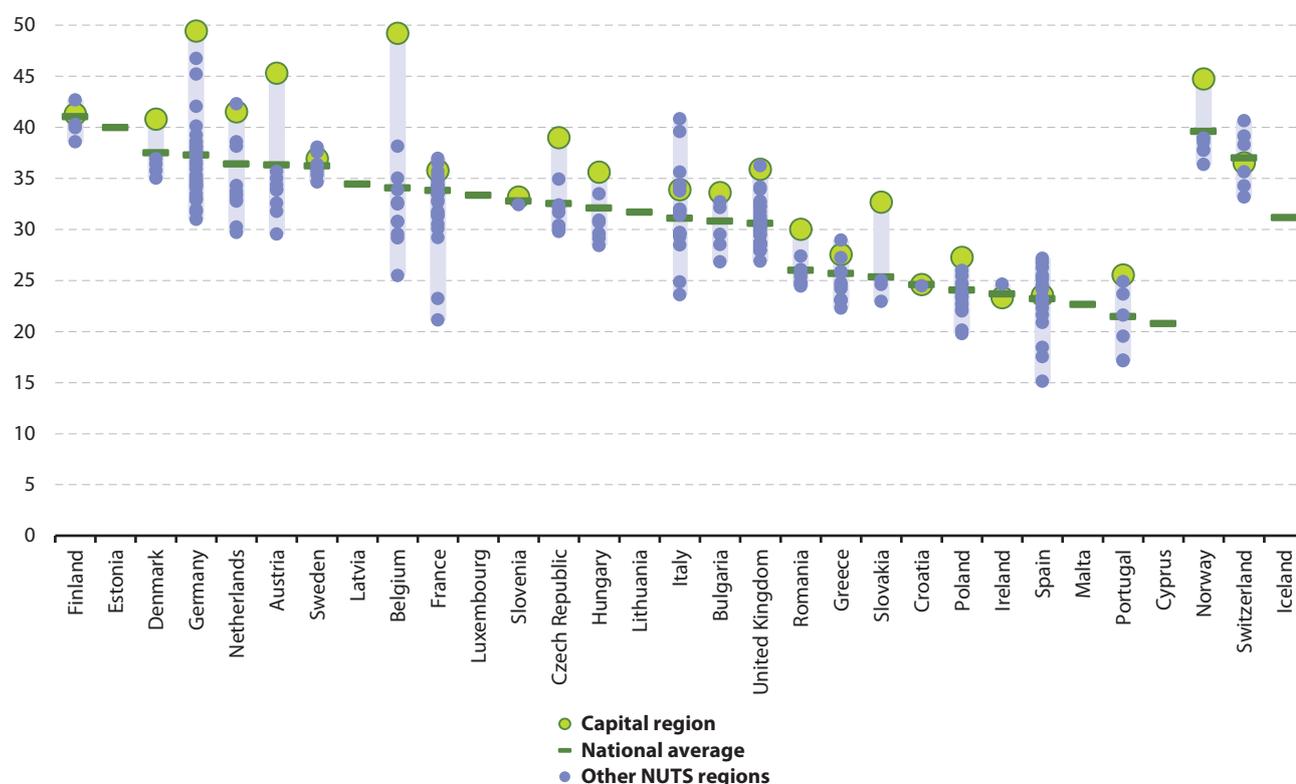
- Capital region
- National average
- Other NUTS regions

(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 light green circle shows the capital city region. The dark purple circles show the other regions.

Source: Census hub (https://ec.europa.eu/CensusHub2)

was the north-eastern Estonian region of Kirde-Eesti; it was the only region where upwards of one in four persons lived with this status. The vast majority of the 26 other regions in the EU where at least 20 % of the population was widowed / divorced and had not remarried / entered into another form of partnership were located in either the Baltic Member States or Hungary, although this group of regions also contained the Bulgarian region of Vidin, the Czech region of Karlovarský kraj and the German region of Pirmasens, Kreisfreie Stadt.

Malta, Ireland and southern Italy had very low divorce rates

By contrast, there was generally a low proportion of the population who were widowed / divorced and had not remarried / entered into another form of partnership in many southern EU regions, as well as in Ireland and Poland. These relatively low shares may, at least in part, reflect traditional religious practices, social pressures, past legal restrictions and the role of the family, and the impact that these may have on the divorce rate. For example, 0.5 % of the population was divorced (and had not remarried) in Malta, while this share was lower than 5 % in Ireland, Italy, Greece, Croatia, Cyprus, Romania, Poland and Spain.

The lowest proportions of widowed / divorced people who had not remarried / entered into another form of partnership were recorded across Ireland and Malta, as well as some parts of southern Italy and the French overseas regions. Guyane (2.9 %) has the lowest share among NUTS level 3 regions, while three Irish regions (including the capital of Dublin) and both of the Maltese regions reported that 5–6 % of their population was composed of widowed / divorced people who had not remarried / entered into another form of partnership. In Italy, the regions with the lowest shares (below 8 %) included Bari, Barletta-Andria-Trani and Foggia in Puglia, Caserta and Napoli in Campania, and Crotone in Calabria.

It is interesting to note that despite a high proportion (upwards of 40 %) of the population living alone in the capital regions of Groot Amsterdam, Byen København and Arrondissement de Bruxelles-Capitale / Arrondissement van Brussel-Hoofdstad, none of these capitals were characterised by a particularly high share of widowed / divorced people who had not remarried / entered into another form of partnership. This would suggest that a relatively high proportion of younger persons were living alone in the Belgian, Danish and Dutch capitals, perhaps reflecting the education and employment opportunities available in each of these cities.

Map 2.3: Persons who are widowed / divorced (or similar from a registered partnership) and have not remarried / re-entered a registered partnership, by NUTS level 3 region, 2011 (¹)
(% of the population)
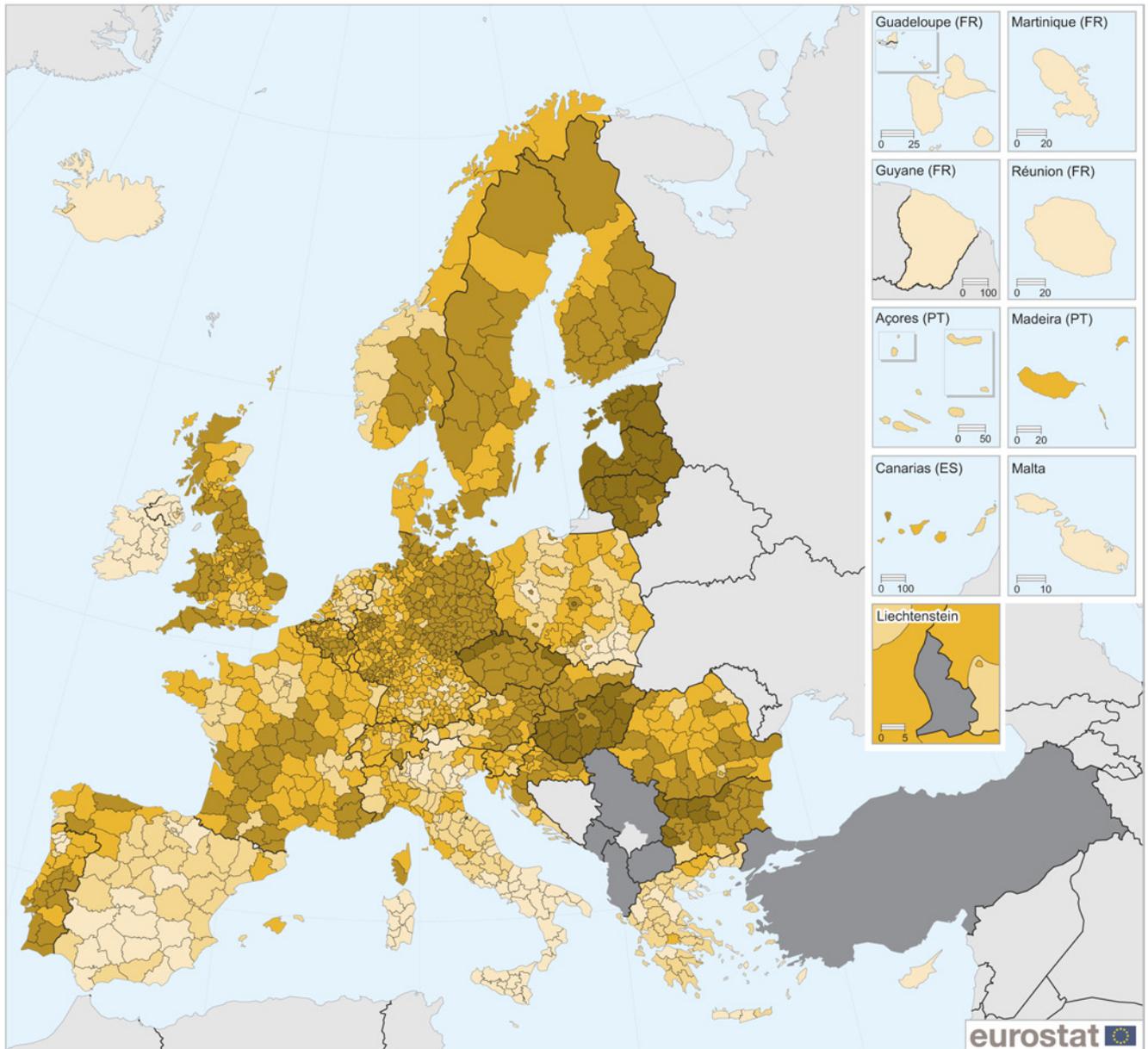
(% of the population)
EU-28 = 12.9

- < 10
- 10 – < 12
- 12 – < 14
- 14 – < 18
- >= 18
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

(¹) Finland and Switzerland: excludes registered partnerships.
Source: Census hub (https://ec.europa.eu/CensusHub2)

5355555555555555555

Families

This section provides information on the structure of different types of family unit. Marriage remains the most popular family unit, although the number of divorces in the EU has increased rapidly and the average age at which people tend to get married has risen, as a rising share of young people begin their adult lives by living alone or cohabiting, rather than leaving the parental home when they are ready to marry. Although marriage remains a common institution, fewer people live in the traditional 'nuclear family' (composed of a husband and wife with children), as registered partnerships, consensual unions and lone parent families account for an increasing proportion of families.

Lone parent families

In 2011, there were 15.5 million lone parent families with at least one resident child under 25; this equated to 11.0 % of all families in the EU-28. Many of the EU's capital cities and other major conurbations were characterised by a relatively high proportion of lone parent families.

One in four lone parent families in Romania were lone father families

Less than 1 in 10 (8.8 %) lone parent families with at least one resident child under 25 in Estonia were families composed of a lone father; this was the lowest share among the EU Member States. A relatively low proportion (less than 12 %) of lone parent families in Cyprus, Ireland and Poland were composed of lone fathers.

By contrast, lone father families with at least one resident child under 25 accounted for one in four (25.3 %) lone parent families in Romania, the highest share in the EU. In Bulgaria, Spain, Finland and Sweden, the share of lone father families was also relatively high.

Lone parent families accounted for more than one in five families in Latvia

In 2011, the highest share of lone parent families were recorded in the Baltic Member States, with 16.1 % and 16.8 % of all families in Estonia and Lithuania being composed of lone parents, a share that rose to 21.9 % in Latvia. The next highest shares of lone parent families were recorded in Slovenia and the United Kingdom, where just less than 15 % of all families were composed of lone mothers or fathers.

By contrast, lone parents with at least one resident child under 25 accounted for less than 7 % of all families in Cyprus and Greece and for a relatively low share of families (less than 10 %) in three other southern EU Member States, namely, Italy, Portugal and Spain. The share of lone parent families was also less than 10 % in the eastern Member States of Bulgaria, Croatia and Romania, as well as in neighbouring Germany and the Netherlands.

Some 11.0 % of all family units with children under the age of 25 still living at home were composed of lone parents. The lowest share of lone parents was recorded in the inland, central Portuguese region of Pinhal Interior Sul, where lone parent families accounted for 4.2 % of the total number of families with children.

Photo: Egitaniense */ Wikimedia Commons*

Some of the highest shares of lone parent families were located in and around major conurbations …

There were some quite wide differences within the EU Member States with respect to the shares of lone parent families recorded in each NUTS level 3 region. In 2011, the highest proportions of lone parent families with at least one registered child under 25 were recorded in all of the Latvian regions, the four French overseas regions, as well as some urban regions in the United Kingdom (the highest shares being recorded in Belfast, Inner London - East, Liverpool, Glasgow City, Nottingham and Birmingham). The share of lone parent families was also at least 18 % (as shown by the darkest shade in **Map 2.4**) in the Lithuanian capital of Vilniaus apskritis and four Belgian regions, the capital region of the Arrondissement de Bruxelles-Capitale / Arrondissement van Brussel-Hoofdstad and three regions in Wallonia, namely, Mons, Charleroi and Liège.

… while the lowest share were generally recorded in rural and sparsely populated regions

By contrast, lone parent families accounted for a relatively low proportion of all families in each of the Greek regions; the highest share was recorded in the capital region of Attiki, at 8.1 %. Indeed, a majority of the regions in the EU where lone parent families accounted for less than 6 % of all families (as shown by the lightest shade in **Map 2.4**)

Map 2.4: Lone parent families, by NUTS level 3 region, 2011 (¹)
(% of all family nucleii with at least one registered child under 25)
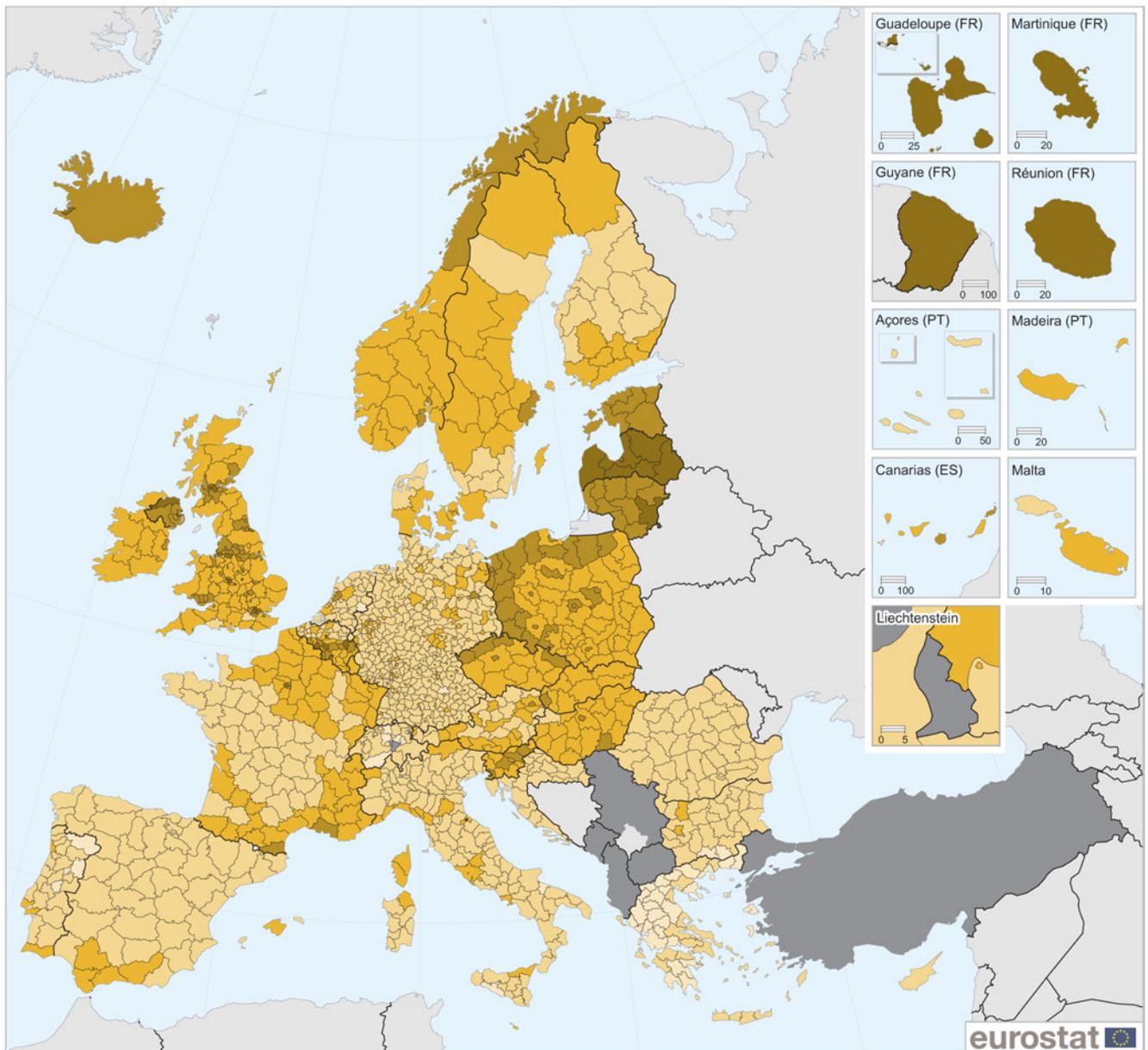
(% of all family nucleii with at least one registered child under 25)

EU-28 = 11.0

- < 6
- 6 – < 10
- 10 – < 14
- 14 – < 18
- >= 18
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015
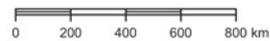
(¹) Family nucleii: married couples, registered partnerships, consensual unions and lone parent families. El Hierro (ES703), Valais (CH012), Solothurn (CH023), Jura (CH025), Basel-Stadt (CH031), Basel-Landschaft (CH032), Glarus (CH051), Schaffhausen (CH052), Appenzell Ausserrhoden (CH053), Graubünden (CH056), Schwyz (CH063), Obwalden (CH064), Zug (CH066): low reliability.
Source: Census hub (https://ec.europa.eu/CensusHub2)

were Greek. They were joined by two regions from southern Bulgaria (Kardzhali and Smolyan), a single German region (Eichstätt in Bavaria), two regions from Italy (Agrigento in Sicily and Barletta-Andria-Trani in Puglia), a single region from the east of the Netherlands (Achterhoek), and four relatively remote and sparsely populated regions from northern / central Portugal (Alto Trás-os-Montes, Pinhal Interior Sul, Serra da Estrela and Beira Interior Norte).

Married couples

Although marriage has become less prevalent in the EU, it remains a widespread institution. In 2011, some 71.2 % of all families in the EU-28 were composed of married couples. In other words, registered partnerships, consensual unions and lone parent families accounted for just over one quarter (28.8 %) of all family nucleii.

Marriage remained a common institution in many Mediterranean regions

Map 2.5 shows how common marriage was across NUTS level 3 regions. The highest shares of married couples in the total number of families were often recorded in those regions where lone parent families were relatively uncommon. The darkest shade in the map shows those regions where at least four out of every five families were composed of married

persons (with or without children). These regions were spread across a number of Mediterranean regions including Cyprus, all of the Greek regions (except for the capital of Attiki), most of coastal Croatia and southern Italy, the Maltese islands of Gozo and Comino, and Jaén in southern Spain. Married couples also accounted for at least 80 % of all families in several inland regions of northern /central Portugal, several relatively rural regions in Germany, much of Bulgaria and Romania, and the southern Polish region of Rybnicki.

In contrast there were five regions in the EU-28 where fewer than half of all families were composed of married couples. Three of these were French overseas territories: Guyane, on the Atlantic coast of South America recorded by far the lowest share, at 27.8 %. The other two regions where married couples accounted for fewer than half of all families were both located in the United Kingdom, namely, Inner London - East (46.8 %) and Glasgow City (49.4 %). Otherwise, marriage was also quite uncommon in relation to other types of family formation in the Baltic Member States and the northern half of Sweden, and this was also true, to a lesser extent, across much of Finland, southern Sweden, several regions in Denmark, the Netherlands and (southern) Belgium, most of France and the United Kingdom, as well as a cluster of regions in Slovenia, southern Austria and Hungary.

Map 2.5: Married couples, by NUTS level 3 region, 2011
(% of all family nucleii)
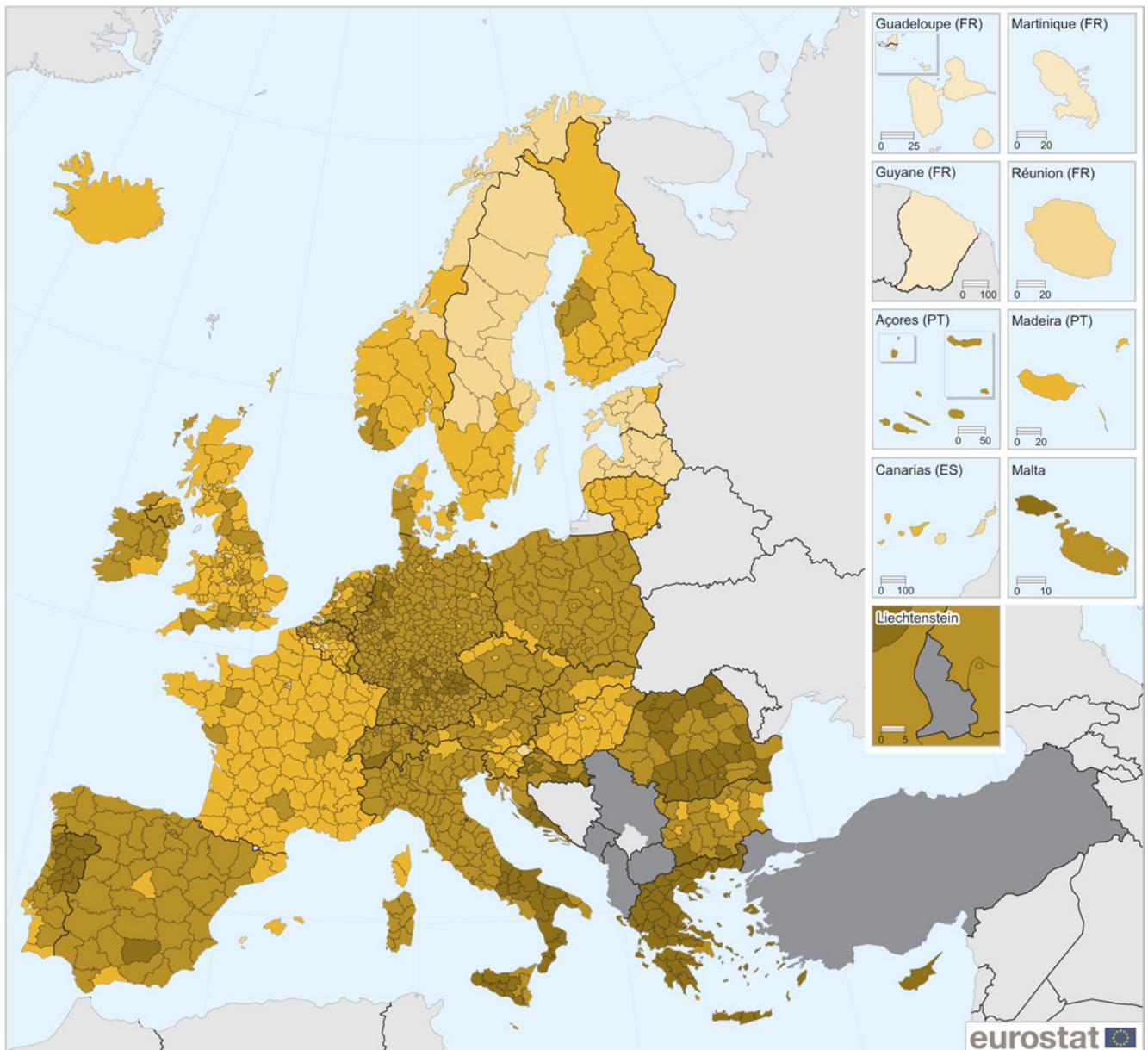
(% of all family nucleii)

EU-28 = 71.2

- < 50
- 50 – < 60
- 60 – < 70
- 70 – < 80
- >= 80
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

(¹) Family nucleii: married couples, registered partnerships, consensual unions and lone parent families.
Source: Census hub (https://ec.europa.eu/CensusHub2)

ⓘ DEFINING COUPLES

The term couple is defined, for the purpose of the population and housing census, to include:

- married couples;
- couples in registered partnerships;
- couples who live in a consensual union.

As such, a couple is constituted when two persons (of either sex) choose to live together as a married couple, in a registered partnership, or in a consensual union (the latter refers to the situation when two persons belong to the same household, and have a 'marriage-like' relationship with each other, and are not married to or in a registered partnership with each other).

Many EU Member States have legislated to provide legal recognition of partnerships, civil unions and same-sex marriages. Note that the data presented refer to the situation as of 2011 and that there may have been legislative changes in some EU Member States since this date resulting in a wider range of legally recognised partnerships for couples.

For more information: Commission Regulation (EC) No 1201/2009

Figure 2.4 provides a more restricted analysis, based on those people living as couples, a narrower concept than that of the family (as it excludes lone parents). It shows those regions where the three types of couple — married, registered partnerships and consensual unions — accounted for the highest proportion of all couples; note that the data presented do not take account of the relative importance of couples in the total population.

A relatively high proportion of couples in the Nordic and Baltic Member States chose to live in a consensual union

The highest proportions of couples living in consensual union were generally located in the Baltic and Nordic Member States. In 2011, upwards of one third of all couples in several Estonian and Swedish regions, as well as the Danish capital of Byen København, lived in a consensual union. This was also the case in the Spanish island region of Fuerteventura and the French overseas territory of Guyane, which was the only NUTS level 3 region to report that a majority of its couples, some 55.4 %, were living in a consensual union.

The highest proportion of registered partnerships was recorded in Belgian regions, all of which were in Wallonia. Belgian registered partnerships (cohabitation légale / wettelijke samenwoning) may be formed by same-sex couples, different-sex couples, as well as persons who chose to live together outside of a sexual relationship (for example, relatives). Three regions in the Ardennes — Marche-en-Famenne, Neufchâteau and Dinant — recorded the highest shares of registered partnerships, at just over 8 %.

The relative importance of marriage as an institution reflects, to some degree, the alternative possibilities for couples to join together in other forms of partnership, as well as cultural differences. An overwhelming majority of couples in many Greek and Polish regions were married, with the share of married couples rising to over 99 % in three south-eastern Polish regions of Krośnieński, Nowosądecki and Tarnowski.

Figure 2.4: Analysis of couples, by NUTS level 3 region, 2011 (¹)
(% of all couples)

■ **Married couples**   ■ **Registered partnerships**   ■ **Consensual unions**
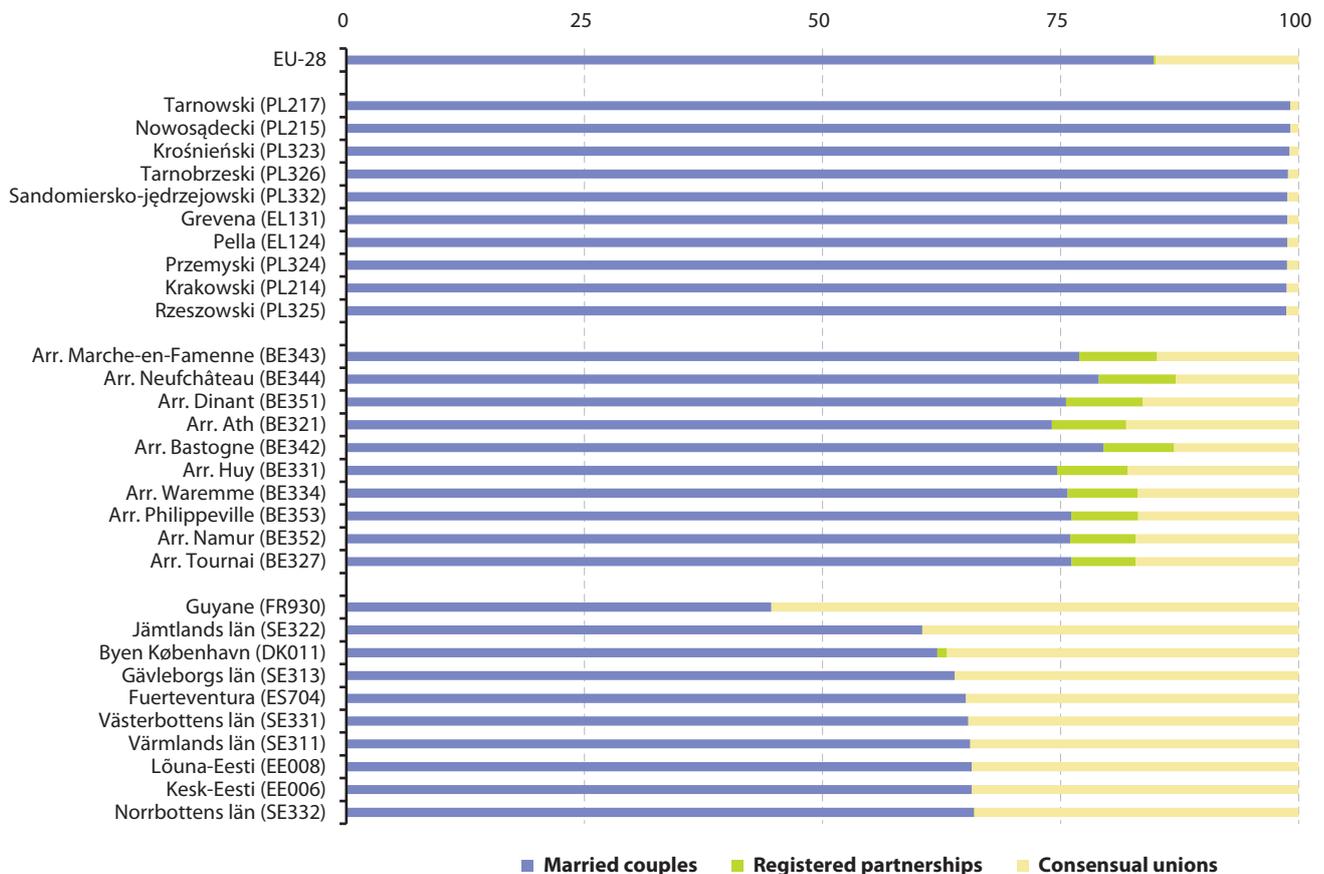
(¹) The figure shows the 10 NUTS level 3 regions with the highest proportion of married couples, the 10 NUTS level 3 regions with the highest proportion of registered partnerships, and the 10 NUTS level 3 regions with the highest proportion of consensual unions.
Source: Census hub (https://ec.europa.eu/CensusHub2)

Couples with children

Figure 2.5 provides an analysis of married couples and registered partnerships with at least one resident child under the age of 25. The two parts of the figure show the regional disparities for these population subgroups in relation to their share of the total number of families.

Marriage remained the most common type of family unit for raising children

In 2011, married couples with at least one child accounted for 33.2 % of all families in the EU-28, this was more than five times as high as the share for couples living in a consensual union with at least one child (5.6 % of all families).

Although there has been an increase in the proportion of children born out of wedlock, marriage remains the most common form of family unit for raising children. In 2011, married couples with at least one resident child accounted for more than 40 % of all families in Poland, Luxembourg, Croatia, Ireland, Malta and Cyprus (where the highest share was reported, 45.5 %). By contrast, couples living in consensual unions with at least one resident child accounted

for more than 10 % of all families in France, Sweden and Estonia, as well as in Iceland and Norway. In Estonia, married couples with at least one child accounted for 1.7 times as many families as couples living in a consensual union with at least one child, this ratio was also relatively low in Sweden, France, Bulgaria, Slovenia, Finland, Latvia and Denmark. By contrast, in Greece, married couples with at least one child accounted for more than 100 times as many families as couples living in a consensual union with at least one child; while this ratio was just over 30 in Cyprus and Malta.

It is apparent from **Figure 2.5** that there was a mixed pattern with respect to bringing up children in capital regions. In the capital regions of those EU Member States where marriage remained a relatively common institution (for example, Italy and Portugal), the share of married couples with at least one resident child was close to or below the national average. By contrast, among the capital regions of those EU Member States where marriage is a relatively less common institution (such as France or Sweden), in the capital city the proportion of married couples with at least one resident child was above the national average.

Figure 2.5: Regional disparities in the proportion of couples with at least one resident child under 25, by NUTS level 2 region, 2011 (¹)
(% of all family nucleii)
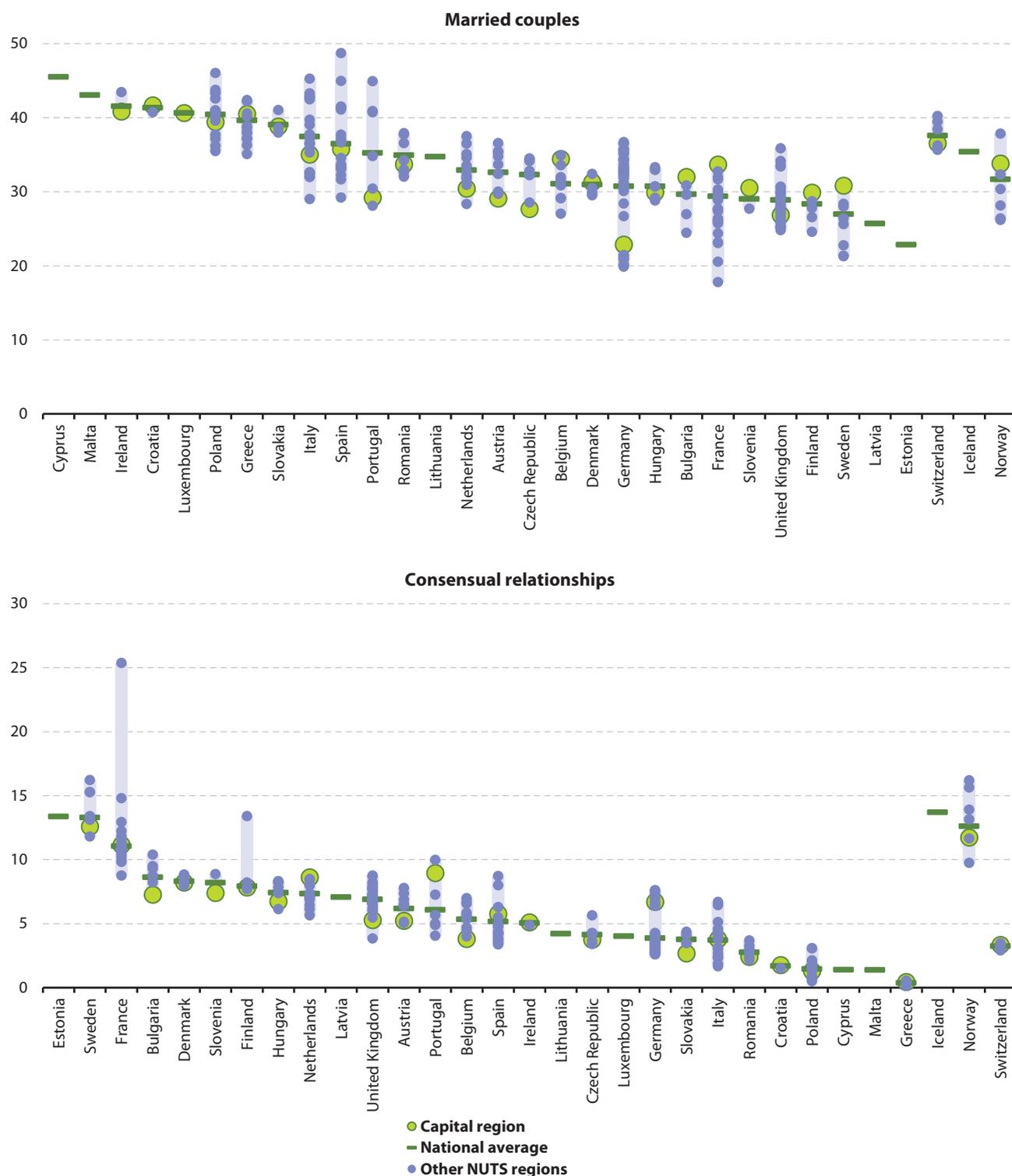
Married couples

Consensual relationships

- ● **Capital region**
- ▬ **National average**
- ● **Other NUTS regions**

Data sources and availability

Population and housing censuses have generally been conducted once every decade in the EU Member States. The information presented here is based on the data produced by Member States for the 2011 EU census data collection; no comparisons have been made with the results from previous census exercises.

In its broadest sense, a population and housing census is intended to provide a count of the entire population and housing stock of a given area. It is also used to collect information on the main characteristics of individuals, families, households and the dwellings in which they live, in other words a range of geographic, demographic, social and economic information. Traditionally, a census was undertaken as a door-to-door enumeration of persons at each dwelling. However, in recent decades, many EU Member States have been moving away from a single data census collection, towards census statistics based on administrative data sources and sample surveys.

ⓘ THE CENSUS HUB — ONLINE ACCESS TO ALMOST ONE BILLION DATA POINTS

The population and housing census required extensive planning and close cooperation between Eurostat and the national statistical authorities, designed to facilitate the widest possible use of these statistics as a key resource for European social statistics. With this in mind, Eurostat developed the census hub, an online application which provides access to data from the census exercises that were undertaken in 32 European states.

The census hub provides an opportunity for people to learn more about the place where they live, be that at a national or regional level or for a specific town or municipality.

The census hub is a single entry point to access population and housing census data stored in each EU Member State and EFTA country. The interface allows users to define data extractions to meet their own needs, specifying their own cross-tabulations to be produced from the detailed datasets held by each national statistical authority. Anyone can use the census hub free-of-charge via the internet; it is an easy to use, versatile tool providing access to almost one billion data points across 125 000 different municipalities.

Eurostat will release a publication based on an extensive selection of data from the population and housing census; this is due to be published in the second half of 2015.

The census hub is available at: https://ec.europa.eu/CensusHub2

A census provides an opportunity to obtain a comprehensive and accurate picture of the population and the housing stock. It is a considerable undertaking, which provides a unique source of data that is of great value for policy development, as comparable data are collected for small areas (municipalities) that may be aggregated up through regions, to national and international aggregates. Indeed, the results of a population and housing census are unique insofar as they provide detailed information down to the level of individual municipalities, while also providing a means to produce cross-tabulations of different variables. For the purpose of this chapter the data has been aggregated in order to be able to present data at NUTS level 2 or level 3 so as to provide coherent information in the form of maps across the whole of the EU.

Much of the information presented is based on the concept of 'usual residence', which refers to the place where a person normally spends their daily period of rest, regardless of temporary absences for purposes of recreation, holidays, visits to friends and relatives, business, medical treatment or religious pilgrimage. People are considered to be 'usually resident' in a region if they have lived there for a continuous period of at least 12 months before the reference period for the population and housing census, or if they arrived during the 12-month period prior to the census and they indicate that they intend to stay for at least one year.

Note: the EU-28 aggregates shown in this chapter have been constructed from national totals available from the population and housing census. As such they do not reflect a specific reference date, but are rather based on the reference period adopted for the census in each EU Member State.

ⓘ REGIONAL DEMOGRAPHIC STATISTICS

Although not shown in this edition of the Eurostat regional yearbook, Eurostat collects a wide range of regional demographic statistics: these include data on population numbers and various demographic events which influence the population's size, structure and specific characteristics. This data may be used for a wide range of planning, monitoring and evaluating actions across a number of important socioeconomic policy areas, 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 gross domestic product (GDP) per capita, which may be used to allocate structural funds to economically less advantaged regions;
- develop and monitor immigration and asylum systems.

The legal basis for the collection of population statistics is provided by European Parliament and Council Regulation (EU) No 1260/2013 on European demographic statistics and by an implementing Regulation (EU) No 205/2014. European Parliament and Council Regulation (EC) No 862/2007 legislates for the collection of Community statistics on migration and international protection, together with implementing Regulation (EU) No 351/2010. For more information, refer to the dedicated section on Eurostat's website.

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 cross-cutting objective in future cohesion policy.

Legal basis

For the 2011 exercise, European legislation defined a detailed set of harmonised data to be collected in each EU Member State, based on international guidelines and recommendations prepared by the United Nations, Eurostat and each national statistical authority.

European Parliament and Council Regulation (EC) No 763/2008 on population and housing censuses outlines the topics to be collected, the transmission procedures to be used and the quality assessments to be undertaken for the census. However, it is concerned with output harmonisation, rather than input harmonisation and each EU Member State was free to assess for themselves how to conduct their census and to determine which data sources, methods and technology were best in their own individual context. By contrast, certain conditions had to be met to achieve the objective of comparable data and these were detailed in a set of implementing regulations. European Commission Regulation (EC) No 1201/2009 contains definitions and technical specifications for the census topics (variables) and breakdowns (for example, classifications of location, sex, marital status and occupation) that were required, European Commission Regulation (EU) No 519/2010 provides details of the data output to be used to transmit data to the European Commission in order to comply with a defined programme of statistical data (tabulations), while European Commission Regulation (EU) No 1151/2010 legislates for the transmission of a quality report containing a systematic description of the data sources used and the quality of the census results produced. More information on the legal basis for the census is available at: http://ec.europa.eu/eurostat/web/population-and-housing-census/legislation.

Health

Introduction

Health is an important priority for Europeans, who expect to be protected against illness and accident and to receive appropriate healthcare services. The competence for the organisation and delivery of healthcare services is largely held by the individual EU Member States.

Within the European Union (EU), health issues cut across a range of topics and these generally fall under the remit of the European Commission's Directorate-General for Health and Consumers and the Directorate-General for Employment, Social Affairs and Inclusion. EU actions are concentrated on protecting people from health threats and disease (flu or other epidemics), consumer protection (food safety issues), promoting lifestyle choices (fitness and healthy eating), workplace safety, and helping national authorities cooperate. The European Commission works with EU Member States using an open method of coordination for health issues, a voluntary process based on agreeing common objectives and measuring progress towards these goals.

The legal basis for the EU's third health programme is provided by Regulation (EU) No 282/2014 on the establishment of a third Programme for the Union's action in the field of health (2014–2020). It aims to:

- improve the health of EU citizens and reduce health inequalities;

- make healthcare services more sustainable and encourage innovation in health;
- improve public health, preventing disease and fostering supportive environments for healthy lifestyles;
- protect citizens from cross-border health threats (such as flu epidemics);
- contribute to innovative, efficient and sustainable healthcare systems;
- facilitate access to better and safer healthcare for EU citizens.

The EU's health strategy is closely aligned with the Europe 2020 strategy, as it aims to foster health improvements as part of the drive towards 'smart, sustainable and inclusive growth', for example, through the flagship initiatives of the innovation union or the European platform against poverty and social exclusion. Innovation has the potential to make the healthcare sector more sustainable, improve the quality of care, reduce medical costs, or provide new diagnosis, cures or treatments for health conditions. Investing in health and reducing health inequalities will likely result in a higher proportion of Europe's ageing population remaining active for longer, thereby reinforcing their employability, increasing healthy life expectancies and contributing to social cohesion.

Main statistical findings

The life expectancy of women at birth was 83.1 years in the EU-28 in 2012, while that for men was 5.7 years lower at 77.4 years. Life expectancy continues to rise and may, at least in part, explain the demographic shift towards a greying population in the EU. However, policy attention has increasingly turned to the quality of life, as measured by healthy life years, in other words the number of years that a person may be expected to live in a healthy condition with no limitations in functioning or disability. At birth, a woman born in 2012 could be expected to live 62.1 years free from any disability, while the corresponding value for men was only 0.6 years lower.

Causes of death

Slightly fewer than five million people died in the EU-28 in 2011, which equates to a crude death rate of 964 deaths per 100 000 inhabitants (or almost 1 % of the population). The three leading causes of death in the EU-28 were: diseases of the circulatory system (368 deaths per 100 000 inhabitants);

deaths from cancer (253 deaths per 100 000 inhabitants); and diseases of the respiratory system (75 deaths per 100 000 inhabitants).

Diseases of the circulatory system

There are a range of medical problems that affect the circulatory system (the heart, blood vessels and arteries), often resulting from the abnormal build-up of plaque that is made of, among others, cholesterol or fatty substances, deposited on the inside walls of a person's arteries. Some of the most common diseases that affect the circulatory system include ischaemic heart disease (heart attacks) and cerebrovascular diseases (strokes).

Exercise, diet, smoking and stress can all have a positive or negative impact upon death rates from diseases of the circulatory system. Indeed, diet is thought to play an important role, as death rates tend to be higher in those regions characterised by people consuming large amount of saturated fats, dairy products and (red) meat.

More than two thirds of deaths in Bulgaria were attributed to diseases of the circulatory system

In 2011, there were 1.9 million deaths resulting from diseases of the circulatory system in the EU-28, which was equivalent to 38.2 % of all deaths. **Map 3.1** shows there was an east–west split in crude death rates from diseases of the circulatory system among the EU regions. The highest death rates were often recorded in regions located in one of the Member States that joined the EU in 2004 or later (other than the Mediterranean islands of Cyprus and Malta). Indeed, more than two thirds (67.4 %) of all deaths in Bulgaria in 2011 were attributed to diseases of the circulatory system, while the corresponding share for Romania was only slightly lower (60.2 %).

Looking in more detail, there were three regions in Bulgaria — Yugoiztochen, Severen tsentralen and Severozapaden — where the crude death rate for diseases of the circulatory system rose to over 1 000 deaths per 100 000 inhabitants (in other words, more than 1 % of the population died from these diseases in 2011). All six Bulgarian NUTS level 2 regions were present among the seven regions in the EU with the highest crude death rates from diseases of the circulatory system. They were joined by the Romanian region of Sud-Vest Oltenia (which shares a border with Bulgaria). Aside from these seven regions, the next highest crude death rates for diseases of the circulatory system were recorded in: the Baltic Member States (all single regions at this level of NUTS detail); all seven Hungarian regions; the east German regions of Chemnitz and Sachsen-Anhalt; and the Croatian region of Kontinentalna Hrvatska; there were also very high crude death rates for diseases of the circulatory system in Serbia.

Some of the lowest death rates from diseases of the circulatory system were recorded in the French overseas regions

A range of studies advocate the beneficial effects of a Mediterranean diet, noting in particular the use of olive oil and moderate red wine consumption (particularly with meals), claiming that this could, at least in part, explain the below average death rates for circulatory diseases recorded in many southern EU regions (Greece being a notable exception).

Two other factors that are often cited as an explanation for patterns of regional death rates from diseases of the circulatory system are access to and the availability of hospital treatment. The lowest death rates from diseases of the circulatory system are often registered in capital regions and other metropolitan regions, where patients in need of rapid medical assistance — for conditions such as heart attacks or strokes — can expect to travel relatively short distances to receive attention in relatively well-equipped hospitals.

However, across NUTS level 2 regions, the lowest crude death rate from diseases of the circulatory system was recorded in the French overseas regions of Guyane (55 deaths per 100 000 inhabitants in 2011). There were also low rates in Réunion, Guadeloupe and Martinique, as all four of the French départements d'outre-mer featured among the 10 EU regions with the lowest crude death rates from diseases of the circulatory system. This top 10 was completed by three capital regions (Inner London, the Île de France and the Comunidad de Madrid), the central Dutch region of Flevoland, the Spanish island region of Canarias, and the south eastern French region of Rhône-Alpes.

There was a considerable difference between the highest and lowest crude death rates from diseases of the circulatory system across NUTS level 2 regions. The highest death rates were recorded in the Bulgarian region of Severozapaden (1 345 deaths per 100 000 inhabitants), which was 10.6 times as high as in Inner London (127 deaths per 100 000 inhabitants), where the lowest death rate — excluding the autonomous Spanish cities and French overseas regions — was recorded.

Cancer (malignant neoplasms)

Although significant advances have been made in the fight against cancer, it remains a key public health concern and a considerable burden on EU societies. It is the second

Map 3.1: Deaths from diseases of the circulatory system, by NUTS level 2 region, 2011
(crude death rates per 100 000 inhabitants)

(crude death rates per 100 000 inhabitants)

EU-28 = 368

- < 200
- 200 – < 300
- 300 – < 400
- 400 – < 500
- >= 500
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015
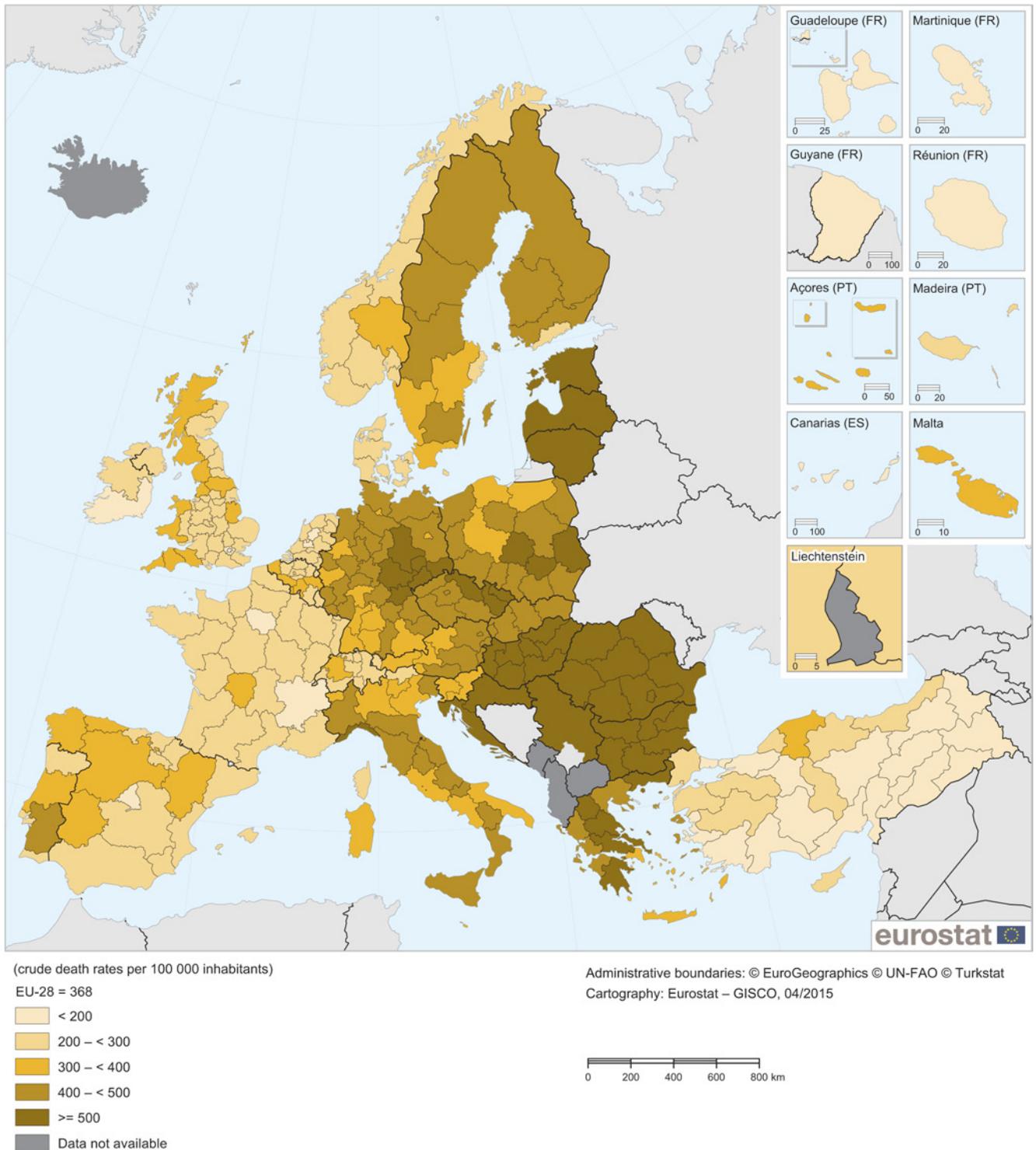
Source: Eurostat (online data code: hlth_cd_acdr2)

Map 3.2: Deaths from cancer (malignant neoplasms), by NUTS level 2 region, 2011
(crude death rates per 100 000 inhabitants)
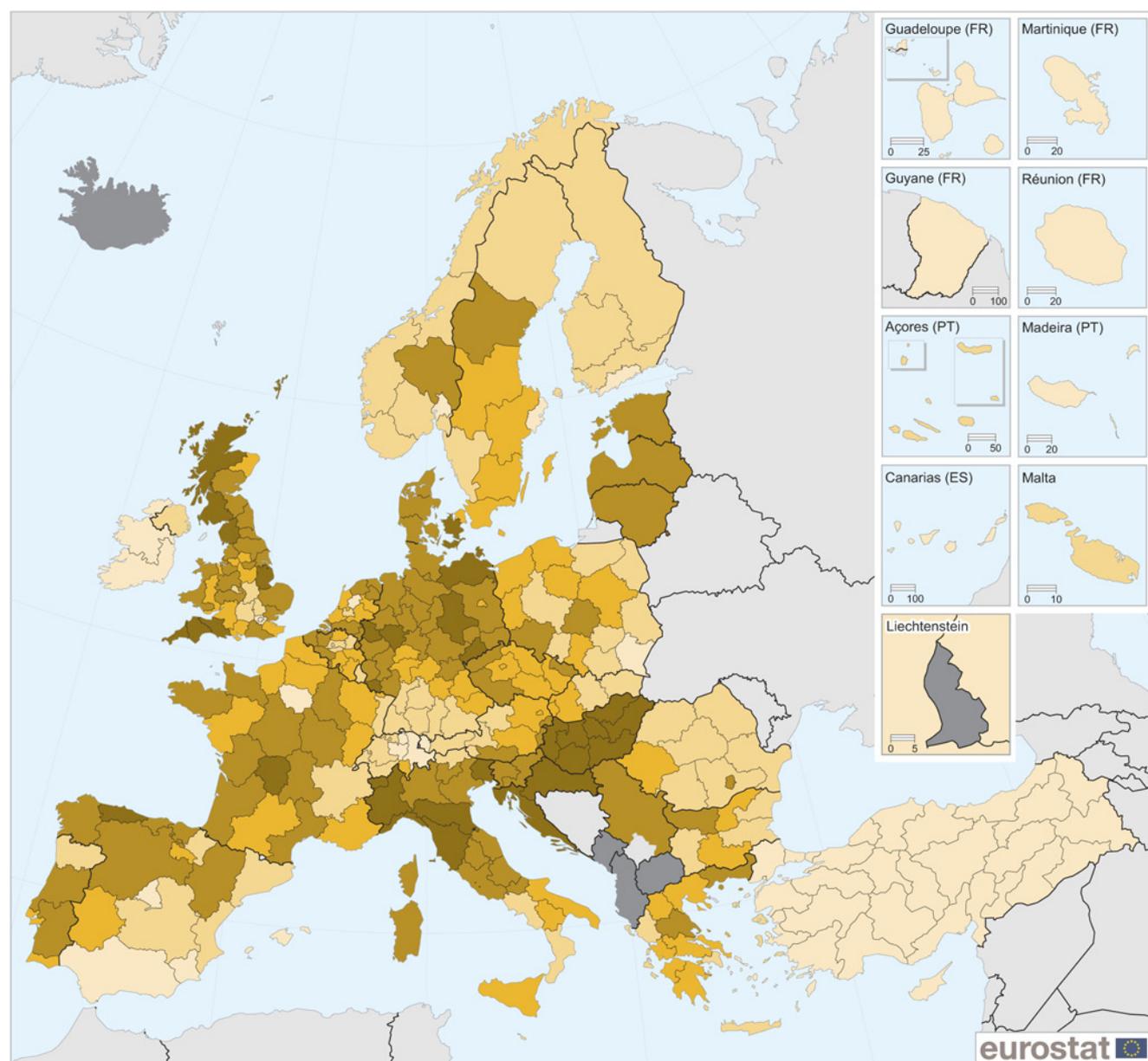
(crude death rates per 100 000 inhabitants)

EU-28 = 253

- < 200
- 200 – < 240
- 240 – < 260
- 260 – < 300
- >= 300
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

Source: Eurostat (online data code: hlth_cd_acdr2)

largest cause of death: in 2011, more than one and a quarter million people in the EU-28 died from cancer, just over one quarter (26.3 %) of all deaths. Among the EU Member States, cancer accounted for more than 30 % of all deaths in the Netherlands, Slovenia and Ireland. By contrast, less than 20 % of the total number of deaths in Bulgaria, Romania and Lithuania were from cancer; these relatively low rates are, to some degree, affected by the high number of deaths from diseases of the circulatory system.

All of the regions in Croatia and in Hungary recorded very high crude death rates from cancer

While there was a clear east–west split in death rates from diseases of the circulatory system, the regional distribution of crude death rates from cancer was more mixed, both across EU Member States and between regions of the same Member State.

That said, some of the highest crude death rates from cancer were recorded in Croatia (both regions) and Hungary (all seven regions), where rates were consistently over 300 deaths per 100 000 inhabitants in 2011 (the darkest shade in **Map 3.2**). By contrast some of the lowest death rates were recorded in Ireland (both regions), the Greek islands, Cyprus, southern Spain and a number of capital regions.

Looking in more detail, the highest crude death rates in Croatia and Hungary were recorded for cancers of the trachea, bronchus and lung and cancers of the colon, rectosigmoid junction, rectum, anus and anal canal. This was in keeping with figures for the whole of the EU-28, where these two forms of cancer were also the most prevalent causes of death (among cancers). In relative terms, the incidence of death from cancers of the lip, oral cavity and pharynx, cancer of the larynx, and cervical cancer was particularly high in Hungary, as these cancers accounted for between two and three times as many deaths as the EU average in the majority of Hungarian regions.

North–south divide in crude death rates from cancer within Spain, Germany and Italy

Crude death rates from cancer in the northern halves of Spain, Germany and Italy were considerably higher than the rates that were recorded in southern regions. For example, the highest crude death rate from cancer among any of the NUTS level 2 regions in the EU was recorded in the northern Italian region of Liguria (377 deaths per 100 000 inhabitants in 2011), which could be contrasted with a relatively low crude death rate in the southern Italian region of Calabria (221 deaths per 100 000 inhabitants). In Spain, the highest rate was recorded in the Principado de Asturias (341 deaths per 100 000 inhabitants), which could be compared with rates of less than 200 deaths per 100 000 inhabitants (the lightest shade in **Map 3.2**) in the capital region of the Comunidad de Madrid, the southern regions of Andalucía and Murcia, the island regions of the Illes Balears and Canarias, and the autonomous cities of Ceuta and Melilla. In Germany, crude death rates from cancer were in excess of 300 deaths per 100 000 inhabitants in the regions of Sachsen-Anhalt, Chemnitz, Saarland, Mecklenburg-Vorpommern, Arnsberg and Düsseldorf. By contrast, a relatively low crude death rate was recorded in the southern German region of Tübingen (220 deaths per 100 000 inhabitants).

There were also considerable disparities in crude death rates from cancer between the regions of France and those of the United Kingdom. For example, the central French region of Limousin had a crude death rate that was over 300 deaths per 100 000 inhabitants, while all four of the départements d'outre-mer and the capital region of the Île de France had rates that were below 200 per 100 000 inhabitants. In the United Kingdom, crude death rates from cancer of more than 300 per 100 000 inhabitants were recorded in several western regions (although Northern Ireland was a noticeable exception), passing from Cornwall and the Isles of Scilly up to the (Scottish) Highlands and Islands. By contrast, death rates in Inner and in Outer London were below 200 deaths per 100 000 inhabitants.

Indeed, it was relatively common to find the lowest regional death rates from cancer being registered in capital regions. Apart from the capitals of Spain, France and the United Kingdom (all mentioned above), this pattern was also apparent in Belgium, Bulgaria, Finland and Sweden. By contrast, the highest crude death rate from cancer across the regions of Romania was recorded for the capital region of Bucureşti - Ilfov.

ⓘ ANALYSIS OVER TIME: THE LARGEST REDUCTIONS IN CRUDE DEATH RATES

Figure 3.1 provides an analysis of developments over the period 2001–11. It shows the region with the highest and lowest crude death rates for each disease in 2011, as well as the regions with the highest growth and largest decline in crude death rates over the period under consideration, and overall developments for the whole of the EU-28; note there is a break in series in 2011.

The biggest declines in crude death rates among NUTS level 2 regions were recorded for:

- Greater Manchester for diseases of the circulatory system;
- the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest for cancer;
- the Irish region of Border, Midland and Western for diseases of the circulatory system.

Figure 3.1: Deaths from diseases of the circulatory system, cancer and the respiratory system, selected NUTS level 2 regions, 2001–11 (^{1})
(crude death rates per 100 000 inhabitants)

Diseases of the circulatory system

- EU-28
- Severozapaden (BG31)
- Lieutva (LT00)
- Greater Manchester (UKD3)
- Guyane (FR93)

Cancer (malignant neoplasms)

- EU-28
- Liguria (ITC3) (^{2})
- Severozapaden (BG31)
- Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (BE10) (^{3})
- Guyane (FR93)

Diseases of the respiratory system

- EU-28
- Northumberland and Tyne and Wear (UKC2)
- Alentejo (PT18)
- Border, Midland and Western (IE01)
- Guyane (FR93)

(^{1}) The figures show the EU-28 average and four selected regions: the region with the highest (dark purple) and lowest (dark green) crude death rates for each disease in 2011 and the region with the highest growth (light purple) and largest contraction (light green) in crude death rates over the period 2001–11. Chemnitz (DED4), Leipzig (DED5), Attiki (EL30), Jadranska Hrvatska (HR03), Kontinentalna Hrvatska (HR04), Emilia-Romagna (ITH5), Marche (ITI3), Pohjois- ja Itä-Suomi (FI1D), Cheshire (UKD6), Merseyside (UKD7), Eastern Scotland (UKM2), South Western Scotland (UKM3), North Eastern Scotland (UKM5) and Highlands and Islands (UKM6): full time series not available. 2011: break in series.
(^{2}) 2004 and 2005: not available, linear interpolation.
(^{3}) 2001 and 2002: not available.
Source: Eurostat (online data codes: hlth_cd_acdr and hlth_cd_acdr2)

Prostate cancer

Maps 3.3 and **3.4** show crude death rates for two gender-specific cancers: namely, prostate cancer for men and breast cancer for women. Note that this edition of the *Eurostat regional yearbook* has a special chapter providing more detailed information on gender differences for a range of topics.

In 2011, more than 70 000 men died from prostate cancer in the EU-28, equivalent to 5.7 % of all deaths (for men and women) from cancer and 1.5 % of the total number of deaths from any cause. **Map 3.3** shows the crude death rate for men for prostate cancer was 30 deaths per 100 000 male inhabitants. While death rates for cancer in general are considerably higher among the elderly, this was even more apparent for prostate cancer, underlining the fact that this form of cancer particularly affects older men.

Some of the highest crude death rates for prostate cancer were recorded in Swedish regions …

Within the EU Member States, prostate cancer accounted for 1.5 % of male deaths in Romania and 1.6 % of male deaths in Bulgaria, a share that rose more than threefold to peak at 5.5 % in Sweden.

The most striking pattern observed in the regional distribution of crude death rates from prostate cancer is the contrast between generally high rates in north-western EU regions and much lower rates in south-eastern regions of the EU. Furthermore, the highest regional crude death rates for prostate cancer among men — at least 40 deaths per 100 000 inhabitants (as shown by the darkest shade in **Map 3.3**) — were found in clusters. The first of these was in the north of the EU and included two NUTS level 2 regions from Finland, including the archipelago of Åland — which had the highest rate among any of the regions in the EU at 64 deaths per 100 000 male inhabitants — Latvia (which is a single region at this level of NUTS detail), all five Danish regions and all but one of the eight Swedish regions (the exception being the capital region of Stockholm). A second cluster was found on the Iberian Peninsula, as high rates in several northern and western Spanish regions extended across the border into the Centro and Alentejo regions of Portugal. There was a cluster of three regions in the middle of France with high rates (Centre, Limousin and Poitou-Charentes), while two of the three French overseas regions in the Caribbean (Guadeloupe and Martinique) also had high rates. The neighbouring regions of Vzhodna Slovenija (eastern Slovenia) and Kärnten (southernmost Austria) also recorded crude death rates from prostate cancer that were in excess of 40 per 100 000 male inhabitants, which was also the case for several regions located in northern Germany and several regions spread across the United Kingdom (with particularly high rates in the south-west of England).

… while the lowest rates were in Romanian regions

Excluding the autonomous Spanish cities and French overseas regions, crude death rates from prostate cancer in Åland were 4.3 times as high as in the Romanian region of Sud-Vest Oltenia (which had the lowest death rate). Indeed, some of the lowest crude death rates from prostate cancer were recorded in the four westernmost regions of Romania and in the southern Bulgarian region of Yugoiztochen, which borders onto Turkey, where most regions recorded death rates that were below those in any of the EU's regions. Low death rates from prostate cancer were also recorded in Cyprus and Malta (both single regions at this level of NUTS), the capital regions of the Comunidad de Madrid, Île de France and Inner London, the autonomous Spanish cities of Ceuta and Melilla, the French overseas regions of Guyane and Réunion, as well as single regions in the Netherlands (Flevoland), Austria (Tirol) and Poland (Warmińsko-Mazurskie).

Breast cancer

In 2011, around 93 000 people died from breast cancer in the EU-28, of which close to 1 000 were men. As such, deaths from breast cancer made up around 7.2 % of all deaths from cancer; among women, breast cancer accounted for 16.3 % of all deaths from cancer and for 3.8 % of the total number of female deaths.

The EU-28 crude death rate for breast cancer was 35 per 100 000 women (**Map 3.4**). While the highest number of deaths from breast cancer was recorded among elderly women, a relatively high proportion (compared with the average for all cancers) was registered among middle-aged women.

Some of the highest death rates due to breast cancer were recorded in Denmark and Germany

Across the EU Member States, the share of female deaths from breast cancer was at least 5 % of the total number of deaths in Ireland and Malta, falling to 3 % or less in Sweden, Latvia, Lithuania, Romania and Bulgaria. The highest crude death rate for breast cancer among women was recorded in Denmark (43 per 100 000 female inhabitants), while the lowest rates — below 30 deaths per 100 000 female inhabitants — were recorded in Ireland, Sweden, Spain, Portugal, Cyprus, Poland and Romania; as well as in Norway and Turkey.

There was a large cluster of relatively high death rates from breast cancer in the centre of the EU covering much of Germany, Denmark, the Benelux countries, eastern France, northern Italy, eastern Austria and western Hungary; high rates were also recorded in some parts of the United Kingdom. The periphery of the EU was often characterised by relatively low crude death rates from breast cancer.

Map 3.3: Male deaths from prostate cancer, by NUTS level 2 region, 2011
(crude death rates per 100 000 male inhabitants)
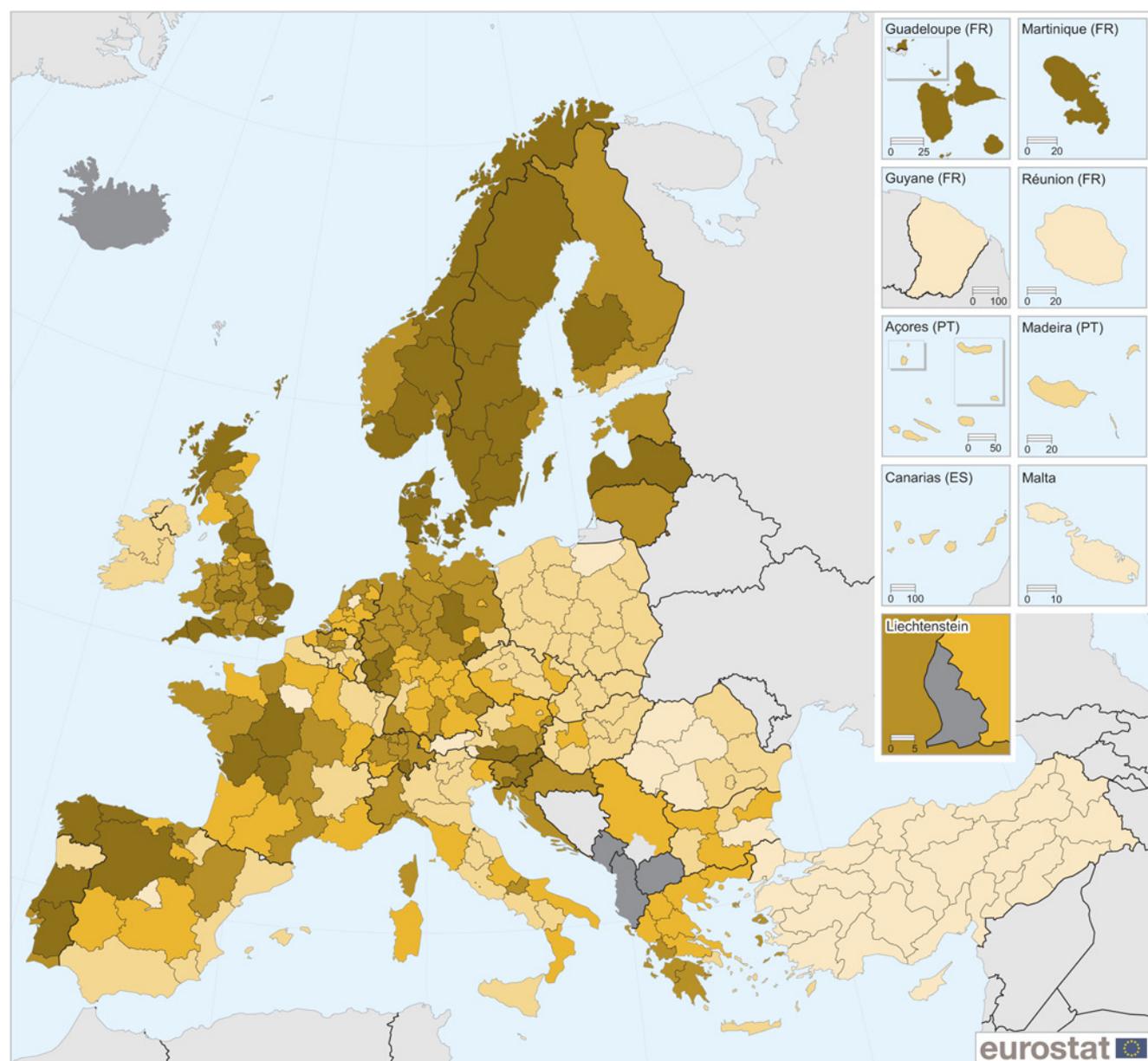
(crude death rates per 100 000 male inhabitants)

EU-28 = 30

|	
	< 20
	20 – < 28
	28 – < 32
	32 – < 40
	>= 40
	Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

Source: Eurostat (online data code: hlth_cd_acdr2)

Map 3.4: Female deaths from breast cancer, by NUTS level 2 region, 2011 (^{1})
(crude death rates per 100 000 female inhabitants)

(crude death rates per 100 000 female inhabitants)

EU-28 = 35

- < 25
- 25 – < 32
- 32 – < 38
- 38 – < 45
- >= 45
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

0   200   400   600   800 km
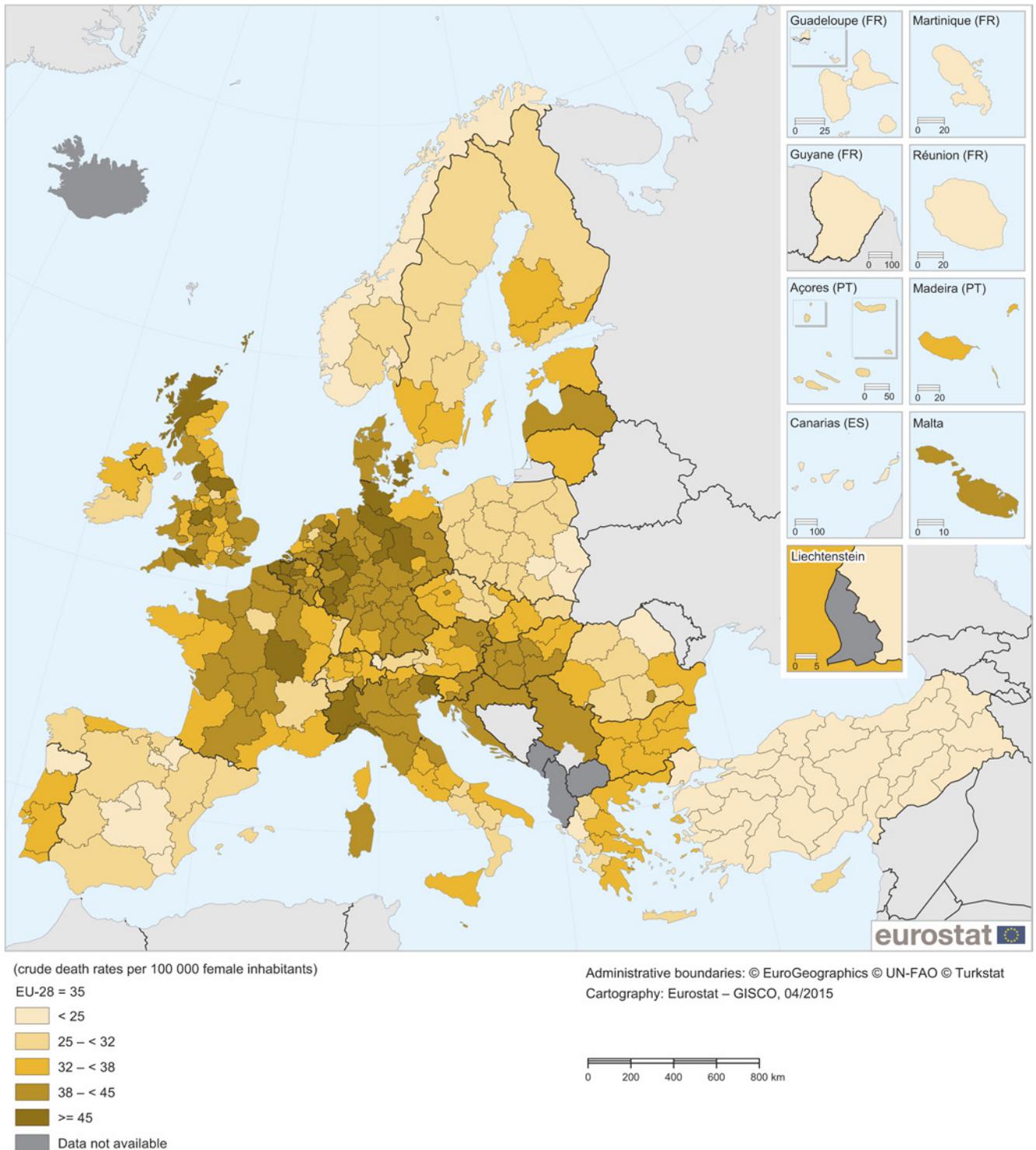
Source: Eurostat (online data code: hlth_cd_acdr2)

Looking in more detail, the three regions with the highest crude death rates for breast cancer among women were all located in Germany. They included the northerly region of Bremen, and the neighbouring western regions of Trier and Saarland; the highest rate was recorded in the latter, at 59 deaths per 100 000 female inhabitants.

By contrast, the lowest death rates for breast cancer among women were recorded in the French overseas regions and the Spanish autonomous cities, as well as Åland (in contrast to the situation for prostate cancer, where this region recorded the highest death rate in the EU). As noted above, the remaining regions with relatively low death rates for breast cancer for women were often spread around the periphery of the EU: several regions on the Iberian Peninsula — including Norte in Portugal and, from south to north, the Región de Murcia, Castilla-La Mancha, the Comunidad de Madrid, La Rioja and the Comunidad Foral de Navarra in Spain; the Canarias also had a low rate; three south-western Polish regions — Podkarpackie, Lubelskie and Świętokrzyskie; three Greek regions — Ipeiros, Notio Aigaio and Ionia Nisia; and single regions from each of Austria (Vorarlberg), Romania (Nord-Est), and the United Kingdom (Inner London).

Diseases of the respiratory system

Respiratory diseases include infectious acute respiratory diseases (such as influenza and pneumonia) and chronic lower respiratory diseases (such as bronchitis and asthma). High death rates from diseases of the respiratory system are linked to a range of factors, including: working conditions (especially for men, as the economies of many of the regions with high rates were or still are based on coal mining, iron and steel and other heavy industries) or differences in public health campaigns (for example, the proportion of elderly persons who are vaccinated against influenza or the proportion of the population who choose to smoke).

In 2011, there were almost 380 thousand deaths in the EU-28 resulting from diseases of the respiratory system, equivalent to 7.8 % of the total. The EU-28's crude death rate for diseases of the respiratory system was 75 deaths per 100 000 inhabitants in 2011. Diseases of the respiratory system mainly affect older people, as almost 90 % of deaths from these diseases occurred among those aged 65 and above, explaining why vaccinations against winter influenza epidemics are considered an important public health initiative.

Diseases of the respiratory system accounted for a relatively high share of deaths in the United Kingdom …

Across the EU Member States, the highest proportion of deaths from diseases of the respiratory system was recorded in the United Kingdom, where these diseases accounted for 13.8 % of all deaths, almost double the EU average. **Map 3.5** shows the distribution of crude death rates from respiratory

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🔍 **SPOTLIGHT ON THE REGIONS: EESTI, ESTONIA**

Estonia had one of the lowest crude death rates from diseases of the respiratory system in the EU, at 31 deaths per 100 000 inhabitants in 2011. Indeed, this was less than half the EU-28 average of 75 deaths per 100 000 inhabitants. There were only three other NUTS level 2 regions in the EU-28 where the crude death rate was lower, namely, the French overseas regions of Guyane and Réunion, and the Finnish capital region of Helsinki-Uusimaa.

Photo: Sean Pavone */ Shutterstock.com*

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diseases across NUTS level 2 regions. Aside from the United Kingdom, where all but three regions — Inner London, Outer London and North Eastern Scotland — recorded death rates of at least 100 per 100 000 inhabitants, the highest rates were concentrated in Denmark, most of Belgium, Portugal, most of Spain and southern regions of Greece. The three regions with the highest crude death rates were all located in the United Kingdom — Lancashire; West Wales and The Valleys; and Northumberland and Tyne and Wear — each of these regions may be characterised as former industrial heartlands.

… whereas crude death rates from diseases of the respiratory system were very low in the Baltic Member States and the regions of Finland

By contrast, some of the lowest crude death rates from diseases of the respiratory system were clustered in the extreme north of the EU, as the three Baltic Member States (single regions at this level of NUTS detail) and all but one of the five regions in Finland (Åland was the exception) recorded death rates that were less than 50 per 100 000 inhabitants (the lightest shade on **Map 3.5**). This was also the case for: eight French regions (the four overseas regions, the Île de France, Alsace, Rhône-Alpes and Corse); seven out of the nine regions in Austria (the exceptions were Niederösterreich and Kärnten); seven Polish regions

Map 3.5: Deaths from diseases of the respiratory system, by NUTS level 2 region, 2011
(crude death rates per 100 000 inhabitants)

(crude death rates per 100 000 inhabitants)

EU-28 = 75

- < 50
- 50 – < 65
- 65 – < 85
- 85 – < 100
- >= 100
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015
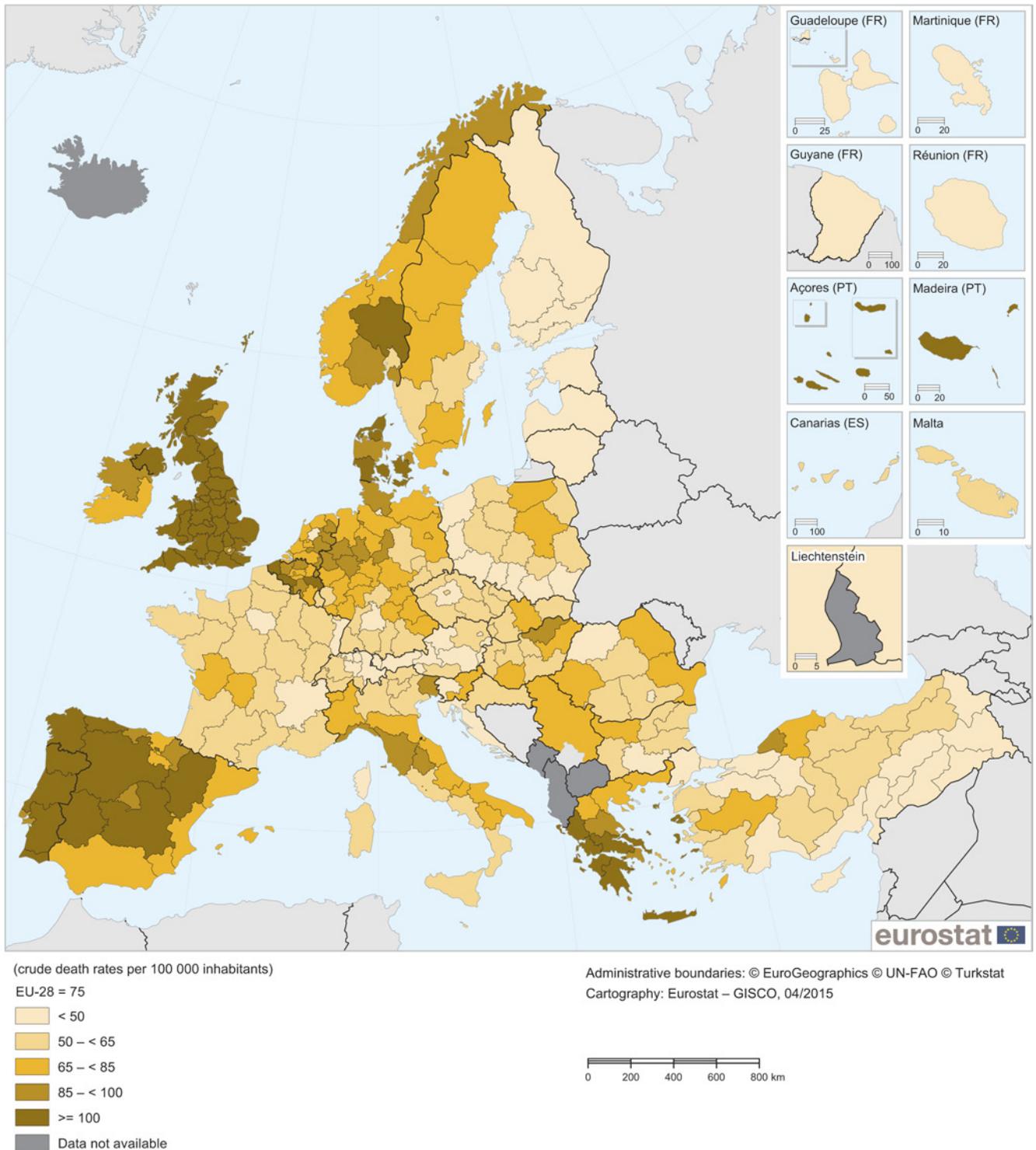
Source: Eurostat (online data code: hlth_cd_acdr2)

(running along the western and southern extremities of the territory); two German regions (Hamburg and Stuttgart); two Romanian regions (including the capital region); the Swedish capital region; and single regions from the Netherlands (Flevoland), the Czech Republic (Střední Čechy), Slovenia (Zahodna Slovenija), Croatia (Jadranska Hrvatska), Bulgaria (Yuzhen tsentralen), and Cyprus (a single region at this level of NUTS detail).

Healthcare resources

Maps 3.6 and **3.7** present non-expenditure healthcare indicators that give an idea of healthcare provision. For many years, the number of hospital beds in use across the EU has decreased: this may be linked to a range of factors, including a reduction in the average length of hospital stays, the introduction of minimally invasive surgery and procedures, and an expansion of day care and outpatient care. These two maps reflect country-specific ways of organising health care and the types of service provided to patients.

Hospital beds

During the last decade the number of hospital beds in the EU-28 continued to decline: available beds fell from 2.93 million in 2004 to an estimated 2.70 million by 2012, a relative decrease of 7.7 %. In 2012, more than two thirds (67.7 %) of all hospital beds in the EU-28 were for curative care, 13.6 % were for psychiatric care, and the remaining 18.7 % were for long-term care and other purposes.

Germany had the highest overall number of hospital beds and the highest ratio of hospital beds per inhabitant

Germany recorded the highest number of hospital beds (670 thousand) in 2012, and also registered the highest number of beds relative to population, with an average of 818 beds per 100 000 inhabitants; Austria, Lithuania and Hungary recorded more than 700 hospital beds per 100 000 inhabitants. By contrast, Sweden, the United Kingdom, Ireland and Spain recorded the lowest number of hospital beds relative to population, with ratios of less than 300 per 100 0000 inhabitants; note that the data for the United Kingdom covers only beds in public hospitals, while the same is true in Ireland except that psychiatric care beds in the private sector are also included.

Map 3.6 shows the high density of available hospital beds in Germany. There was a general pattern of a relatively high density of hospital beds running through a central belt of Europe, extending from France in the west, through Germany, into Austria, the Czech Republic, Hungary, Romania, Poland and Lithuania. Regional data for Germany are only available for NUTS level 1 regions, with the highest density of hospital beds recorded in the north-eastern German region of Mecklenburg-Vorpommern (1 276 beds per 100 000 inhabitants). This was slightly higher than in the neighbouring Polish region of Zachodniopomorskie (1 194 beds) and these were the only two regions in the EU-28 to record ratios above 1 000 beds per 100 000 inhabitants. There were five more regions where the density of hospital beds was above 900 per 100 000 inhabitants, they included: three additional German regions (Thüringen, Saarland and Schleswig-Holstein), the Austrian region of Salzburg, and the Romanian capital region of Bucureşti - Ilfov.

By contrast, the lowest densities of hospital beds — less than 300 per 100 000 inhabitants (as shown by the lightest shade in **Map 3.6**) — were often recorded in some of the more peripheral regions of the EU, notably: Ireland and the United Kingdom (data are only available at the national level); all but one of the regions in Sweden (Övre Norrland was the exception); the Danish region of Midtjylland (data are for 2011); several regions in Spain and Portugal; three regions in southern Italy; as well as the Greek region of Sterea Ellada (data are for 2009), where the lowest density was recorded at 189 hospital beds per 100 000 inhabitants. The number of available beds per head of population in Mecklenburg-Vorpommern (the region with the highest ratio) was 6.75 times as high as in Sterea Ellada.

Healthcare professionals

Physicians provide services directly to patients as consumers of healthcare. In the context of comparing health care services across EU Member States, Eurostat gives preference to the concept of practising physicians, although data are only available for professionally active or licensed physicians in some Member States (see **Map 3.7** for more details).

Map 3.6: Hospital beds, by NUTS level 2 region, 2012 (^{1})
(per 100 000 inhabitants)
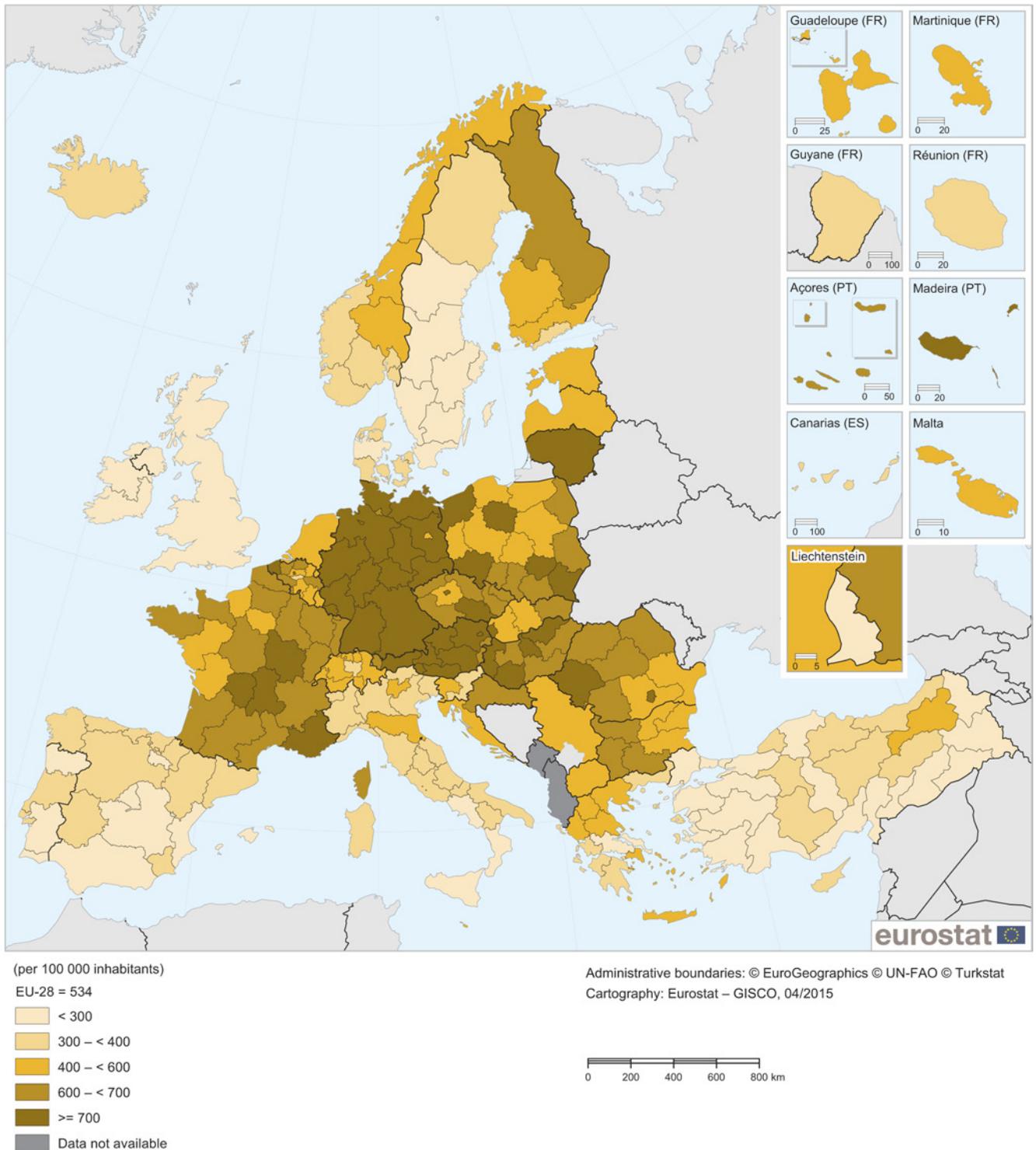
(per 100 000 inhabitants)

EU-28 = 534

- < 300
- 300 – < 400
- 400 – < 600
- 600 – < 700
- >= 700
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

0   200   400   600   800 km

(^{1}) Germany: only available for NUTS level 1 regions. The Netherlands and the United Kingdom: only available at national level. Denmark: 2011. Greece and the Netherlands: 2009.
Source: Eurostat (online data codes: hlth_rs_bdsrg, demo_r_pjanaggr3 and demo_gind)

Germany also recorded the highest number of physicians, although Greece had the highest ratio of physicians per inhabitant

In 2012, there were approximately 1.7 million physicians in the EU-28. The highest overall number was recorded in Germany (319 thousand), followed at some distance by Italy (229 thousand). On the basis of a comparison relative to population size, Greece recorded the highest number of physicians, at 614 per 100 000 inhabitants (2011 data for professionally active physicians), while Austria (490), Lithuania (422) and Portugal (410; physicians licensed to practise) were the only other Member States to record in excess of 400 physicians per 100 000 inhabitants.

There was a particularly high concentration of physicians in capital regions

Map 3.7 highlights those regions (shown in the darkest shade) where the density of practising physicians was at least 400 per 100 000 inhabitants; there were 54 of these. Aside from capital regions, there was a relatively high density of physicians clustered in: north-east Spain; southern France running into northern Italy; southern Germany, Austria and parts of Slovakia; southern Bulgaria and parts of Greece.

A closer analysis reveals that in 18 of the 20 multi-regional EU Member States for which data are available at NUTS level 2 (no regional data for Ireland and the United Kingdom), the capital region had at least 400 physicians per 100 000 inhabitants. The two exceptions were the Île de France and the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (395 and 370 physicians per 100 000 inhabitants respectively), both of which were relatively high values, as only Provence-Alpes-Côte d'Azur (406) recorded a higher density of physicians among French regions (note the French data relates to professionally active physicians), and only the Province Brabant Wallon (481) had a higher ratio among Belgian regions.

The number of physicians per 100 000 inhabitants was particularly high (over 600) in the capital regions of Attiki, Bratislavský kraj, Praha and Wien; note that the Greek and Slovakian data relates to professionally active physicians.

SPOTLIGHT ON THE REGIONS:
BRATISLAVSKÝ KRAJ, SLOVAKIA

The Slovak capital region recorded one of the highest ratios of physicians per 100 000 inhabitants. In 2012, there were 681 professionally active physicians per 100 000 inhabitants in Bratislavský kraj, which was only surpassed in the Greek capital region of Attiki and the Spanish autonomous city of Ceuta.

Photo: Mino Surkala */ Shutterstock.com*

Aside from these four capital regions, there were only three other NUTS level 2 regions that reported upwards of 600 physicians per 100 000 inhabitants and they were: the Spanish regions of the Comunidad Foral de Navarra and the autonomous city of Ceuta, and the Greek island region of Kriti (data are for 2011).

By contrast, the lowest ratios of physicians to population size were observed in Poland, parts of Belgium and the Netherlands (Dutch data are for 2011 and relate to professionally active physicians), as well as southern and eastern regions of Romania (aside from the capital region). There were less than 150 physicians per 100 000 inhabitants in four regions: Flevoland and Zeeland in the Netherlands, Wielkopolskie in Poland, and Sud - Muntenia in Romania.

Map 3.7: Healthcare personnel — number of (practising) physicians, by NUTS level 2 region, 2012 (¹)
(per 100 000 inhabitants)

(per 100 000 inhabitants)

- < 250
- 250 – < 300
- 300 – < 350
- 350 – < 400
- >= 400
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015
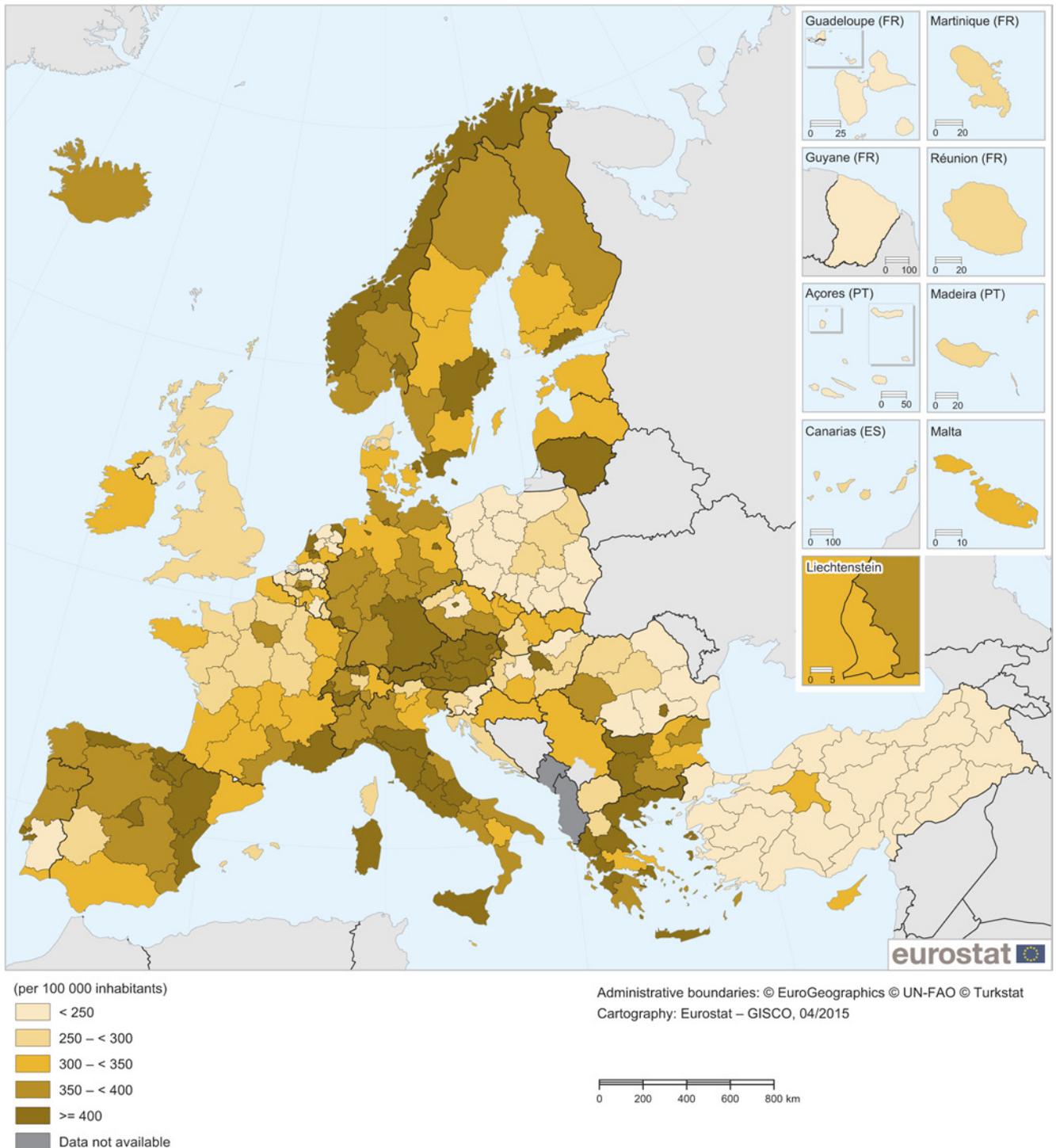
(¹) In the context of comparing health care services across EU Member States, Eurostat gives preference to the concept of practising physicians. Ireland, Greece, France, the Netherlands, Slovakia, Finland, the former Yugoslav Republic of Macedonia, Serbia and Turkey: professionally active physicians. Portugal: physicians licensed to practise. Germany: only available for NUTS level 1 regions. Ireland and the United Kingdom: only available at national level. Greece, the Netherlands (except Limburg) and Sweden: 2011. Limburg (NL42): 2010. Denmark: 2009.

Source: Eurostat (online data codes: hlth_rs_prsrg, demo_r_pjanaggr3 and demo_gind)

Data sources and availability

Causes of death

Up until 2010, the EU Member States provided regional health statistics on the basis of a gentlemen's agreement, in other words, without a legal obligation. Since reference year 2011, these data have been provided under a specific legal basis, Regulation No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work and implementing Regulation No 328/2011 of 5 April 2011 on Community statistics on public health and health and safety at work, as regards statistics on causes of death. At the time of drafting, statistics were only available under this new legal basis for a single reference period, 2011.

Data presented on causes of death are generally available for NUTS level 2 regions. Causes of death statistics are based on two pillars:

- medical information on death certificates, which may be used as a basis for ascertaining the cause of death; and
- the coding of causes of death following the International Statistical Classification of Diseases and Related Health Problems (ICD).

The medical certification of death is an obligation in all EU Member States. The information provided on death certificates is used to code the cause of death: there are 86 diseases (and other causes) that form part of the European shortlist for causes of death (2012), based on the international statistical classification of diseases and related health problems.

The crude death rate describes mortality in relation to the total population (expressed as the number of deaths per 100 000 inhabitants); its calculation is based on annual average population statistics that are available in Eurostat's demography database. Crude death rates can be strongly influenced by population structure, as mortality is generally higher among older age groups; as such, those regions with a relatively old population structure are likely to experience more deaths than regions with younger population structures. Crude death rates can be adjusted to reflect differences in population structures, in the form of standardised death rates. These are expected to be available, at a regional level, once a time series for three consecutive reference periods has been collected; the first such data should therefore cover the period 2011–13.

Healthcare resources

Non-expenditure healthcare data, shown here for hospital beds and the number of physicians, are submitted to Eurostat on the basis of a gentlemen's agreement, without a legal obligation, as there is currently no implementing legislation covering statistics on healthcare resources as specified within Regulation (EC) No 1338/2008.

Data on healthcare resources are mainly based on national administrative sources and therefore reflect country-specific ways of organising health care and may not always be completely comparable; a few countries compile their statistics from surveys.

Statistics on the availability of hospital beds should ideally cover all hospitals, including general hospitals, mental health and substance abuse hospitals, and other specialty hospitals. These statistics provide information on healthcare capacities, in other words, the maximum number of patients who can be treated in hospitals. Hospital beds (occupied or unoccupied) are defined as those which are regularly maintained and staffed and immediately available for the care of patients admitted to hospitals.

Information pertaining to healthcare staff, in the form of human resources available for providing healthcare services, is provided irrespective of the sector of employment (in other words, regardless of whether the personnel are independent, employed by a hospital, or any other healthcare provider). Three main concepts are used: practising physicians provide services directly to patients; professionally active physicians include those who practise, as well as those working in administration and research with their medical education being a pre-requisite for the job they carry out; physicians licensed to practise are those entitled to work as physicians plus, for example, those who are retired. Eurostat collects data for all three concepts, but for an analysis of the availability of healthcare resources gives preference to the concept of practising physicians. In **Map 3.7**, data for Ireland, Greece, France, the Netherlands, Slovakia, Finland, the former Yugoslav Republic of Macedonia, Serbia and Turkey concern professionally active physicians, while the data for Portugal refers to physicians who are licensed to practise.

Within this chapter, non-expenditure healthcare data are generally presented for NUTS level 2 regions, with the exception of Germany (NUTS level 1 regions for both indicators), Ireland (national level for the number of physicians), the Netherlands (national level for hospital beds) and the United Kingdom (national level for both indicators).

Education

4

Introduction

Education and training are crucial for both economic and social progress, and aligning skills with labour market needs plays a key role in this. This is increasingly important in a globalised and knowledge-driven economy, where a skilled workforce is necessary to compete in terms of productivity, quality, and innovation.

Each European Union (EU) Member State is largely responsible for its own education and training systems and its content of teaching programmes (curricula). The EU supports national actions and helps Member States to address common challenges through what is known as the 'open method of coordination': it provides a policy forum for discussing topical issues (for example, ageing societies, skills deficits, or global competition) and allows Member States the opportunity to exchange best practices.

Education and training 2020 (ET 2020)

A strategic framework for European cooperation in education and training (known as ET 2020) formed a set of Council conclusions (2009/C 119/02) adopted in May 2009. It sets out four strategic objectives for education and training in the EU: making lifelong learning and mobility a reality; improving the quality and efficiency of education and training; promoting equality, social cohesion and active citizenship; and enhancing creativity and innovation (including entrepreneurship) at all levels of education and training. To reach these objectives, ET 2020 set a number of benchmarks which are subject to regular statistical monitoring and reporting, including the following targets to be achieved by 2020, namely that:

- at least 95 % of children between the age of four and the age for starting compulsory primary education should participate in early childhood education;
- the share of 15 year-olds with insufficient abilities in reading, mathematics and science should be less than 15 %;
- the share of early leavers from education and training should be less than 10 %;
- the share of 30–34 year-olds with tertiary educational attainment should be at least 40 %;
- an average of at least 15 % of adults aged 25–64 should participate in lifelong learning;
- an average of at least 20 % of higher education graduates should have had a period of higher education-related study or training (including work placements) abroad, representing a minimum of 15 European credit transfer and accumulation system (ECTS) credits or lasting a minimum of three months;
- an average of at least 6 % of 18–34 year-olds with an initial vocational education and training qualification should have had an initial vocational education and training (VET) related study or training period (including work placements) abroad lasting a minimum of two weeks;
- the share of graduates (20–34 year-olds) having left education and training no more than three years before the reference year that are in employment should be at least 82 %.

Main statistical findings

In 2012, figures for the EU-28 indicate that there were approximately 109 million children, pupils and students enrolled across the whole of the education system, from pre-primary education through to postgraduate studies.

Participation of four year-olds in education

Early childhood education plays an essential role in tackling inequalities and raising proficiency in basic competences. Policymakers argue that a higher proportion of young children should be encouraged to attend pre-school education rather than informal, non-professional care. The education and training 2020 (ET 2020) strategic framework has set a headline target, whereby at least 95 % of four year-old children should participate in early childhood education.

In 2013, the proportion of four year-olds who were in early childhood education and primary education across the whole of the EU-28 was 91.8 %. Note that the legal age to start within the education systems of the EU Member States varies considerably: in Luxembourg and Northern Ireland (the United Kingdom), compulsory education starts at age four, while in other EU regions it starts between five and seven years of age. Enrolment in pre-primary education is generally voluntary across most of the EU Member States.

Practically all four year-olds in the majority of French and Dutch regions participated in early childhood education and primary education

The darkest shade in **Map 4.1** shows that participation rates of four year-olds were generally very high (at least 99 %) in most regions of France, many regions in the Netherlands, southern Italy, parts of Belgium (principally in Flanders), and Luxembourg (a single region at this level of analysis). Aside from these clusters of regions, the proportion of four year-olds participating in early childhood education and primary education was at least 99 % in Malta (which is a

single region at this level of detail), the eastern Austrian region of Burgenland, the Spanish region of Extremadura and its neighbouring region of Alentejo in Portugal, as well as the Irish capital region of Southern and Eastern; similar participation rates were also recorded for the NUTS level 1 regions of Rheinland-Pfalz (western Germany) and Wales (the United Kingdom).

Athens had the lowest participation rate for four year-olds in early childhood education and primary education

By contrast, **Map 4.1** shows a very clear east–west split with participation rates much lower in many eastern EU regions. This was particularly true across Croatia and Poland, but was also true in Greece (2012 data) as well as in Liechtenstein, Switzerland, the former Yugoslav Republic of Macedonia and Turkey.

An analysis for NUTS level 2 regions in the EU reveals that the Greek capital region of Attiki had by far the lowest participation rate of four year-olds in early childhood education and primary education, at 30.8 % in 2012. This was more than 20 percentage points below the second and third lowest rates in 2013 which were recorded in the two northerly Polish regions of Warmińsko-Mazurskie and Kujawsko-Pomorskie (53.2 % and 54.6 %). The remaining regions of the EU that were characterised by participation rates for four year-olds that were below 65 % (as shown by the lightest shade in **Map 4.1**) included six additional Polish regions, four additional Greek regions (2012 data), Croatia, the eastern Slovakian region of Východné Slovensko and the Irish region of Border, Midland and Western (2012 data).

It is interesting to note that some capital regions recorded participation rates for four year-olds in early childhood education and primary education that were below their respective national averages; this was most evident in Greece and Portugal, but was also true — to a lesser degree — in Germany, Italy, Hungary, the Netherlands, Austria, Romania, Sweden and the United Kingdom.

Map 4.1: Participation rates of four year-olds in early childhood education and primary education (ISCED levels 0 and 1), by NUTS level 2 region, 2013 (¹)
(% share of all four year-olds)
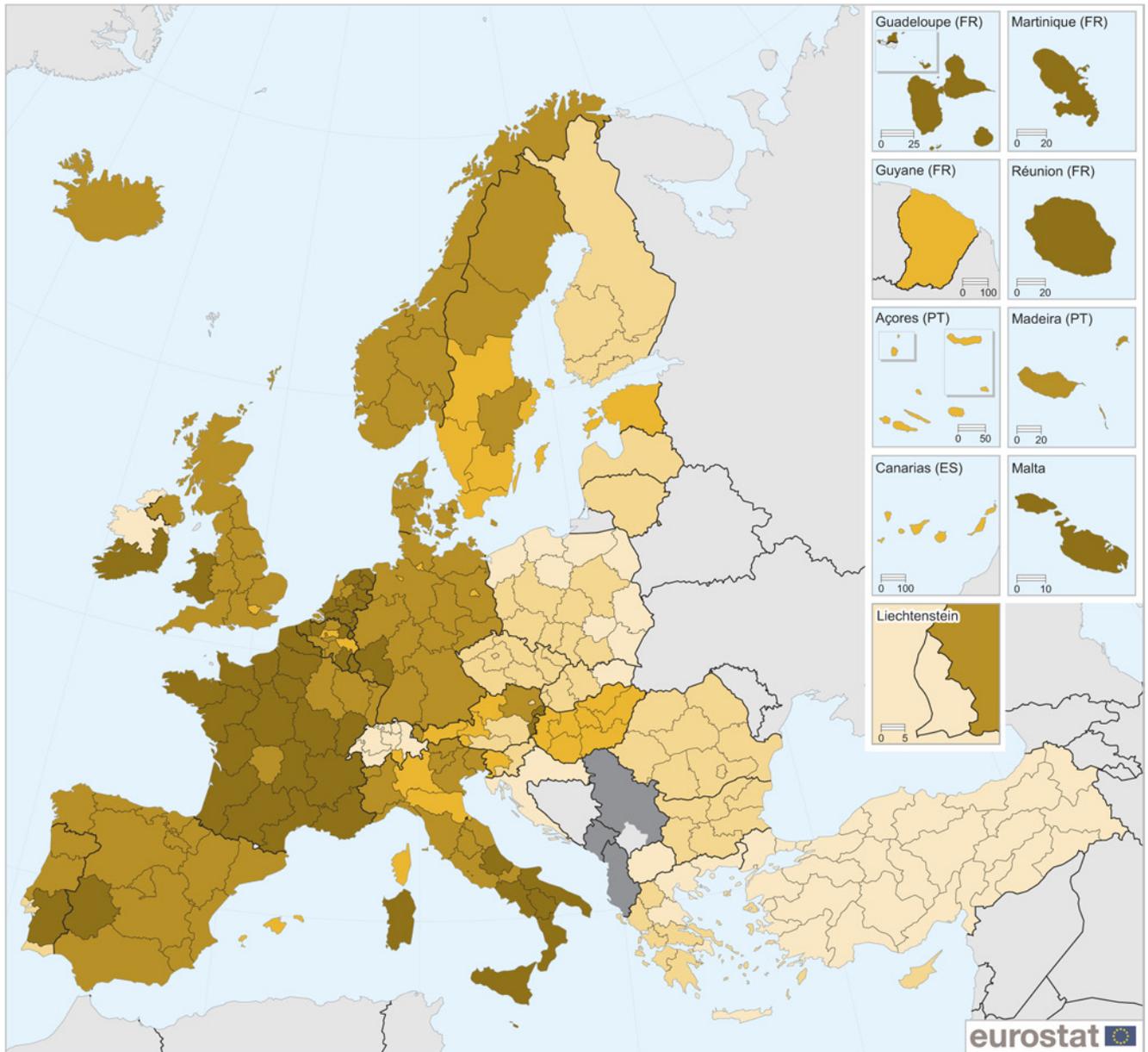
(% share of all four year-olds)

EU-28 = 91.8

- < 65
- 65 – < 90
- 90 – < 95
- 95 – < 99
- >= 99
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

(¹) Germany and the United Kingdom: only available for NUTS level 1 regions. Croatia: only available at national level. Greece and Iceland: 2012.
Source: Eurostat (online data code: educ_uoe_enra14)

ⓘ EUROPE 2020

Education is one of five pillars which are central to the Europe 2020 strategy. Two of the targets used to monitor the EU's progress towards becoming a 'smart, sustainable and inclusive economy' concern education. These benchmarks have been set at an EU level and foresee that:

- the share of early leavers from education and training should be under 10 % by 2020; and
- that at least 40 % of 30–34 year-olds should have completed a tertiary or equivalent education by 2020.

Note that while both of these objectives have been set across the whole of the EU, they do not specifically apply at a national or a regional level. Indeed, each Europe 2020 benchmark has been translated into national (and sometimes regional) targets, which reflect the different situations and circumstances of each EU Member State.

Europe 2020: early leavers from education and training

Young people between the ages of 15 and 17 are often faced with a choice of remaining in education, going into training, or looking for a job. Full-time compulsory education lasts, on average, 9 or 10 years in most of the EU Member States and is generally completed at the end of lower secondary education. The indicator for early leavers from education and training tracks the proportion of individuals aged 18–24 who had finished no more than a lower secondary level of education, and who were not involved in further education or training (during four weeks prior to the survey from which the data are compiled).

The share of early leavers from education and training in the EU-28 is approaching the Europe 2020 target

In 2014, an 11.1 % share of 18–24 year-olds in the EU-28 left education and training early, down 0.8 percentage points from 2013. This continued the downward path observed for this Europe 2020 target, as the share of 18–24 year-olds in the EU-28 with at most a lower secondary level of educational attainment who were no longer in education or training fell for 12 consecutive years from 17.0 % in 2002. If the reduction in the share of early leavers observed for more than a decade continues, then the Europe 2020 headline target of moving below 10 % appears to be within reach. That said, considerable disparities continue to exist both between and within the EU Member States and these are reflected, to some degree, in the national targets — agreed as part of the Europe 2020 strategy — which range from a low of just 4 % in Croatia to a high of 16 % in Italy; there is no target for the United Kingdom.

In the EU, the likelihood of leaving education or training early is generally higher among men (12.7 % in 2014) than it is among women (9.5 %) and is also greater for a number of socioeconomic groups, including: those who were born abroad (20.1 %) or those suffering physical disability (25.1 % in 2011). Chapter 13 provides more information on gender differences for both of the Europe 2020 education targets.

Lowest proportion of early leavers from education and training recorded principally in the east of the EU

Map 4.2 shows that the share of early leavers from education and training varied considerably across NUTS level 2 regions in 2014, with the lowest shares concentrated in a band of principally eastern EU regions stretching from Poland down through the Czech Republic and Slovakia, into south-eastern Austria, Slovenia and Croatia. By contrast, the highest proportions of early leavers from education and training were often recorded in the southern EU regions (Spain, the Italian islands, Malta), as well as in selected regions of Bulgaria and Romania.

> ### 🔍 SPOTLIGHT ON THE REGIONS:
> ### JADRANSKA HRVATSKA, CROATIA
>
> Within the EU-28, the proportion of early leavers from education and training stood at 11.1 % in 2014. The share of those aged 18–24 years having attained at most a lower secondary education and not being involved in further education or training fell to 2.2 % along the Adriatic coast in the Croatian region of Jadranska Hrvatska; this was the lowest ratio in the EU.
>
> *Photo:* Phant */ Shutterstock.com*

Urban regions often recorded relatively low shares of early leavers from education and training

In 2014, the lowest proportions of early leavers were recorded in the Croatian region of Jadranska Hrvatska (2.2 %) and the Czech capital region of Praha (2.5 %). The share of early leavers was less than 5 % (as shown by the darkest shade in **Map 4.2**) in six capital regions: those of Croatia, the Czech Republic, Poland, Slovakia (2013 data), Slovenia and the United Kingdom. Aside from these, the proportion of 18–24 year-olds who had finished no more than a lower secondary level of education and who were not involved in further education or training was also less than 5 % in six additional

Polish regions, three more regions from the Czech Republic, one more region from Slovakia, and the remaining single regions of Croatia and Slovenia, as well as in Steiermark (Austria) and Bretagne (France).

The lowest shares of early leavers were often recorded in urban areas: this is perhaps unsurprising considering that higher education and training facilities are more likely to be established in capital cities and other urban areas where the number of potential students is higher. This pattern was particularly evident in the Romanian and United Kingdom capital regions of Bucureşti - Ilfov and Inner London, although it was not reflected in all of the EU Member States as the proportion of early leavers was relatively high (compared with the national average) in the Belgian and German capitals of the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest and Berlin.

Conversely, the share of early leavers is often relatively high in peripheral and remote areas, where students may be forced to leave home if they wish to follow a particular specialisation, while those who remain in the same region may be presented with relatively few opportunities for higher education (see below for more details).

The proportion of early leavers in 2014 was less than the Europe 2020 target of 10 % in 138 of the 261 regions for which data are available (see **Map 4.2** for coverage). Aside from those regions already mentioned above, there was a relatively low share of 18–24 year-olds leaving education and training early in most of the (remaining) regions in Belgium, the Czech Republic, Denmark, Germany, Ireland, France, Cyprus (a single region at this level of detail), the Netherlands, Austria, Poland, Slovakia and Sweden.

Considerable variations in the proportion of early leavers from education and training between the regions of Germany, Greece, Spain and the United Kingdom

There was a relatively high degree of disparity between the regional shares of early leavers in Germany, Greece, Spain and the United Kingdom. In Germany, the lowest rate was recorded in Tübingen (5.4 %), while the share of early leavers was 2.6 times as high in Bremen (14.0 %). In Greece, the lowest rate was recorded in Thessalia (5.9 %) and the highest in Anatoliki Makedonia, Thraki (19.7 %). A similar pattern was observed in Spain between a low of 9.4 % in the País Vasco and a high of 32.1 % in the Illes Balears, while the ratio between the lowest and the highest rates was even greater in the United Kingdom. Early leavers accounted for 4.7 % of 18–24 year-olds in Inner London, while their share rose more than four times as high in the south-western region of Cornwall and (the) Isles of Scilly (20.3 %).

Peripheral and island regions often recorded the highest proportion of early leavers from education and training

The highest proportions of 18–24 year-olds who, in 2014, were classified as early leavers from education and training were recorded in the autonomous cities and the islands of Spain and Portugal; there is no data available for the French overseas regions or for the island region of Corse. As noted above, these outlying regions may be characterised, at least in part, as not offering a wide selection of further education and training opportunities, which may result in students having to relocate in order to follow their chosen vocation.

Almost half of the NUTS level 2 regions where at least one fifth of the population aged 18–24 years-old were classified as early leavers from education and training were located in Spain (10 regions). The remainder were located across southern regions of the EU in Portugal (three regions), the two Italian island regions of Sardegna and Sicilia, and Malta, as well as in Romania (three regions), Bulgaria (one region) and the United Kingdom (Cornwall and (the) Isles of Scilly). In 2014, almost one third of the population aged 18–24 years-old in the Illes Balears and the Região Autónoma dos Açores was an early leaver from education and training.

The proportion of early leavers from education and training in the EU-28 fell between 2008 and 2014

Map 4.3 shows the change in the proportion of persons aged 18–24 who were early leavers from education and training; the comparison is generally based on the changing situation between the onset of the financial and economic crisis and the latest information available. During this period (2008–14), there was a rapid increase in youth unemployment and, given a lack of employment opportunities, this may have resulted in some young persons deciding to remain within education and training.

The proportion of early leavers from education and training in the EU-28 fell by 3.5 percentage points during the period 2008–14. This downward pattern for the EU-28 as a whole was reproduced in slightly more than four fifths (82.8 %) of the 256 regions for which data are available (see **Map 4.3** for coverage).

Although regional patterns are mixed and diverse, the biggest reductions in the proportion of 18–24 year-olds who were early leavers from education and training between 2008 and 2014 were often recorded in those regions with some of the highest shares of early leavers from education and training. This was particularly true across Portugal and Spain; and was also the case in Turkey.

By NUTS level 2 region, the largest declines in the share of early leavers from education and training were recorded in the autonomous islands and the Norte region of Portugal, where shares were reduced by more than 20 percentage points. Three other Portuguese regions (Centro, the Algarve and Lisboa), as well as the Spanish regions of Murcia, Castilla-La Mancha, La Rioja and the Ciudad Autónoma de Melilla recorded reductions of at least 15 percentage points. The proportion of early leavers fell by at least 10 % in a number of other Portuguese and Spanish regions, as well as two Greek regions (Ionia Nisia and Voreio Aigaio) and two regions from the United Kingdom (Leicestershire, Rutland and Northamptonshire; Essex). All of the regions referred to above are shown in a dark green shade in **Map 4.3**).

There were only three regions in the EU where the share of early leavers from education and training rose by more than 5 percentage points between 2008 and 2014

Those regions where the proportion of early leavers from education and training rose between 2008 and 2014 were often characterised as having a relatively low share of early leavers from education and training. Furthermore, the increases that were observed were often relatively modest in nature. There were only three regions in the EU where the share of early leavers rose by 5 percentage points or more, they were: the Romanian regions of Nord-Vest and Sud-Est and the Bulgarian region of Severozapaden. The other regions identified by the darkest red shade in **Map 4.3** — where the share of early leavers from education and training increased by at least 2.5 percentage points — included two more regions from Romania (Centru and Nord-Est), and single regions from Hungary (Észak-Magyarország) and Poland (Warmińsko-Mazurskie).

Map 4.2: Early leavers from education and training, by NUTS level 2 region, 2014 (¹)
(% share of 18–24 year-olds)

(% share of 18–24 year-olds)

EU-28 = 11.1
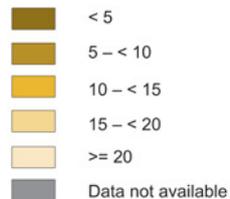
- < 5
- 5 – < 10
- 10 – < 15
- 15 – < 20
- >= 20
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat

Cartography: Eurostat — GISCO, 05/2015

(¹) Proportion of those aged 18–24 years having attained at most a lower secondary education and not being involved in further education or training. Oberpfalz (DE23), Dytiki Makedonia (EL13), Ipeiros (EL21), Valle d'Aosta/Vallée d'Aoste (ITC2) and Bratislavský kraj (SK01): 2013. Trier (DEB2), Kärnten (AT21), Vorarlberg (AT34), Świętokrzyskie (PL33) and Cornwall and Isles of Scilly (UKK3): 2012. Data for several regions have low reliability (too numerous to document).
Source: Eurostat (online data code: edat_lfse_16)

Map 4.3: Change in proportion of early leavers from education and training, by NUTS level 2 region, 2008–14 (^{1})
(percentage points difference between 2014 and 2008)
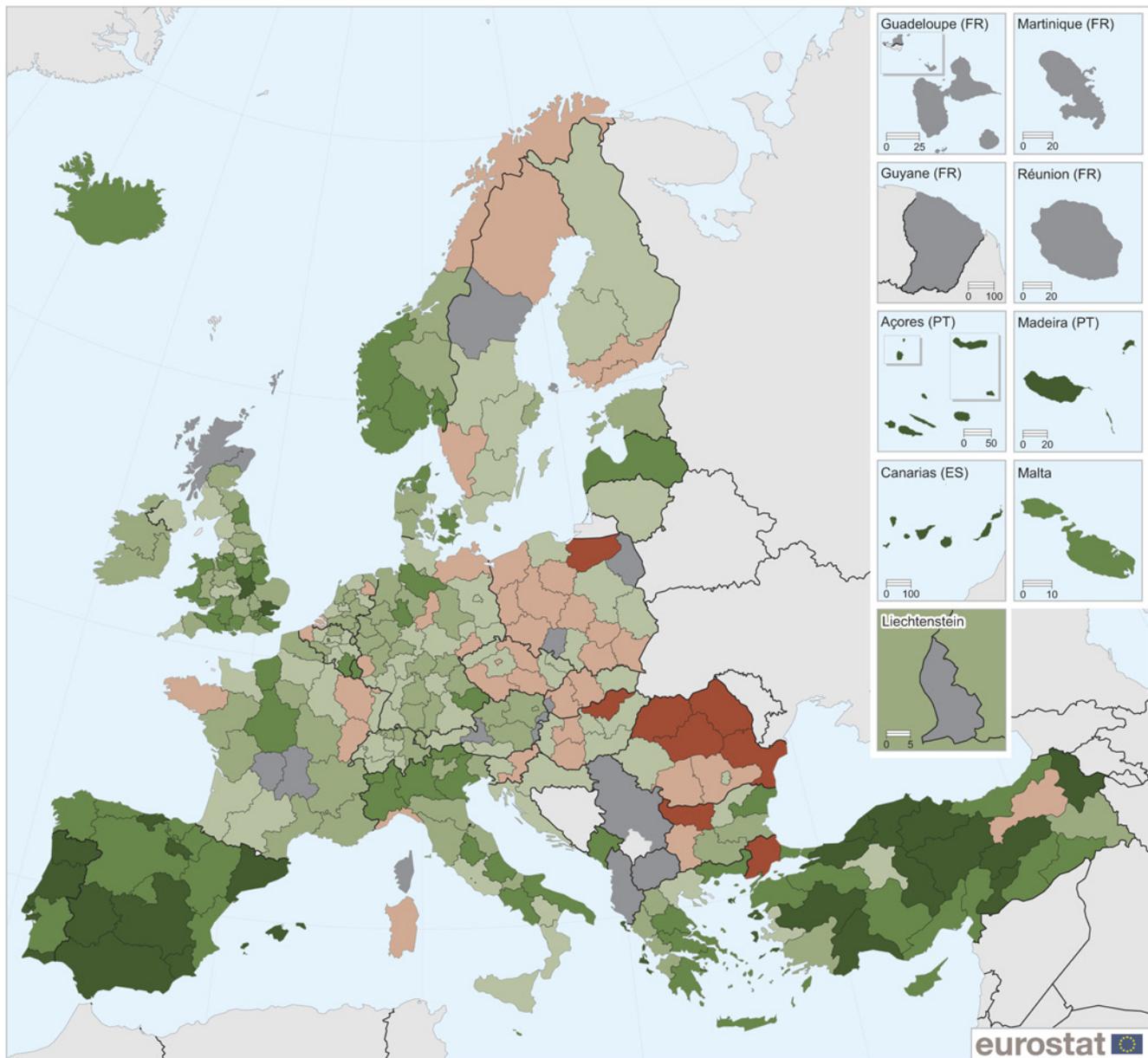
(percentage points difference between 2014 and 2008)

EU-28 = -3.5

- < -10
- -10 – < -5
- -5 – < -2.5
- -2.5 – < 0
- 0 – < 2.5
- >= 2.5
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat

Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km

(^{1}) Proportion of those aged 18–24 years having attained at most a lower secondary education and not being involved in further education or training. Oberpfalz (DE23), Dytiki Makedonia (EL13), Ipeiros (EL21) and Valle d'Aosta/Vallée d'Aoste (ITC2): 2008–13. Trier (DEB2), Kärnten (AT21), Vorarlberg (AT34), Świętokrzyskie (PL33) and Cornwall and Isles of Scilly (UKK3): 2008–12. Breaks in series. Data for several regions have low reliability (too numerous to document).
Source: Eurostat (online data code: edat_lfse_16)

Students in vocational upper secondary education

Vocational education and training (VET) is considered key to lowering youth unemployment rates and facilitating the transition of young people from education into the labour market. Policymakers across the EU have been looking for ways to increase the attractiveness of vocational programmes and apprenticeships, so these may offer an alternative route to general upper secondary and higher education qualifications and better match the skills needs of employers.

About half (48.9 %) of upper secondary (ISCED level 3; for more information on this classification, refer to the Data sources and availability section below) students across the EU-28 followed a vocational education programme in 2013, the remainder followed general programmes. Map 4.4 shows that the share of students following vocational education programmes varied considerably across the EU Member States, with a particularly high specialisation in vocational education in a cluster of regions covering the Czech Republic, Slovakia, Austria, Slovenia, Croatia and northern Italy, as well as Switzerland; there were also high shares in Finland and the Netherlands. Some of these differences may be attributed to perceptions concerning vocational education and training: for example, in countries such as the Czech Republic, Germany and Austria, vocational education and training is generally considered as an attractive proposition that facilitates an individual's transition into the labour market, whereas in other EU Member States its role is less developed, in part due to less positive societal perceptions.

Vocational education accounted for more than three quarters of upper secondary students in three Czech regions and one Austrian region

Looking in more detail by NUTS level 2 region, there were three regions in the Czech Republic where more than three quarters of upper secondary students followed a vocational education programme in 2013, they were Severozápad, Jihozápad and Severovýchod; this was also the case in the Austrian region of Oberösterreich. By contrast, the lowest shares of vocational education among those attending upper secondary schooling were recorded in both of the Irish NUTS level 2 regions and in Scotland (data are only available for NUTS level 1 regions in the United Kingdom), as fewer than 1 in 10 students were covered by vocational programmes. There were three regions where the share of students following vocational programmes was situated within the range of 10–20 %, they were: the island regions of Malta and Cyprus (both single regions at this level of detail) and the capital region of Hungary (Közép-Magyarország). Otherwise, the share of students following vocational education programmes was also lower than 35 % (as shown by the lightest shade in **Map 4.4**) in seven regions from each of Greece and Spain, the six remaining Hungarian regions (in stark contrast to the regions surrounding Hungary), as well as Wales (a NUTS level 1 region in the United Kingdom), Estonia and Lithuania (both single regions at this level of analysis).

Europe 2020: tertiary educational attainment

Tertiary education is the level of education offered by universities, vocational universities, institutes of technology and other institutions that award academic degrees or higher professional certificates. Low levels of tertiary educational attainment can hinder competitiveness and undermine the EU's potential to generate 'smart growth'. It is likely that a growing number of jobs in the future will require a tertiary level of education and as a result EU Member States face four main challenges: broadening access to higher education by increasing participation (especially among disadvantaged groups); reducing the number of students who leave tertiary education without a qualification; reducing the time it takes some individuals to complete their degree; improving the quality of higher education by making degree courses more relevant for the world of work.

As already noted, the Europe 2020 strategy has a key target on tertiary educational attainment — in other words, the share of the population possessing a university degree or similar qualification — which foresees that at least 40 % of 30–34 year-olds should have completed a tertiary or equivalent education by 2020.

Tertiary educational attainment in the EU-28 rose steadily from 23.6 % in 2002 (the start of the series for the EU-28), with gains being made each and every year. In 2014, some 37.9 % of the population aged 30–34 years had attained a tertiary level of education, which was 0.8 percentage points higher than in 2013. If the proportion of 30–34 year-olds with tertiary educational attainment continues to increase in line with the progress made in recent years, then the Europe 2020 headline target of 40 % is likely to be attained.

Map 4.4: Students following vocational programmes, by NUTS level 2 region, 2013 (¹)
(% share of all students in ISCED level 3)
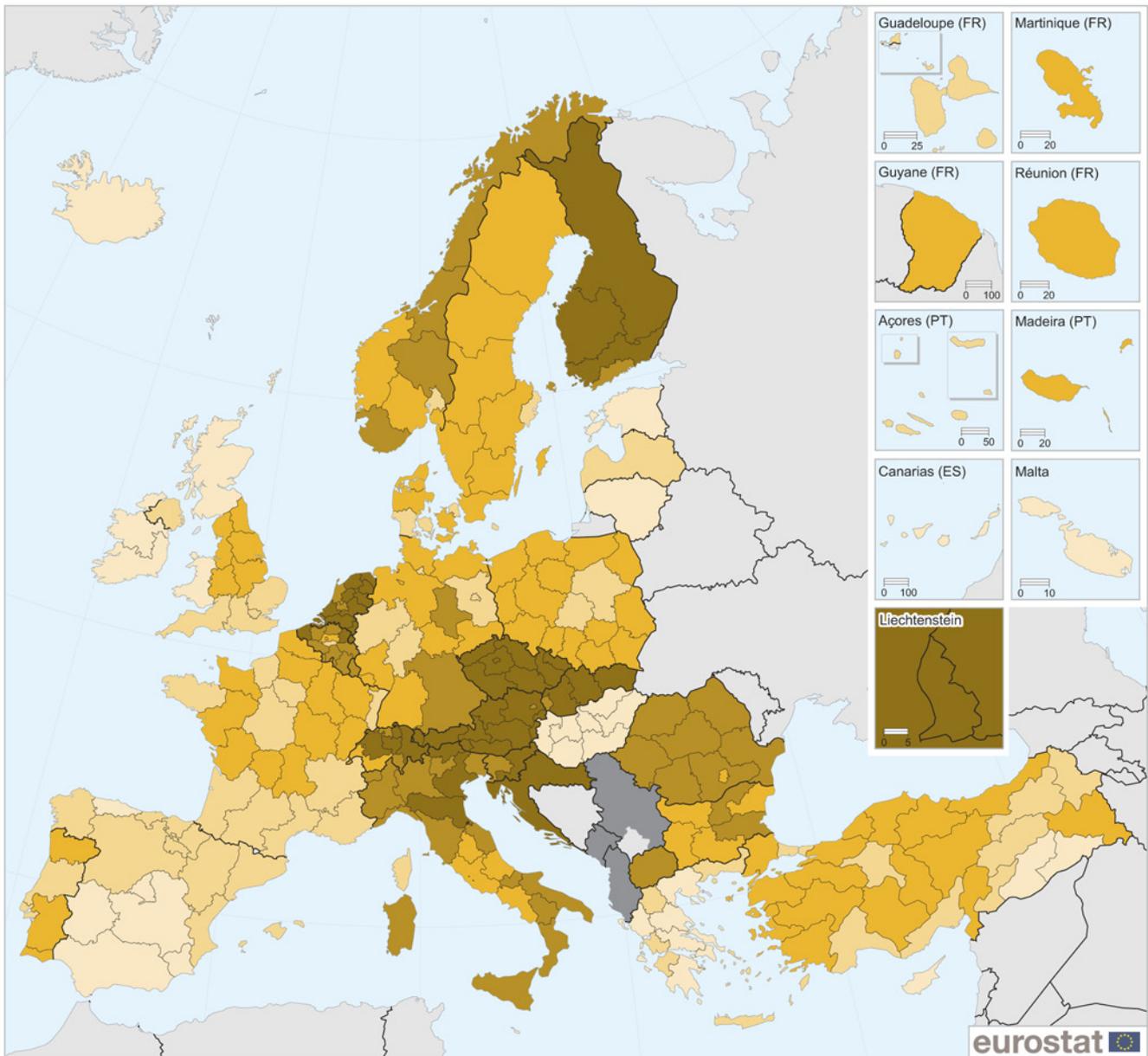
(% share of all students in ISCED level 3)

EU-28 = 48.9

- < 35
- 35 – < 45
- 45 – < 55
- 55 – < 65
- >= 65
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

(¹) Germany and the United Kingdom: only available for NUTS level 1 regions. Croatia: only available at national level. Greece and Iceland: 2012.
Source: Eurostat (online data code: educ_uoe_enra13)

Approximately one third (33.6 %) of men aged 30–34 in the EU-28 in 2014 had attained a tertiary level of education; this was considerably lower than the share for women of the same age, which stood at 42.3 %. Furthermore, the share of men aged 30–34 with tertiary educational attainment rose at a slower pace than the corresponding increases for women and as such, the disparity between the sexes widened; Chapter 13 provides more information on gender differences for this Europe 2020 target. As well as being lower among men, the share of 30–34 year-olds with tertiary educational attainment was also lower among other disadvantaged groups, such as those persons living in rural areas (26.9 %) or those who were born outside the EU (33.0 %).

Employment opportunities may be one of several 'pull effects' that result in a high proportion of highly-qualified young people moving to capital regions

Given that most persons aged 30–34 will have completed their tertiary education prior to the age of 30, this indicator may be used to assess the attractiveness (or pull effect) of regions with respect to the employment opportunities they offer graduates. Capital cities are often chosen by large organisations as the location for their headquarters, either as a matter of prestige or to benefit from the economies of scale which may be present in some of the EU's largest cities. Given a high number and a wide range of graduate jobs are generally on offer in capital cities, it is therefore not surprising that many of the EU's capital regions reported a high proportion of their population aged 30–34 years-old having attained a tertiary

level of education. Indeed, this is one pattern that emerges in Map 4.5 which shows tertiary educational attainment by NUTS level 2 region. Aside from capital regions, the share of those aged 30–34 with tertiary educational attainment was also relatively high in a number of regions associated with research and / or technology (for example, the Provincie Vlaams-Brabant and Province Brabant Wallon in Belgium, the Midi-Pyrénées and Rhône-Alpes regions of France, or Berkshire, Buckinghamshire and Oxfordshire and North Eastern Scotland in the United Kingdom).

More than two thirds of those aged 30–34 living in Inner London had attained a tertiary level of education

The darkest shade in **Map 4.5** highlights those NUTS level 2 regions in the EU where at least half of the population aged 30–34 in 2014 had attained a tertiary level of education. There were a number of capital regions where at least half of the population aged 30–34 possessed a tertiary level of education, they included: Hovedstaden (Denmark), Southern and Eastern (Ireland), Île de France (France), Noord-Holland (the Netherlands), Wien (Austria), Mazowieckie (Poland), Bratislavský kraj (Slovakia), Helsinki-Uusimaa (Finland) and Stockholm (Sweden). However, by far the highest share was recorded in the capital of the United Kingdom, as 67.3 % of those living in the largest city in the EU — Inner London — had a tertiary level of educational attainment.

Those with tertiary educational attainment were also attracted to live in research-intensive regions

The second and third highest shares of tertiary educational attainment across NUTS level 2 regions were recorded in North Eastern Scotland (the United Kingdom) and the Midi-Pyrénées (France); both of these regions had shares that were just above 60 %. Both are also examples of regions characterised as being research-intensive, where enterprises from related economic activities group together in order to feed off the synergies and proximity of clients and competitors alike, reinforcing specialisations and drawing highly-qualified staff to a region. In these two examples, the two biggest 'pull factors' are the North Sea oil industry off the coast of Scotland and the aerospace industry that is centred on Toulouse. Other research-intensive activities which 'pull' qualified staff include biotechnology, medical research, information and communication technologies, or transport equipment manufacturing. More information on regional research and developments (R & D) statistics is provided in Chapter 8.

The share of tertiary educational attainment fell to below 20 % (as shown by the lightest shade in **Map 4.5**) in eastern and southern regions of the EU. These eight regions were characterised by their traditional reliance on primary activities, heavy industries (for example, agriculture, mining, or iron and steel) or agriculture within their economic fabric. Four of the eight regions were spread across the south of Italy (Basilicata, Campania, Sardegna

and Sicilia), three were from the east of Romania (Nord-Est, Sud-Est and Sud - Muntenia), and the final region was in the north-west of the Czech Republic (Severozápad); more than half (17) of the regions in Turkey also reported that fewer than one in five persons aged 30–34 had a tertiary educational attainment.

Most of the remaining regions in the east of the EU (Poland, Slovenia and Croatia aside) recorded relatively low shares of tertiary educational attainment — less than 30 % — while this pattern was also apparent in several regions across Italy and Germany (which may, at least in part, be attributed to a particular emphasis placed on vocational education, whereby many jobs do not require a degree, per se, but rather a professional qualification).

The proportion of 30–34 year-olds with a tertiary level of education rose considerably between 2008 and 2014

Across the whole of the EU-28, the proportion of 30–34 year-olds with a tertiary level of education rose by 6.7 percentage points between 2008 and 2014 to reach 37.9 %. Finland was the only EU Member State to report that its share of tertiary educational attainment fell over the period under consideration, with a marginal reduction of 0.4 percentage points to 45.3 % (which was still above the national target of 42).

The largest gains in tertiary educational attainment between 2008 and 2014, among the EU Member States, was recorded in Austria (note that this is, at least in part, due to a break in series), while double-digit gains were also recorded in the Baltic Member States, Greece, Luxembourg and all of the eastern Member States except for Bulgaria and Romania.

Map 4.6 presents information on the change in tertiary educational attainment among those aged 30–34, based upon an analysis for NUTS level 2 regions (the darkest green shade shows those regions which experienced the largest increases between 2008 and 2014). There were four regions

where the proportion of 30–34 year-olds with a tertiary level of education rose by more than 20 percentage points between 2008 and 2014; three of these were in Austria (note again the break in series, which results from methodological changes in the ISCED classification), while the largest increase was recorded in the Slovakian capital region of Bratislavský kraj (up 24.5 points).

More than four fifths of the regions in the EU reported that the share of their population aged 30–34 with a tertiary level of education increased between 2008 and 2014

The overwhelming majority of regions in the EU-28 followed a similar pattern, as the proportion of the population aged 30–34 with a tertiary level of education rose in 222 out of the 263 NUTS level 2 regions between 2008 and 2014 (see Map 4.6 for coverage). By contrast, the share of the resident population aged 30–34 having attained a tertiary level education declined in 41 regions (while there was no change in the German region of Detmold in North Rhine-Westphalia). This reduction in the proportion of young tertiary graduates may reflect: people moving to another region in search of work; young people not returning to their region of origin after graduation (instead choosing to establish themselves in another region); or lower graduation rates.

Aside from the Spanish autonomous city of Ceuta, the decline in tertiary educational attainment was greatest in the northern Bulgarian region of Severen tsentralen, two eastern German regions of Dresden and Chemnitz, the French regions of Basse-Normandie and Languedoc-Roussillon, Etelä-Suomi in Finland and North Yorkshire in the United Kingdom; these were the only regions in the EU where the proportion of those aged 30–34 with a tertiary level of education fell by more than 5 percentage points between 2008 and 2014 (as shown by the darkest red shade in **Map 4.6**).

Data sources and availability

Education statistics provide information on participation in education, its financing and teaching staff, as well as on educational attainment of graduates. This domain also provides information on the transition from education to work, vocational training, lifelong learning and knowledge of languages.

Main sources

UNESCO/ OECD / Eurostat (UOE) statistics

Many European education statistics are collected as part of a jointly administered exercise that involves the UNESCO Institute for Statistics (UNESCO-UIS), the Organisation for Economic Cooperation and Development (OECD) and Eurostat; this is often referred to as the UOE data collection

exercise. Data on regional enrolments and foreign language learning are collected separately by Eurostat.

The UOE data collection is principally based on administrative sources provided by education ministries or national statistical authorities on the basis of commonly agreed definitions. The statistical unit for regional education statistics is the student. Reference periods are the calendar year for data on graduates and the school / academic year for all other non-monetary data (for example, data for the period 2013 covers the academic year of 2012 / 13).

As the structure of education systems varies from one country to another, a framework for assembling, compiling and presenting regional, national and international education statistics and indicators is a prerequisite for the comparability of data. This is provided by the international standard classification of education (ISCED).

Map 4.5: Persons aged 30–34 with tertiary education (ISCED levels 5–8) attainment, by NUTS level 2 region, 2014 (^{1})
(% of 30–34 year-olds)
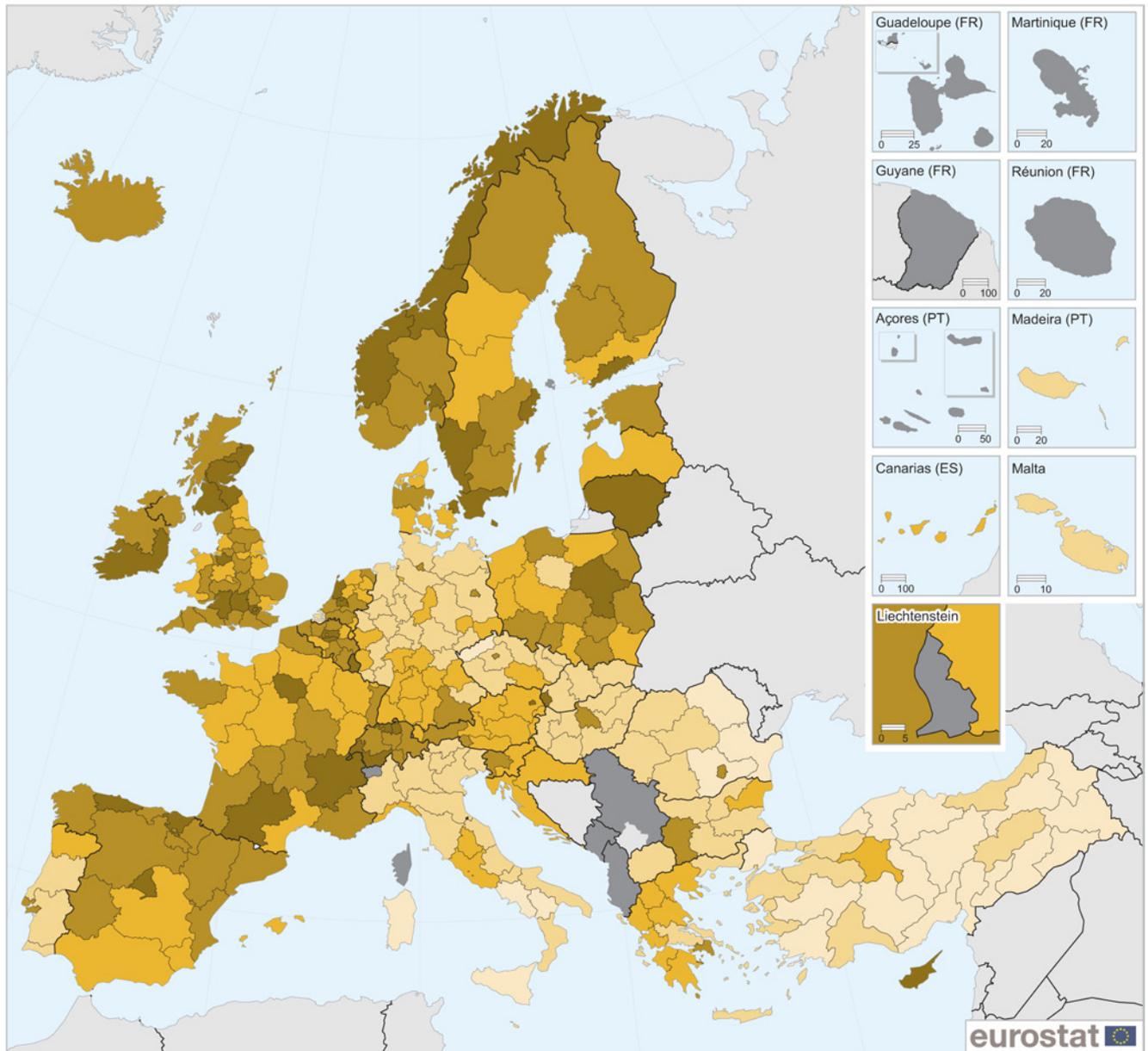
(% of 30–34 year-olds)
EU-28 = 37.9

- < 20
- 20 – < 30
- 30 – < 40
- 40 – < 50
- >= 50

- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(^{1}) Região Autónoma da Madeira (PT30): 2013. Hovedstaden (DK01), Ionia Nisia (EL22), Ciudad Autónoma de Ceuta (ES63), Ciudad Autónoma de Melilla (ES64), Burgenland (AT11) and Highlands and Islands (UKM6): low reliability.
Source: Eurostat (online data code: edat_lfse_12)

Map 4.6: Change in proportion of persons aged 30–34 with tertiary education (ISCED levels 5–8) attainment, by NUTS level 2 region, 2008–14
(percentage points difference between 2014 and 2008)
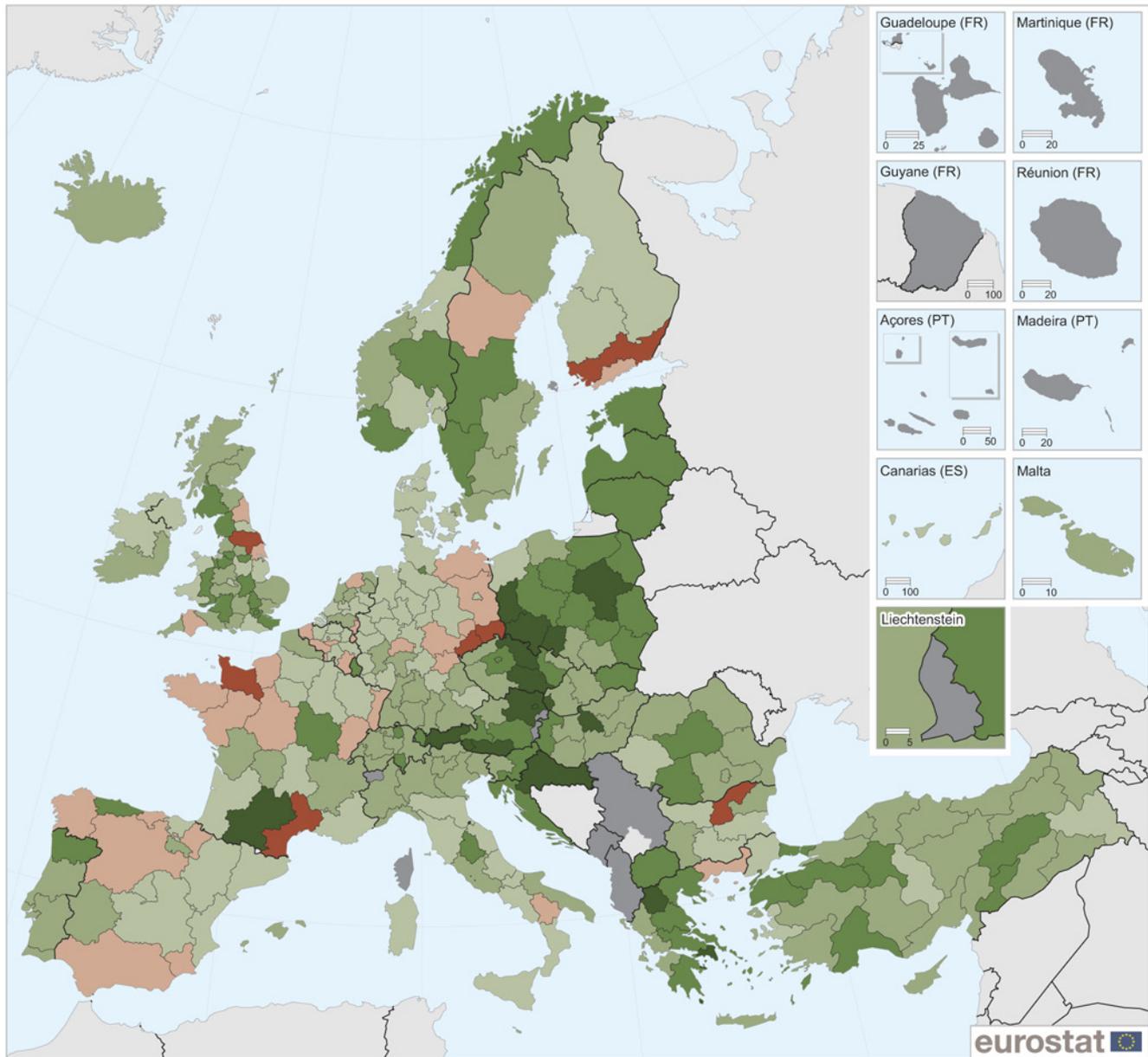
Guadeloupe (FR)

Martinique (FR)

Guyane (FR)

Réunion (FR)

Açores (PT)

Madeira (PT)

Canarias (ES)

Malta

Liechtenstein

(percentage points difference between 2014 and 2008)

EU-28 = 6.7

- < -5
- -5 – < 0
- 0 – < 5
- 5 – < 10
- 10 – < 15
- >= 15
- Data not available
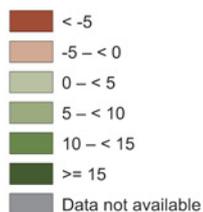
Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
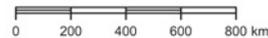
(¹) Breaks in series. Hovedstaden (DK01), Ionia Nisia (EL22), Ciudad Autónoma de Ceuta (ES63), Ciudad Autónoma de Melilla (ES64), Burgenland (AT11) and Highlands and Islands (UKM6): low reliability.

Source: Eurostat (online data code: edat_lfse_12)

> ### ⓘ THE INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION (ISCED)
>
> The ISCED framework is occasionally updated in order to capture new developments in education systems worldwide. ISCED 2011 was adopted by the UNESCO General Conference in November 2011 and is the basis for the statistics presented in this chapter, although data for reference years prior to 2014 was collected using the previous version, ISCED-97.
>
> In the 2011 version of this classification new categories have been added in recognition of the expansion of early childhood education and the restructuring of tertiary education.
>
> ISCED classifies all educational programmes and qualifications by level:
>
> - Early childhood education / less than primary education (level 0);
> - Primary education (level 1);
> - Lower secondary education (level 2);
> - Upper secondary education (level 3);
> - Post-secondary non-tertiary education (level 4);
> - Short-cycle tertiary education (level 5);
> - Bachelor's or equivalent level (level 6);
> - Master's or equivalent level (level 7);
> - Doctoral or equivalent level (level 8).
>
> A full description is available on the UNESCO-UIS website.

Labour force survey

Data on early leavers from education and training and on tertiary educational attainment presented in this chapter are derived from the EU's labour force survey (LFS).

The LFS is based on a survey of individuals living in private households. It covers the total population usually residing in the EU Member States, except for persons living in collective or institutional households. Educational data from the LFS are updated twice a year in the spring (including data for a new reference year) and in the autumn.

Note that up to and including reference year 2013 these data are classified according to ISCED-97, while data from 2014 onwards are classified according to ISCED 2011. The indicator for early leavers from education and training therefore has a break in series as it refers to ISCED-97 levels 0–3C short through to 2013 and ISCED 2011 levels 0–2 for reference year 2014. In a similar vein, the indicator for tertiary educational attainment has a break in series as it refers to ISCED-97 levels 5–6 through to 2013 and ISCED 2011 levels 5–8 for reference year 2014.

Indicator definitions

Statistics on the proportion of four year-olds who are enrolled in early childhood and primary education (ISCED 2011 levels 0–1) cover those institutions which provide education-oriented care to young children; these must have staff with specialised qualifications in education. Note that this ratio is calculated on the basis of data from two distinct sources (education and demography statistics) and that some pupils enrolled in educational institutions might not

be registered as residents in the demographic data (thereby ratios may potentially rise to in excess of 100 %).

Early leavers from education and training is an indicator defined as the proportion of individuals aged 18–24 who have at most a lower secondary education (ISCED-97 levels 0, 1, 2 or 3c short for the period up to and including 2013 and ISCED 2011 levels 0–2 for 2014), and who were not engaged in further education and training (during the four weeks preceding the survey). This indicator is a Europe 2020 target, namely, to reduce the proportion of early leavers in the EU to below 10 %.

Vocational education is designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation or trade. Vocational education may have work-based components (for example, apprenticeships or dual-system education programmes). The indicator presented in this chapter shows the proportion of students following vocational programmes among the total number of students enrolled in upper secondary level of education (as defined by ISCED 2011 level 3).

The tertiary educational attainment indicator is defined as the percentage of the population aged 30–34 who have successfully completed tertiary studies (for example, at a university or higher technical institution). The age range of 30–34 year-olds is used as this generally refers to the first five-year age span where the vast majority of students have already completed their studies. Tertiary education refers to ISCED 1997 levels 5–6 for data up to 2013 and to ISCED 2011 levels 5–8 for 2014. This indicator is a Europe 2020 target, namely, to ensure that, by 2020, at least 40 % of 30–34 year-olds have completed a tertiary level of education.

Labour market

5

Introduction

Generating employment and providing jobs is generally considered a key factor in combating social exclusion and the most effective way of giving people their independence, financial security and a sense of belonging. The European Union (EU) seeks to promote the integration of all people within society, in particular those on the margins. Nevertheless, labour markets continue to be subject to discrimination as various groups are under-represented or excluded.

The financial and economic crisis had a considerable impact on the EU's labour markets and unemployment rates remain in 2014 persistently over 10 % in many regions. Even in those regions characterised by lower unemployment rates, some job vacancies remain unfilled: this may, at least in part, be due to unemployed applicants lacking the required skills or experience for certain posts, or could reflect a lack of mobility, with job vacancies being available in one region, while the unemployed look for work in another.

Europe 2020

Employment issues are integrated into the Europe 2020 strategy as one of five headline targets, namely that 75 % of the 20–64 year-olds in the EU-28 should be employed by 2020. Individual agreements exist with each EU Member State and national targets range from employment rates of 80 % or more in Denmark, the Netherlands and Sweden down to 70 % or less in Ireland, Greece, Croatia, Italy, Malta and Romania; there is no target in the national reform programme for the United Kingdom. For more information refer to Chapter 1, which provides a more detailed analysis of regional labour market performance in relation to the Europe 2020 targets.

Progress towards the overall 75 % target is analysed through the EU's annual growth survey, which promotes close coordination by national governments of their economic and fiscal policies and leads, among others, to a set of common employment guidelines in the form of a joint employment report. The latest of these reports for 2015 pointed out that, although there were some encouraging signs of an upturn in some European labour markets, divergences across EU Member States persisted and were even accentuated, particularly within the euro area. Furthermore, unemployment was becoming increasingly structural as witnessed through the rising numbers of long-term unemployed.

i **EUROPE 2020 FLAGSHIP INITIATIVES LINKED TO LABOUR MARKETS**

While almost all of the Europe 2020 flagship initiatives have some relevance for labour markets, two are directly aimed at improving the employability of the workforce.

An agenda for new skills and jobs

This Europe 2020 flagship initiative sets out, in 13 key actions with accompanying and preparatory measures, to promote a substantial increase in employment rates, particularly those for women, young and older workers, through action in four priority areas:

- improving the flexibility and functioning of labour markets (flexicurity) to reduce chronically high structural unemployment;
- equipping people with the right skills for the jobs available in the labour market, in particular by ensuring the labour force can benefit from technological changes and adapt to new patterns of work organisation, while ensuring that skills mismatches are eliminated, for example, by promoting intra-EU mobility and non-member migrant inflows;
- increasing the quality of jobs and ensuring better working conditions, in an attempt to promote labour productivity gains and higher employment participation;
- promoting policies which encourage job creation, in particular, among those enterprises which require high skills and R & D-intensive business models.

Youth on the move

This flagship initiative came to an end as of December 2014. Its aim was to help young people gain the knowledge, skills and experience they needed to make their first job a reality. The initiative proposed 28 actions aimed at making education and training more relevant, increasing young people's employability and access to the labour market, as well as ensuring that young people had the right skills for the jobs of tomorrow.

For more information: An agenda for new skills and jobs; Youth on the move

Employment package

In April 2012, the European Commission launched the so-called employment package, as detailed in its Communication titled 'Towards a job-rich recovery' (COM(2012) 173). This focused on the potential for structural, labour market reforms promoting job creation through to 2020 and detailed some of the challenges which will need to be faced in order to maintain the EU's competitiveness, for example: addressing demographic ageing and migrant population flows; moving towards a low-carbon and resource-efficient economy; embracing rapid technological change; and competing with emerging economies.

The employment package builds on the Europe 2020 agenda for new skills and jobs. It identifies areas where there is a high potential for future job creation and details how the EU Member States might create more jobs, through:

- supporting job creation — for example, reducing the tax on labour while ensuring fiscal sustainability; promoting and supporting self-employment, social enterprises and business start-ups; transforming informal or undeclared work into regular employment; boosting take home pay;
- harnessing the potential of job-rich sectors — such as information and communication technologies, the 'green' economy or healthcare;

- mobilising EU funds for job creation — through the European Social Fund;
- reforming labour markets — for example, encouraging decent and sustainable wages; developing lifelong learning and active labour market policies; delivering youth opportunities;
- investing in skills — for example, to cope with a skills mismatch or to ensure better recognition of skills and qualifications; and,
- moving towards a European labour market — for example, by matching jobs and job-seekers across borders, through a Europe-wide jobs portal, EURES.

At the start of 2015, the European Commission released a review of Employment and social developments: Europe 2014. This highlighted that those EU Member States that provided high quality jobs and effective social protection while investing in human capital, tended to be more resilient to the financial and economic crisis. It stressed that the impact of the crisis was relatively small in those EU Member States which had less segmented labour markets, where labour market participation was high (particularly among women and older persons), and where social investment was encouraged throughout a person's life (for example, lifelong learning and skills training).

Main statistical findings

Eurostat compiles and publishes labour market statistics for EU regions, the individual EU Member States, as well as the EU-28 aggregate; in addition, data are also available for a subset of EFTA and candidate countries. This includes, among others, information relating to employment rates and unemployment rates. Regional statistics are generally available at the NUTS 2 level.

In the wake of the financial and economic crisis, the labour market in the EU was characterised by rising unemployment from 2008 to 2013. Against a background of developments in gross domestic product (GDP) turning positive, the first signs of labour market improvements occurred towards the end of 2013 and this pattern continued in 2014 as the employment rate increased. In the autumn of 2013 the unemployment rate in the EU-28 fell in two consecutive months for the first time since the autumn of 2007; it continued to fall through 2014 and into 2015.

The economically active population in the EU-28 (also called the labour force) was composed of 242.6 million persons in 2014, among whom 217.8 million were employed and 24.8 million were unemployed (in search of work and available to work).

Europe 2020: employment rates

The employment rate in the EU-28 (for those aged 20–64) peaked at 70.3 % in 2008. The labour market impact of the financial and economic crisis in 2009 was considerable, as the employment rate fell by 1.4 percentage points. This was followed by a period of further reductions through to 2012, when the employment rate stabilised at 68.4 %. It was not until 2014 that there was a renewed increase in the employment rate, as it rose to 69.2 % (its highest level since 2008).

Low fertility rates and an ageing population will likely result in the shrinking of Europe's working-age population in the coming years, notwithstanding a net inflow of migrants

With the Europe 2020 target for the EU-28 employment rate set at 75 % (for the age group 20-64), average growth of almost 1.0 percentage point will be necessary in each of the coming six years if the target is to be achieved by 2020; growth between 2013 and 2014 was 0.8 percentage points. In order to boost employment rates, policymakers have focused on increasing employment rates for women, young people and older workers. The latter is covered in more detail below, while more details on the gender gap for employment rates is provided in Chapter 13.

The Europe 2020 target for the employment rate (the ratio of employed persons compared with the population of the same age group) is to ensure that 75 % of 20–64 year-olds are employed by 2020. The 20–64 age group was selected as this ensures compatibility — at the lower end of the age range — with an increasing proportion of young persons remaining within educational systems, as well as the Europe 2020 headline target on tertiary education (see Chapter 4 for more details). At the upper age limit, employment rates are usually set to a maximum of 64 years, taking into account (statutory) retirement or pension ages across Europe. Note that several governments have legislated recently to gradually increase the retirement or pension age over the coming years and it is likely that an increasing proportion of older persons will remain in employment beyond the age of 64.

SPOTLIGHT ON THE REGIONS: ÅLAND, FINLAND

A very high share of the population aged 20–64 years was employed in the Finnish archipelago of Åland. The employment rate in Åland was 86.2 % in 2014, compared with an EU-28 average of 69.2 %. Between 2009 and 2014 the employment rate in Åland rose by 2.3 percentage points, while that for the whole of the EU-28 increased at a slower pace, rising by 0.3 points.

Photo: Ad Oculos */ Shutterstock.com*

The highest employment rates in the EU were recorded in northern and western regions

Map 5.1 presents regional employment rates for those aged 20–64 across NUTS level 2 regions. The highest employment rates — above the Europe 2020 target of 75 % — are shown in the two darkest shades. In 2014 and across the EU Member States, a majority of the regions in Denmark, Germany, the Netherlands, Austria, Sweden and the United Kingdom recorded employment rates of at least 75 %. There were five additional regions in the EU where employment rates exceeded the Europe 2020 target of 75 %, they were: Praha and Střední Čechy (Czech Republic), the Provincia Autonoma di Bolzano / Bozen (Italy), Åland and Helsinki-Uusimaa (Finland). In the EFTA countries, Iceland (one

region at this level of analysis), all seven of the Norwegian regions, and six of the seven Swiss regions had employment rates that were over 75 %.

The highest employment rates in Germany were generally (although not exclusively) recorded in the south, with the following regions posting rates above 80 % (the darkest shade in **Map 5.1**) in descending order: Oberbayern, Freiburg, Tübingen, Stuttgart, Schwaben, Oberpfalz, Trier, Lüneburg, Niederbayern, Mittelfranken and Unterfranken. A similar pattern existed in Sweden, as those regions with the highest rates were predominantly in the south (Stockholm; Småland med öarna; Västsverige; and Mellersta Norrland) and this pattern was also repeated in the United Kingdom where the employment rate was above 80 % in five regions (Bedfordshire and Hertfordshire; Berkshire, Buckinghamshire and Oxfordshire; Herefordshire, Worcestershire and Warwickshire; North Eastern Scotland; Dorset and Somerset). The highest employment rate among any of the regions in the EU-28 in 2014 was recorded in Finland in the south-eastern archipelago of Åland (86.2 %).

In Spain and Italy there was a wide disparity in employment rates between northern and southern regions

Map 5.1 shows that some of the lowest employment rates in the EU were often recorded in the southernmost regions, principally across Greece, Spain and Italy; low employment rates were also recorded in many regions of Turkey.

There were also considerable labour market disparities between the individual regions of Spain and Italy, although contrary to the geographical divide described above (for example, in Germany or the United Kingdom), the highest employment rates in Spain and Italy were generally recorded in the northern regions and particularly low employment rates in southern regions. In mainland Spain, the highest employment rate was recorded in the Comunidad Foral de Navarra (67.9 %), while the lowest rate was in Andalucía (50.0 %), a gap of 17.9 percentage points. The gap for Italian regions was even wider, from a high of 76.1 % in the Provincia Autonoma di Bolzano / Bozen to a low of 42.4 % in the island of Sicilia (which had the lowest rate of any region in the EU).

Looking in more detail, there were six regions in the EU where less than half of the population aged 20–64 was in employment in 2014. Four of these were in southern Italy — Puglia, Campania, Calabria and Sicilia — and they were joined by the western Greek region of Dytiki Ellada (whose capital is Patras) and the Spanish autonomous city of Ceuta.

The employment rate rose between 2009 and 2014 in every Czech, German, Hungarian and Swedish region, as well as in the Baltic Member States, Luxembourg and Malta …

Most regions in the EU saw their employment rate move in contrasting directions (down and then up) during the period 2009–14: the analysis that follows shows the net impact of these movements. Over this period the employment rate in the EU-28 for persons aged 20–64 increased by 0.3 percentage points.

Map 5.2 shows the change (in percentage point terms) for employment rates between 2009 and 2014 and reflects many of the patterns already observed in Map 5.1. All the regions in Germany and Sweden and the majority of the regions in the United Kingdom saw their employment rates rise over the period under consideration, while there was a contraction in employment rates that was particularly apparent in the southern EU Member States.

The financial and economic crisis had a pronounced impact on the labour markets of the Baltic Member States (each of which is a single region at this level of analysis) and Ireland, with employment rates falling by close to 10 percentage points in some of them (Estonia and Latvia) between 2008 and 2009. Thereafter, employment rates in the Baltic Member States fell again in 2010 before rebounding at a relatively fast pace, while in Ireland they continued to fall until 2012 before recovering to 2009 levels. While each of the Baltic Member States and Ireland recorded some of the largest overall increases in their employment rates during the period 2009–14, the latest information available for 2014 shows that their employment rates remained below pre-crisis highs recorded in 2008.

… with the largest increase — a gain of 9.6 percentage points — recorded in the Hungarian region of Észak-Alföld

The largest increases in employment rates over the period 2009–14 in the EU-28, of 5 percentage points or more, (as shown by the darkest green shade in **Map 5.2**) were recorded in all but one of the six Hungarian regions (the exception being the capital region of Közép-Magyarország), three regions from each of Germany (Chemnitz, Oberfranken and Hannover) and the United Kingdom (South Yorkshire, Dorset and Somerset and Inner London), two northerly regions in Romania (Nord-Vest and Nord-Est) and Malta (a single region at this level of analysis).

The financial and economic crisis had a considerable impact on labour markets across all Greek regions

By contrast, employment rates fell at a rapid pace between 2009 and 2014 in southern regions of the EU, where the impact of the financial and economic crisis was particularly apparent. All 13 NUTS level 2 regions in Greece saw their employment rates fall by in excess of 5 % (as shown by the darkest red shade in **Map 5.2**). Reductions of this magnitude were also recorded in four Spanish regions (the Ciudad Autónoma de Ceuta, Castilla-La Mancha, Galicia and Andalucía), the two autonomous Portuguese regions of the Açores and Madeira, two Bulgarian regions (Yugoiztochen and the capital region of Yugozapaden), Cyprus (a single region at this level of analysis), and a single region from each of Croatia (Kontinentalna Hrvatska), Italy (Sicilia) and the Netherlands (Flevoland).

Looking in more detail, the 12 biggest contractions in employment rates between 2009 and 2014 (measured in percentage point terms) were systematically recorded in Greek regions; the only Greek region to report a somewhat smaller contraction was Notio Aigaio (the South Aegean). Employment rates in Peloponnisos, Attiki and Thessalia fell by as much as 13.0–13.3 percentage points over the period under consideration. The latest information available showed an increase in employment rates for six Greek regions in 2014 (compared with 2013), a decrease in six other regions, and no change in the final Greek region.

Map 5.1: Employment rate, persons aged 20–64, by NUTS level 2 region, 2014 (¹)
(%)

(%)
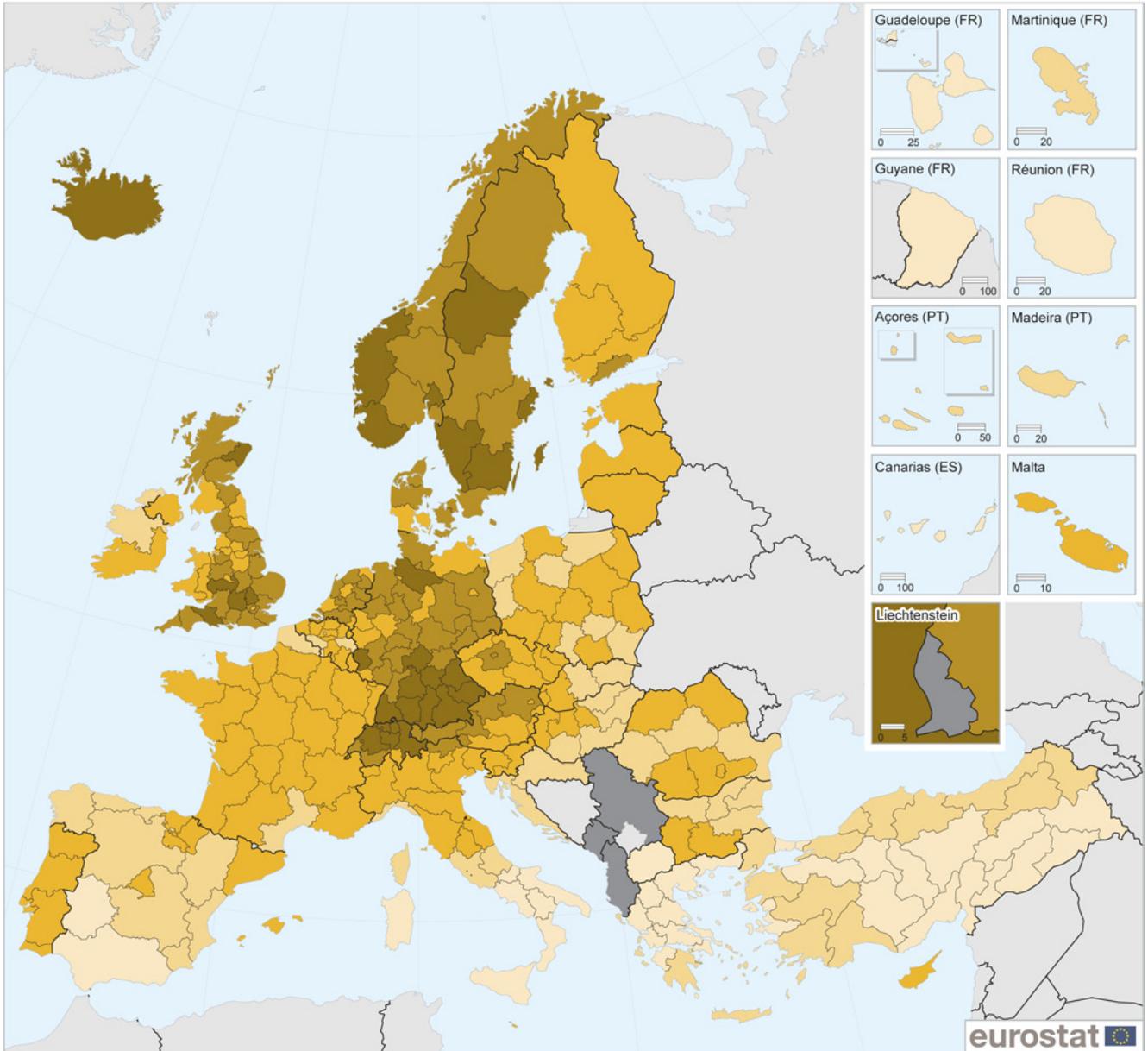
EU-28 = 69.2

- < 55
- 55 – < 65
- 65 – < 75
- 75 – < 80
- >= 80
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013.
Source: Eurostat (online data code: lfst_r_lfe2emprt)

Map 5.2: Change in employment rate, persons aged 20–64, by NUTS level 2 region, 2009–14 (¹)
(percentage points difference between 2014 and 2009)

(percentage points difference between 2014 and 2009)

EU-28 = 0.3
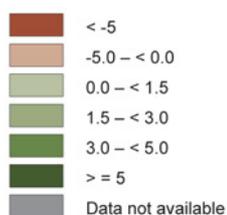
- < -5
- -5.0 – < 0.0
- 0.0 – < 1.5
- 1.5 – < 3.0
- 3.0 – < 5.0
- >= 5
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2009–13. Belgium, Bulgaria, the Czech Republic, Germany, France, the Netherlands, Poland, Portugal, Romania, Slovakia and Turkey: breaks in series.
Source: Eurostat (online data code: lfst_r_lfe2emprt)

Employment rates for older workers

Demographic developments are having a profound effect on the structure of the population in many EU Member States, with older persons accounting for an increasing share of the total population, as the population pyramid becomes inverted among younger and middle-aged persons. As such, changes in employment rates for older workers will have a greater impact on overall employment rates as the proportion of older people in the total population continues to grow. In response to this process of demographic ageing, some governments have already taken action to raise the exit age from the labour force; this development may be expected to continue if there are further improvements in health and living conditions, as well as further gains in life expectancy.

The EU-28 employment rate for older workers (those aged 55–64) stood at 51.8 % in 2014. Despite the financial and economic crisis, the rate for older workers increased each and every year for which this series is available, starting from a low of 38.1 % in 2002. This would suggest that the effective retirement age in the EU has been gradually increasing, for example, as a result of the retirement age being raised in a number of EU Member States, the discontinuation of early retirement schemes, or reductions in public expenditure causing some older workers to delay their retirement.

Map 5.3 suggests that there is a close relationship between overall employment rates and employment rates for older workers. In 2014, the highest employment rates among older workers in the EU were recorded in Sweden, followed by Germany, Estonia, Denmark, and the United Kingdom. There were also high employment rates in the three EFTA countries for which labour market statistics are available; indeed, each of these countries recorded employment rates for older persons that were higher than in any of the EU Member States (except for Sweden).

There were 14 regions in the EU where the employment rate for older workers was at least 70 % (as shown by the darkest shade in **Map 5.3**); all these regions also recorded relatively high overall employment rates. Each of the eight NUTS level 2 regions in Sweden had employment rates for older persons that were above 70 % and four of these — Mellersta

Norrland, Västsverige, Småland med öarna and Övre Norrland — recorded rates above 75 %; the same applied in the Finnish region of Åland and in the EFTA regions of Oslo og Akershus and Vestlandet (both Norway) and Ostschweiz and Zentralschweiz (both Switzerland).

The lightest shade in **Map 5.3** shows those regions, in 2014, with employment rates for older persons that were lower than 40 %. The three regions in the EU with the lowest employment rates for older workers were all Greek, namely: the two northern regions of Dytiki Makedonia and Kentriki Makedonia (whose capital is Thessaloniki) and the capital region of Attiki, where just 3 in 10 persons among the labour force aged 55–64 were in employment. Looking in more detail at the Greek regions, there were only two where the employment rate for older persons rose above 40 %, Ionia Nisia and the Peloponnisos.

Aside from the three Greek regions with the lowest employment rates, there were six other regions in the EU where the employment rate for older persons was below 35 % in 2014. These included a further Greek region (Notio Aigaio) and five regions from different EU Member States, namely: the Romanian capital region of Bucureşti - Ilfov, the Belgian region of Province Hainaut, the Slovenian region of Vzhodna Slovenija, the Croatian region of Kontinentalna Hrvatska, and the Spanish region of Andalucía. Among the regions of the candidate countries, the employment rate for older persons stood at 20 % in İstanbul and was even lower in another Turkish region — Mardin, Batman, Sirnak, Siirt (16 %).

Many of the EU regions with low employment rates for older workers were characterised by their historical dependence upon heavy industry (such as coal mining and steel manufacturing). These industries have contracted greatly or even ceased to exist in some regions, leading to economic restructuring and associated job losses. Older workers who have become unemployed in these regions may find it particularly difficult to find new employment as their skills may no longer be applicable to prevailing labour market opportunities and they may find it harder or face fewer possibilities to retrain. Examples of such former industrial regions include the Province Hainaut, the Province Liège (both in Belgium) and the Nord - Pas-de-Calais (in France).

Map 5.3: Older persons employment rate, persons aged 55–64, by NUTS level 2 region, 2014 (¹)
(%)
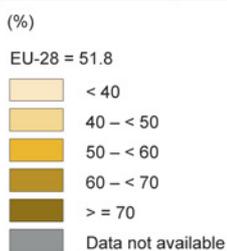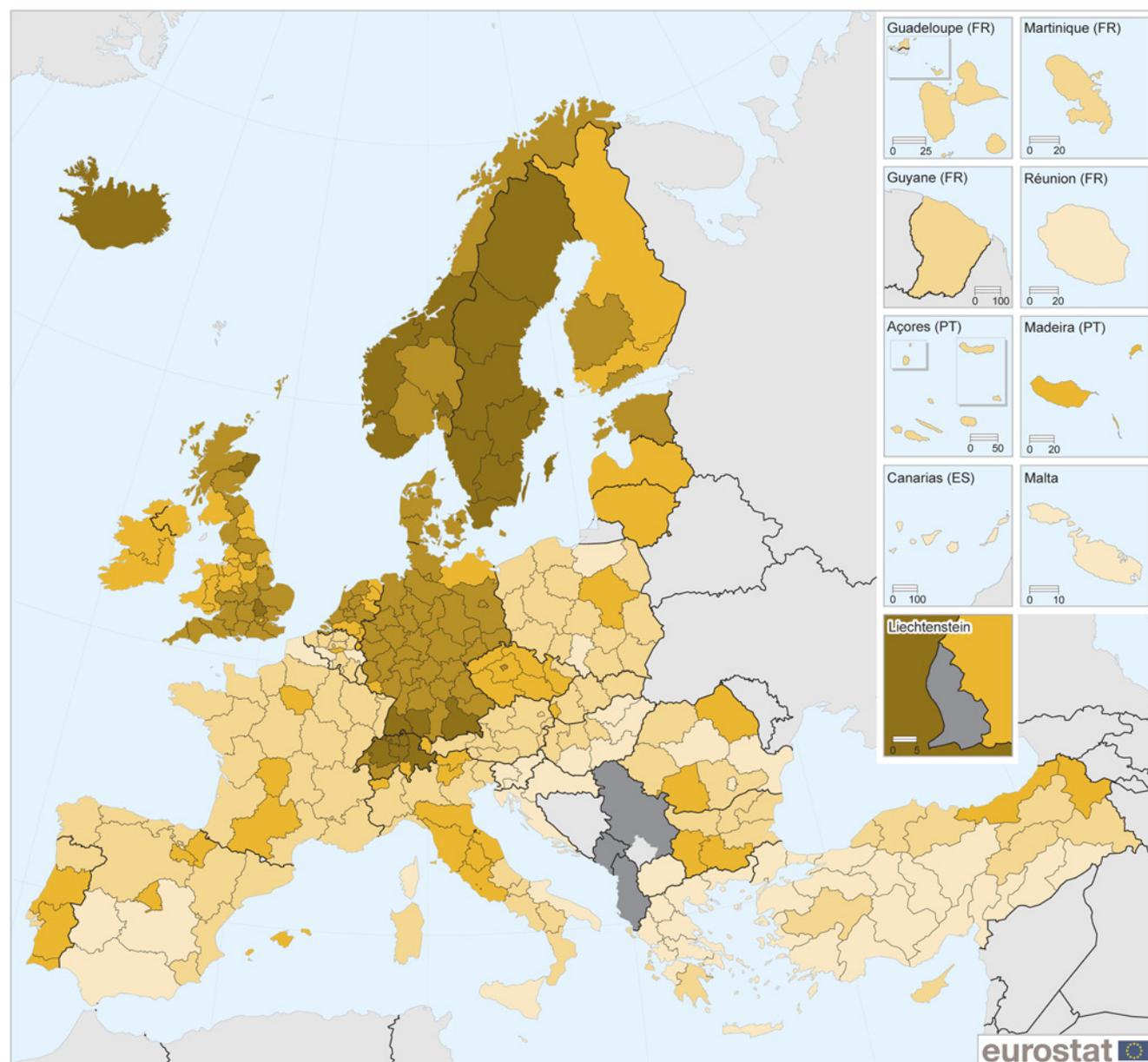
(%)

EU-28 = 51.8

- < 40
- 40 – < 50
- 50 – < 60
- 60 – < 70
- > = 70
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
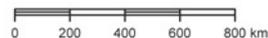
(¹) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013. Ciudad Autónoma de Ceuta (ES63), Ciudad Autónoma de Melilla (ES64) and Åland (FI20): low reliability.
Source: Eurostat (online data code: lfst_r_lfe2emprt)

Unemployed persons are defined on the basis of guidelines provided by the International Labour Organisation (ILO), as:

- someone aged 15–74;
- without work during the reference week;
- available to start work within the next two weeks (or has already found a job to start within the next three months); and,
- actively having sought employment at some time during the previous four weeks.

The unemployment rate is the number of unemployed people as a percentage of the labour force (those employed or unemployed).

Note that the unemployment rate takes into account people who would like to (or have to) work after the age of 64 but are unable to find a job. As such, the upper age limit for the unemployment rate is usually set to 74 years (while the upper age range for the employment rate is generally set to 64 years).

Unemployment rates

At the onset of the financial and economic crisis in 2008 there were 16.8 million unemployed persons in the EU-28. Five years later — in 2013 — this figure had risen to 26.1 million, an overall increase of 9.3 million persons (or an increase of 55.5 %); the latest data available shows that the number of unemployed persons in the EU-28 fell by 1.5 million in 2014.

The EU-28 unemployment rate was 7.0 % in 2008. It rose by 2.0 percentage points in 2009 and thereafter continued to increase each year up until 2013 when it stood at 10.9 %. In 2014, the EU-28 unemployment rate fell to 10.1 %.

The highest unemployment rates in 2014 among the EU Member States were recorded in Greece (26.5 %), Spain (24.4 %), Croatia (17.3 %) and Cyprus (16.1 %); a higher unemployment rate was recorded in the former Yugoslav Republic of Macedonia (28.0 %).

Map 5.4 shows the distribution of unemployment rates by NUTS level 2 regions for 2014; the lightest shade presents those regions with particularly high unemployment rates. These high regional unemployment rates were concentrated across:

- all 13 NUTS level 2 regions in Greece;
- all but five of the Spanish regions, the exceptions being the capital region of the Comunidad de Madrid and four northern regions — Cantabria, La Rioja, País Vasco and the Comunidad Foral de Navarra;
- four southern Italian regions — Calabria, Sicilia, Campania and Puglia; and,
- the four French overseas regions (note that data are for 2013).

A closer analysis reveals that the five highest regional unemployment rates in 2014 were all in Spain: Andalucía, Castilla-La Mancha and Extremadura (in the south), the island region of the Canarias, and the autonomous city of Ceuta.

Some of the lowest unemployment rates in the EU were recorded in Bavaria

By contrast, 9 out of the 10 regions with the lowest regional unemployment rates were located in Germany. The only exception was the capital region of the Czech Republic, Praha, where the unemployment rate was 2.5 % in 2014. This was the joint lowest rate in the EU-28, as the Bavarian region of Oberbayern also recorded the same rate. There were four other German regions where the unemployment rate was below 3 % in 2014, three of these — Unterfranken, Niederbayern and Oberpfalz — were also in Bavaria, while the fourth was the university region of Tübingen (just to the south of Stuttgart).

Relatively low unemployment rates were also recorded in Austria and this was particularly true in three western regions that border onto Bavaria — Vorarlberg, Tirol and Salzburg — where the unemployment rate was less than 4 %. There were only four other regions in the EU-28 where the unemployment rate remained below 4 % in 2014: three of these were spread across the United Kingdom (Cornwall and Isles of Scilly; Cheshire; and the Highlands and Islands (of Scotland)), while the fourth was the Nord-Vest region of Romania.

Map 5.4: Unemployment rate, persons aged 15–74, by NUTS level 2 region, 2014 ([1])
(%)
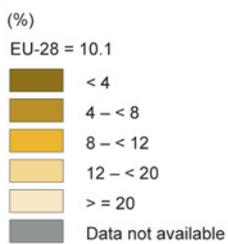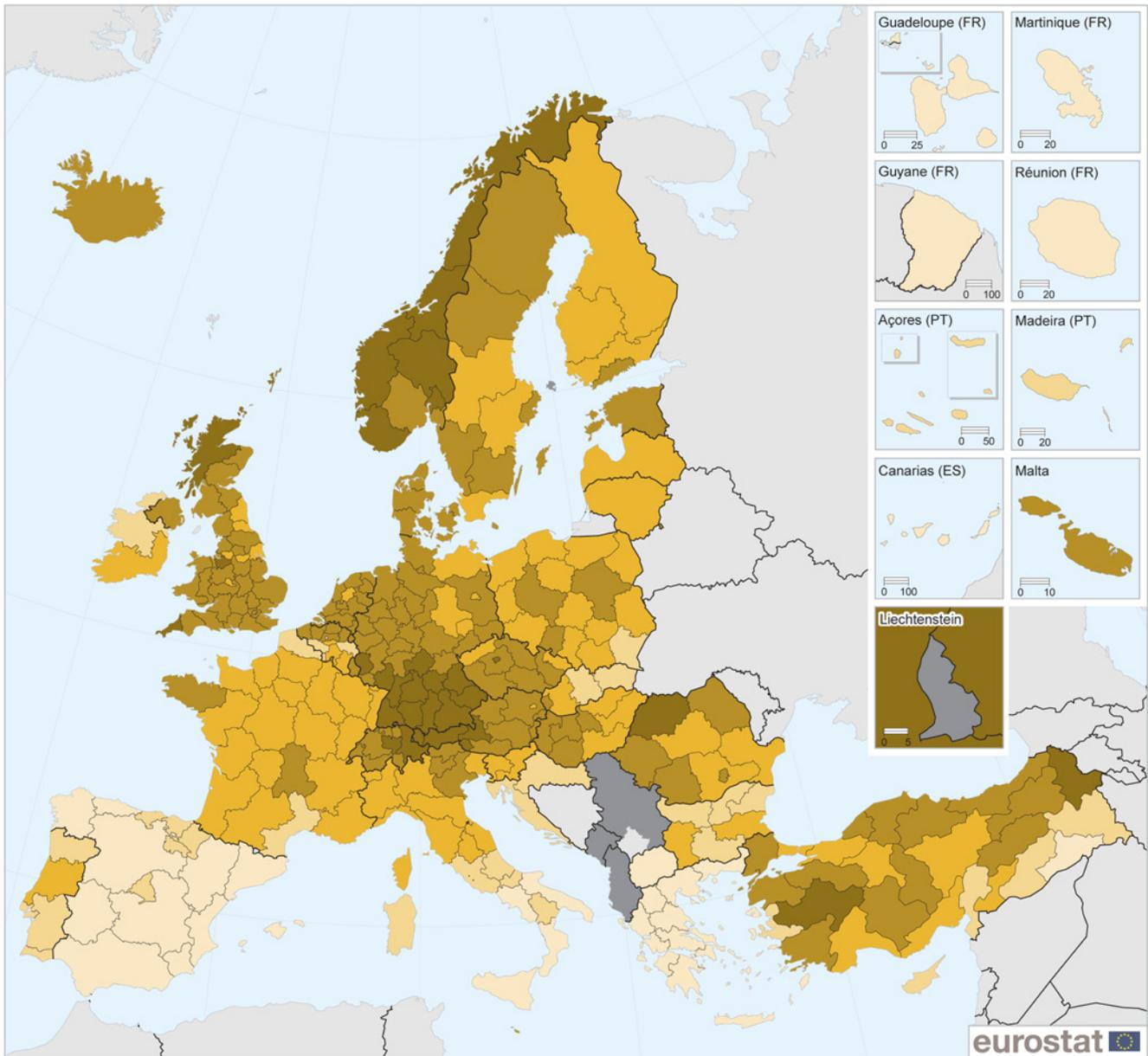
(%)

EU-28 = 10.1

- < 4
- 4 – < 8
- 8 – < 12
- 12 – < 20
- > = 20
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
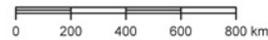
([1]) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013. Corse (FR83) and Highlands and Islands (UKM6): low reliability.
Source: Eurostat (online data code: lfst_r_lfu3rt)

Map 5.5: Change in unemployment rate, persons aged 15–74, by NUTS level 2 region, 2009–14 (¹)
(percentage points difference between 2014 and 2009)

(percentage points difference between 2014 and 2009)

EU-28 = 1.1

- < -5.0
- -5.0 – < -1.0
- -1.0 – < 0.0
- 0.0 – < 1.0
- 1.0 – < 5.0
- >= 5.0
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
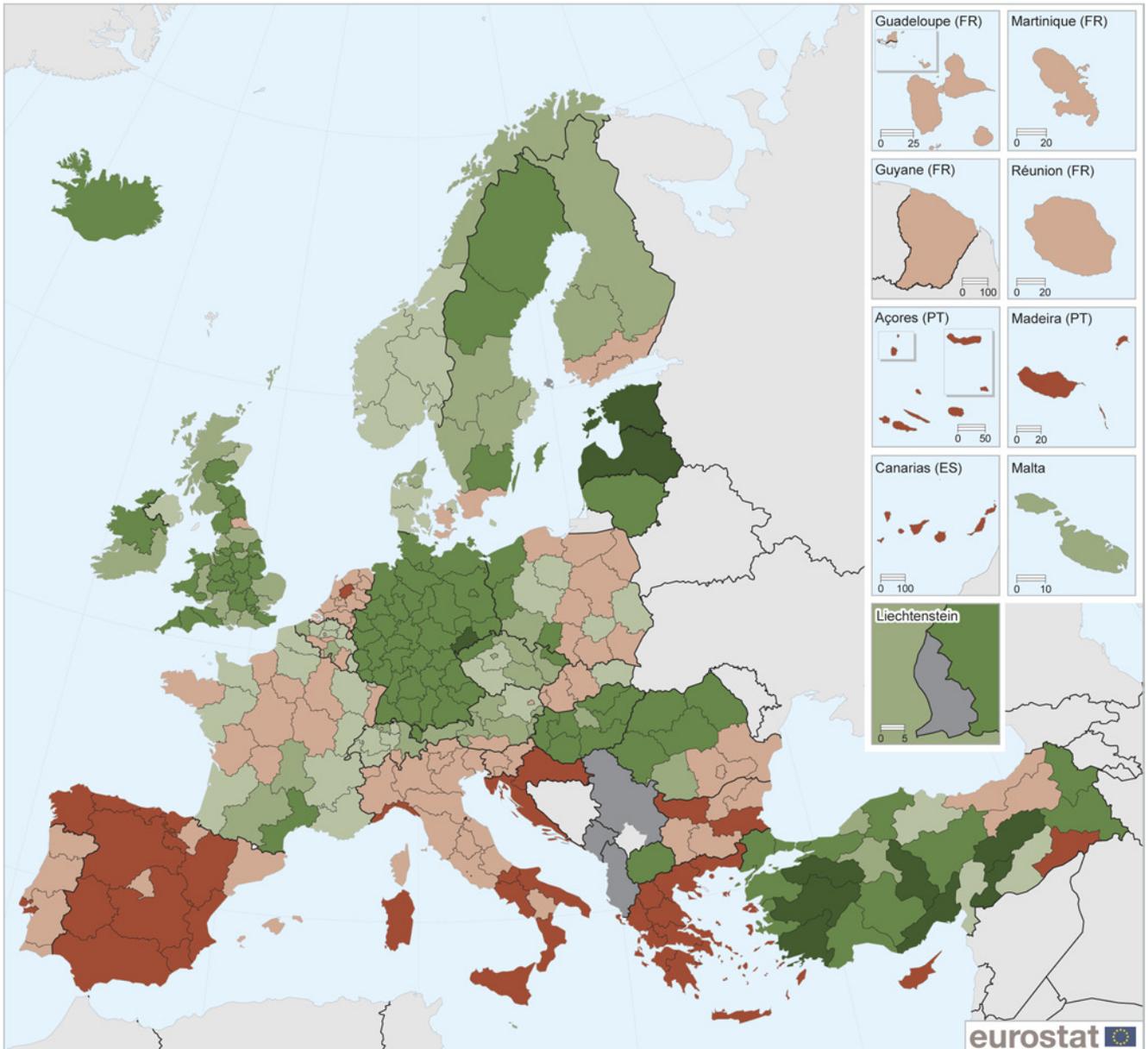
(¹) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2009–13. Belgium, Bulgaria, the Czech Republic, Germany, France, the Netherlands, Poland, Portugal, Romania, Slovakia and Turkey: breaks in series. Corse (FR83), North Eastern Scotland (UKM5) and Highlands and Islands (UKM6): low reliability.
Source: Eurostat (online data code: lfst_r_lfu3rt)

The unemployment rate tended to fall after the crisis in those regions already characterised by relatively low unemployment rates …

Map 5.5 provides an analysis of changes in unemployment rates for NUTS level 2 regions during the period 2009–14 (as measured in percentage point terms). As noted earlier for the employment rate, this period contains contrasting movements, with unemployment rates initially increasing and then decreasing. The EU-28 unemployment rate increased by 1.1 percentage points over the period under consideration.

In those regions where the impact of the financial and economic crisis was most apparent there was generally a considerable increase in unemployment rates. In contrast, falling unemployment rates were often observed in those regions which were already characterised as having relatively low levels of unemployment. As such, the disparities in unemployment rates between EU regions persisted and were in many cases reinforced.

Some of the biggest reductions in unemployment rates during the period 2009–14, measured in percentage point terms, (as shown by the dark green shade in **Map 5.5**) were recorded in the Baltic Member States, Germany, Hungary, northern Romania and parts of the United Kingdom; this was also the case in Iceland, the former Yugoslav Republic of Macedonia, and in close to half of the regions in Turkey. During the period 2009–14, the unemployment rate of Latvia (a single region at this level of analysis) fell by 6.7 percentage points, the biggest reduction across the EU. There were only two other regions in the EU where the unemployment rate was reduced by at least 6 points, they were: the eastern German region of Chemnitz and Estonia

(also a single region at this level of analysis); this pattern was however repeated in five regions across Turkey.

… while the biggest increases in unemployment rates were experienced in those EU Member States which experienced the greatest impact of the financial and economic crisis

By contrast, unemployment rates increased at a rapid pace in most of Spain, the south of Italy, Croatia, Greece, Cyprus and parts of Bulgaria (as shown by the dark red shade in **Map 5.5**). Among these, there were 16 NUTS level 2 regions where the unemployment rate increased by at least 10 percentage points between 2009 and 2014. This list included all but one of the Greek regions, the exception being Notio Aigaio, while the four other regions were Cyprus (a single region at this level of analysis), Calabria in southern Italy and two Spanish regions (Castilla-La Mancha and Ciudad Autónoma de Ceuta).

Unemployment rates tended to be higher in the cities of western EU Member States …

Figure 5.1 presents information on the unemployment rates, by degree of urbanisation. It shows that there was a relatively small difference in unemployment rates according to this classification for the EU-28 as a whole, with the highest rate recorded for densely populated areas (hereafter referred to as cities), at 10.8 %, while the rates for thinly populated areas (hereafter referred to as rural areas) and for intermediate urbanised areas (hereafter referred to as towns and suburbs) were approximately a single percentage point lower. These results may be explained, at least in part, due to the fact that the results for the EU-28 are based on averages that are weighted by population size, while the largest EU Member States (in population terms) each recorded lower unemployment rates for rural areas.

Figure 5.1: Unemployment rate, persons aged 15–74, by degree of urbanisation, 2014 ([1])
(%)

(1) The size of the bubbles reflects the share of each degree of urbanisation in national population (based on an analysis of population data for 2013).
(2) Towns and suburbs: low reliability.
(3) Cities: low reliability.
(4) Rural areas: low reliability.
Source: Eurostat (online data codes: lfst_r_urgau and ilc_lvho01)

In 14 of the EU Member States the unemployment rate was higher in cities than in rural areas. The difference was particularly pronounced in Belgium, at 7.5 percentage points. In Austria, the unemployment rate in cities was just over 6 percentage points higher than in rural areas, while the difference between these two rates was just over 5 percentage points in Greece and almost 4 percentage points in France and Portugal.

… whereas in several eastern EU Member States they were higher in rural areas

There was no difference between the unemployment rates for cities and rural areas in Estonia or Italy. However, among the 12 EU Member States where the unemployment rate was higher in rural areas, there were six eastern EU Member States, three southern Member States, two of the Baltic Member States, and Ireland. The biggest difference was recorded in Bulgaria (where the unemployment rate in rural areas was 9.3 percentage points higher than in cities), followed by Lithuania, Slovakia, Croatia and Spain.

For background information on the data presented by degree of urbanisation, refer to the Data sources and availability section within Chapter 14.

Youth unemployment and young people neither in employment nor in education or training

The youth unemployment rate is defined as the number of unemployed persons aged 15–24 divided by the economically active population for the same age group. However, it should be noted that the youth unemployment rate does not reflect the proportion of all young people who are unemployed, as not every young person participates in the labour market (because of full-time education, for example). The participation of young persons in the labour market varies considerably across the EU Member States and between the EU regions, and this in turn influences the proportion of unemployed youths in the total population of young persons.

Some 5.1 million youths in the EU-28 were without work in 2014

In recent years, young people aged 15–24 were disproportionately affected by the downturn in economic fortunes and the shrinking labour market, as the financial and economic crisis made it harder for young Europeans to enter or stay in the labour market. As a result, a growing proportion remained in education (or returned to studying), in this way postponing their entry into the labour force.

🔍 SPOTLIGHT ON THE REGIONS: OBERBAYERN, GERMANY

The youth unemployment rate (for those aged 15–24) stood at 21.9 % in the EU-28 in 2014. There were considerable differences across the regions of the EU, as youth unemployment rates were over 50 % in some regions, while in contrast they fell to a low of 3.7 % in the southern German region of Oberbayern (which includes the city of Munich).

Photo: Anshar */ Shutterstock.com*

The overall number of youths in the EU-28 who were unemployed rose from 4.2 million in 2008 to peak at 5.6 million in 2013, before falling back to 5.1 million in 2014; as such, they accounted for approximately one fifth (20.7 %) of the total number of unemployed persons.

The development of the EU-28 youth unemployment rate was striking insofar as it increased from 15.7 % in 2008 to peak at 23.6 % in 2013, before returning to 21.9 % in 2014. As such, while the total unemployment rate (for those aged 15–74) rose by 3.8 percentage points during the period 2008–13, the youth unemployment rate rose twice as fast, with a 7.9 percentage point increase. This rapidly rising youth unemployment rate could be attributed in part to several factors reinforcing each other: a higher number of youths were unemployed in 2013 than in 2008; there was a decrease in the number of economically active persons aged 15–24 due to demographic shifts and young people withdrawing from the labour market.

YOUTH UNEMPLOYMENT

In February 2013, the European Council agreed on a youth employment initiative with a budget of around EUR 6 billion for the period 2014–20, largely to support young people not in education, employment or training. The youth employment initiative is open to all regions that have a youth unemployment rate over 25 %.

The youth employment package was launched in December 2012, with a youth guarantee at its core. The EU Member States established the principle of a youth guarantee in April 2013 through a Council Recommendation (2013/C 120/01) which aims to ensure all young people under 25 years, whether registered with employment services or not, should get a good-quality offer within four months of them leaving formal education or becoming unemployed; such an offer may relate to a job, an apprenticeship, a traineeship, or continued education.

In a Communication titled Working together for Europe's young people — A call to action on youth unemployment (COM(2013) 447), the European Commission proposed a series of changes to accelerate the implementation of the youth guarantee and investment in young people. As part of this drive, EU Member States have developed a series of national youth guarantee implementation plans: while national budgets prioritise youth employment measures to avoid higher costs in the future, the EU tops-up national spending through the European Social Fund (ESF) and the EUR 6 billion youth employment initiative.

For more information: Youth employment

Seven German regions recorded the lowest youth unemployment rates in the EU

Map 5.6 presents the regional distribution of the youth unemployment rate for NUTS level 2 regions in 2014; this map closely resembles that for the total unemployment rate (Map 5.4). The lowest youth unemployment rates in the EU were recorded across seven German regions, namely: Oberbayern, Schwaben (data are for 2013), Stuttgart, Karlsruhe, Freiburg, Tübingen and Niederbayern (data are for 2012); each of these regions reported a youth unemployment rate that was below 6 %. Outside the regions of the EU, the youth unemployment rate was also less than 6 % in the Swiss region of Ostschweiz and the Turkish region of Agri, Kars, Iğdır, Ardahan.

Youth unemployment rates were relatively low across most of Germany, although somewhat higher in the eastern regions. Low youth unemployment rates (less than 10 % as shown by the darkest shade in Map 5.6) were recorded in 21 of the 38 German regions, four Austrian regions (Tirol, Oberösterreich, Steiermark and Kärnten) and four Dutch regions (Zeeland, Gelderland, Noord-Brabant and Utrecht), as well as two regions in the United Kingdom (Lincolnshire and Cheshire). Youth unemployment rates were also less than 10 % in Iceland (a single region at this level of analysis), five of the seven Swiss regions, all seven of the Norwegian regions, and the previously mentioned Turkish region of Agri, Kars, Iğdır, Ardahan.

It is also interesting to note that as well as recording some of the lowest youth unemployment rates, there was also a low degree of variation between regional youth unemployment rates within Germany, the Netherlands and Austria.

Youth unemployment was concentrated in those regions which experienced relatively high overall levels of unemployment

Among the EU Member States, the highest youth unemployment rates in 2014 were recorded in Spain (53.2 %), Greece (52.4 %), Croatia (45.5 %) and Italy (42.7 %); a high rate was also recorded in the former Yugoslav Republic of Macedonia (53.1 %). The latest data available reveals that the youth unemployment rate fell in 2014 (compared with 2013) in three of the four EU Member States with the highest youth unemployment rates, as the rates in Spain, Greece and Croatia had peaked in 2013 at 55.5 %, 58.3 % and 50.0 % respectively. In Italy there was a different pattern, as the youth unemployment rate continued its upward path in 2014, with the rate rising each year since a relative low of 20.4 % in 2007.

Several southern and peripheral regions of the EU reported that more than half of their economically active young persons were unemployed in 2014. The youth unemployment rate was at least 50 % (as shown by the lightest shade in Map 5.6) in 10 Spanish regions, eight Greek regions and five southern Italian regions, as well as in three of the four French overseas regions (2013 data) and the Portuguese autonomous island of Madeira; this was also the case for the former Yugoslav Republic of Macedonia (a single region at this level of analysis).

There was a wide variation in youth unemployment rates within those EU Member States characterised by relatively high unemployment rates; this was particularly true within Italy and Greece. In Italy, the range was from a high of 59.7 % in the southern region of Calabria down to a low of

Map 5.6: Youth unemployment rate, persons aged 15–24, by NUTS level 2 region, 2014 (¹)
(%)
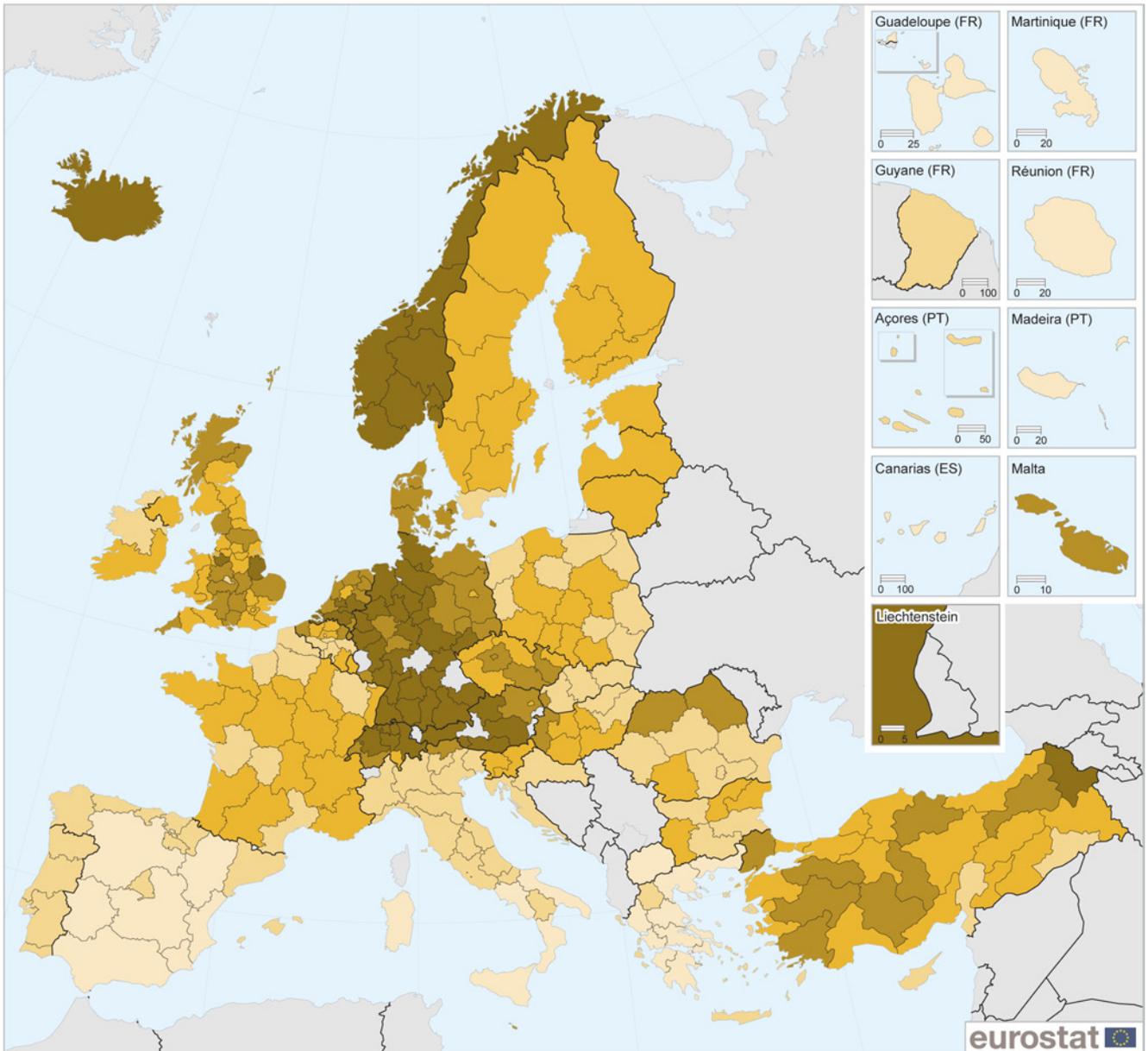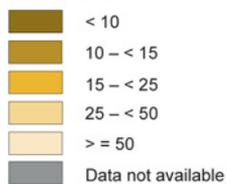
Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

(%)

EU-28 = 21.9

- < 10
- 10 – < 15
- 15 – < 25
- 25 – < 50
- > = 50
- Data not available
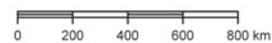
(¹) Oberfranken (DE24), Schwaben (DE27), Saarland (DEC0), Chemnitz (DED4), Leipzig (DED5), Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013. Niederbayern (DE22) and North Eastern Scotland (UKM5): 2012. Data for several regions have low reliability (too numerous to document).
Source: Eurostat (online data code: lfst_r_lfu3rt)

12.4 % in the northern region of the Provincia Autonoma di Bolzano / Bozen. In Greece, the lowest regional youth unemployment rate was 25.8 % in Notio Aigaio: this was considerably lower than in any other Greek region, as the remaining regions consistently reported rates above 40 %, and was much less than half the 69.8 % rate in the north-western region of Ipeiros, which was where the highest youth unemployment rate in the EU was recorded.

One sixth of all young people in the EU-28 were neither in employment nor in education or training

In 2014, the proportion of young people (aged 18–24) in the EU-28 who were neither in employment nor in education or training (NEETs) stood at 16.3 %. As such, the NEET rate fell for the second consecutive year, from a post-crisis high of 17.1 % in 2012.

An analysis across the EU Member States shows that the highest proportion of young people who were neither in employment nor in education or training in 2014 was recorded in Italy (29.0 %), while the NEET rate was within the range of 21–27 % in Romania, Spain, Bulgaria, Cyprus, Croatia and Greece. By contrast, the proportion of young people who were neither in employment nor in education or training was as low as 6.6 % in the Netherlands, while Denmark, Luxembourg, Germany, Sweden and Austria each recorded a NEET rate that was below 10 %.

There were four regions in the EU where the proportion of young people neither in employment nor in education or training rose above 40 %

The highest proportions of young people who were neither in employment nor in education or training (as shown by the lightest shade in **Map 5.7**) were concentrated in southern Italy, several Greek regions, two Bulgarian regions and a single region from each of Romania (Centru) and Portugal (the Região Autónoma dos Açores). The NEET rate peaked at 45.7 % in the Bulgarian region of Severozapaden, while rates were also above 40 % in two Italian regions, Calabria and Sicilia, as well as the Greek region of Sterea Ellada. Although southern Spanish regions recorded some of the highest youth unemployment rates in the EU, their proportion of young people who were neither in employment nor in education or training was generally close to the EU average.

The lowest proportions of young people who were neither in employment nor in education or training were concentrated in the Netherlands, southern Germany and western Austria; the Danish regions of Hovedstaden (the capital region) and Midtjylland, as well as the Czech capital region of Praha also recorded NEET rates of less than 8 % (as shown by the darkest shade in **Map 5.7**). The two Dutch regions of Groningen and Overijssel recorded the lowest NEET rates in the EU, at 4.7 %.

ⓘ COMPARING YOUTH UNEMPLOYMENT AND NEETS

Youth unemployment and the proportion of young people who were neither in employment nor in education or training (NEETs) are complementary concepts.

The unemployment rate is a measure of those who are out of work (but have actively searched for work and are able to start work); it is based on the economically active population (those who are either in work or unemployed) of 15–24 year-olds as its denominator. A growing proportion of young persons in the EU continue in the education system while also holding down a job (or actively searching for work).

By contrast, the definition of those who were neither in employment nor in education or training (NEETs) excludes those in employment, education or training, but may include some of the economically inactive; it is based on a denominator that covers the whole cohort of 18–24 year-olds.

Map 5.7: Young people neither in employment nor in education or training (NEETs), by NUTS level 2 region, 2014 (¹)
(% of 18–24 year-olds)
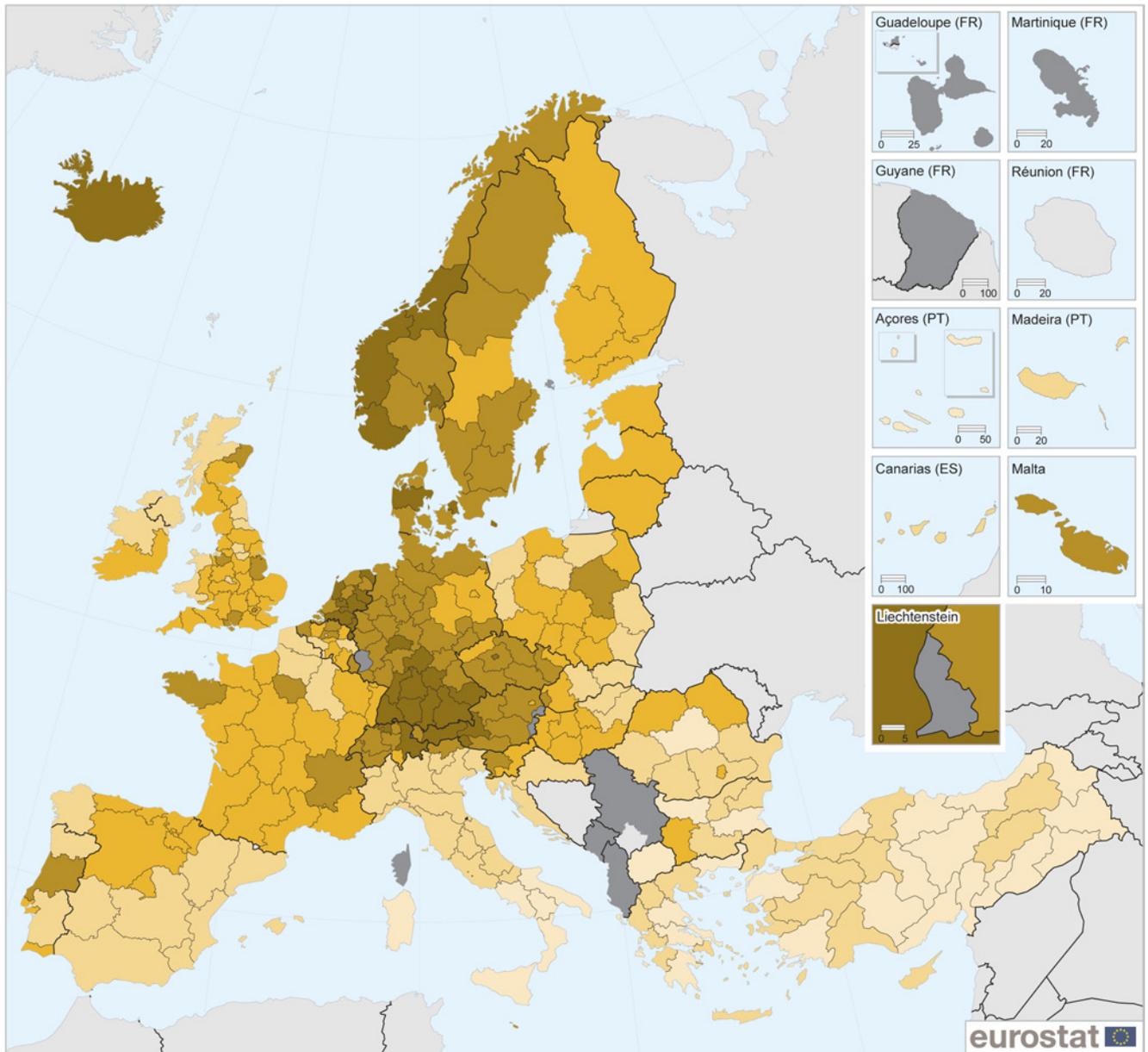
(% of 18–24 year-olds)

EU-28 = 16.3
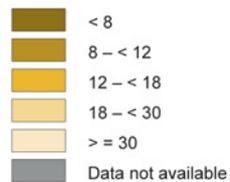
- < 8
- 8 – < 12
- 12 – < 18
- 18 – < 30
- > = 30
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
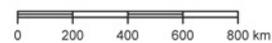
(¹) North Eastern Scotland (UKM5): 2013. Oberpfalz (DE23), Oberfranken (DE24) and Salzburg (AT32): 2012. Data for several regions have low reliability (too numerous to document).
Source: Eurostat (online data code: edat_lfse_22)

DEFINING LONG-TERM UNEMPLOYMENT

Another major concern of policymakers is long-term (structural) unemployment, in other words, those who remain unemployed for 12 months or more. The longer somebody remains unemployed, the less attractive they are likely to be for potential employers, as their specific skills depreciate. Equally, long-term unemployment may have a significant impact on self-esteem and disillusionment, thereby increasing the risk of remaining even longer outside of employment.

The long-term unemployment ratio is the share of those who have been without work for at least 12 months in the total unemployed population. This may be contrasted with the long-term unemployment rate, which is the number of people who remained unemployed for a period of 12 months or longer as a percentage of the total labour force.

Long-term unemployment

In 2014, the long-term unemployment rate (among persons aged 15–74) was 5.1 % in the EU-28; this was 0.1 percentage points lower than in 2013, but still almost double the rate recorded at the onset of the financial and economic crisis in 2008, when the EU-28's long-term unemployment rate had been 2.6 %.

The long-term unemployment ratio (as opposed to the rate) measures the share of unemployed persons who have been without work for at least 12 months. From a low of 33.4 % in 2009, this proportion rose steadily within the EU-28, such that almost half (49.5 %) of the unemployed population had been without work for at least 12 months in 2014.

In 2014, the lowest unemployment ratios among EU Member States were recorded in Sweden (18.9 %) and Finland (22.4 %), while Denmark, Austria and Luxembourg each had ratios within the range of 25–28 %. Elsewhere, the long-term unemployed accounted for just over one third (35.8 %) of those who were unemployed in the United Kingdom, a share that rose above 40 % in all of the remaining EU Member States. The unemployment ratio was very low in Iceland, as it stood at 12.0 % in 2014.

The long-term unemployment ratio peaked at 73.5 % in Greece, while 70.2 % of the unemployed in Slovakia had been without work for at least 12 months. Long-term unemployment ratios were, on average, close to 60 % in Italy, Bulgaria, Portugal, Ireland and Croatia, while more than half of those who were unemployed in Slovenia and Spain had also been without work for at least a year.

The long-term unemployed accounted for a relatively low share of total unemployment in regions in the Nordic Member States

The darkest shade in **Map 5.8** reveals those regions where the long-term unemployed accounted for less than a quarter of the total unemployed population. This was the case for all eight of the NUTS level 2 regions in Sweden, the four Finnish

regions for which data are available (no information for Åland), and three of the five Danish regions (Syddanmark, Midtjylland and Nordjylland). Outside of this cluster of regions across the Nordic Member States, the long-term unemployment ratio was less than 25 % in the Austrian region of Oberösterreich, the Romanian capital region of Bucureşti - Ilfov (which was in contrast to other Romanian regions) and three regions from the United Kingdom (East Wales; Herefordshire, Worcestershire and Warwickshire; Surrey, East and West Sussex).

More than three quarters of those who were unemployed in the Greek capital region had been so for at least 12 months

The lightest shade in **Map 5.8** shows those NUTS level 2 regions in 2014 where the long-term unemployment ratio was at least 65 %. These were largely concentrated in southern and eastern regions of the EU, but also included the four French overseas regions (note that data are for 2013).

Indeed, the highest long-term unemployment ratios in the EU were recorded in Guadeloupe (79.5 %) and Guyane (77.6 %), just ahead of the Greek capital region of Attiki (77.3 %), while eight additional Greek regions and four southern Italian regions also registered ratios above 65 %. Aside from the capital region of Bratislavský kraj (44.7 %), the other three NUTS level 2 regions from Slovakia also reported long-term unemployment ratios above 65 % and they were joined by two regions from the north of Bulgaria and two regions from Spain (both of the autonomous Spanish cities), as well as the Portuguese island region of the Região Autónoma da Madeira.

It is interesting to note that although some of the lowest unemployment rates in the EU were recorded across German regions, the long-term unemployment ratio was over 50 % in several German regions principally in the north-east — Berlin, Brandenburg, Mecklenburg-Vorpommern, Sachsen-Anhalt, Chemnitz and Leipzig (where the highest ratio among German regions was recorded at 60.6 %).

Map 5.8: Long-term unemployment ratio, persons aged 15–74, by NUTS level 2 region, 2014 (¹)
(% share of the unemployed population)
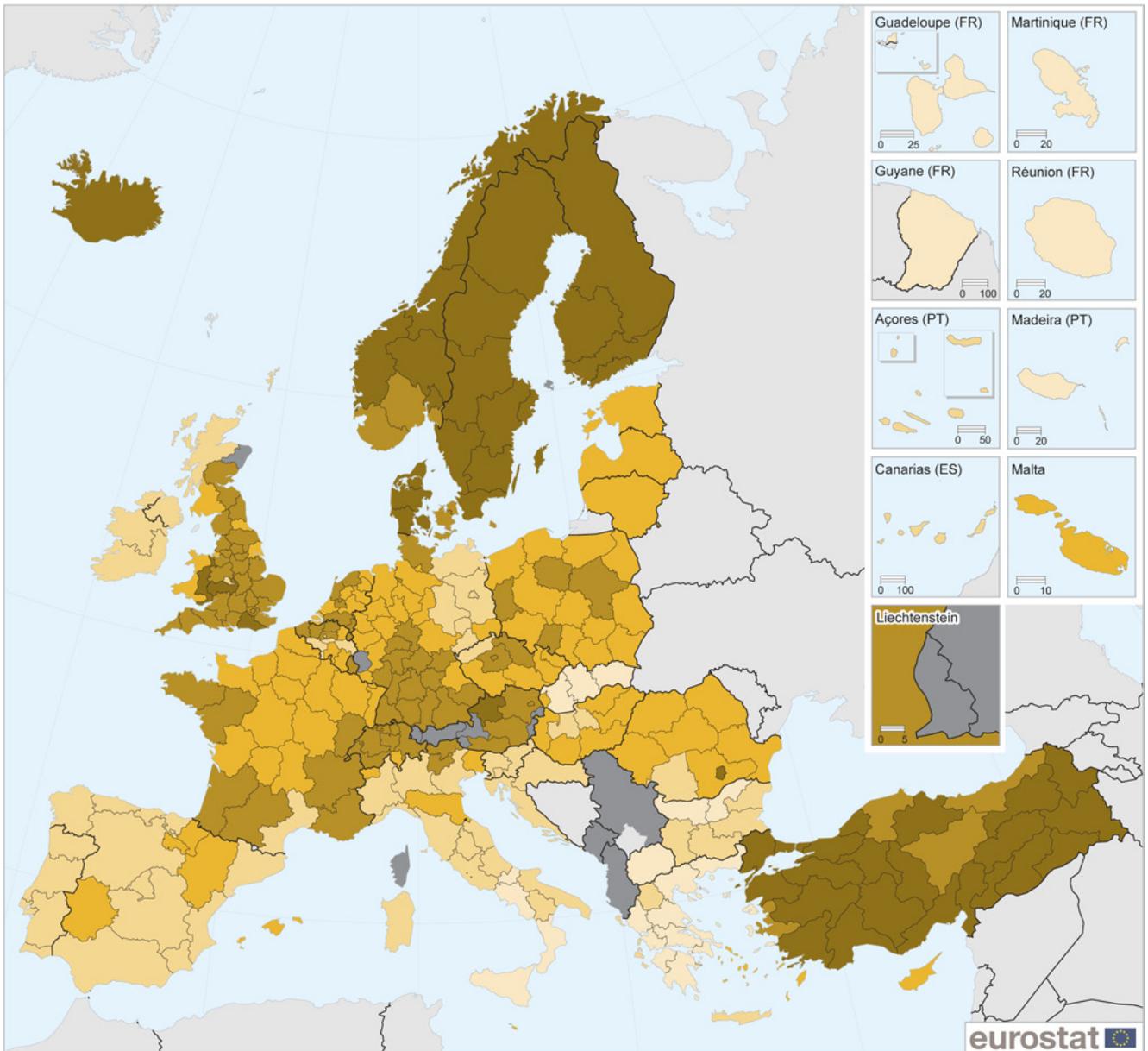
(% share of the unemployed population)

EU-28 = 49.3
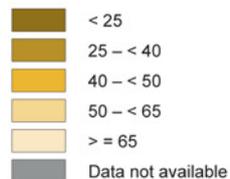
- < 25
- 25 – < 40
- 40 – < 50
- 50 – < 65
- >= 65
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015
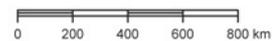
(¹) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93), Réunion (FR94) Cumbria (UKD1), Cheshire (UKD6) and Cornwall and Isles of Scilly (UKK3): 2013. Data for several regions have low reliability (too numerous to document).
Source: Eurostat (online data code: lfst_r_lfu2ltu)

Data sources and availability

The information presented in this chapter pertains to annual averages derived from the labour force survey (LFS). The LFS covers 33 participating countries, comprising the 28 EU Member States, three EFTA countries (Iceland, Norway and Switzerland) and two candidate countries (the former Yugoslav Republic of Macedonia and Turkey).

The LFS population generally covers those persons aged 15 and over, living in private households; it excludes those living in collective households, such as residential homes, boarding houses, hospitals, religious institutions, prisons or workers' hostels; those persons on compulsory military service are also excluded. It comprises all persons surveyed during the reference week and also includes those persons who were absent for a short period due, for example, to: studies, holidays, illness or business trips. The survey follows the definitions and recommendations of the International Labour Organisation (ILO).

Indicator definitions

The economically active population, also called the labour force, is defined as the sum of the employed population and the unemployed population.

Employed persons are those aged 15 years and over who during the reference week performed work, even for just one hour, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent, for example, due to illness, holidays, industrial dispute or education and training. The following exceptions apply to the age range used: in Spain, and the United Kingdom the data cover those aged 16 and over; in Denmark, Estonia, Finland, Hungary, Latvia and Sweden (from 2001 onwards) the data cover those aged 15–74; and in Iceland and Norway they cover those aged 16–74.

Unemployed persons are those aged 15–74 who were: without work during the reference week; currently available for work; and either actively seeking work in the four weeks prior to the survey or had already found a job to start within the next three months. The following exceptions apply to the age range used: in Spain, Italy, the United Kingdom, Iceland and Norway the data cover those aged 16–74.

For more details on the definitions of labour market indicators, see: EU labour force survey — methodology.

Economy

6

Introduction

Measuring economic development

Economic development is commonly expressed in terms of gross domestic product (GDP), which in the regional context may be used to measure macroeconomic activity and growth, as well as providing the basis for comparisons between regions. GDP is also an important indicator from the policy perspective, as it is crucial in determining the extent to which each European Union (EU) Member State should contribute to the EU's budget and three-year averages of GDP are used to decide which regions should be eligible to receive support from the EU's structural funds.

GDP per capita is often regarded as a proxy indicator for overall living standards. However, as a single source of information it should not be relied upon to inform policy debates, as it does not take account of externalities such as environmental sustainability or social inclusion, which are increasingly considered as important drivers for the quality of life.

A number of international initiatives have focused on this issue and in August 2009, the European Commission adopted a communication titled GDP and beyond: measuring progress in a changing world (COM(2009) 433 final), which outlined a range of actions to improve and complement GDP measures. This noted that there was a clear case for complementing GDP with statistics covering other economic, social and environmental issues, on which individuals' well-being critically depends. Recent developments on these complementary indicators are detailed in a staff working paper called Progress on 'GDP and beyond' actions (SWD(2013) 303 final), in which public interest in broader measures of GDP is confirmed, including at regional and local levels. For more information on the quality of life, see Chapter 14.

Economic policies

Regional inequalities can be due to many factors, including: geographic remoteness or sparse population, social and economic change, or the legacy of former economic systems. These inequalities may manifest themselves, among others, in the form of social deprivation, poor-quality healthcare or education, higher levels of unemployment, or inadequate infrastructure.

The EU's regional policy aims to support the broader Europe 2020 agenda. It is designed to foster solidarity and cohesion, such that each region may achieve its full potential, improving competitiveness and employment, and bringing living standards in 'poorer' regions up to the EU average as quickly as possible.

Cohesion policy

More than one third of the EU's budget is devoted to cohesion policy, which aims to remove economic, social and territorial disparities across the EU, for example, by helping restructure declining industrial areas or diversify rural areas. In doing so, EU regional policy seeks to make regions more competitive, foster economic growth and create new jobs. The EU's regional policy is an investment policy supporting job creation, competitiveness, economic growth, improved quality of life and sustainable development.

For the period 2014–20, the EU's cohesion policy has been refocused with the objective of having maximum impact on growth and jobs. During this period, a total of EUR 351 billion will be invested in the EU's regions. Investment will continue across all regions, but policy reforms have been adopted changing the levels of support according to the following classification:

- less developed regions (GDP < 75 % of the EU-27 average);
- transition regions (GDP 75 % – 90 % of the EU-27 average); and,
- more developed regions (GDP > 90 % of EU-27 average).

The EU's regional policy seeks to help every region achieve its full potential, through improving competitiveness and raising the living standards of the poorest regions towards the EU average (convergence). Regional economic policy seeks to stimulate investment in the regions by improving accessibility, providing quality services and preserving the environment, thereby encouraging innovation and entrepreneurship and the creation of jobs, while overcoming inequalities that may be manifest in social deprivation, poor housing, education and healthcare, higher unemployment or inadequate infrastructure provisions.

Boosting jobs, growth and investment

In 2014, the European Commission set its top priority as 'boosting jobs, growth and investment'. This is a major new initiative that will unlock public and private investment by targeting infrastructure developments, such as broadband internet, energy networks and transport. In its Communication titled 'An investment plan for Europe' (COM(2014) 0903 final), the European Commission underlined the role that Member States and regional authorities should play to get the maximum impact from EU structural funds by capitalising on a variety of financial instruments in the form of loans, equity and guarantees.

Main statistical findings

GDP at market prices in the EU-28 was valued at EUR 13.5 trillion in 2013, which equated to an average level of approximately 26.6 thousand PPS per capita.

Regional GDP per capita

Map 6.1 shows GDP per capita in 2013 for NUTS level 2 regions, with the value for each region expressed as a percentage of the EU-28 average (set to equal 100 %). As such, it portrays relatively 'rich' regions (shown in green) where GDP per capita was above the EU average and relatively 'poor' regions (shown in red). The map reveals a clear east–west divide. However, this pattern is less pronounced than it was almost a decade before — when the EU underwent its largest expansion with the accession of 10 new Member States — as a result of two principal factors:

- a gradual process of economic convergence, resulting from relatively rapid growth among less developed regions;
- the financial and economic crisis, which had a considerable impact on the economic performance of most EU Member States.

Indeed, many regions in the east of the EU, especially capital regions, have seen their GDP per capita (adjusted for price level differences) rise in absolute terms and in relation to the EU-28 average. By contrast, the impact of the crisis resulted in GDP per capita falling below the EU-28 average in every region of Greece, Cyprus (a single region at this level of analysis), southern Italy, most of Portugal and Spain, and more than half the regions in France and the United Kingdom.

The highest level of GDP per capita in the EU was recorded in Inner London

In 2013, approximately 15 % of the 250 NUTS level 2 regions for which data are available (see **Map 6.1** for coverage) reported that their GDP per capita was at least 25 % higher

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SPOTLIGHT ON THE REGIONS: MAZOWIECKIE, POLAND

The most rapid economic growth during the period 2008–13 across NUTS level 2 regions of the EU was recorded in the Polish region of Mazowieckie, which includes the capital of Warsaw. GDP per capita in Mazowieckie was about four fifths of the EU-28 average in 2008, but rose to be 7.1 % higher than the EU-28 average by 2013.

Photo: Itsmejust */ Shutterstock.com*

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than the EU-28 average; they are shown in the darkest shade of green. Many of them were capital regions or regions that neighboured capital regions, while the vast majority of the others were clustered together in the centre of the map, covering southern Germany, western Austria and northern Italy, as well as Switzerland.

There were three regions where GDP per capita in 2013 was more than double the EU-28 average, namely: Inner London, Luxembourg (a single region at this level of analysis) and the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest.

ⓘ ECONOMIC ACTIVITY — DEFINING GDP

GDP is the central measure of national accounts, summarising the economic position of a country or region. It can be calculated using different approaches: the output approach; the expenditure approach; and the income approach.

GDP is used to analyse economic performance and cycles (such as recessions, recoveries and booms). Data in diverse currencies can be converted into a common currency to make it more easily comparable — for example, converting into euros or dollars. However, exchange rates do not reflect all the differences in price levels between countries. To compensate for this, GDP can be converted using conversion factors known as purchasing power parities (PPPs). By using PPPs (rather than market exchange rates) these indicators are converted into an artificial common currency called a purchasing power standard (PPS); the use of a PPS makes it possible to compare purchasing power across the regions of EU Member States that use different currencies and where price levels are different.

In broad terms, the use of PPS series rather than a euro-based series tends to have a levelling effect, as those regions with very high GDP per capita in euro terms also tend to have relatively high price levels (for example, the cost of living in central Paris or London is generally higher than the cost of living in rural areas of Hungary or Poland).

Map 6.1: Gross domestic product (GDP) per inhabitant, in purchasing power standard (PPS), by NUTS level 2 region, 2013 (¹)
(% of the EU-28 average, EU-28 = 100)

(% of the EU-28 average, EU-28 = 100)

EU-28 = 100

- < 75
- 75 – < 90
- 90 – < 100
- 100 – < 110
- 110 – < 125
- >= 125
- Data not Available
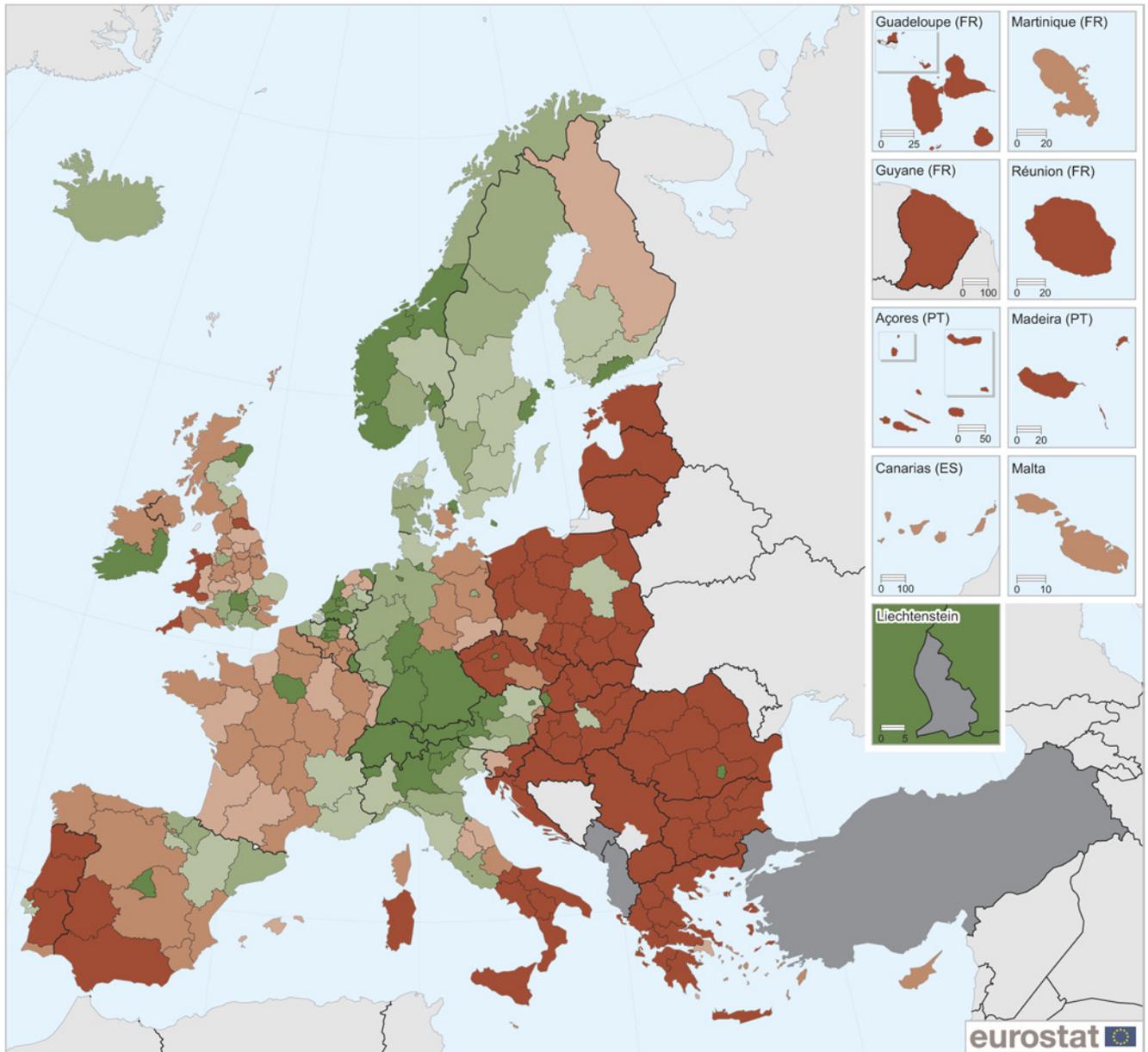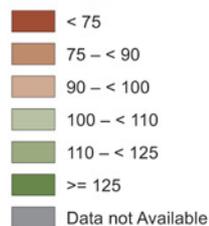
Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
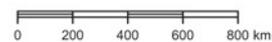
(¹) Germany: only available for NUTS level 1 regions. Switzerland: only available at national level. Norway: 2012.
Source: Eurostat (online data codes: nama_10r_2gdp and nama_10_pc)

All three of these regions with the highest levels of GDP per capita in 2013 were characterised by high commuter inflows: indeed, many people travel large distances into central London each day for work; the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest is relatively small in size (covering just over 160 km²) and attracts commuters; while a high proportion of those who work in Luxembourg travel across national borders coming to work from neighbouring Belgium, Germany and France.

Capital regions often recorded the highest levels of GDP per capita

Looking in more detail at those regions with relatively high average levels of GDP per capita, there were 17 regions where this ratio was at least 50 % higher than the EU-28 average. Aside from the three regions already mentioned, these included the capital regions of Slovakia, Sweden, France, the Czech Republic, Austria, the Netherlands and Denmark. The remaining seven regions were spread across Germany (Bremen and Hamburg; note the data for Germany is presented by NUTS level 1 region), the Netherlands (Groningen and Utrecht), Austria (Salzburg) and the United Kingdom (Berkshire, Buckinghamshire and Oxfordshire and North Eastern Scotland).

Figure 6.1 presents an alternative analysis of the regional distribution of GDP per capita in 2013. It shows that in the majority of the multi-regional EU Member States, capital regions were generally those with the highest average GDP per capita; the only exceptions to this rule were Germany, Italy and the Netherlands. In Germany (note the data are for NUTS level 1 regions), the highest average GDP per capita was recorded in Hamburg, while Berlin was the only capital region that recorded GDP per capita below its national average. The Italian capital region of Lazio had the sixth highest level of GDP per capita among Italian regions, with higher levels recorded in most of the more northerly regions, peaking in the Provincia Autonoma di Bolzano / Bozen. In the Netherlands, Groningen was the only Dutch region to record average GDP per capita that was higher than in the capital region of Noord-Holland.

The capital regions of the Czech Republic, Ireland, Hungary, Poland, Portugal, Romania and Slovakia were the only regions from each of these EU Member States where GDP per capita was higher than the EU-28 average in 2013.

In Inner London, GDP per capita was almost 11 times higher than in Severozapaden

In 2013, average GDP per capita for Inner London (325 % of the EU-28 average) was almost 11 times as high — having taken account of differences in price levels — as in Severozapaden (Bulgaria), where the lowest average GDP per capita was recorded (30 % of the EU-28 average). Note this edition of the *Eurostat regional yearbook* is based on NUTS 2010 and therefore excludes information on Mayotte (a French overseas territory that became part of the regional classification as of NUTS 2013). The first regional accounts for Mayotte have been received by Eurostat and these suggest that GDP per capita was 27 % of the EU-28 average in 2013 (slightly lower than in Severozapaden).

An analysis for those EU Member States with more than two regions shows that the widest disparities in wealth creation between regions from the same country were recorded within the United Kingdom, as GDP per capita in Inner London was almost five times as high as in West Wales and the Valleys. There were also considerable differences within Romania (a ratio of 3.9 between the capital region of Bucuresti-Ilfov and Nord-Est), Slovakia (a ratio of 3.6 between the capital region of Bratislavský kraj and the eastern region of Východné Slovensko) and France (a ratio of 3.3 between the capital region of Île de France and the overseas South American region of Guyane).

Figure 6.1: Regional disparities in gross domestic product (GDP) per inhabitant, in purchasing power standard (PPS), by NUTS level 2 region, 2013 (¹)
(% of the EU-28 average, EU-28 = 100)

● Capital region
▬ National average
● Other NUTS regions
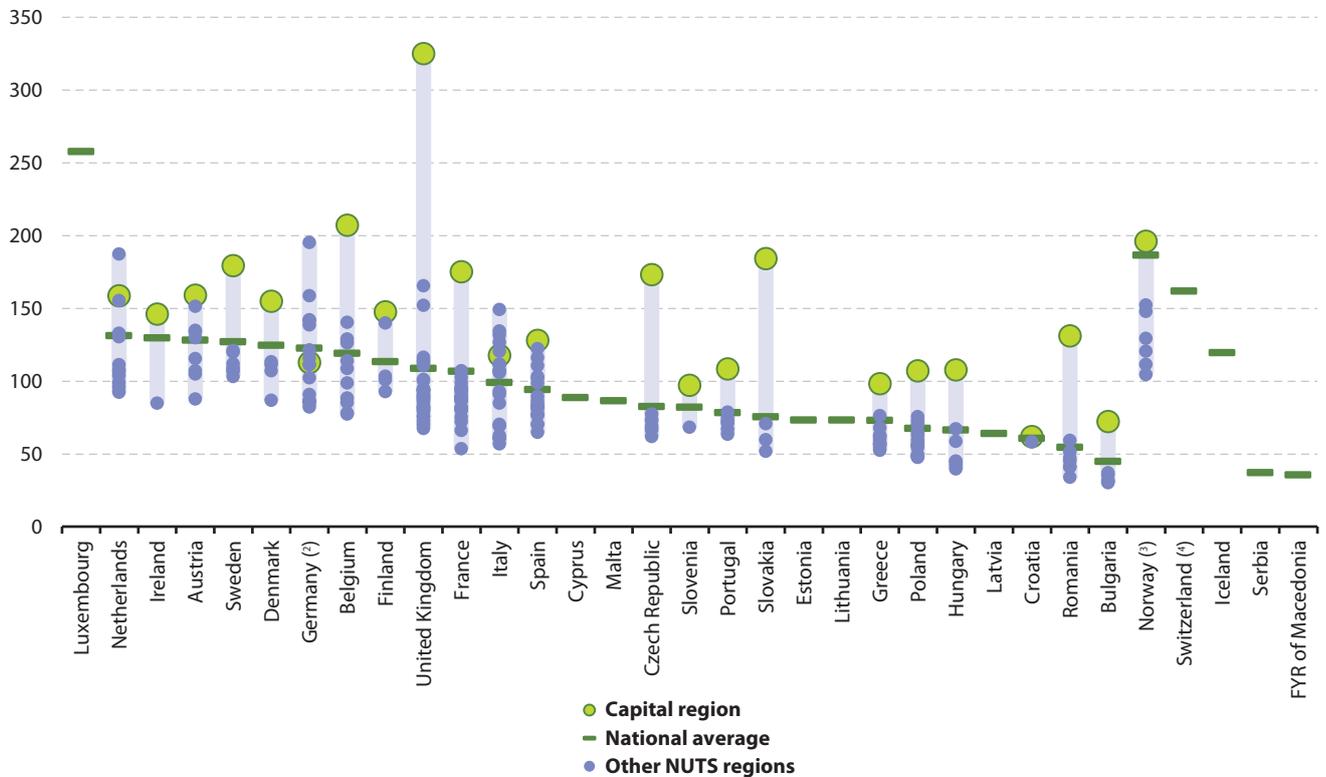
(¹) The light purple shaded bar shows the range of the highest to lowest region for each country. The dark green bar shows the national average. The light green circle shows the capital city region. The dark purple circles show the other regions.
(²) Only available for NUTS level 1 regions.
(³) Only available at national level.
(⁴) 2012.
Source: Eurostat (online data codes: nama_10r_2gdp and nama_10_pc)

GDP per capita was higher than the EU-28 average in every region of Sweden

By contrast, wealth creation was relatively evenly spread across the Nordic Member States, Austria, Spain, Portugal and Greece. In each of these EU Member States, average GDP per capita in the capital region was never more than double that recorded in the region with the lowest GDP per capita, as was also the case in Norway. Sweden was the only multi-regional EU Member State to report that each of its NUTS level 2 regions had an average level of GDP per capita that was above the EU-28 average in 2013; the same was true for the level 2 regions in Norway.

The 19 regions in the EU where GDP per capita was less than half the EU-28 average were all located in eastern Europe

Those regions which are targeted the most by cohesion funds have an average GDP per capita that is less than 75 % of the EU-28 average; these regions are shown in a dark red shade in **Map 6.1**. There were 80 NUTS level 2 regions which fell into this category in 2013. It should be noted that the basis of funding for the 2014–20 programming period has been fixed with respect to average GDP per capita during the three-year period 2007–09.

Almost a quarter (19 regions) of the 80 regions with relatively low GDP per capita has a level of economic output per capita that was less than half the EU-28 average. These regions were all located in eastern Europe and were spread across four of the EU Member States, with five regions from each of Bulgaria, Poland and Romania, and four regions from Hungary. The three Bulgarian regions of Severozapaden, Severen tsentralen and Yuzhen tsentralen reported the lowest average GDP per capita in the EU, with each of these regions having a level of output per capita that was less than one third of the EU-28 average. Note that the data presented in this edition of the *Eurostat regional yearbook* is based on the NUTS 2010 classification. However, data has already been received for some regions covering the revised classification (NUTS 2013) and this shows that GDP per capita in the French overseas region of Mayotte (in the Indian Ocean) was 27 % of the EU-28 average in 2013; Mayotte became an outermost region of the EU as of 1 January 2014.

In Bulgaria, Greece, Croatia and Slovenia, every region (including the capital region), recorded an average level of GDP per capita that was below the EU-28 average. GDP per capita was also below the EU-28 average in five EU Member

States that are single regions at this level of analysis, the Baltic Member States, Cyprus and Malta; this was also the case in the former Yugoslav Republic of Macedonia and Serbia (where there are currently no regional statistics available).

Analysis of regional economic development over time

During the financial and economic crisis, GDP per capita in the EU-28 peaked in 2008 at 25.9 thousand PPS. There was a rapid reduction in activity in 2009 and it was not until 2011 that the average level of GDP per capita had returned (slightly) above its pre-crisis peak. The pace at which GDP per capita was increasing slowed in 2012 and this pattern continued in 2013 when an average of 26.6 thousand PPS of GDP was generated per capita.

GDP per capita increased at a rapid pace in Poland

Map 6.2 shows the effects of the financial and economic crisis, detailing regional performance for NUTS level 2 regions between 2008 and 2013 (see the footnotes to the map for more information on coverage). Those regions that expanded at a fast pace — as shown by the darkest shade of green — were principally located in Poland (all but 3 of its 16 regions), while — as a percentage of the EU-28 average — GDP per capita also increased by more than eight percentage points in Lithuania (a single region at this level of analysis), Groningen (the Netherlands), Burgenland and Salzburg (Austria), the capital regions of Bucureşti - Ilfov (Romania) and Bratislavský kraj (Slovakia), and the archipelago of Åland (Finland).

National economic fortunes appear to play a significant role in determining regional economic performance

It is interesting to note that, despite wide variations in average levels of GDP per capita between the regions of some EU Member States, there was a relatively uniform pattern to changes in economic activity over the period from 2008 to 2013. Among the multi-regional EU Member States, GDP per capita grew at a faster pace than the EU-28 average in every region of Denmark, Germany (aside from Berlin and Hamburg), Hungary, Austria (aside from Wien), Poland, Romania and Slovakia; there was also growth in every Norwegian region, as well as in Switzerland, the former Yugoslav Republic of Macedonia and Serbia. By contrast, every region in Greece, Spain, Croatia, Italy (with the exception of the Provincia Autonoma di Bolzano / Bozen), Slovenia, Finland (with the exception of Åland) and the United Kingdom saw their average GDP per capita grow at a slower pace than the EU-28 average (usually as a result of slow growth, rather than an absolute decline in GDP per capita).

The fastest regional economic growth during the period 2008–13 was recorded in the Polish and Slovakian capital regions

The highest growth between 2008 and 2013 in GDP per capita relative to the EU-28 average was recorded in the capital regions of Poland and Slovakia, as Mazowieckie and Bratislavský kraj posted increases of 24.0 and 18.8 percentage points. There were eight other regions where GDP per capita relative to the EU-28 average grew by at least 10 percentage points: six of these were located in Poland, while the remaining two regions were Lithuania (a single region at this level of analysis) and Groningen (the Netherlands; note that the growth rate for this region is based on the period 2010–13).

All Greek regions were strongly affected by the financial and economic crisis

At the other end of the range, a total of 36 regions recorded a fall of at least 8 percentage points between 2008 and 2013 in their GDP per capita relative to the EU-28 average, (as shown by the darkest red shade in **Map 6.2**). The impact of the financial and economic crisis on the Greek economy was widespread, as 12 of the 14 lowest rates of change were posted by Greek regions; Cyprus (a single region at this level of analysis) and Bedfordshire and Hertfordshire (in the United Kingdom) were the only regions to record similar rates of change.

Map 6.2: Change of gross domestic product (GDP) per inhabitant, in purchasing power standard (PPS), by NUTS level 2 region, 2008–13 (¹)
(percentage points difference between 2013 and 2008; in relation to the EU-28 average)
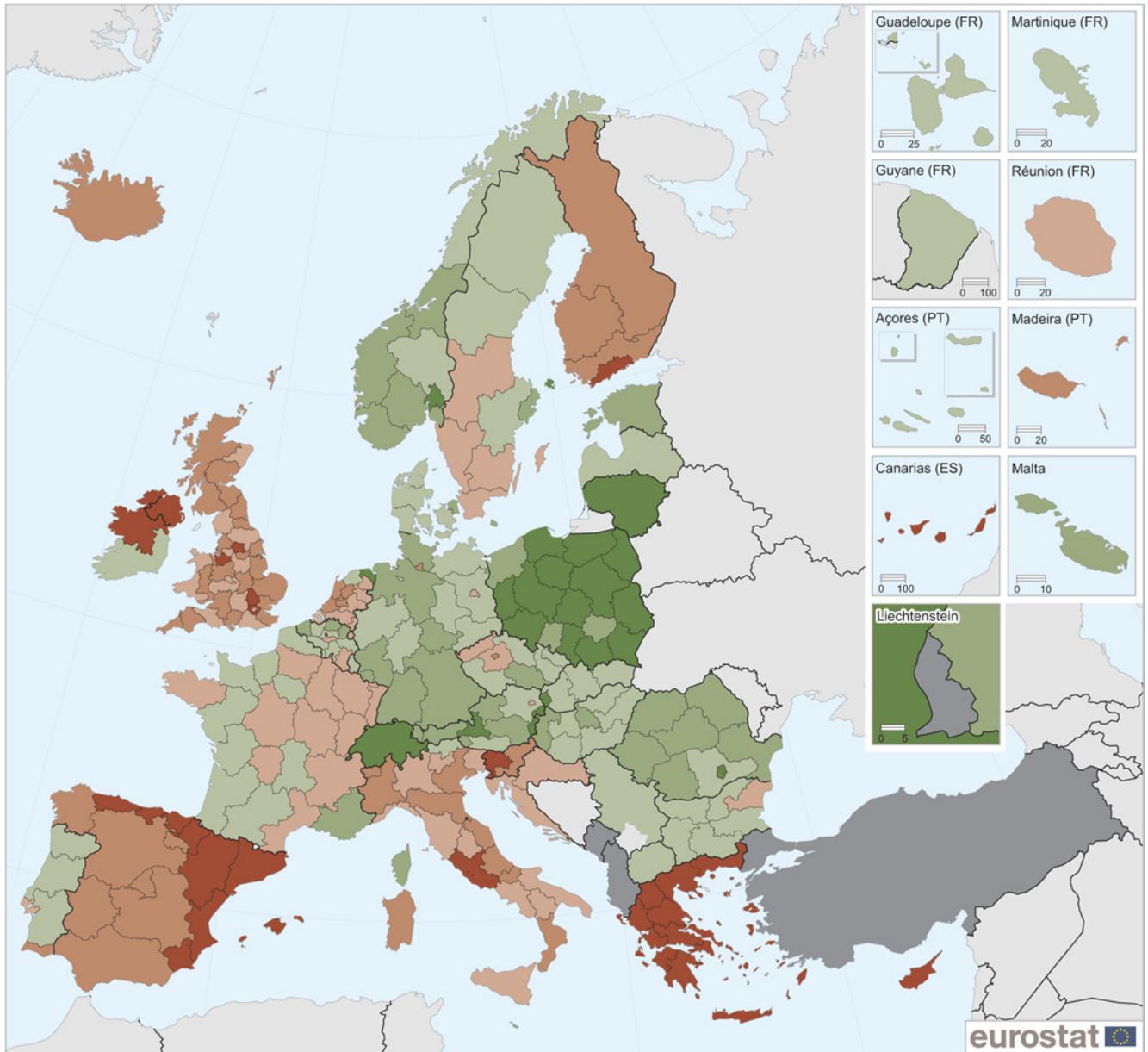
(percentage points difference between 2013 and 2008; in relation to the EU-28 average)
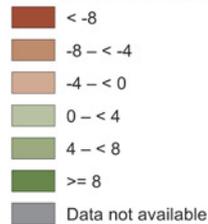
- < -8
- -8 – < -4
- -4 – < 0
- 0 – < 4
- 4 – < 8
- >= 8
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km

(¹) Germany: data available at the NUTS1 level. Switzerland: only available at national level. Belgium: 2009–13. Germany and the Netherlands: 2010–13. Italy: 2011–13. Norway: 2011–12.
Source: Eurostat (online data codes: nama_10r_2gdp and nama_10_pc)

Gross value added by industry

Maps 6.3–6.7 provide a regional analysis of gross value added by activity (as defined in terms of NACE). Each map shows the degree of relative specialisation in 2012, in relation to the EU average (set as 100 %). There are considerable differences as regards the contribution that each activity makes to regional economic output.

Bulgarian and Hungarian regions were highly specialised in agriculture, forestry and fishing

The relative contribution of agriculture, forestry and fishing (NACE Section A) to the total gross value added of regional economies is unsurprisingly higher in rural areas than in more built-up areas, such as towns and suburbs or cities. **Map 6.3** shows that agriculture, forestry and fishing contributed a relatively high share of total gross value added in the majority of rural regions, in contrast to a low share of activity in capital regions and other densely populated areas (for example, in the Benelux Member States, Germany and the United Kingdom). The contribution of agriculture, forestry and fishing to the gross value added of the regional economies of Inner London, Berlin and the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest was less than 1 % of the average share for the EU-28 as a whole. By contrast, the share of these activities in total gross value added was 6–7 seven times as high as the EU-28 average in the Hungarian regions of Észak-Alföld, Dél-Dunántúl and Dél-Alföld, as well as in the Bulgarian region of Severen tsentralen, rising to 7.5 times as high in another Bulgarian region, Severozapaden.

Apart from the capital region of Praha, all of the remaining regions in the Czech Republic had a high degree of industrial specialisation

The relatively high contribution of industrial activities (NACE Sections B–E) to regional gross value added was largely concentrated in a cluster of regions — shown by the dark green shade at the centre of **Map 6.4** — that spread over southern Germany, the whole of the Czech Republic (apart from the capital region), up into Poland, and down through several regions of Slovakia, Austria, Hungary and Slovenia; the majority of regions in Bulgaria and Romania also had a very high degree of industrial specialisation. Aside from these two clusters, a relatively high share of regional gross value added — at least 50 % higher than the

🔍 SPOTLIGHT ON THE REGIONS:
SEVEROZAPADEN, BULGARIA

Across most of the EU, the relative weight of agriculture, forestry and fishing in total economic activity has, in recent decades, slowly fallen. Nevertheless, these activities remain a vital part of the local economy in many rural regions. In the north-western Bulgarian region of Severozapaden, the contribution to total gross value from agriculture, forestry and fishing was 7.5 times as high as the EU-28 average.

Photo: Moni84 */ Shutterstock.com*

EU-28 average — was generated within industrial activities in the peripheral industrial economies of Border, Midland and Western (Ireland), Dytiki Makedonia (Greece), the Comunidad Foral de Navarra and La Rioja (Spain), Groningen (the Netherlands), Övre Norrland (Sweden) and North Eastern Scotland (the United Kingdom). There were seven regions where the contribution of industry to regional gross value added was more than double the EU-28 average, three of these were from the Czech Republic (Střední Morava, Střední Čechy and Moravskoslezsko), two were from Hungary (Közép-Dunántúl and Nyugat-Dunántúl), and there was a single region from each of Germany (Braunschweig) and the Netherlands (Groningen). By contrast, the contribution of industrial to total gross value added was relatively low in capital regions (where services are usually the main wealth creator) and a number of regions that may be characterised as tourist destinations, especially prevalent around the Mediterranean coast.

The impact of the financial and economic crisis on construction was still apparent in Ireland and Greece

Map 6.5 shows those regions which were relatively specialised in construction (NACE Section F). The impact of the financial and economic crisis was still being felt in a number of EU Member States where housing bubbles burst: this was most apparent in Ireland, where the contribution of construction to total gross value added was less than half the EU-28 average in both regions (Border, Midland and Western; Southern and Eastern); this was also the case in three Greek regions (Attiki; Anatoliki Makedonia, Thraki; and Kentriki Makedonia), as well as Hamburg (Germany) and Groningen (the Netherlands). Construction also accounted for a relatively low share of the economic activity taking place in many city regions, which may be attributed to the lack of free space or building consent for new projects in regions that are already highly developed. By contrast, there were three regions where the contribution of construction to total gross value added was more than twice the EU-28 average, Sud-Est (Romania) and the two Slovak regions of Stredné Slovensko and Východné Slovensko.

Maps 6.6 and **6.7** provide a similar analysis for two groups of services. The first group covers NACE Sections G–N: distributive trades, transport, accommodation and food services, information and communication, financial and insurance services, real estate and business services (professional, scientific, technical, administrative and support); these are referred to hereafter as market services. The second group covers NACE Sections O–U, including public administration and public services, arts, entertainment and recreation, the repair of household goods and other services and is referred to hereafter as public administration and other services.

Market services were concentrated in capital regions and regions characterised as tourist destinations

Those regions in the EU characterised by highly developed market services, as seen by the dark green regions in **Map 6.6**, were often capitals. This was the case in Praha, Attiki, the Comunidad de Madrid, the Île de France, Luxembourg (a single region at this level of analysis), Noord-Holland and Inner London. The other regions where the contribution of market services to total value added was much higher than the EU-28 average were often characterised as tourist

destinations, for example, the Algarve (in Portugal), the Illes Balears (in Spain), and the two Greek regions of Notio Aigaio (which includes among other Kos, Mykonos and Rhodes) and Ionia Nisia (which includes Corfu). There were three other regions where the contribution of market services to total gross value added was at least 25 % higher than the EU-28 average, they were: the Provincie Vlaams-Brabant in Belgium, Hamburg in Germany and Berkshire, Buckinghamshire and Oxfordshire in the United Kingdom. Groningen was the only region where market services contribution to total gross value added was less than half the EU-28 average; due to its relatively large (offshore) gas activities.

Public administration and other services often accounted for a high share of economic activity in peripheral regions

Map 6.7 shows a relatively clear east–west split in terms of the economic contribution made by public administration and other services. The role of the public administration and other services was often smaller in some of those Member States that joined the EU in 2004 or more recently. The share of public administration and other services was also relatively high in many regions that were touched by high levels of unemployment, which may be the result of the public administration remaining one of the few principal employers; this was particularly the case in peripheral regions, where a lack of proximity to clients may be one factor which deters entrepreneurs and private enterprises from establishing a business.

Across the NUTS level 2 regions of the EU there were 13 regions where the contribution of public administration and other services to total gross value added was at least 50 % higher than the EU-28 average. The highest shares were recorded in the two autonomous Spanish cities of Ceuta and Melilla, followed by the four French overseas regions, while the other regions included two from Belgium (Province Luxembourg and Province Namur), two from Greece (Anatoliki Makedonia, Thraki and Voreio Aigaio), two from France (Limousin and Corse) and a single region from Denmark (Sjælland).

Note that Chapter 7 provides a similar analysis based on the number of persons employed across different activities within regional business economies.

Map 6.3: Share of agriculture, forestry and fishing (NACE Section A) in total gross value added, by NUTS level 2 region, 2012 (¹)
(% of the EU-28 average, EU-28 = 100)
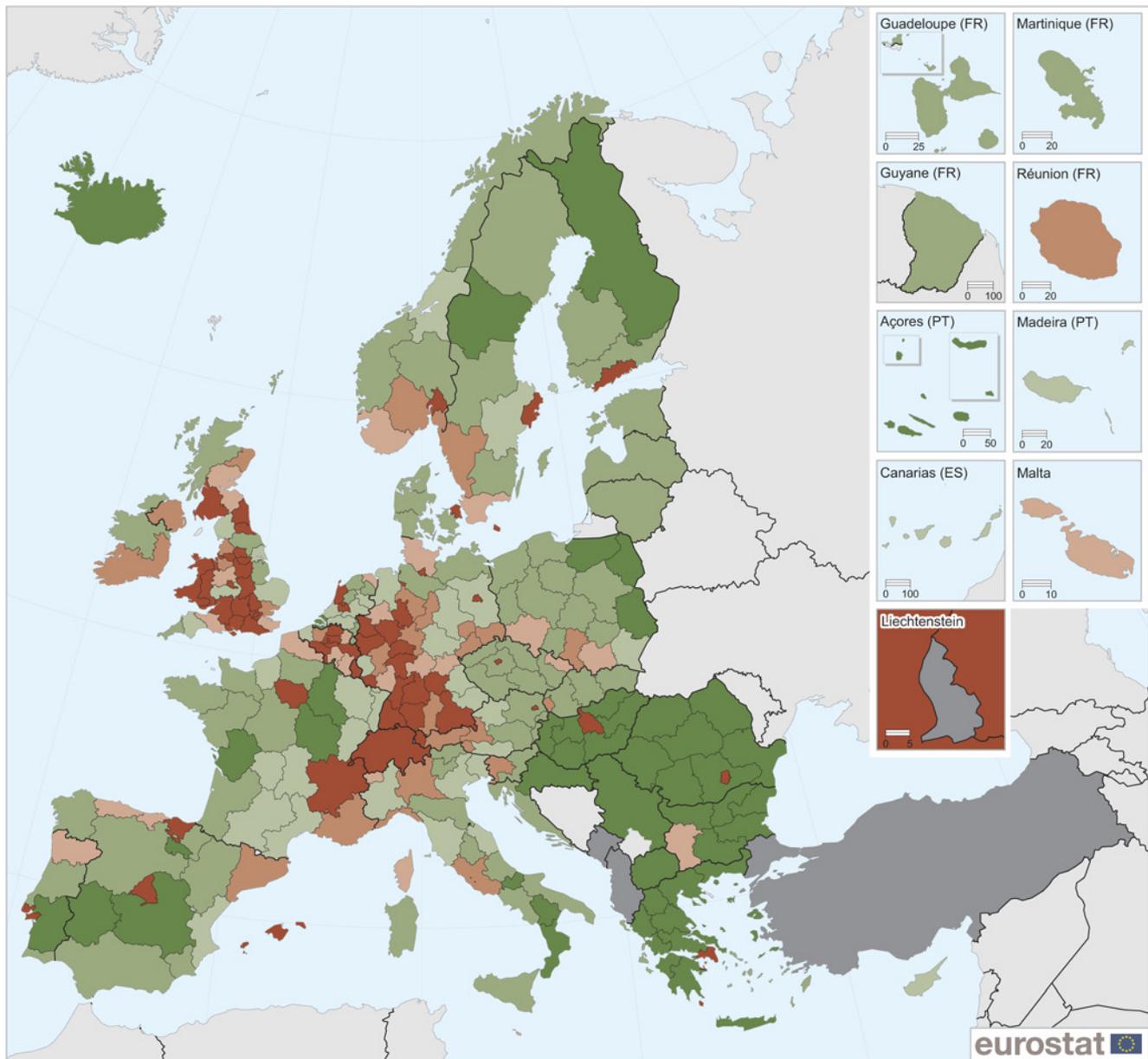
(% of the EU-28 average, EU-28 = 100)

EU-28 = 100

- < 50
- 50 – < 75
- 75 – < 100
- 100 – < 150
- 150 – < 300
- >= 300
- Data not available
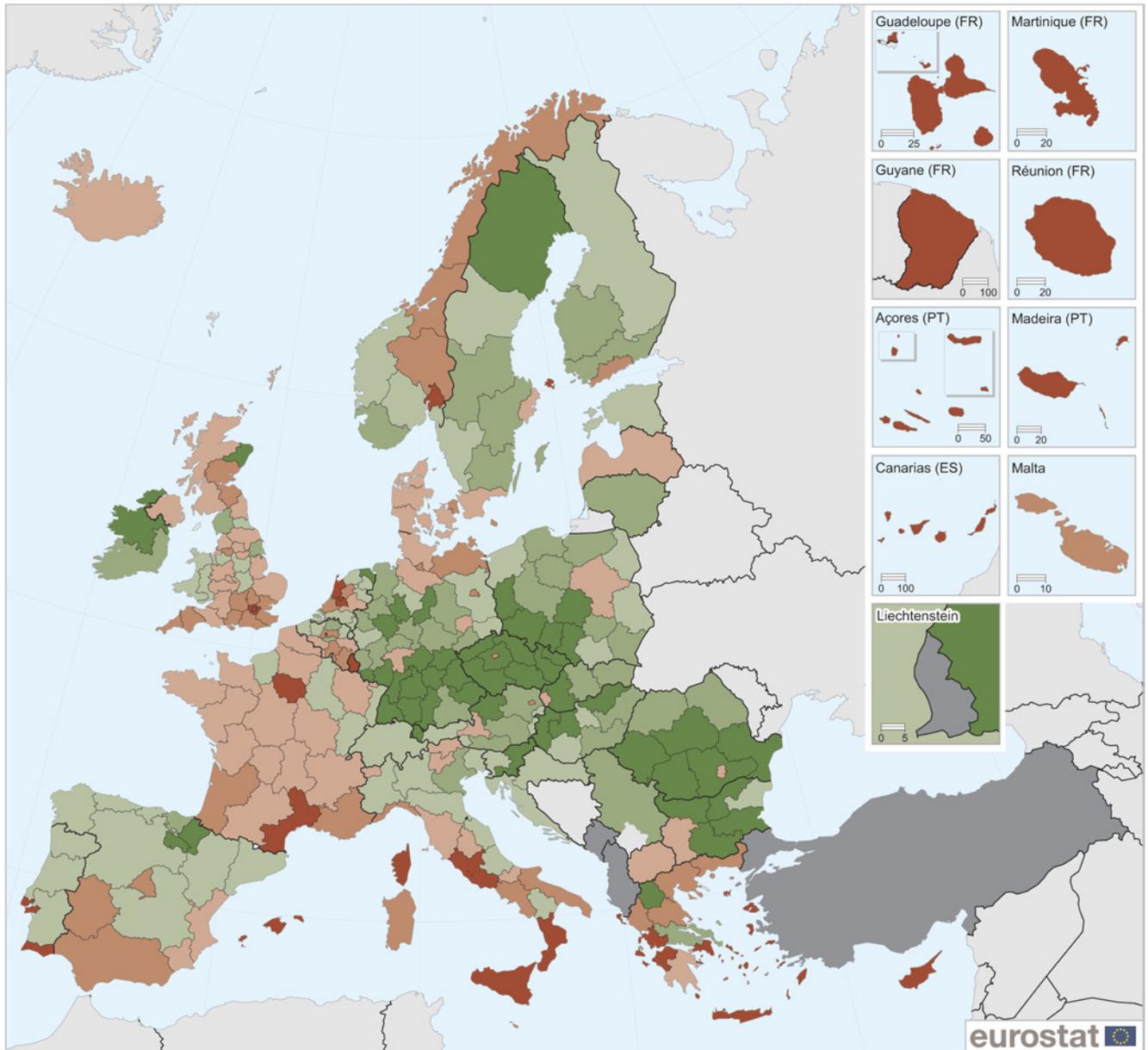
Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Switzerland: only available at national level.
Source: Eurostat (online data codes: nama_10r_3gva and nama_10_a10)

Map 6.5: Share of construction (NACE Section F) in total gross value added, by NUTS level 2 region, 2012 ([1])
(% of the EU-28 average, EU-28 = 100)
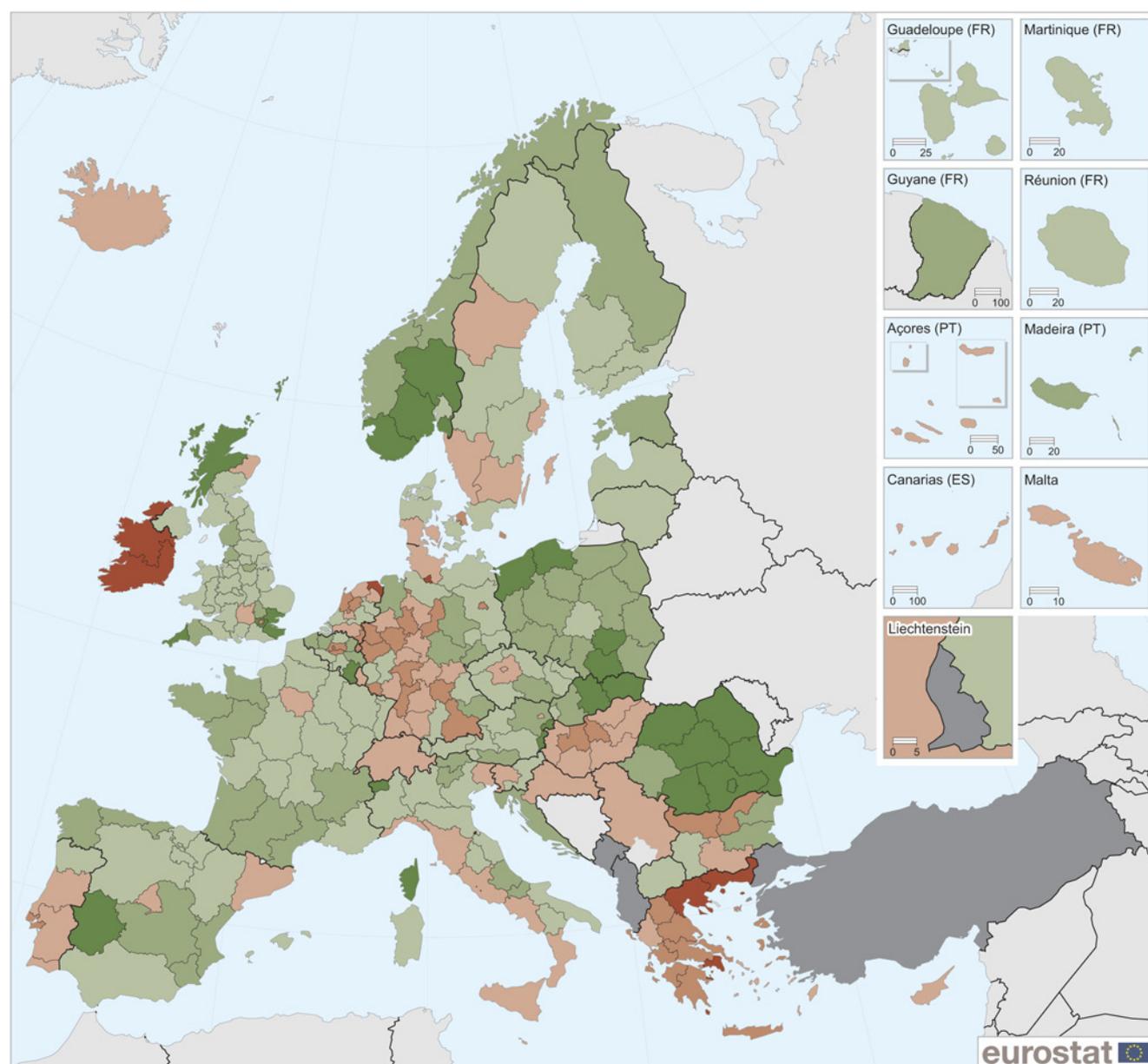
(% of the EU-28 average, EU-28 = 100)

EU-28 = 100

- < 50
- 50 – < 75
- 75 – < 100
- 100 – < 125
- 125 – < 150
- >= 150
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

([1]) Switzerland: only available at national level.
Source: Eurostat (online data codes: nama_10r_3gva and nama_10_a10)

Map 6.6: Share of market services (NACE Sections G–N) in total gross value added, by NUTS level 2 region, 2012 (¹)
(% of the EU-28 average, EU-28 = 100)
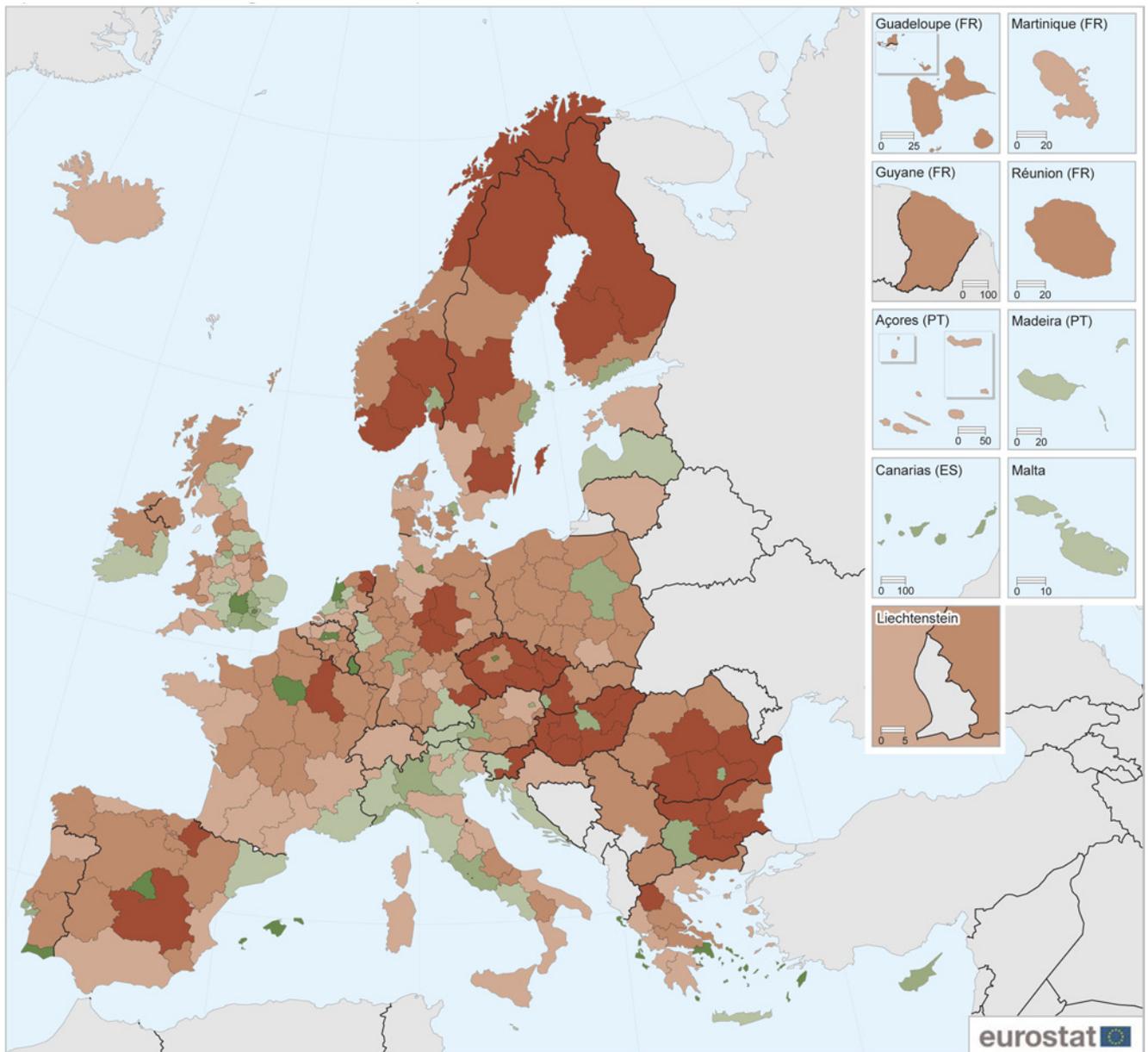
(% of the EU-28 average, EU-28 = 100)

EU-28 = 100

- < 75
- 75 – < 90
- 90 – < 100
- 100 – < 110
- 110 – < 125
- >= 125
- Data not available
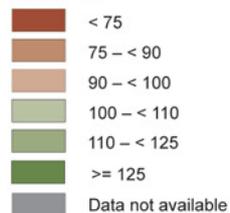
Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
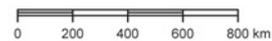
(¹) Switzerland: only available at national level.
Source: Eurostat (online data codes: nama_10r_3gva and nama_10_a10)

Map 6.7: Share of public administration and public services, arts, entertainment and recreation, repair of household goods and other services (NACE Sections O–U) in total gross value added, by NUTS level 2 region, 2012 (¹)
(% of the EU-28 average, EU-28 = 100)
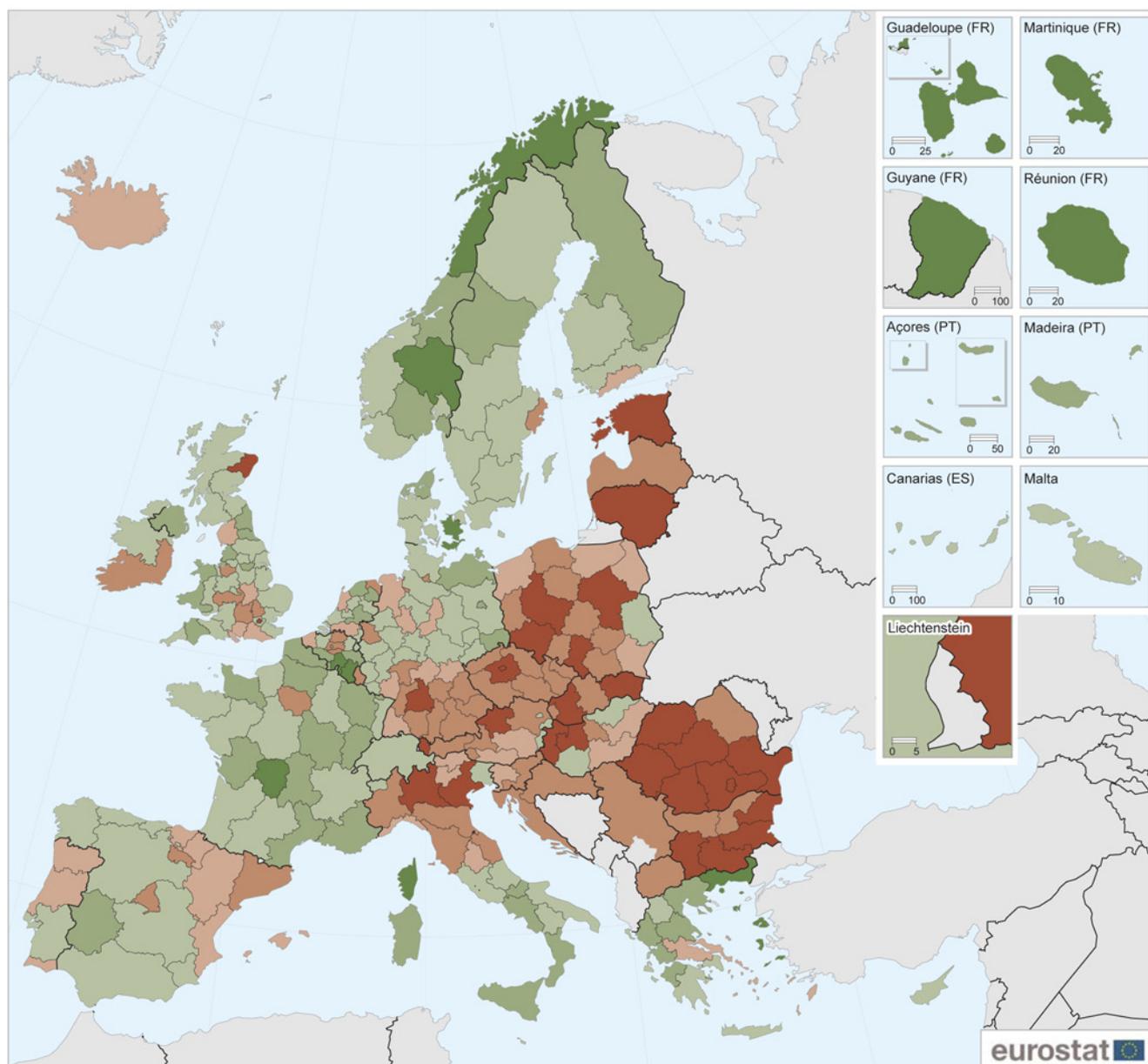
(% of the EU-28 average, EU-28 = 100)

EU-28 = 100

- < 75
- 75 – < 90
- 90 – < 100
- 100 – < 125
- 125 – < 150
- >= 150
- Data not available
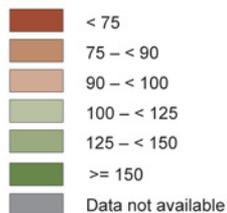
Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Switzerland: only available at national level.
Source: Eurostat (online data codes: nama_10r_3gva and nama_10_a10)

Map 6.8: Gross value added per person employed, by NUTS level 2 region, 2013 (¹)
(% of the EU-28 average, EU-28 = 100)
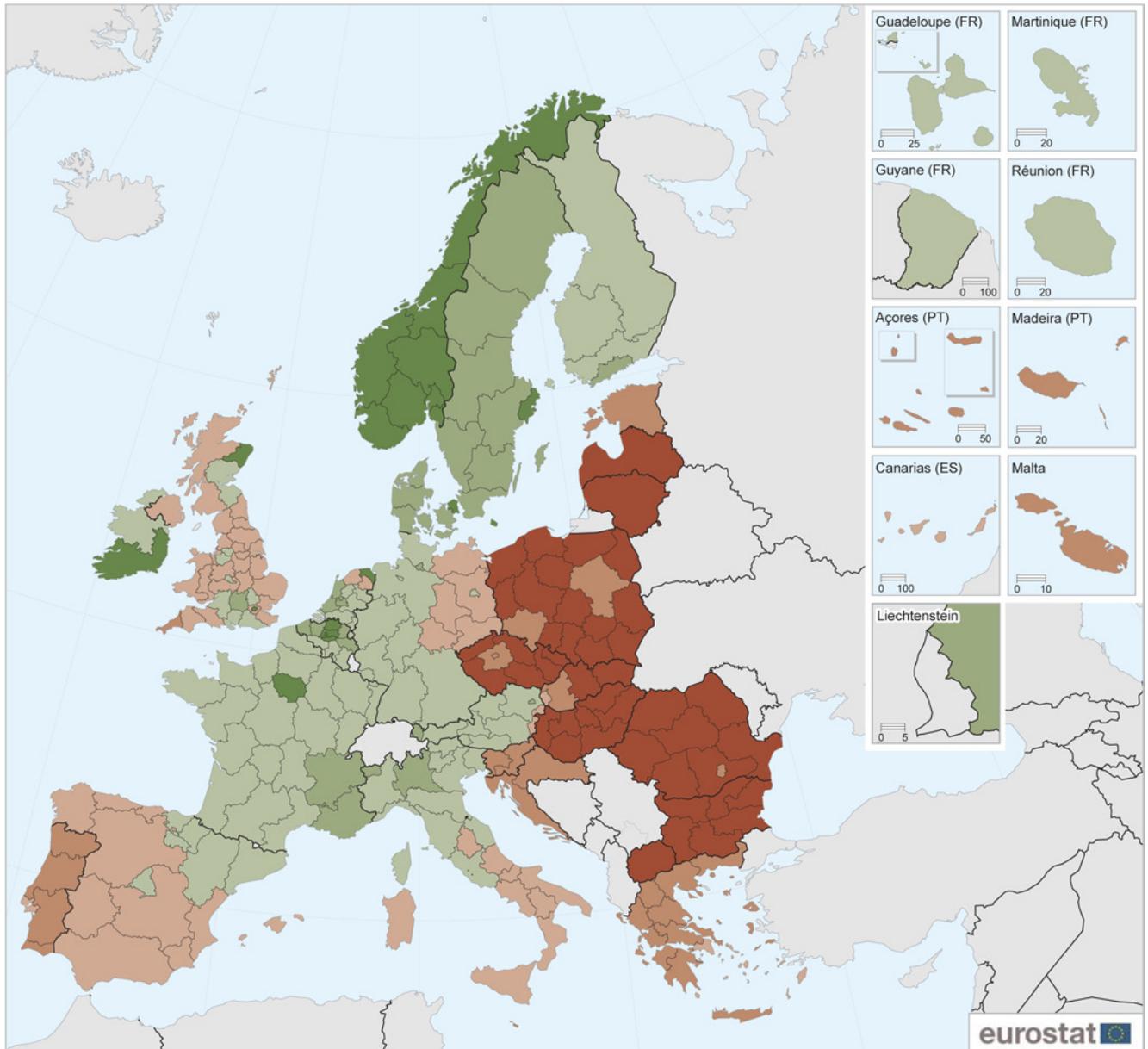
(% of the EU-28 average, EU-28 = 100)

EU-28 = 100

- < 50
- 50 – < 75
- 75 – < 100
- 100 – < 125
- 125 – < 150
- >= 150
- Data not available
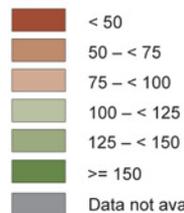
Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
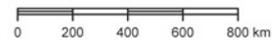
(¹) Germany: only available for NUTS level 1 regions. Croatia, Hungary, Finland and Norway: 2012. Portugal: 2011.
Source: Eurostat (online data codes: nama_10r_3gva, nama_10r_3empers, nama_10_a10 and nama_10_a10_e)

Labour productivity

Within regional accounts, labour productivity is defined as gross value added in euros at basic prices per person employed; **Map 6.8** presents this indicator for NUTS level 2 regions in 2013 with the results shown in relation to the EU-28 average. Regional labour productivity would ideally take account of the total number of hours worked (rather than a simple count of persons employed), however, this measure is currently incomplete for a number of EU Member States.

If there are significant flows of commuters between regions, then it is likely that those regions characterised as having net inflows of commuters will display lower levels of gross value added per person employed than their corresponding ratios for GDP per capita, if the employment data relate to the region of employment rather than residence. In other words, the gap between regions may be narrower when analysing labour productivity than when analysing GDP per capita. That said, the highest level of gross value added per person employed in 2013 was recorded in Inner London (the same region that had the highest level of GDP per capita). Relatively high levels of labour productivity may be linked to the efficient use of labour (without using more inputs), or may result from the mix of activities that make-up a particular economy (as some activities have higher levels of labour productivity than others). For example, the financial services sector plays a particularly important role in the economy of Inner London and this activity is characterised as having particularly high levels of productivity. Southern and Eastern Ireland (which includes Dublin) — which also

specialises in financial services — was also present among the top 10 regions for labour productivity. The remainder of the top 10 was constituted by four Belgian regions (Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest; Provincie Antwerpen; Provincie Vlaams-Brabant; Province Brabant Wallon), the Danish, French and Swedish capital regions, and the Dutch region of Groningen.

Labour productivity lower in those Member States that joined the EU in 2004 or more recently

There was not a single region from the Member States that joined the EU in 2004 or more recently that had a level of gross value added per person employed above the EU-28 average. The Slovakian capital region of Bratislavský kraj recorded the highest level of gross value added per person employed among the NUTS 2 regions from these 13 Member States (subject to data availability), at just over 80 % of the EU-28 average in 2013.

There were 43 NUTS level 2 regions where gross value added per person employed was less than half the EU-28 average in 2013 (as shown by the darkest red shade in **Map 6.8**). These were spread across eastern regions of the EU, with low labour productivity in every region of Bulgaria, all but two of the regions in the Czech Republic (Střední Čechy and the capital region of Praha), all but two of the regions in Poland (Dolnośląskie and the capital region of Mazowieckie), all but one of the regions in Romania (the capital region of Bucureşti - Ilfov), and two regions in Slovakia (Stredné Slovensko and Východné Slovensko); labour productivity was also less than half the EU-28 average in two of the three Baltic Member States (Latvia and Lithuania).

Data sources and availability

ESA 2010

The European system of national and regional accounts (ESA) provides the methodology for national accounts in the EU. The current version, ESA 2010, was adopted in May 2013 and has been implemented since September 2014. As such, this is the first edition of the *Eurostat regional yearbook* that has used ESA 2010. It is important to note that the move to ESA 2010 was part of a broader worldwide initiative, as ESA 2010 is the counterpart of and fully consistent with the United Nations 2008 system of national accounts (2008 SNA).

ESA 2010 provides a harmonised methodology that should be used for the production of national and regional accounts in the EU. It ensures that economic statistics on the economies of EU Member State are compiled in a consistent,

comparable, reliable and up-to-date way. The legal basis for these statistics is a Regulation of the European Parliament and of the Council on the European system of national and regional accounts in the European Union (No 549/2013).

ESA 2010 was revised in order to take account of a number of changes that have impacted economic developments in recent years, in particular: the increasing role of information and communication technologies; the growing importance of intangible assets, intellectual property products and services; and economic globalisation. Among others, the new methodology also takes account of expenditure on weapon systems (counted as investment) and has a more detailed analysis of pension schemes. In many cases, the most significant methodological change in terms of its impact on the headline GDP figure is the capitalisation of research and development (R & D) expenditures.

At a regional level, two types of effects can be distinguished:

- the impact of changes at a national level which do not have a specific regional variation — for example, the inclusion of weapon systems expenditure resulted in changes to regional GDP that affected all regions equally.
- the impact of changes which do have a regional variation — for example, the treatment of R & D expenditure as investment, which is likely to increase regional disparities in GDP per capita as those regions with high levels of R & D expenditure tend to be relatively 'rich'.

Note that changes linked to the implementation of ESA 2010 have not had any implication on the allocation of structural funds under the multi-annual financial framework for 2014–20; these allocations were initially decided in 2012 on the basis of regional GDP data for the reference years 2007–09.

Further information on the transition from ESA 95 to ESA 2010 is presented on Eurostat's website.

Coverage

Statistics from regional economic accounts are largely shown for NUTS level 2 regions. Data for Germany are only available for NUTS level 1 regions, while those for Switzerland are only available at a national level. The latest statistics available for Norwegian regions refer to 2012.

Note that a full time series is not available for all regions: special care should therefore be taken when analysing maps that show developments over time; footnotes are provided specifying any deviations from the standard coverage.

Indicator definitions

Gross domestic product (GDP)

GDP is a basic measure of a country's overall economic health. It is an aggregate measure of production, equal to the sum of the gross value added of all resident institutional units engaged in production, plus any taxes, and minus any subsidies, on products not included in the value of their outputs. Gross value added is the difference between output and intermediate consumption.

GDP per person employed is intended to give an overall impression of the competitiveness and the productivity of a national / regional economy. It depends, to some degree, on the structure of total employment and may, for instance, be lowered by a shift from full-time to part-time work.

Gross value added

Gross value added at basic prices is a balancing item of the national accounts' production account, defined as output at basic prices minus intermediate consumption at purchaser prices. The basic price is the amount receivable by the producer from the purchaser for a unit of a product minus any tax on the product plus any subsidy on the product.

Gross value added can be broken down by activity: the sum of gross value added at basic prices over all activities plus taxes on products minus subsidies on products gives GDP. At the most aggregated level of analysis 10 NACE Rev. 2 headings are identified, although for the purpose of this publication these have been aggregated somewhat into the following headings:

- agriculture, hunting, forestry and fishing (NACE Section A);
- industry (NACE Sections B–E);
- construction (NACE Section F);
- distributive trades, transport, accommodation and food services; information and communication services; financial and insurance services; real estate activities; professional, scientific, technical, administrative and support services (NACE Sections G–N), referred to in this chapter as market services;
- public administration, defence, education, human health and social work; arts, entertainment, recreation, other services and activities of household and extra-territorial organisations and bodies (NACE Sections O–U), referred to in this chapter as public administration and other services.

Structural business statistics

7

Introduction

The European Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs is responsible, among others, for policies related to:

- completing the internal market for goods and services;
- improving the range, quality, and competitiveness of products and services;
- strengthening the European Union's (EU's) industrial base;
- helping turn the EU into a 'smart, sustainable, and inclusive economy' by implementing the industrial and sectorial policies of the Europe 2020 initiative;
- providing sector-specific and business-friendly policies;
- supporting the internationalisation of EU businesses;
- promoting industrial innovation to generate new sources of growth;
- encouraging the growth of SMEs, in particular through facilitating their access to finance;
- and promoting an entrepreneurial culture by reducing the administrative burden on small businesses; facilitating access to funding for small and medium-sized enterprises (SMEs); and supporting access to global markets for EU companies.

Small Business Act

Adopted in June 2008, the Small Business Act for Europe (COM(2008) 394) reflects the European Commission's recognition of the central role that SMEs play in the EU economy. It put in place a policy framework for SMEs, aiming to promote entrepreneurship, help SMEs tackle problems which hamper their development and implant a 'think small first' principle in policymaking. In February 2011, a review of the Small Business Act (COM(2011) 78) was conducted: this presented an overview of the progress achieved and set out new actions to respond to challenges resulting from the financial and economic crisis.

Entrepreneurship 2020

The European Commission adopted an Entrepreneurship 2020 Action Plan (COM(2012) 795) at the start of 2013, designed to stimulate and reignite entrepreneurial spirit across the EU and to remove obstacles so that more entrepreneurs are encouraged to start a business. The plan is built on three main pillars:

- entrepreneurial education and training to support growth and business creation;
- the creation of an environment where entrepreneurs can flourish and grow, removing existing administrative barriers and supporting entrepreneurs in crucial phases of the business life-cycle; and,
- reigniting the culture of entrepreneurship in the EU and nurturing the new generation of entrepreneurs, developing role models and reaching out to specific groups whose entrepreneurial potential is not being fully tapped (for example, some ethnic minorities).

The action plan also seeks to remove the stigma attached to business failure and to make it easier for entrepreneurs to attract investors.

European industrial renaissance

The effects of the financial and economic crisis were particularly harsh in the industrial economy, with the relative weight of the EU's manufacturing sector declining during the recession. Nevertheless, industrial activities continue to account for the lion's share of EU exports, research and innovation, and also provides a range of high-skilled jobs.

In its communication (COM(2014) 14), titled, 'For a European Industrial Renaissance', the European Commission set a target of taking the share of manufacturing back to 20 % of GDP by 2020, calling on EU and national decision-makers to recognise the central importance of modernising the industrial base, raising industrial competitiveness, and promoting production and investment as key drivers of economic growth and jobs. The communication also called, among others, for:

- mainstreaming industrial competitiveness in other policy areas;
- maximising the potential of the internal market;
- implementing the instruments of regional development in support of innovation, skills, and entrepreneurship;
- promoting access to critical inputs in order to encourage investment.

Main statistical findings

Enterprise demography: births and deaths

Business demography statistics describe the characteristics of enterprises within the business population: they cover, among others, the birth of new enterprises, the growth and survival of existing enterprises (with particular interest centred on their employment impact), and enterprise deaths. These indicators can provide an important insight into business dynamics, as new enterprises / fast-growing enterprises tend to be innovators that achieve efficiency gains and improve the overall competitiveness of an economy, while relatively high death rates may indicate economic activities that are no longer profitable.

The statistics presented in this section cover industry, construction and services except holding companies (NACE Sections B to S excluding Group 64.2). Note that business demography statistics are not available for Ireland and Greece.

Relatively high number of enterprise births in Latvia, Lithuania and Poland

In 2010, the EU (see **Map 7.1** for coverage) birth rate for new enterprises in industry, construction and services except holding companies was 9.8 %; in other words, almost one in ten of all active enterprises were new. The highest enterprise birth rates were recorded in the Baltic Member States of Latvia and Lithuania and in neighbouring Poland; birth rates were also high in Turkey (only national data available).

Business demography statistics at a national level can hide substantial differences between regions. Among those multi-regional EU Member States for which regional data are available, the largest differences between the highest and lowest regional birth rates were recorded in France, Spain, Bulgaria, the Netherlands, Denmark and Slovenia.

Looking in more detail at NUTS level 2 regions, the enterprise birth rate ranged, in 2010, from highs of 21.6 % in Lithuania and 17.7 % in Latvia (both single regions at this level of detail) down to 4.3 % in Cyprus (also a single region at this level of detail). As such, the enterprise birth rate in Lithuania was approximately five times as high as in Cyprus.

The figures presented are likely to reflect, at least to some degree, the impact of the financial and economic crisis on the respective economies; Poland was the only EU economy that did not go into recession. Every one of the 16 NUTS level 2 regions in Poland recorded an enterprise birth rate of at least 13 % (as shown by the darkest shade in **Map 7.1**). Birth rates across these 16 Polish regions were situated within a narrow range, from a low of 13.1 % in the central region of Łódzkie to a high of 15.3 % in the eastern region of Lubelskie.

The enterprise birth rate measures the number of new enterprises in relation to the total population of active enterprises. In 2010, the EU's birth rate for new enterprises in the business economy was 9.8 %. This rate was considerably higher in Lithuania (a single region at NUTS level 2) where it peaked at 21.6 %. The enterprise death rate in Lithuania was also relatively high, at 16.7 %, but remained lower than the birth rate. As such, the stock of active enterprises in the Lithuanian business economy grew.

Photo: Bokstaz */ Shutterstock.com*

Capital regions often recorded some of the highest enterprise birth rates

In 2010, enterprise birth rates tended to be higher than average in capital regions. This may reflect a range of factors, for example, capital regions generally offer the largest potential market (but also the highest number of competitors), they are often characterised by more highly-educated workforces and studies show that graduates are more likely to start a new business, and they generally have a high proportion of service-based enterprises (where barriers to entry are often quite low); for more information on the relative weight of services in capital regions, see below under the section titled 'Patterns of employment specialisation in the non-financial business economy'.

Aside from the Polish capital region of Mazowieckie (13.2 %), birth rates of at least 13 % were also recorded in the Danish (Hovedstaden), French (Île de France), Portuguese (Lisboa) and Slovakian (Bratislavský kraj) capital regions. This pattern of higher than average enterprise birth rates in capital regions was particularly evident in the Czech Republic, Denmark, Italy, Austria, Romania, Slovenia,

Map 7.1: Enterprise birth rate in the business economy, by NUTS level 2 region, 2010 (¹)
(% of active enterprises)
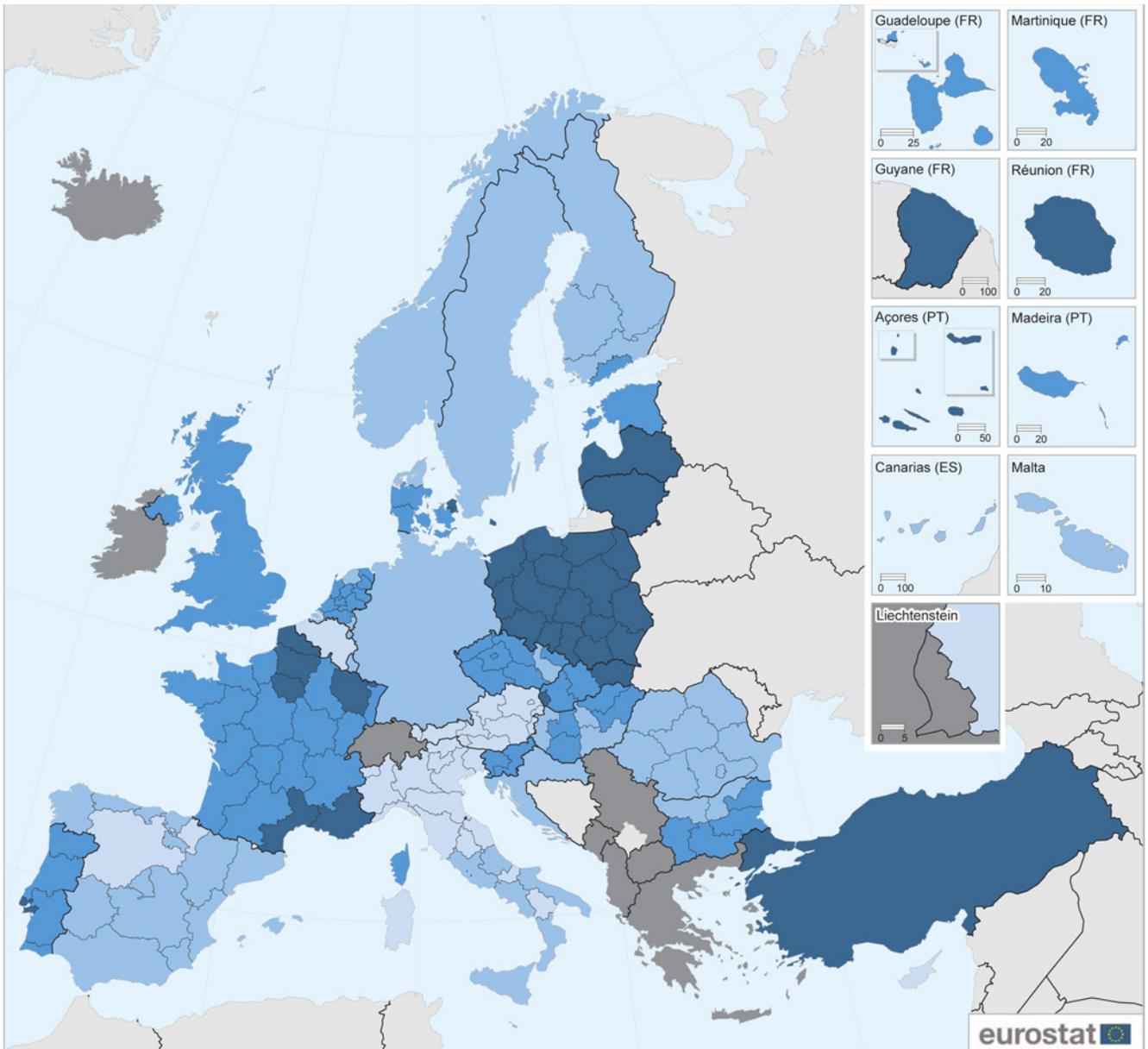
(% of active enterprises)

EU = 9.8

- < 7
- 7 – < 10
- 10 – < 13
- >= 13
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 04/2015

0   200   400   600   800 km
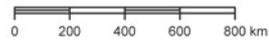
(¹) Business economy: NACE Rev. 2 Sections B–S (excluding Group 64.2). EU average based on those Member States for which data are available (excluding Ireland and Greece; data for Croatia
refer to 2012). Belgium, Germany, Croatia, Sweden, the United Kingdom, Norway and Turkey: only available at national level. Croatia: 2012. Turkey: 2011.
Source: Eurostat (online data codes: bd_size_r3 and bd_9bd_sz_cl_r2)

Map 7.2: Enterprise death rate in the business economy, by NUTS level 2 region, 2010 (¹)
(% of active enterprises)

(% of active enterprises)

EU = 8.8

- < 6
- 6 – < 9
- 9 – < 12
- >= 12
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

Slovakia and Finland, where capital regions recorded the highest shares of newly-born enterprises among all regions within each of these Member States.

Alongside the capital region, there were seven other French regions that also recorded enterprise birth rates of at least 13 %: these were located in the north-eastern corner, along the Mediterranean coast or in the overseas regions. There were two additional regions where the enterprise birth rate was at least 13 %, namely the Portuguese and Slovakian regions of the Região Autónoma dos Açores and Východné Slovensko.

The lowest enterprise birth rates were recorded in Belgium, Austria and Italy

Low enterprise birth rates — less than 7 % (as shown by the lightest shade in **Map 7.1**) — were recorded in Belgium (only national data available), all nine NUTS level 2 regions of Austria, most parts of Italy (15 out of 21 regions) and two regions in northern Spain (the Comunidad Foral de Navarra and Castilla y León). These relatively low rates may reflect, at least to some degree, cultural differences in relation to risk-taking, burdensome administrative procedures for starting a new business, or the general economic climate.

Slightly fewer than 9 % of the active enterprises in the EU ceased activity

The enterprise death rate for industry, construction and services except holding companies in the EU (see **Map 7.2** for coverage) stood at 8.8 % in 2010.

The highest death rate was recorded in Croatia (only national data are available; note that Croatian statistics refer to 2012), where almost one in four (24.3 %) enterprises ceased activity. In 2009, all eight NUTS level 2 regions in Romania recorded enterprise death rates that were in excess of 15 %, the highest rate being registered in Nord-Vest (18.7 %). Note that as the data for Romania refer to 2009 they are more likely to reflect the downward impact of the financial and economic crisis rather than the beginnings of a recovery that was already experienced in several Member States in 2010.

In 2010, the only other regions where enterprise death rates rose above 15 % were Portugal (only national data available) and Lithuania (one region at this level of detail), while slightly lower enterprise death rates (12.0–14.6 %) were recorded in three of the four Slovakian regions (the exception being the capital region of Bratislavský kraj; data are for 2009), four northern Polish regions (data are for 2009), Latvia (one region at this level of detail), and the Danish capital region of Hovedstaden.

By contrast, the lowest enterprise death rates were recorded in Malta (a single region at this level of detail), Belgium (only national data available), six out of the nine regions in

Austria, 8 out of the 12 regions in the Netherlands, as well as five regions from France (including two overseas regions) and two regions in north-east Italy.

The impact of the financial and economic crisis was most evident in eastern and southern regions of the EU. Indeed, some of the highest enterprise death rates were recorded across Hungary and Romania. While the death rates in the south of Italy, Portugal and the southern half of Spain were not as pronounced, all of these regions recorded a contraction in their level of active enterprises (as a result of higher death than birth rates).

Business churn: regions with relatively high enterprise birth and death rates

Several of the regions that recorded relatively high enterprise birth rates were also characterised by relatively high enterprise death rates. This is perhaps not surprising: as dynamic and innovative enterprises entering a market may be in a position to drive incumbents out of the market. This phenomenon can be measured by the 'churn rate', an indicator based on the sum of the enterprise birth and death rates; it provides information on the frequency with which the population of active enterprises is disturbed by the process of 'creative destruction'.

The churn rate was equivalent to a sizeable proportion (at least 25 %) of the total number of active enterprises in Croatia (data are for 2012), Latvia and Lithuania, all of the regions in Romania and Slovakia, most of the regions in Poland, as well as the Danish capital region of Hovedstaden. With the exception of the Croatia and the Romanian regions, birth rates were generally higher than death rates, leading to an increase in the total population of active enterprises.

There were almost 30 high-growth enterprises per 100 000 inhabitants in the EU

High-growth enterprises are defined for the purpose of business demography statistics as those enterprises that record employment growth of at least 10 % per annum during a three-year reference period; the measure is only calculated for enterprises with at least 10 employees at the start of the observation period.

In 2010, the density of high-growth enterprises for industry, construction and services except holding companies in the EU (see **Map 7.3** for coverage) stood at 29.4 enterprises per 100 000 inhabitants. The map shows that the highest densities were generally concentrated in the northern economies of Latvia, Lithuania, Sweden (and Norway), as well as the Czech Republic, Luxembourg, most regions in the Netherlands and some regions of France. By contrast, the density of high-growth enterprises was relatively low in Croatia and several regions from Denmark, southern Italy and Romania.

Map 7.3: Density of high-growth enterprises in the business economy, by NUTS level 2 region, 2010 (¹)
(high-growth enterprises per 100 000 inhabitants)
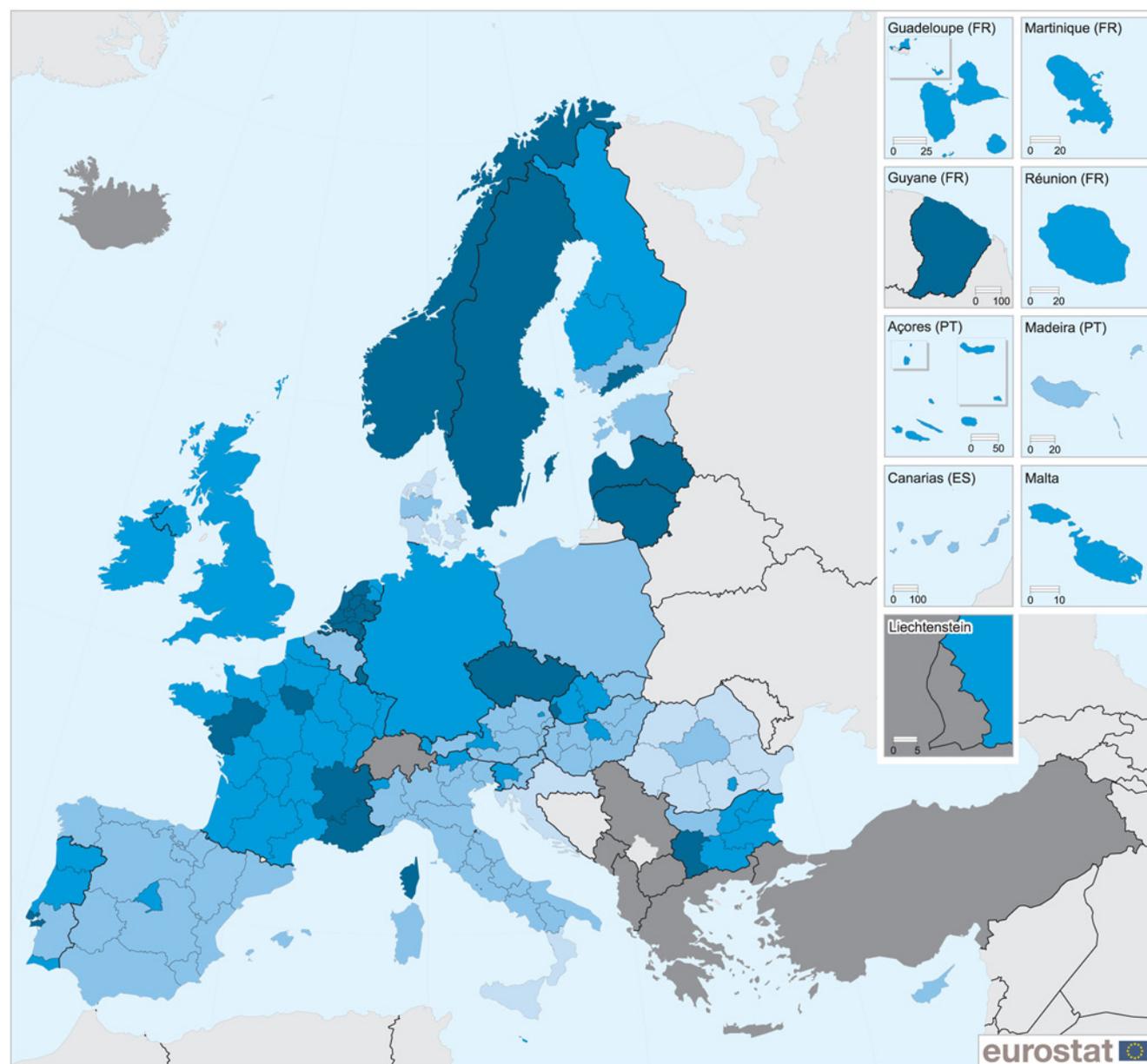
(high-growth enterprises per 100 000 inhabitants)

EU = 29.4

- < 15
- 15 – < 30
- 30 – < 45
- >= 45
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Business economy: NACE Rev. 2 Sections B–S (excluding Group 64.2). High-growth enterprises are defined as enterprises with growth of at least 10 % growth per annum in their number of employees over a three-year period prior to the reference year; these enterprises had at least 10 employees at the start of the observation period. EU average based on those Member States for which data are available (excluding Greece; including estimates for Ireland). Belgium, the Czech Republic, Germany, Ireland, Croatia, Poland, Sweden, the United Kingdom and Norway: only available at national level. EU, Belgium, the Czech Republic, Germany, Ireland, Croatia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Poland, Sweden, the United Kingdom and Norway: 2012 and excluding NACE Rev. 2 Sections P–R and Division 96. Ireland: estimates.
Source: Eurostat (online data codes: bd_hgnace2_r3, bd_9pm_r2, demo_r_gind3 and demo_gind)

Bratislava had the highest density of high-growth enterprises

Looking in more detail, at NUTS level 2 regions, the highest density of high-growth enterprises in 2010 was recorded in the Slovakian capital region of Bratislavský kraj, where there were more than three times as many high-growth enterprises (96.5 per 100 000 inhabitants) as the EU average. There were six regions where the density of high-growth enterprises was slightly more than double the EU average: Luxembourg and Lithuania (both single regions at this level of detail; note that for both of these Member States the latest data available are for 2012 and exclude NACE Sections P–R and Division 96), two French regions (the capital region of Île de France and the island of Corse), the Bulgarian capital region of Yugozapaden, and the Dutch region of Utrecht.

Indeed, it was common to find that the capital region had a much higher density of high-growth enterprises than the other regions within the same EU Member State. This pattern was repeated in each of the multi-regional EU Member States for which data are available, except for Italy (where the Provincia Autonoma di Bolzano / Bozen had the highest density of high-growth enterprises) and the Netherlands (where Utrecht recorded the highest density).

Across all of the NUTS level 2 regions for which data are available, the lowest density of high-growth enterprises was recorded in the Romanian region of Nord-Est (7.5 enterprise per 100 000 inhabitants). Three more regions from Romania also recorded densities that were below 10 high-growth enterprises per 100 000 inhabitants, as did the Spanish autonomous region of Melilla and Croatia (only national data available; note that Croatian statistics refer to 2012 and exclude NACE Sections P–R and Division 96).

Patterns of employment specialisation in the non-financial business economy

Structural business statistics (SBS) cover industry, construction and non-financial services, collectively referred to as the non-financial business economy, defined here as NACE Sections B to J and L to N and NACE Division 95 (the repair of computers and personal and household goods).

SBS can be analysed at a very detailed sectoral level (several hundred economic activities), by enterprise size class and, as here, by region. These statistics provide information on the structure and conduct of local units across regional business economies, with harmonised data for the number of local units and persons employed, as well as the monetary value of wages and salaries, and investments. The analysis of regional SBS presented here is exclusively based upon the number of persons employed. While regional SBS are not collected for value added, this information is available from regional accounts, which can also be analysed by activity, see Chapter 6.

🔍   SPOTLIGHT ON THE REGIONS: VEST, ROMANIA

Approximately one quarter (24.5 %) of those employed in the non-financial business economy of the EU-28 worked within the industrial economy. In the Romanian region of Vest, the proportion of the non-financial business economy workforce employed within industrial activities was almost double the EU average, at 47.3 % in 2012; the highest share in the EU across any of the NUTS level 2 regions.

Photo: Mihai-Bogdan Lazar / Shutterstock.com

Almost 134 million persons were employed in the EU-28's non-financial business economy

According to estimates made using national SBS, there were 22.3 million enterprises active in the EU-28's non-financial business economy in 2012. Together, they generated EUR 6 184 billion of gross value added and employed some 133.8 million persons.

While some activities — such as retail trade — ubiquitously appear across all regions, many others exhibit a considerable variation in their level of concentration, often with only a few regions having a particularly high degree of specialisation. The share of a specific NACE activity within the non-financial business economy gives an idea as to which regions are the most or least specialised, regardless of whether the region or the activity considered are large or small. These characteristics are presented for industry (NACE Sections B to E), construction (NACE Section F) and non-financial services (NACE Sections G to J and L to N and Division 95) in **Maps 7.4–7.6**.

The reasons for such specialisation are varied and include: the availability of natural resources (for example, for mining and quarrying or forest-based manufacturing); access to skilled employees (for example, for scientific research and development); the level of production costs (for example, wages and other labour costs, or the cost and availability of other inputs); adequate provision of infrastructure (for

example, transport or telecommunications); climatic and topographic conditions (particularly relevant in relation to tourism activities); proximity or access to markets; and legislative constraints. All of these may impact upon the considerable disparities that exist between EU regions as regards the importance of different activities within their respective business economies.

Industry accounted for almost one quarter of the EU's non-financial business economy workforce

Across the whole of the EU-28, industrial activities (NACE Sections B to E) accounted for just less than one quarter (24.5 %) of the total workforce in the non-financial business economy. **Map 7.4** shows that there was a fairly clear east–west split in the relative contribution of industrial activities to non-financial business economy employment in 2012, with industry generally recording a higher share of employment in the easternmost regions.

There were 59 NUTS level 2 regions where the industrial workforce accounted for at least 35 % of those working in the non-financial business economy (as shown by the darkest shade in **Map 7.4**). The weight of the industrial economy in the non-financial business economy workforce was most concentrated in a band of regions that ran from Bulgaria up through Romania into Hungary before splitting to the south into Slovenia and northern Italy, and to the north into Slovakia, the Czech Republic, Poland, the southern half of Germany and two regions in Austria. The relatively high degree of specialisation for industrial activities in eastern regions of the EU may reflect, to some degree, relatively low labour costs, outsourcing and foreign direct investment strategies, as well as natural resource endowments. By contrast, the manufacturing sector of the German and Austrian economies are often characterised by high quality engineering, producing products that are particularly successful in export markets (for example, machinery and electrical equipment).

Looking in more detail at the NUTS level 2 regions, the industrial workforce accounted for 47.3 % of non-financial business economy employment in the Romanian region of Vest (47.3 %), with the manufacture of motor vehicles, trailers and semi-trailers its largest industrial employer.

The industrial economy also accounted for more than 45 % of the non-financial business economy workforce in two Bulgarian regions, Severen tsentralen and Severozapaden (which was the most specialised region in the EU for both the manufacture of wearing apparel and water supply), and in two Czech regions, Střední Morava and Severovýchod (where manufacturing alone accounted for 44.5 % of the non-financial business economy workforce, the highest share in the EU).

Outside of these eastern regions of the EU, the southern German region of Tübingen (which was the most specialised region for the manufacture of other machinery and equipment) was the only region from those Member States that joined the EU prior to 2004 to report that industrial activities accounted for at least 40 % of its non-financial business economy workforce, with a 42.8 % share. The next highest proportions were recorded in two other southern German regions, Oberfranken and Oberpfalz (which was the most specialised region in the EU for the manufacture of electrical equipment), and the central Italian region of Marche (which was the most specialised region in the EU for the manufacture of leather and leather products). In all three of these regions, the industrial economy accounted for 39–40 % of the non-financial business economy workforce.

Almost 1 in 10 of the EU's non-financial business economy workforce was employed in the construction sector

Map 7.5 shows the employment share of construction activities in 2012. On average, construction accounted for almost 1 in 10 jobs within the EU-28's non-financial business economy, its share being 9.4 %. The highest concentrations of employment within the construction sector were mainly found in two areas: one cluster of regions in Belgium and France (both capital regions being notable exceptions), and another in the northern regions of Finland and Sweden, which extended to cover all but the capital region of Norway.

Looking in more detail, there were 48 NUTS level 2 regions across the EU where the construction sector accounted for at least 13 % of the non-financial business economy workforce — as shown by the darkest shade in **Map 7.5**; almost half of these (20 regions) were in France, while there were seven Belgian regions and six Italian regions.

ⓘ EUROPE 2020: FOR A EUROPEAN INDUSTRIAL RENAISSANCE

The latest information available from national accounts suggests that gross value added from the EU-28's manufacturing accounted for 15.3 % of total gross value added in 2014. As part of the Europe 2020 strategy, the EU has set itself the ambitious goal of stimulating growth and competitiveness within the manufacturing sector, plans are detailed in a European Commission Communication, titled 'For a European industrial renaissance' (COM(2014) 14).

The Communication sets a target for bringing the share of manufacturing back to 20 % of GDP by 2020. Within the field of regional industrial policy it promotes the implementation of development instruments that support innovation, skills and entrepreneurship.

Map 7.4: Employment in the industrial economy, by NUTS level 2 region, 2012 (¹)
(% of the non-financial business economy)
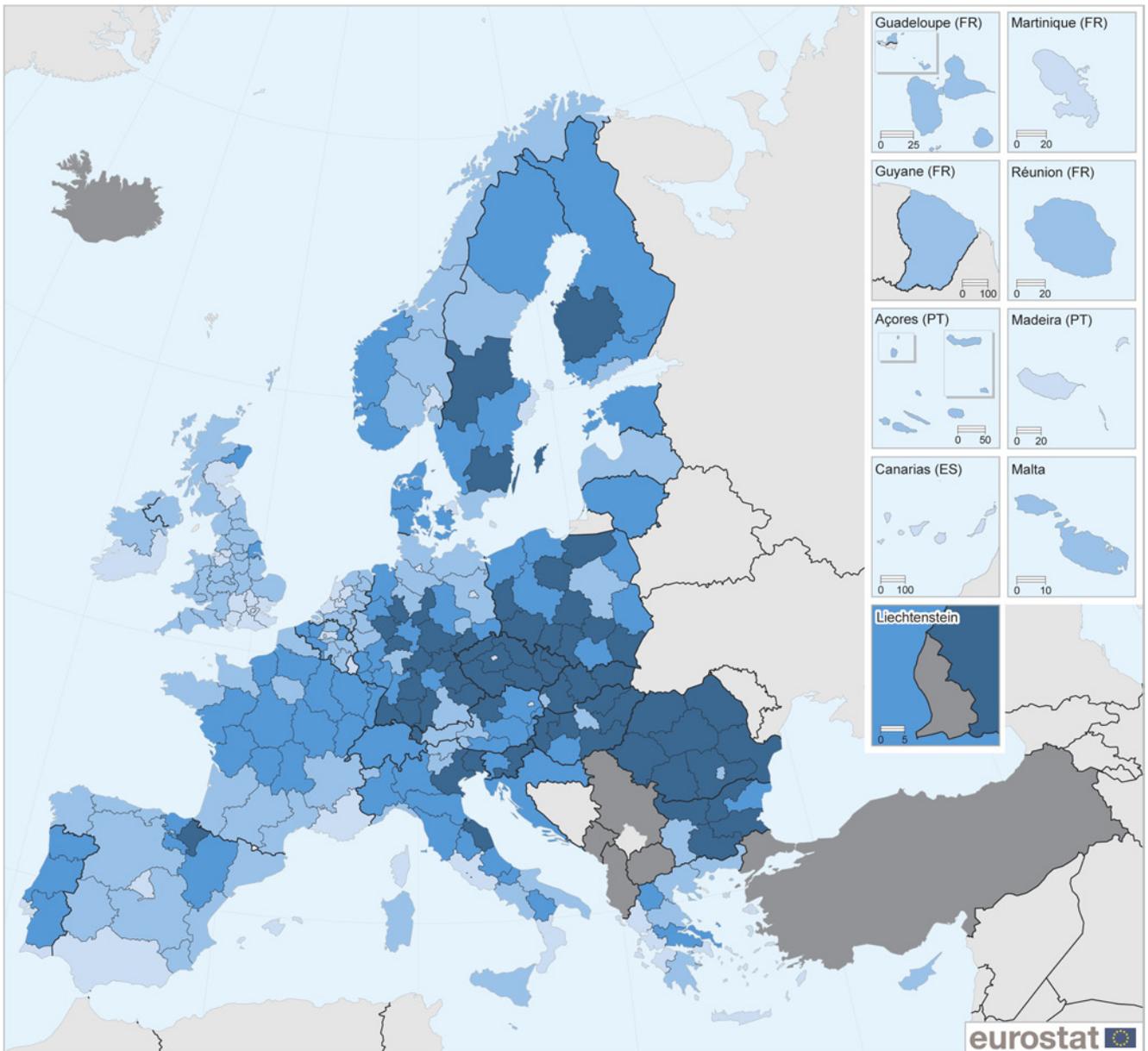
(% of the non-financial business economy)

EU-28 = 24.5
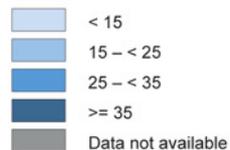
- < 15
- 15 – < 25
- 25 – < 35
- >= 35
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
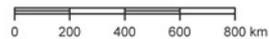
(¹) Industry: NACE Rev. 2 Sections B–E. Non-financial business economy: NACE Rev. 2 Sections B–N (excluding Section K) and Division 95. Croatia and Switzerland: only available at national level. Ireland: NACE Rev. 2 Section F, estimate.
Source: Eurostat (online data codes: sbs_r_nuts06_r2 and sbs_na_sca_r2)

Map 7.5: Employment in construction, by NUTS level 2 region, 2012 ([1])
(% of the non-financial business economy)
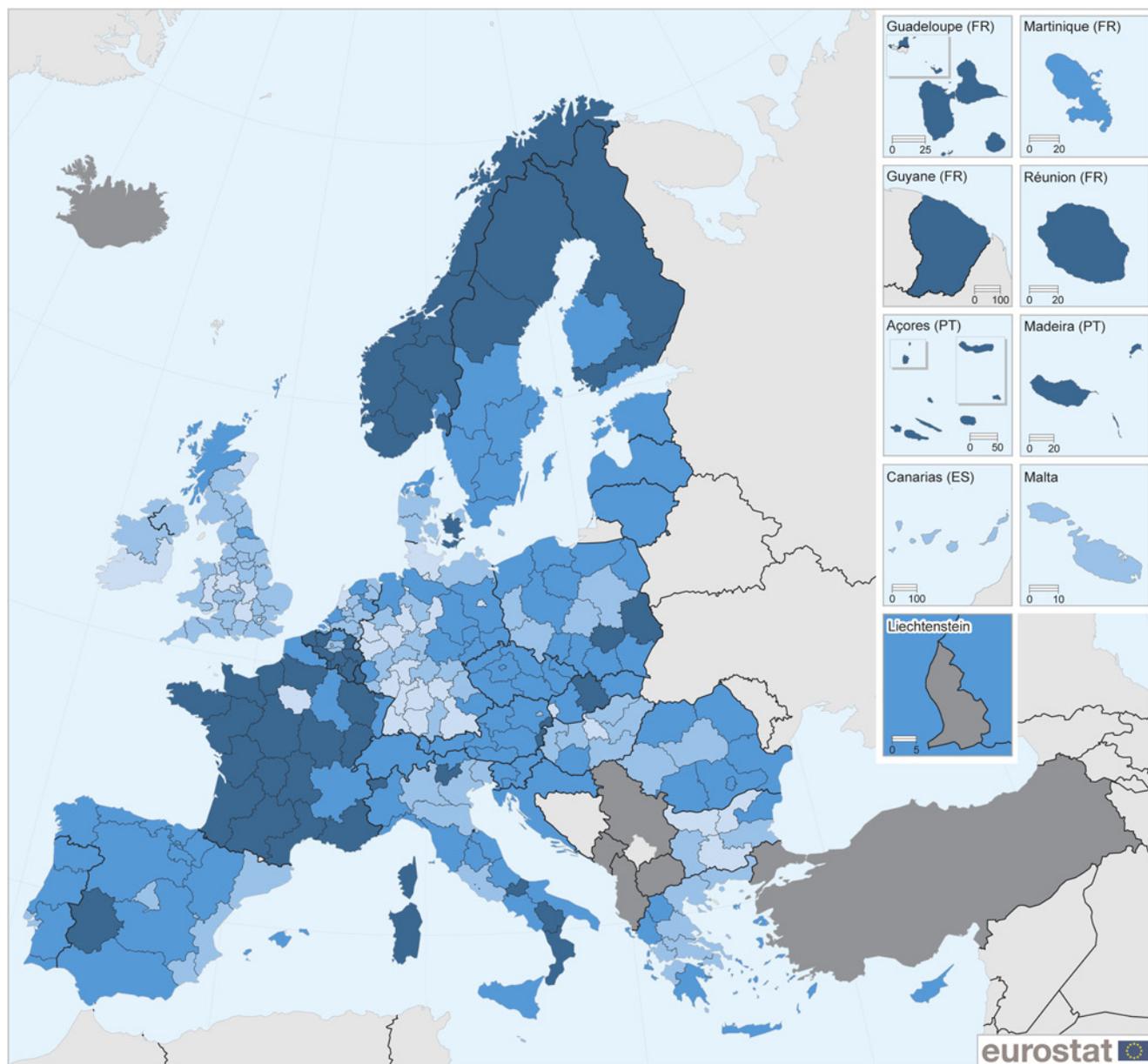
(% of the non-financial business economy)

EU-28 = 9.4

	< 7
	7 – < 10
	10 – < 13
	>= 13
	Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km

([1]) Construction: NACE Rev. 2 Section F. Non-financial business economy: NACE Rev. 2 Sections B–N (excluding Section K) and Division 95. Croatia and Switzerland: only available at national level. Ireland: NACE Rev. 2 Section F, estimate.
Source: Eurostat (online data codes: sbs_r_nuts06_r2 and sbs_na_sca_r2)

The construction sector accounted for almost one in five (23.3 %) jobs within the non-financial business economy workforce in the French island region of Corse (which was the most specialised region in the EU for construction activities). The most southerly region in Belgium, the Province de Luxembourg, was the only other NUTS level 2 region in the EU to report that more than one in four of its non-financial business economy workforce was employed in the construction sector.

Non-financial services accounted for almost two out of three persons working in the EU's non-financial business economy

Non-financial services accounted for almost two thirds (66.1 %) of the EU-28's non-financial business economy workforce in 2012. **Map 7.6** shows that there was a high propensity for the most service-oriented workforces to be located in major urban areas and especially in capital regions. Aside from these, the other pattern apparent when looking at **Map 7.6** is the relatively high share of the workforce employed within non-financial services in several regions that are characterised as tourist destinations.

Relative importance of the non-financial services workforce was highest in Inner London

In the capital region of the United Kingdom, Inner London, non-financial services accounted for 93.6 % of the non-financial business economy workforce. Inner London was the most specialised region in the EU for multimedia publishing, legal and accounting activities, activities of head offices, and advertising and market research. Note the service orientation of London would be even greater if financial services were included, given its position as one of the world's leading financial centres.

There were 14 other capital regions where the share of non-financial services employment was at least 75 %. Their shares rose to at least 80 % in Southern and Eastern (Ireland), Berlin, the Comunidad de Madrid, the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (which was the most specialised region in the EU for telecommunication services) and Noord-Holland, as well as in the Norwegian capital region of Oslo og Akershus; note that the data for Praha and for Lisboa are confidential and as such their precise values may not be disclosed, although it is clear that non-financial services accounted for at least three quarters of their non-financial business economy workforce.

Regional employment specialisation and concentration measures

Table 7.1 presents a more detailed activity analysis, at the level of NACE sections and divisions. The table indicates the median and mean shares (across all regions) of each activity in the non-financial business economy workforce. The final two columns of the table show which region was the most specialised, in terms of employment shares in the non-financial business economy total; note that some of the data are confidential although the names of the regions with the highest shares (not their values) are presented.

Śląskie and North Eastern Scotland were specialised in mining and quarrying

Mining and quarrying activities of energy-producing and metallic minerals tend to be very concentrated as a consequence of the geographical location of deposits, and therefore only a small number of regions were highly specialised in these activities; these characteristics mean that a handful of regions can account for a relatively high share of sectoral employment in some of these activities. The most notable examples include the mining of coal and lignite in Śląskie (Poland) or the extraction of crude petroleum and natural gas in North Eastern Scotland (the United Kingdom).

Nordic and Baltic regions had a high degree of specialisation in forest-based industries

Manufacturing activities that involve the primary processing stages of agricultural, fishing or forestry products tend to be concentrated in areas close to the source of their raw materials. The region most specialised in food manufacturing (NACE Division 10) was rural and coastal Bretagne (in north-west France). Heavily forested Nordic and Baltic regions and mountainous, central Slovakian regions were among the most specialised for the manufacture of wood and wood products (NACE Division 16) and for the related manufacturing of paper and paper products (NACE Division 17). Latvia (a single region at this level of analysis) was the most specialised region for the manufacture of wood and wood products and Norra Mellansverige (Sweden) was the most specialised for manufacturing pulp and paper products.

Map 7.6: Employment in the non-financial services economy, by NUTS level 2 region, 2012 (^{1})
(% of the non-financial business economy)

(% of the non-financial business economy)

EU-28 = 66.1

- < 55
- 55 – < 65
- 65 – < 75
- >= 75
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0 200 400 600 800 km
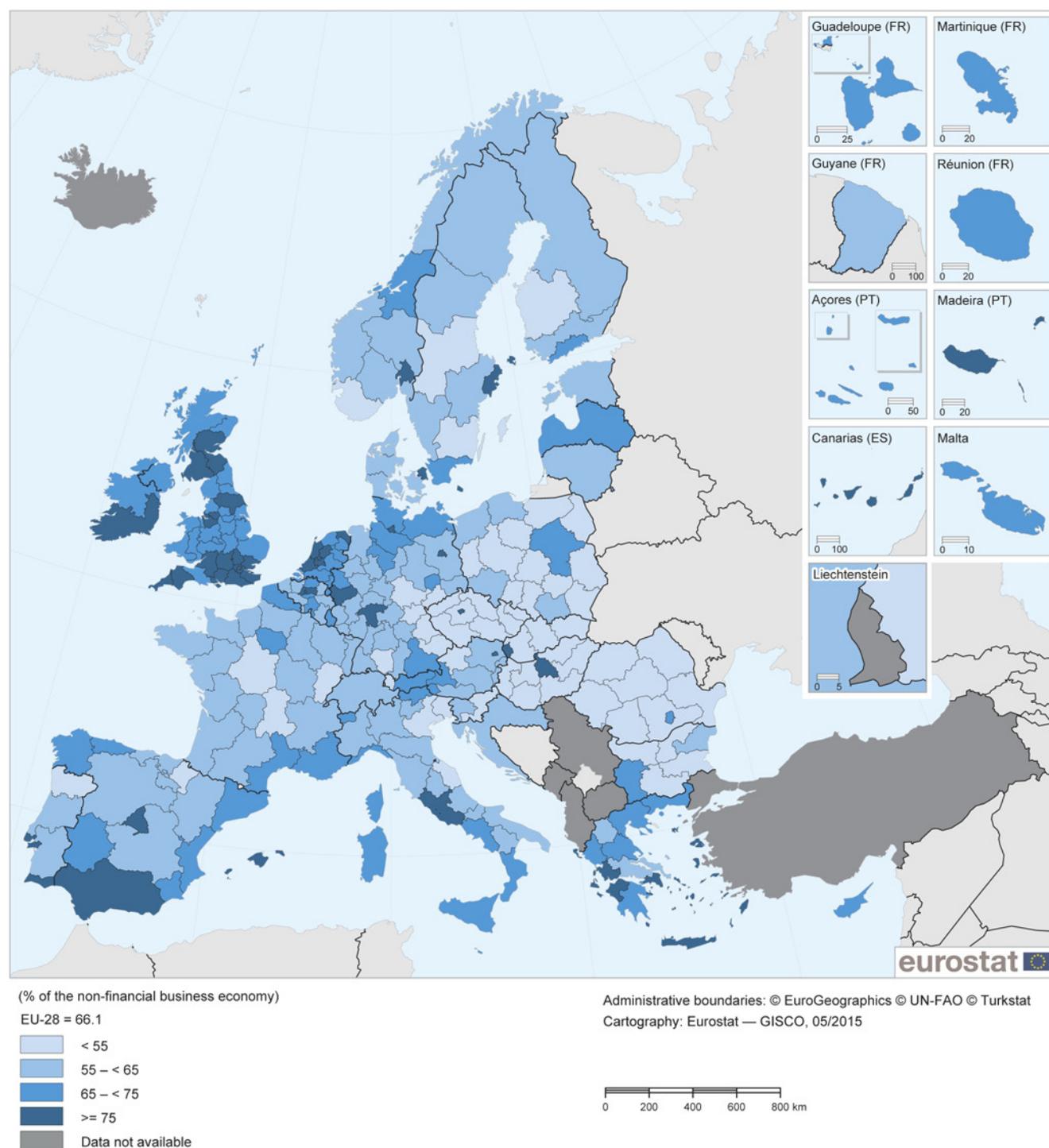
(^{1}) Non-financial services: NACE Rev. 2 Sections G–N (excluding Section K) and Division 95. Non-financial business economy: NACE Rev. 2 Sections B–N (excluding Section K) and Division 95.
     Croatia and Switzerland: only available at national level. Ireland: NACE Rev. 2 Section F, estimate.
Source: Eurostat (online data codes: sbs_r_nuts06_r2 and sbs_na_sca_r2)

Table 7.1: Average share of non-financial business economy employment and most specialised regions by activity (NACE sections and divisions) and by NUTS level 2 region and level 2 statistical regions, 2012 (¹)

Activity (NACE code)	Average share across EU regions (% of non-financial business economy employment)		Most specialised region	
	Median	Mean	Region name (NUTS level 2)	Share in regional non-financial business economy employment (%)
Mining & quarrying (B)	0.2	0.6	North Eastern Scotland (UKM5)	13.6
Mining of coal & lignite (05)	0.0	0.1	Śląskie (PL22)	c
Extraction of crude petroleum & natural gas (06)	0.0	0.1	North Eastern Scotland (UKM5)	4.4
Mining of metal ores (07)	0.0	0.1	Övre Norrland (SE33)	c
Other mining & quarrying (08)	0.2	0.2	Świętokrzyskie (PL33)	1.6
Mining support service activities (09)	0.0	0.1	Agder og Rogaland (NO04)	10.2
Manufacturing (C)	21.2	22.7	Severovýchod (CZ05)	44.5
Manuf. of food (10)	3.2	3.3	Bretagne (FR52)	12.0
Manuf. of beverages (11)	0.3	0.4	La Rioja (ES23)	3.4
Manuf. of tobacco products (12)	0.0	0.0	Trier (DEB2)	c
Manuf. of textiles (13)	0.3	0.4	Prov. West-Vlaanderen (BE25)	3.3
Manuf. of wearing apparel (14)	0.2	0.8	Severozapaden (BG31)	10.5
Manuf. of leather & leather products (15)	0.1	0.3	Marche (ITI3)	6.5
Manuf. of wood & wood products (16)	0.7	0.9	Latvija (LV00)	4.1
Manuf. of paper & paper products (17)	0.4	0.5	Norra Mellansverige (SE31)	3.8
Printing & reproduction of recorded media (18)	0.5	0.5	West Yorkshire (UKE4)	1.7
Manuf. of coke & refined petroleum products (19)	0.0	0.1	Opolskie (PL52)	c
Manuf. of chemicals & chemical products (20)	0.6	0.8	Rheinhessen-Pfalz (DEB3)	8.5
Manuf. of pharmaceutical products & preparations (21)	0.2	0.3	Prov. Brabant Wallon (BE31)	c
Manuf. of rubber & plastic products (22)	1.0	1.3	Auvergne (FR72)	11.3
Manuf. of other non-metallic mineral products (23)	0.9	1.1	Świętokrzyskie (PL33)	5.2
Manuf. of basic metals (24)	0.5	0.8	Norra Mellansverige (SE31)	9.8
Manuf. of fabricated metal products (25)	2.4	2.7	Vorarlberg (AT34)	8.1
Manuf. of computer, electronic & optical products (26)	0.6	0.8	Észak-Magyarország (HU31)	5.7
Manuf. of electrical equipment (27)	0.7	1.0	Oberpfalz (DE23)	8.2
Manuf. of other machinery & equipment (28)	1.5	2.1	Tübingen (DE14)	11.8
Manuf. of motor vehicles, trailers & semi-trailers (29)	0.8	1.6	Braunschweig (DE91)	c
Manuf. of other transport equipment (30)	0.3	0.5	Midi-Pyrénées (FR62)	6.3
Manuf. of furniture (31)	0.5	0.8	Warmińsko-Mazurskie (PL62)	7.3
Other manufacturing (32)	0.5	0.6	Border, Midland and Western (IE01)	5.2
Repair & installation of machinery (33)	0.8	0.9	Pomorskie (PL63)	2.8
Electricity, gas, steam, & air conditioning supply (D)	0.7	0.9	Dytiki Makedonia (EL13)	13.2
Water supply, sewerage, waste management (E)	1.0	1.1	Sud-Est (RO22)	3.3
Water supply (36)	0.2	0.3	Severozapaden (BG31)	1.8
Sewerage (37)	0.1	0.1	Trier (DEB2)	c
Waste management (38)	0.6	0.7	Sicilia (ITG1)	2.1
Remediation (39)	0.0	0.0	West Wales and The Valleys (UKL1)	0.2
Construction (F)	10.3	10.1	Corse (FR83)	23.4
Construction of buildings (41)	2.6	2.9	Região Autónoma dos Açores (PT20)	9.3
Civil engineering (42)	1.2	1.3	Lubelskie (PL31)	4.5
Specialised construction activities (43)	5.7	6.4	Corse (FR83)	19.3

(¹) Non-financial business economy: NACE Rev. 2 Sections B–N (excluding Section K) and Division 95. Croatia and Switzerland: excluded as only available at national level. Iceland, Liechtenstein, Montenegro, the former Yugoslav Republic of Macedonia, Albania, Serbia and Turkey: excluded as not available. Ireland: NACE Rev. 2 Section F, estimate.

Source: Eurostat (online data code: sbs_r_nuts06_r2)

Table 7.1 (continued): Average share of non-financial business economy employment and most specialised regions by activity (NACE sections and divisions) and by NUTS level 2 region and level 2 statistical regions, 2012 (¹)

Activity (NACE code)	Average share across EU regions (% of non-financial business economy employment)		Most specialised region	
	Median	Mean	Region name (NUTS level 2)	Share in regional non-financial business economy employment (%)
Distributive trades (G)	25.5	25.8	Dytiki Ellada (EL23)	45.8
Motor trades & repair (45)	3.0	3.1	Corse (FR83)	5.4
Wholesale trade (46)	7.4	7.6	Attiki (EL30)	16.2
Retail trade (47)	14.5	15.0	Nord - Pas-de-Calais (FR30)	30.0
Transport & storage (H)	7.5	7.8	Åland (FI20)	39.1
Land transport & pipelines (49)	4.2	4.3	Lietuva (LT00)	c
Water transport (50)	0.0	0.3	Åland (FI20)	32.1
Air transport (51)	0.0	0.2	Outer London (UKI2)	2.8
Supporting transport activities (52)	1.7	1.8	Bremen (DE50)	12.4
Postal & courier activities (53)	1.1	1.2	Köln (DEA2)	10.8
Accommodation & food service activities (I)	7.5	8.6	Ionia Nisia (EL22)	36.6
Accommodation (55)	1.6	2.3	Notio Aigaio (EL42)	16.6
Food & beverage service activities (56)	5.9	6.3	Ionia Nisia (EL22)	21.3
Information & communication (J)	2.7	3.5	Inner London (UKI1)	13.5
Publishing activities (58)	0.4	0.6	Oslo og Akershus (NO01)	2.8
Multimedia publishing (59)	0.1	0.2	Inner London (UKI1)	2.5
Programming & broadcasting (60)	0.1	0.2	Voreio Aigaio (EL41)	2.0
Telecommunications (61)	0.4	0.6	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (BE10)	3.4
Computer activities (62)	1.2	1.6	Utrecht (NL31)	7.8
Information service activities (63)	0.2	0.3	Wien (AT13)	1.7
Real estate activities (L)	1.9	1.9	Latvija (LV00)	5.0
Professional, scientific & technical activities (M)	7.1	7.8	Inner London (UKI1)	26.0
Legal & accounting activities (69)	2.3	2.3	Inner London (UKI1)	9.0
Activities of head offices (70)	1.1	1.4	Inner London (UKI1)	8.2
Architectural & engineering activities (71)	2.0	2.1	North Eastern Scotland (UKM5)	11.2
Scientific research & development (72)	0.2	0.3	Trøndelag (NO06)	2.0
Advertising & market research (73)	0.5	0.6	Inner London (UKI1)	3.2
Other professional, scientific & technical activities (74)	0.7	0.7	Praha (CZ01)	1.9
Veterinary activities (75)	0.2	0.2	Surrey, East and West Sussex (UKJ2)	0.6
Administrative & support service activities (N)	8.4	8.9	Lisboa (PT17)	21.1
Rental & leasing activities (77)	0.4	0.5	Ionia Nisia (EL22)	2.3
Employment activities (78)	2.1	2.9	Groningen (NL11)	13.9
Travel agency & related activities (79)	0.3	0.4	Ionia Nisia (EL22)	1.9
Security & investigation (80)	0.8	1.0	Bucureşti - Ilfov (RO32)	5.3
Service to buildings & landscape activities (81)	2.8	2.9	Ciudad Autónoma de Melilla (ES64)	14.4
Other administrative & business activities (82)	1.2	1.4	Lisboa (PT17)	8.3
Repair of computers & personal & household goods (95)	0.3	0.3	Limousin (FR63)	0.9

(¹) Non-financial business economy: NACE Rev. 2 Sections B–N (excluding Section K) and Division 95. Croatia and Switzerland: excluded as only available at national level. Iceland, Liechtenstein, Montenegro, the former Yugoslav Republic of Macedonia, Albania, Serbia and Turkey: excluded as not available. Ireland: NACE Rev. 2 Section F, estimate.

Source: Eurostat (online data code: sbs_r_nuts06_r2)

Map 7.7: Regional business concentration, by NUTS level 2 region, 2012 (¹)
(%, cumulative share of the five largest activities (NACE divisions) in regional non-financial business economy employment)
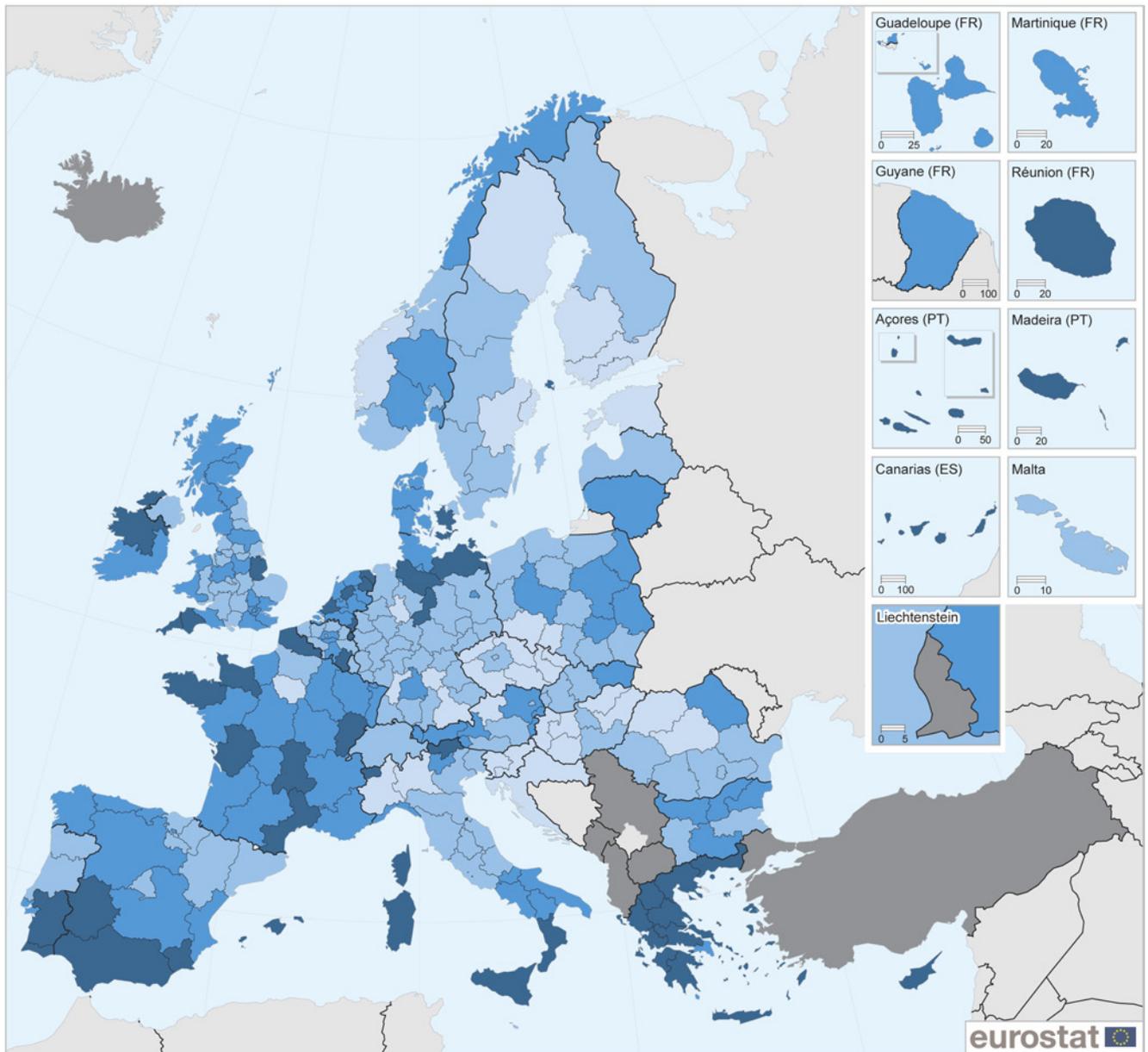
(%, cumulative share of the five largest activities (NACE divisions)
in regional non-financial business economy employment)

EU-28 = 41.3

- < 37
- 37 – < 42
- 42 – < 47
- >= 47
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
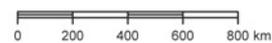
(¹) Non-financial business economy: NACE Rev. 2 Sections B–N (excluding Section K) and Division 95. Croatia and Switzerland: only available at national level. Ireland: NACE Rev. 2 Section F, estimate.
Source: Eurostat (online data codes: sbs_r_nuts06_r2 and sbs_na_sca_r2)

Production of chemicals and pharmaceuticals specialised in Germany and Belgium

Several German and Belgian regions were relatively specialised in the production of chemicals and pharmaceuticals, with Rheinhessen-Pfalz the most specialised region for chemicals manufacturing and the Prov. Brabant Wallon for pharmaceutical products and preparations. The highest regional specialisation for the manufacture of rubber and plastics was in the Auvergne region of France, with these activities centred on Clermont-Ferrand.

Island and capital regions were some of the most specialised regions for transport services

Transport services are influenced by location, with water transport (NACE Division 50) naturally being important for coastal regions and islands, while air transport (NACE Division 51) is generally important in those regions which are close to major cities, as well as some island regions (especially those focused on tourism). The small island region of Åland (Finland) is a centre for ferry services between Sweden and Finland and other Baltic Sea traffic — it was very highly specialised in water transport, which accounted for 32.1 % of the total number of persons employed in this region's non-financial business economy in 2012. Outer London was the region most specialised in air transport.

Traditional holiday destinations are some of the most specialised regions for accommodation services

Regions traditionally associated with tourism, for example, many regions in Greece, Italy, Portugal and Spain, were among the most specialised in accommodation services (NACE Division 55) and food and beverage service activities (NACE Division 56). The south Aegean region of Greece, Notio Aigaio (which includes, among others, the islands of Kos, Mykonos and Rhodes), recorded the highest share of non-financial business economy employment for

accommodation services, while the highest share for food and beverage service activities was recorded in another Greek region, Ionia Nisia (the Ionian islands that include Corfu and Paxos).

Employment concentrated among relatively few activities in tourist destinations

Map 7.7 presents an analysis of a concentration measure, namely the extent to which a region is dependent on a small number of activities for its employment opportunities, or, alternatively, whether it displays the characteristics of being more diversified (with jobs spread across a wider range of activities). The map shows the cumulative share of the five largest activities (NACE divisions) in employment terms, detailing their share in the non-financial business economy workforce. The five largest activities are selected independently for each region, although there are several activities, such as retail trade, that are present among the five main employers in nearly all regions.

In 2012, the five NACE divisions with the highest shares of EU-28 non-financial business economy employment accounted for a cumulative share of 41.3 % of the workforce. Across NUTS level 2 regions, this share ranged from slightly less than one third of the workforce in the Czech region of Moravskoslezsko and the Hungarian region of Dél-Dunántúl to just over two thirds of the workforce in the two Greek regions of Notio Aigaio and Ionia Nisia, as well as the Spanish autonomous city of Melilla.

The five largest activities employed more than 50 % of the non-financial business economy workforce in 12 of the 13 Greek regions, the only exception being the capital region of Attiki. The darkest shade in **Map 7.7** also shows that several sparsely populated, rural regions or regions characterised as tourist destinations had a particularly high concentration of employment within relatively few activities; these regions were principally located across France, Italy, Spain, Portugal, the Netherlands and the United Kingdom.

Data sources and availability

Business demography

A recast SBS Regulation 295/2008 and its implementing regulations provide the legal basis for the annual collection of SBS. However, regional business demography statistics remain outside of this remit.

A pilot data collection for regional business demography statistics was launched in 2012 by Eurostat with the support of the European Commission's Directorate-General for Regional and Urban Policy. This voluntary exercise was supported by a number of grants provided to national

statistical authorities. Development work in this area is on-going and another survey was launched in 2015, covering the reference periods of 2011–13.

A substantial share of cohesion policy funding has been dedicated to improving entrepreneurship and the business environment, targeting newly born enterprises and small and medium-sized enterprises (SMEs). As such, the next data collection exercise is designed to support regional cohesion policy (2014–20), providing important information for monitoring both the Europe 2020 strategy and regional cohesion policy.

Indicator definitions

Enterprise birth rate

A birth amounts to the creation of a combination of production factors with the restriction that no other enterprises are involved in the event. Enterprise creation can be considered as a birth if new production factors, in particular new jobs, are created.

Enterprise births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises. They do not include entries into a sub-population resulting only from a change of activity, nor do they include dormant units that are reactivated within two years.

The enterprise birth rate is calculated as the number of enterprise births expressed as a share (in percentage terms) of the population of active enterprises.

Enterprise death rate

An enterprise death is the dissolution of a combination of production factors with the restriction that no other enterprises are involved in the event. Deaths do not include exits from the population due to mergers, take-overs, break-ups or restructuring of a set of enterprises. They do not include exits from a sub-population resulting only from a change of activity. An enterprise is included in the count of deaths only if it is not reactivated within two years.

The enterprise death rate is calculated as the number of enterprise deaths expressed as a share (in percentage terms) of the population of active enterprises.

High-growth enterprises

High-growth enterprises are defined as those enterprises with at least 10 employees at the start of the reference period, where the number of employees rises, on average, by more than 10 % per annum over a three-year period.

Structural business statistics

A recast SBS Regulation 295/2008 and its implementing regulations provide the legal basis for the annual collection of SBS. Regional statistics are compiled for wages and salaries and the number of persons employed. They are provided for NACE divisions and for NUTS level 2 regions; note that Croatian statistics are currently available at a

national level. Regional SBS are also available for Norway, while data are presented at a national level for Switzerland.

The regional SBS presented in this chapter are restricted to the non-financial business economy, which includes NACE Sections B (mining and quarrying), C (manufacturing), D (electricity, gas, steam and air conditioning supply), E (water supply, sewerage and waste management), F (construction), G (distributive trades), H (transport and storage), I (accommodation and food service activities), J (information and communication), L (real estate activities), M (professional, scientific and technical activities) and N (administrative and support service activities), as well as NACE Division 95 (repair of computers and personal and household goods). The aggregate for the non-financial business economy therefore excludes agricultural, forestry and fishing activities and public administration and other services (such as defence, education and health), which are not covered by SBS, and also excludes financial services (NACE Section K).

The statistical unit used for regional SBS is generally the local unit, which is an enterprise or part of an enterprise situated in a geographically identified place. Local units are usually classified under NACE according to their main activity (in some EU Member States the activity code is assigned on the basis of the principal activity of the enterprise to which the local unit belongs).

The nature of detailed regional SBS is such that some data cells are not disclosed for reasons of statistical confidentiality, following common principles and guidelines. In these cases, data are flagged as being confidential and individual values / cells are not published. Given that choropleth maps are compiled using a range of values for each colour shade, it has been possible to assign confidential cells to a specific class while respecting non-disclosure procedures.

Indicator definitions

Number of persons employed

The main variable used for the analysis of regional SBS is the number of persons employed. It is defined as the total number of persons who work (paid or unpaid) in the observation unit, as well as persons who work outside the unit but who belong to it and are paid by it. The number of persons employed includes working proprietors, unpaid family workers, part-time workers and seasonal workers.

Research and innovation

8

Introduction

Innovation in its broadest sense covers new growth opportunities that come from providing new products and services derived from technological breakthroughs, new processes and business models, non-technological innovation and innovation in the services sector, combined with creativity, flair and talent.

Europe has a long tradition of excellence in the fields of research and development (R & D) and innovation. An innovative society may help businesses to maintain a competitive advantage, develop products with higher added value, stimulate economic activity and thereby safeguard or create jobs. At the same time research and innovation may contribute to finding solutions to some of society's main challenges, such as the ageing population, energy security, climate change, disaster risk management, or social inclusion. Indeed, the influence of new research and innovation extends well beyond the economic sphere, as it can lead to solutions that directly impact on the daily lives of the population, for example, ensuring safer food, developing new medicines to fight illness and disease, or alleviating environmental pressures.

Regional research, knowledge and innovative capacity depends on a range of factors — business culture, workforce skills, education and training institutions, innovation support services, technology transfer mechanisms, regional infrastructure, the mobility of researchers, sources of finance and creative potential. Education, training and lifelong learning are considered vital to developing a region's capacity to innovate, with universities across the European Union (EU) increasingly implicated in the commercialisation of research, collaboration with regional businesses.

Europe 2020

The Europe 2020 strategy is the EU's growth strategy to become a 'smart, sustainable and inclusive economy'. It is composed of five headline targets, one of which covers research expenditure, namely, that R & D expenditure should be equivalent to 3.00 % or more of the EU's GDP by 2020.

The innovation union is supplemented by a Communication from the European Commission on 'Regional policy contributing to smart growth in Europe 2020' (COM(2010) 553) which explores ways in which regional policy can be used to unlock the growth potential of the EU. The communication calls for the development of smart specialisation strategies across the EU's regions in order to identify those activities that offer the best chance of strengthening a region's competitiveness, while encouraging interaction between businesses, research centres and universities on the one hand and local, regional and national administrations on the other.

Under the EU's flagship innovation union, the European Commission undertakes to create an innovation-friendly environment, with a comprehensive intellectual property rights strategy, as detailed in its 2011 Communication titled 'A single market for intellectual property rights: boosting creativity and innovation to provide economic growth, high quality jobs and first class products and services in Europe' (COM(2011) 287) which seeks to establish a single market for intellectual property.

The innovation union scoreboard tracks a broad range of innovation indicators, including educational standards,

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(i) INNOVATION UNION — A FLAGSHIP EUROPE 2020 INITIATIVE

In 2010, the European Commission adopted a communication launching a flagship initiative titled 'Innovation union' (COM(2010) 546); this sets out a strategic approach to a range of challenges like climate change, energy and food security, health and an ageing population. It is hoped that the promotion of innovation in these areas will lead to innovative ideas being transformed into new economic activities and products, which in turn will generate jobs, green growth and social progress.

The innovation union seeks to use public sector intervention to stimulate the private sector, removing bottlenecks which may prevent ideas from reaching market, such as access to finance, a lack of venture capital, fragmented research systems, the under-use of public procurement for innovation, and speeding-up harmonised standards and technical specifications.

To achieve these goals more than 30 separate actions have been identified, including a range of European innovation partnerships (EIPs), designed to act as a framework to address major societal challenges.

For more information:

Innovation union — a Europe 2020 initiative

R & D expenditure, patent production and business innovation. The results are used in the annual growth survey, helping EU Member States to determine their strengths and the areas they need to focus more on.

In 2014, the European Commission adopted a Communication on 'Research and innovation as sources of renewed growth' (COM(2014) 339) which proposes that EU Member States should seek to actively support growth enhancing policies, notably through research and innovation, so as to benefit from the largest internal market in the world, many of the world's leading innovative companies, and the highly-educated European workforce. Proposals were made to explore how the impact of research and innovation could be maximised, through:

- improving the quality of strategy development and the policymaking process;
- improving the quality of programmes, focusing of resources and funding mechanisms;
- optimising the quality of public institutions performing research and innovation.

Framework programmes

Since their launch in 1984, the EU's framework programmes for research have played a leading role in multidisciplinary research activities. Regulation (EU) No 1291/2013 of the European Parliament and of the Council established Horizon 2020 — the Framework Programme for research and innovation (2014–20). By coupling research and innovation, it aims to ensure Europe produces world-class science, removes barriers to innovation, bridges the gap between research and the market so technological breakthroughs are transformed into viable products, and makes it easier for the public and private sectors to work together. Horizon 2020 has a budget of almost EUR 80 billion, in addition to the private expenditure that it is expected this funding will attract.

While EU funding seeks to target all regions, the innovation divide across Europe's regions reflects a pattern whereby the majority of EU regions are low absorbers of framework programme funding and structural funds that are designed to raise their modest levels of research and innovation. Indeed, there appears to be a paradox, whereby those regions characterised by established innovative activity attract the most qualified personnel and new business ventures, thereby maintaining their position as innovative leaders, while those that trail behind fail to catch-up, despite efforts to target funding and policy prescriptions specifically to these regions.

European research area

In order to pool talent and achieve a necessary scale, policymakers seek to encourage transnational cooperation within the European research area (ERA). The EU's research efforts have often been described as being fragmented along national and institutional lines. The ERA was launched at the Lisbon European Council in March 2000 and aims to ensure open and transparent trade in scientific and technical skills, ideas and know-how; it sets out to create a unified research area that is open to the world that promotes the free movement of researchers, knowledge and technology.

In 2012, the European Commission adopted a Communication titled 'A reinforced European research area partnership for excellence and growth' (COM(2012) 392), focusing on five key priority areas for reforming the ERA: more effective national research systems; optimal transnational cooperation and competition; an open labour market for researchers; gender equality and gender mainstreaming in research; and optimal circulation and transfer of scientific knowledge.

Main statistical findings

Gross domestic expenditure on R & D (GERD) includes expenditure on R & D by business enterprises, higher education institutions, as well as government and private non-profit organisations. It was estimated to be EUR 271.6 billion across the EU-28 in 2013; this equated to an average of EUR 536 of R & D expenditure per inhabitant.

Europe 2020: research and development intensity

Both the Europe 2020 strategy and its predecessor the Lisbon agenda (launched in 2000) set similar targets in

relation to R & D expenditure, namely that expenditure on R & D should be equivalent to at least 3.00 % of the EU's GDP. This overall target is divided into a range of national targets, reflecting the position of each EU Member State and commitments agreed between the European Commission and national administrations through a series of reform programmes. These national targets for R & D expenditure vary considerably between EU Member States and ranged from 0.50 % of GDP in Cyprus to 3.76 % of GDP in Austria and 4.00 % of GDP in the traditionally R & D-intensive Member States of Finland and Sweden; there is no national target for the United Kingdom.

Map 8.1: Gross domestic expenditure on R & D (GERD), by NUTS level 2 region, 2012 (¹)
(% of GDP)
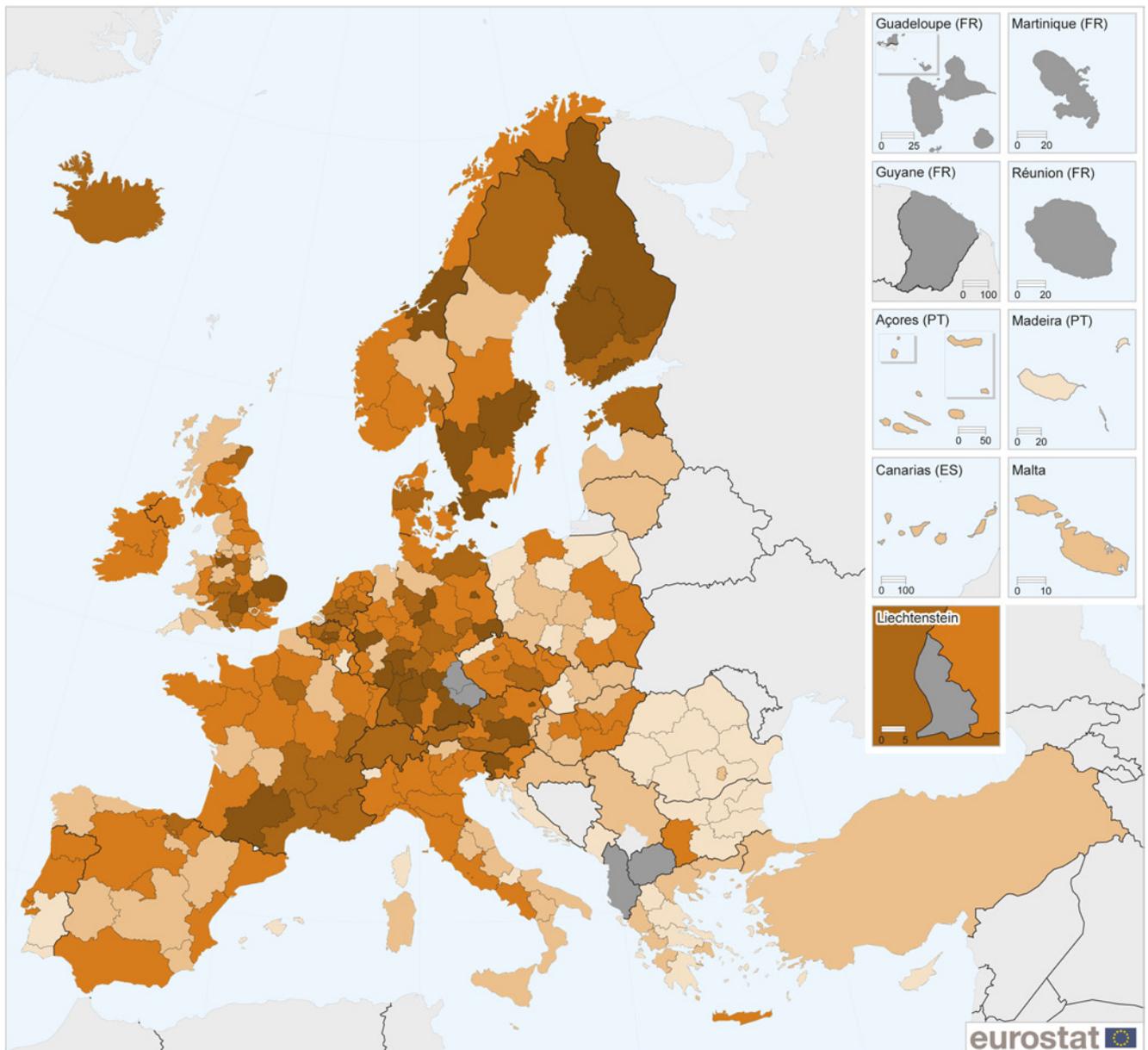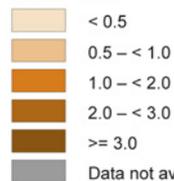
Guadeloupe (FR) Martinique (FR)
0   25   0   20

Guyane (FR)   Réunion (FR)
0   100   0   20

Açores (PT)   Madeira (PT)
0   50   0   20

Canarias (ES)   Malta
0   100   0   10

Liechtenstein
0   5

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Cartography: Eurostat — GISCO, 06/2015

0   200   400   600   800 km

(% of GDP)

EU-28 = 2.01

	< 0.5
	0.5 – < 1.0
	1.0 – < 2.0
	2.0 – < 3.0
	>= 3.0
	Data not available
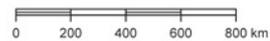
(¹) Switzerland and Turkey: national level. Belgium, Denmark, Germany, Ireland, Greece, France, Groningen (NL11), Drenthe (NL13), Austria, Sweden and Iceland: 2011. Ireland, Groningen (NL11) and Drenthe (NL13): estimates.
Source: Eurostat (online data codes: rd_e_gerdreg and rd_e_gerdtot)

Map 8.2: Change in gross domestic expenditure on R & D (GERD), by NUTS level 2 region, 2007–12 (¹)
(percentage points difference, % of GDP)
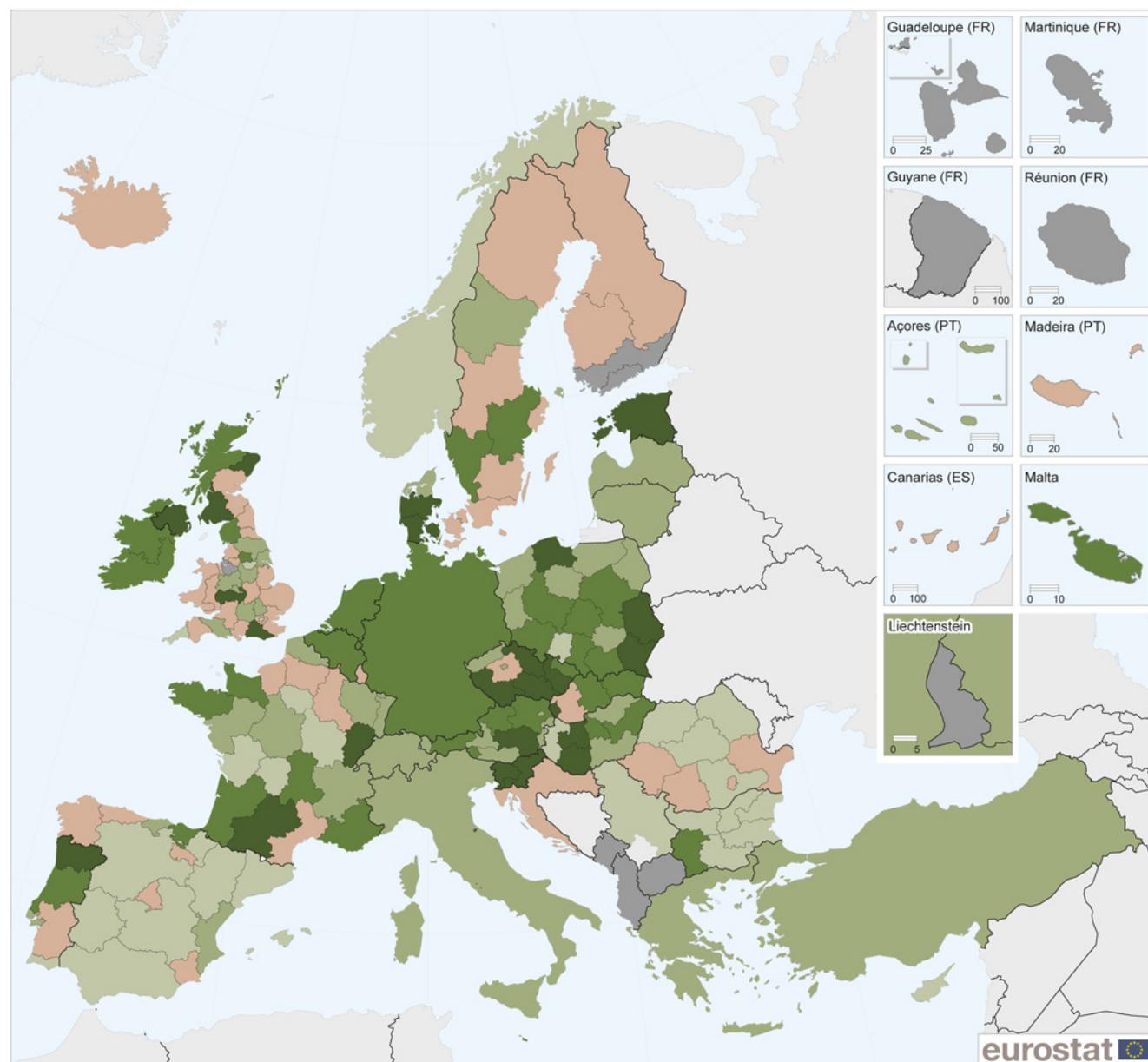
(percentage points difference, % of GDP)

EU-28 = 0.23
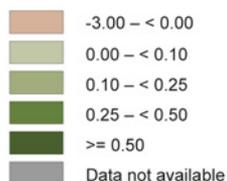
- -3.00 – < 0.00
- 0.00 – < 0.10
- 0.10 – < 0.25
- 0.25 – < 0.50
- >= 0.50
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

0   200   400   600   800 km

(¹) Belgium, Germany, Greece, Croatia, Italy, the Netherlands, Norway, Switzerland and Turkey: national level. Serbia: 2009–12. Switzerland: 2008–12. Denmark and Sweden: 2007–11. Ireland, France, Austria and Iceland: 2006–11. Belgium, Ireland, Greece and Luxembourg: estimates. Greece, the Netherlands and Iceland: break in series.
Source: Eurostat (online data codes: rd_e_gerdreg and rd_e_gerdtot)

From a level of 1.77 % of GDP in 1999 (which is the start of the series for the EU-28) there was little or no change in the EU's R & D intensity during the period 2000–07. In 2008, there was a modest increase, as R & D expenditure relative to GDP rose to 1.85 % and this was followed by a further increase to 1.94 % in 2009 (resulting from the level of R & D expenditure falling at a slower pace than GDP as the full impact of the financial and economic crisis was felt). There was a rebound in economic growth and R & D expenditure in the following years, with further modest gains in the EU-28's R & D intensity, which reached 2.01 % in 2012, a level that was repeated in 2013.

High R & D intensity in many Nordic and German regions

The nature of research and development is such that there are clusters of activity, in other words, specific geographical areas where R & D activity appears to be concentrated. These regions are often developed around academic institutions or specific high-technology industrial activities and knowledge-based services, which foster a favourable environment, thereby attracting new start-ups and highly qualified personnel such that the competitive advantage of these regions is further intensified.

Map 8.1 presents the regional distribution of R & D expenditure relative to GDP for NUTS level 2 regions. It shows the most concentrated areas of research activity were often clustered together: there was a band of research-intensive regions running from Finland through southern Sweden into Denmark; another band ran from the United Kingdom, through Belgium into southern Germany; while a final band ran from Slovenia, through Austria and Switzerland into southern France and northern Spain.

Those EU Member States with the highest levels of R & D intensity were often characterised by pockets of concentrated research activity. **Figure 8.1** summarises this information on the concentration of R & D activities, with national R & D intensities (shown by the size of the bubbles) highest among the Nordic Member States; Finland and Sweden also reported a relatively high share of their total number of regions had R & D intensities of 3 % or more (three out of five regions in Finland and four out of eight regions in Sweden).

Approximately 1 in 10 (10.5 %) of the 266 NUTS level 2 regions in the EU for which data are available reported research intensity that had reached the Europe 2020 target of at least 3 % (as shown by the darkest shade in **Map 8.1**); together these regions accounted for more than one third of the EU-28's total R & D expenditure in 2012.

The Province Brabant Wallon had the highest R & D intensity in the EU

There were three regions in the EU where the level of R & D intensity was particularly pronounced. Two of these were in Germany, Stuttgart and Braunschweig, where R & D expenditure relative to GDP rose to 6.19 % and 7.32 % respectively in 2011. However, R & D intensity peaked in the Belgian region of the Province Brabant Wallon, at 7.82 % (also in 2011); as such, its research intensity was almost four times as high as the EU average.

Research activity was otherwise often focussed on capital regions, for example, the Nordic capitals of Hovedstaden (2011 data), Helsinki-Uusimaa and Stockholm (2011 data), or the German and Austrian capitals of Berlin and Wien (both 2011 data). There were also a number of other regions with research intensity of at least 3 %, many of which have a tradition of research excellence, including, for example: the Provincie Vlaams-Brabant in Belgium (2011 data); Tübingen and Oberbayern in Germany (both 2011 data); the Midi-Pyrénées in France (2011 data); or East Anglia in the United Kingdom.

Figure 8.1: Regions with R & D intensity greater than or equal to 3.00 %, by NUTS level 2 region, 2012 (¹)
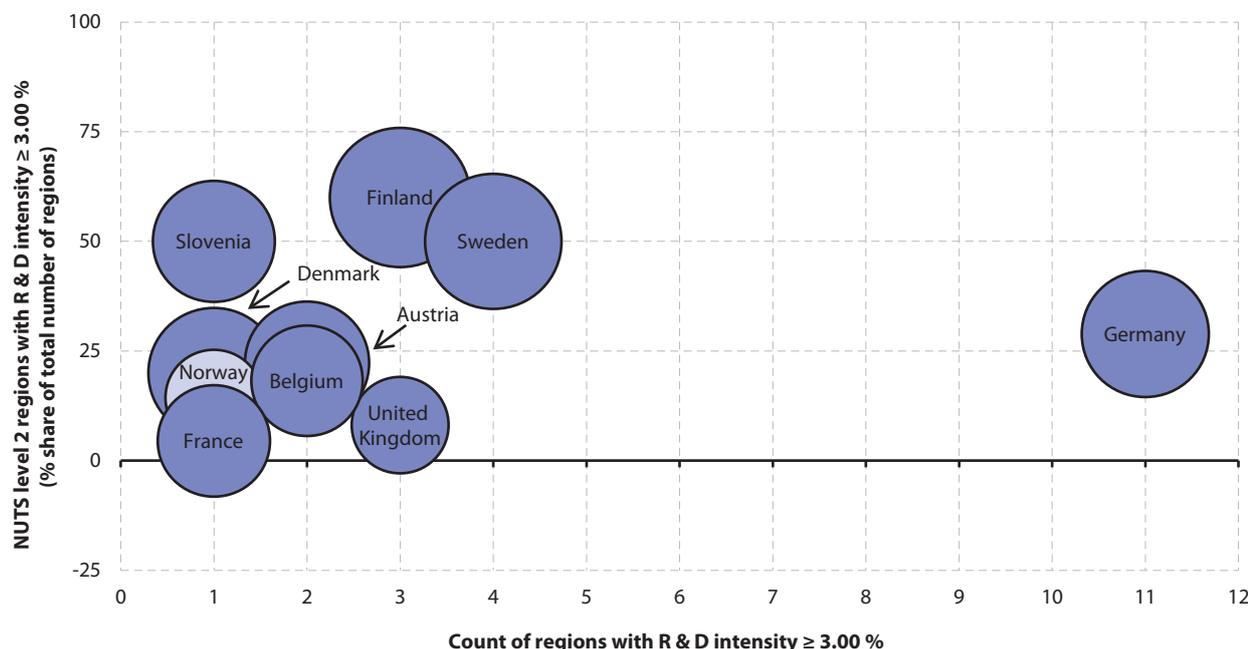
(¹) The size of the bubble reflects national R & D intensity. Countries that are not shown do not have any regions with R & D intensity greater than or equal to 3.00 %. Belgium, Denmark, Germany, France, Austria and Sweden: 2011. Guadeloupe (FR91), Martinique (FR92), Guyane (FR93), Réunion (FR94), Liechtenstein, Switzerland, Montenegro, the former Yugoslav Republic of Macedonia and Turkey: not available. Niederbayern (DE22) and Oberpfalz (DE23): confidential.
Source: Eurostat (online data codes: rd_e_gerdreg and rd_e_gerdtot)

Most southern and eastern regions had relatively low levels of R & D intensity

Outside of these clusters, R & D expenditure relative to GDP was generally modest in the remainder of western and northern regions of the EU and low in most of southern and eastern regions of the EU. Indeed, the Spanish region of País Vasco (2.23 %) was the only southern EU region to report R & D intensity above 2 % in 2012, while the only eastern regions of the EU to record intensities above 2 % were: the Czech regions of Praha (2.53 %) and Jihovýchod (2.61 %), and the Slovenian capital region of Zahodna Slovenija (3.07 %).

There was a fast expansion in R & D intensity in Slovenia

Map 8.2 analyses changes in research intensity over the period 2007–12; note that the results are influenced by the pace of change in the research spend and by the overall level of economic activity. There were only four regions across the EU (subject to data availability) where research intensity rose by a single percentage point or more: these included both of the regions in Slovenia, Jihovýchod (in the Czech Republic), North Eastern Scotland (in the United Kingdom) and Estonia (a single region at this level of analysis). R & D expenditure relative to GDP rose by at least 0.5 percentage points in about 14 % of the regions across the EU (as shown by the darkest green shade in **Map 8.2**). Aside from the four regions already mentioned, the remaining regions where R & D intensity increased at a relatively fast pace included three additional regions from the Czech Republic, three regions from Poland, two regions from Hungary

and the capital region of Slovakia. Outside of the eastern EU Member States, the only other regions where research intensity increased by at least 0.5 percentage points were the Danish regions of Syddanmark and Midtjylland (data covers the period 2007–11), the French regions of Franche-Comté and Midi-Pyrénées (data covers the period 2006–11), Steiermark in Austria (data covers the period 2006–11), the Norte region of Portugal, and four more regions from the United Kingdom (Surrey, East and West Sussex; Northern Ireland; South Western Scotland; Herefordshire, Worcestershire and Warwickshire).

About one quarter of the regions in the EU saw their R & D intensity fall over the most recent five-year period for which data are available

By contrast, just over one quarter of the 173 regions for which data are available recorded a decline in their research intensity. Note that a fall in research intensity does not necessarily equate to a reduction in intramural R & D expenditure as a decline in the ratio could result from economic activity expanding at a faster pace than the research spend.

The six largest declines in research intensity were recorded in regions from the United Kingdom, while there were reductions in R & D intensity for a total of 16 United Kingdom regions, eight regions from Spain, five of the eight Swedish regions (data covers the period 2007–11), four regions in France (data covers the period 2006–11) and four of the eight regions in Romania.

Researchers

Researchers are directly employed within R & D activities and are defined as 'professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and in the management of the projects concerned'.

There were an estimated 2.53 million researchers active across the EU-28 in 2011. Their number has grown at a steady pace in recent years, rising from 1.80 million in 2003. An alternative unit of measure for labour input adjusts the number of researchers to take account of different working hours and working patterns. Based on this measure, there were 1.62 million full-time equivalent researchers in the EU-28 in 2011, a figure which rose to 1.73 million by 2013.

Map 8.3 provides an overview of the regional distribution of the share of researchers in total employment (measured as a headcount) for NUTS level 2 regions; the EU-28 average was 1.16 % in 2011.

The distribution of researchers across the EU was particularly clustered in capital regions …

The distribution of researchers was relatively concentrated in a few clusters, principally in those regions where R & D intensity was high. The main difference between the patterns displayed in **Maps 8.1** and **8.3** was that the distribution of researchers tended to be somewhat higher in those regions characterised as having higher education establishments and research institutes (often capital regions). Furthermore, there was a higher concentration of researchers in a number of southern regions, principally across Portugal, Spain and Greece.

This concentration of researchers was reflected in a somewhat skewed distribution, as just over one third (36.5 %) of the regions for which data are available for 2012 reported a share of researchers in total employment that was above the EU-28 mean of 1.16 %, while the median share across all NUTS 2 regions was 0.84 %. Approximately 1 in 10 regions in the EU-28 reported that researchers made-up at least 2 % of their workforce in 2012 (as shown by the darkest shade in **Map 8.3**). The highest share was recorded in Inner London (3.97 %), while there were three additional regions where the share was over 3.5 %, namely, the Danish and Slovakian capital regions of Hovedstaden (data are for 2011) and Bratislavský kraj, as well as the most research-intensive region of the EU, the Belgian region of the Province Brabant Wallon (data are also for 2011). The capital regions of Wien (data are for 2011), Lisboa, Helsinki-Uusimaa, Praha, the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (data are for 2011), Zahodna Slovenija and Stockholm (data are for 2011) also reported that researchers accounted for at least 2 % of their regional workforces. Outside of those regions already mentioned, researchers accounted for at least 2 % of total employment in five German regions (data are for 2011), four additional regions in the United Kingdom, three more

regions in Sweden (data are for 2011), two more in Finland and an additional region in each of Belgium (data are for 2011) and Austria (data are for 2011).

… whereas researchers accounted for a low share of total employment in peripheral and sparsely-populated regions

By contrast, researchers accounted for less than 0.5 % of total employment in almost one quarter of the NUTS level 2 regions for which data are available in 2012 (as shown by the lightest shade in **Map 8.3**). With the exception of their capital regions of Yugozapaden and Bucureşti - Ilfov, every other region in Bulgaria and Romania had a share of researchers in total employment that was less than 0.5 %. This was also the case in a number of regions on the periphery of the EU or regions with relatively low levels of population density. For example, the two regions with the lowest shares of researchers in the United Kingdom were the Highlands and Islands (of Scotland) and Cornwall and Isles of Scilly (in the south-west of England), while the island region of Corse recorded the lowest share in France (data are for 2011), and the Illes Balears the lowest share in Spain (excluding the two autonomous cities of Ceuta and Melilla). Researchers accounted for 0.1 % of the total workforce in three regions — the lowest shares in the EU — namely, the Greek region of Ionia Nisia (data are for 2011), the Polish region of Świętokrzyskie and the Romanian region of Sud-Est.

Human resources in science and technology

An alternative measure for highly qualified personnel is provided by statistics relating to human resources in science and technology (HRST), defined as those persons who have completed a tertiary level of education and / or are employed in a science and technology occupation. A more restricted definition is applied for those persons who meet both of these criteria, referred to as core human resources in science and technology (HRSTC).

Human resources in science and technology: just over 30 % of the EU's working-age population

Human resources in science and technology contributed 118 million persons to the EU-28 workforce in 2013, of which 46 million were categorised as core HRST. In 2008, HRST accounted for slightly more than one quarter (27.2 %) of the EU-28's population aged 15–74 (hereafter referred to as the working-age population); this share rose in successive years to reach 30.9 % by 2013.

Within the EU Member States, HRST accounted for 16.3 % of the working-age population in Romania, the only Member State in 2013 to record a share that was less than one fifth. At the other end of the range, upwards of 40 % of the working-age population in Sweden and Luxembourg were classified as HRST.

Map 8.3: Proportion of researchers in the total number of persons employed, by NUTS level 2 region, 2012 (¹)
(% of total employment)
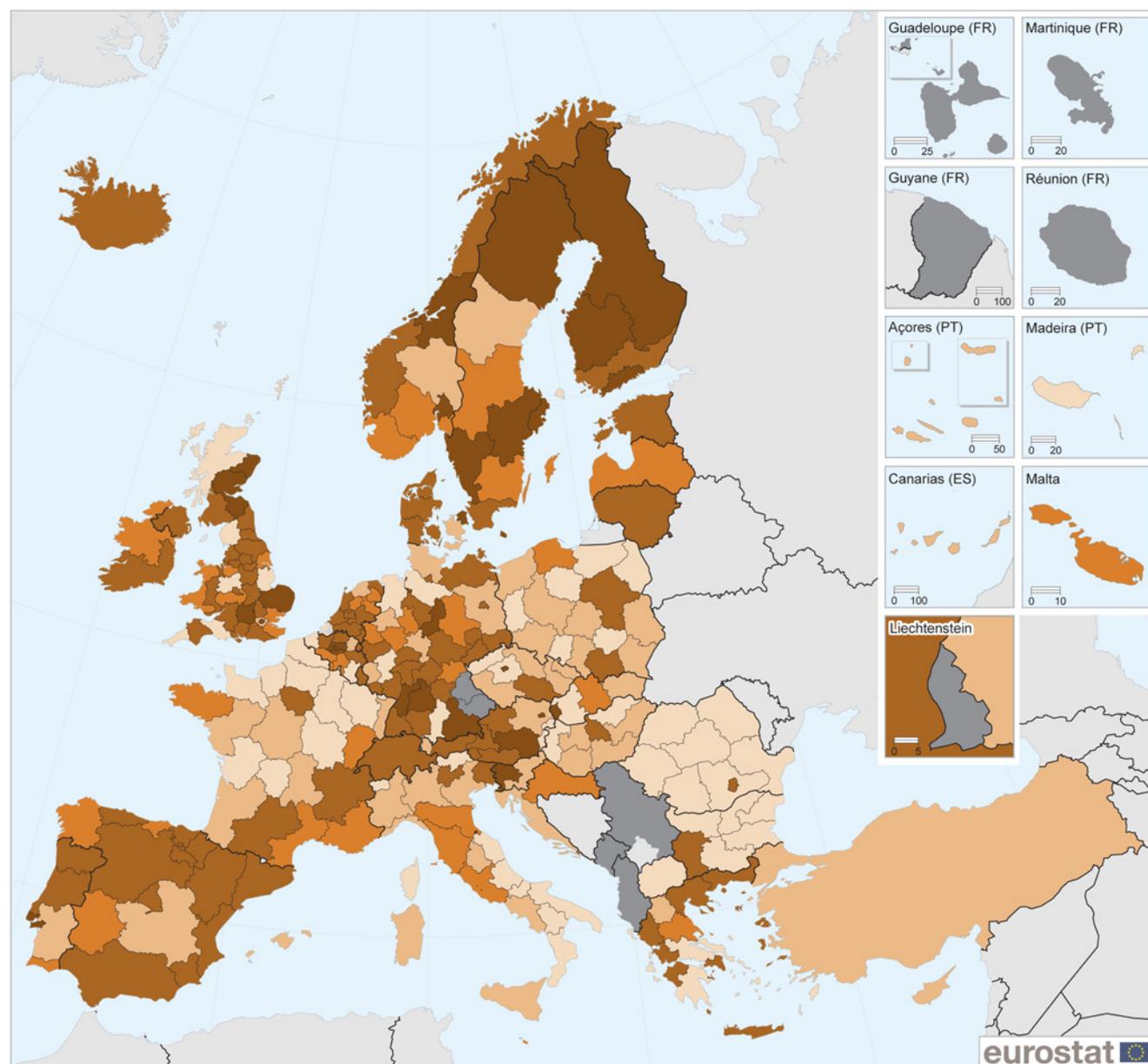
(% of total employment)

EU-28 = 1.16

- < 0.50
- 0.50 – < 0.75
- 0.75 – < 1.00
- 1.00 – < 2.00
- >= 2.00
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Switzerland and Turkey: national level. EU-28, Belgium, Denmark, Germany, Ireland, Greece, France, Luxembourg, Austria, Sweden and Iceland: 2011. The United Kingdom: estimates.
France: numerator based on full-time equivalent.
Source: Eurostat (online data code: rd_p_persreg)

Map 8.4: Human resources in science and technology (HRST), by NUTS level 2 region, 2013 ([1])
(% of total population)
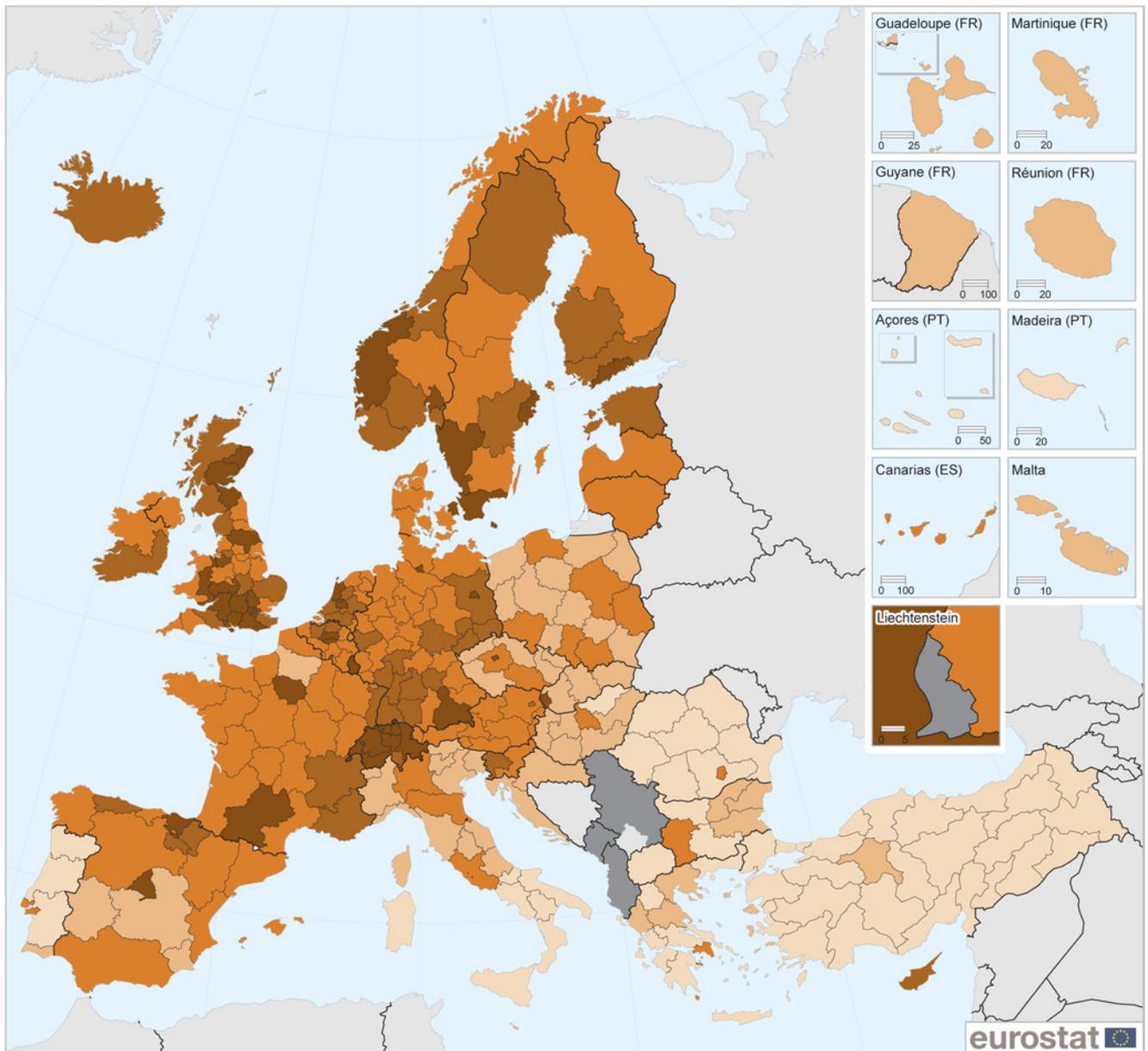
(% of total population)

EU-28 = 30.9

- < 20
- 20 – < 25
- 25 – < 35
- 35 – < 40
- >= 40
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

([1]) Corse (FR83) and Guyane (FR93): low reliability.
Source: Eurostat (online data code: hrst_st_rcat and hrst_st_ncat)
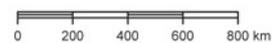
Map 8.4 shows the regional distribution of HRST for NUTS level 2 regions, with the darkest shade highlighting those regions where the share of HRST in the working-age population was at least 40 %. Approximately 12 % of the 272 regions for which data are available in 2013 met this criterion, with HRST accounting for at least two fifths of their working-age population aged 15–74. Many of the regions with high shares of HRST were also characterised as having a high degree of R & D intensity (see above). Indeed, the main clusters of HRST were located in the United Kingdom, the Nordic Member States, Belgium, Germany and Austria. The proportion of the working-age population classified as HRST also rose to over 40 % in two regions from each of France, the Netherlands and Spain, including in each case, the capital region; this was also the case for the capital regions of the Czech Republic and Slovakia, as well as Luxembourg (a single region at this level of analysis).

At least half of the working-age population in Inner London, Helsinki-Uusimaa and Stockholm was classified as HRST

There were three capital regions where at least half of the working-age population was classified as HRST in 2013: Inner London (57.5 %) recorded, by some distance, the highest share, followed by the Nordic capital regions of Stockholm (51.4 %) and Helsinki-Uusimaa (50.0 %).

Beyond this concentration of HRST in capital regions, there were also relatively high shares of HRST in the working-age population in several regions close to capital cities — for example: the Province Brabant Wallon and the Provincie Vlaams-Brabant around the Belgian capital; Utrecht near to Amsterdam in the Netherlands; and several regions around Inner London (Berkshire, Buckinghamshire and Oxfordshire; Outer London; Bedfordshire and Hertfordshire; and Surrey, East and West Sussex).

Some 11 % of the NUTS level 2 regions for which data are available reported that HRST accounted for less than one in five of their working-age population in 2013 (as shown by the lightest shade in **Map 8.4**). These regions were located in the south and east of the EU, with five from Portugal, seven from southern Italy, eight from Greece, two from Bulgaria, all but the capital region from Romania, and a single region from Hungary; the share of HRST was also less than 20 % in the former Yugoslav Republic of Macedonia and all of the regions of Turkey, except for the capital region of Ankara.

The share of core HRST in the active working-age population was approximately twice as high as the EU-28 average in Inner London and Luxembourg

Figure 8.2 shows the distribution of core HRST as a share of the economically active population aged 15–74 in 2013, ranked by national averages. Core HRST accounted for 16.2 % of the EU-28's economically active population in 2008 and saw its share rise each year through to 2013, when it stood at 19.1 %.

Figure 8.2: Regional disparities in human resources in science and technology core (HRSTC), by NUTS level 2 region, 2013 ([1])
(% of active population)
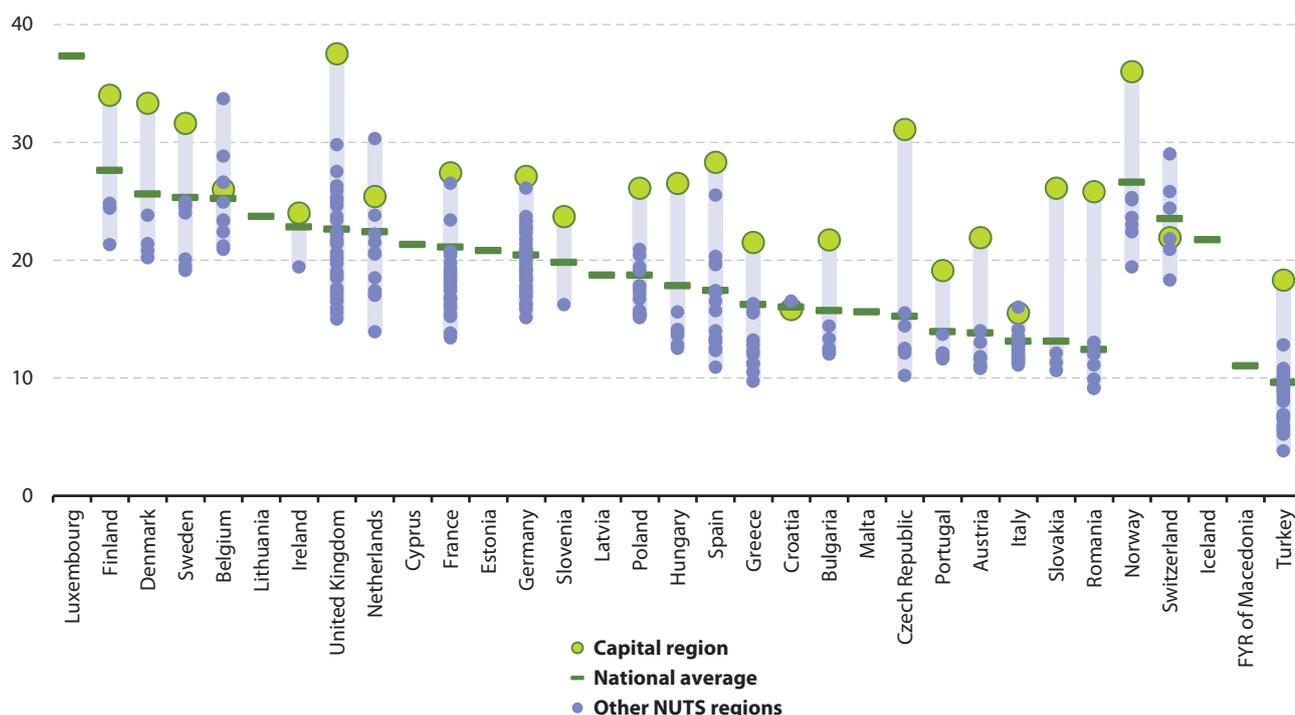
([1]) The light purple shaded bar shows the range of the highest to lowest region for each country. The dark green bar shows the national average. The light green circle shows the capital city region. The dark purple circles show the other regions. Corse (FR83) and Guyane (FR93): not available.
Source: Eurostat (online data code: hrst_st_rcat and hrst_st_ncat)

Across all of the NUTS level 2 regions of the EU, the highest shares of core HRST in the economically active population aged 15–74 were approximately twice as high as the EU-28 average. The share of core HRST peaked in 2013 at 37.5 % of the economically active population in Inner London, followed by 37.3 % in Luxembourg (a single region at this level of analysis).

Capital regions often recorded the highest shares of core HRST, while a majority of the other regions saw their shares of core HRST fall below the national average; this skewed distribution is clearly apparent in **Figure 8.2**. Among those EU Member States with more than two NUTS level 2 regions, the capital regions of the Nordic Member States, Hungary, Bulgaria, Portugal and Slovakia were noteworthy insofar as they were the only regions in each of these Member States to record a share of core HRST that was above the national average.

In the Czech Republic, Slovakia and Romania, the share of core HRST in the economically active population was approximately twice as high in the capital region as the national average, while the capital regions of Austria, Spain and the United Kingdom reported that their share of core HRST was at least 50 % higher than their respective national averages; this was also the case in Turkey.

Belgium, Croatia, Italy and the Netherlands displayed an atypical pattern among the multi-regional EU Member States, insofar as their capital regions did not register the highest share of core HRST. However, in three of these four Member States, the share of core HRST in the economically active population for the capital region was higher than the national average. The only exception was Croatia, where the difference between the national average and that for the capital region was just 0.2 percentage points; a similar pattern was observed in Switzerland, as the capital region

of Espace Mitteland recorded a share of core HRST that was 1.6 percentage points lower than the national average.

Employment in high-technology sectors

There were approximately 8.4 million persons employed across the EU-28 within high technology sectors in 2013; between 2008 and 2013 the total number of persons working in high-tech sectors in the EU increased by 120 thousand. In relative terms, those working in high-tech sectors accounted for 3.7 % of the total number of persons employed in the EU-28 in 2008. There was a modest increase in their share which peaked at 3.9 % in 2012 and remained at the same level in 2013.

The share of employment in high-tech sectors was at least 5 % in just less than one in five of the 239 regions for which data are available (as indicated by the darkest shade in **Map 8.5**). Approximately one sixth of the regions reported a share of employment in high-tech sectors that was less than 2 % (as indicated by the lightest shade).

In the capital regions of Spain, the Czech Republic, Hungary, Ireland, Slovakia and of the Nordic Member States, those working in high-tech sectors accounted for at least 8 % of total employment …

The distribution of employment shares in high-tech sectors was often skewed, with the capital region recording a relatively high share and the majority of the other regions reporting much lower shares, often below their respective national averages (**Figure 8.3**). This was particularly true in Spain, the Czech Republic, Hungary, Ireland, Slovakia and the Nordic Member States, as high-tech sectors accounted for at least 8 % of total employment in each of their capital regions.

DEFINING HIGH-TECH SECTORS

High-tech sectors include high-tech manufacturing industries and knowledge-intensive services, which are defined according to technological intensity and based on the activity classification NACE. Note that the statistics on employment in high-tech sectors cover all persons (including support staff) who work in these enterprises, and as such will overstate the number of highly-qualified staff in these sectors.

The distinction between manufacturing and services is made due to the existence of two different methodologies. While R & D intensities are used to distinguish between high, medium-high, medium-low and low-technology manufacturing industries, for services the proportion of the workforce that has completed a tertiary education is used to distinguish between knowledge-intensive services and less knowledge-intensive services.

High-technology manufacturing covers the manufacture of: basic pharmaceutical products and pharmaceutical preparations; computer, electronic and optical products; and air and spacecraft and related machinery.

High-tech knowledge-intensive services include motion picture, video and television programme production, sound recording and music publishing activities; programming and broadcasting; telecommunications; computer programming, consultancy and related activities; information service activities; and research and development services.

More information on the aggregation of data for high-tech industries and knowledge-intensive services is provided on Eurostat's website.

Across the EU-28, those employed in high-tech sectors — both high-tech manufacturing and high-tech knowledge-intensive services — accounted for approximately 3.9 % of the total workforce. In 2013 the highest share among the EU Member States was recorded in Ireland, at 7.3 %. This relatively high value for Ireland was, in part, driven by the performance of the capital region of Southern and Eastern, where 8.1 % of the workforce was employed in high-tech sectors.

Photo: Eireann */ Shutterstock.com*

… their share rising to a high of 10.9 % in Berkshire, Buckinghamshire and Oxfordshire

The pattern in the United Kingdom, Belgium, the Netherlands and Germany was somewhat different, as each of these EU Member States recorded a relatively high number of regions where the employment share of high-tech sectors was above the EU-28 average of 3.9 %. Furthermore, their highest regional shares of employment in high-tech sectors were recorded in regions other than their capitals. In the United Kingdom this was in Berkshire, Buckinghamshire and Oxfordshire, which recorded the highest regional share across any of the NUTS level 2 regions of the EU, at 10.9 % (Berkshire, Buckinghamshire and Oxfordshire is characterised by its high density of enterprises in information and communications technology and life sciences located in the infrastructure-rich area to the west of London). The second highest share in the United Kingdom (8.2 %) was recorded Cheshire (in the north-west of England), while five other regions in the United Kingdom reported that at least 5 % of their employment was in high-tech sectors, including the capital region of Inner London (7.1 %).

In Belgium, the two regions which surround the capital both recorded higher shares of employment in high-tech sectors than the capital itself. In the Province Brabant Wallon, the share of employment in high-tech sectors was 7.7 %, while

Figure 8.3: Regional disparities in employment in high-tech sectors, by NUTS level 2 region, 2013 (¹)
(% of total employment)
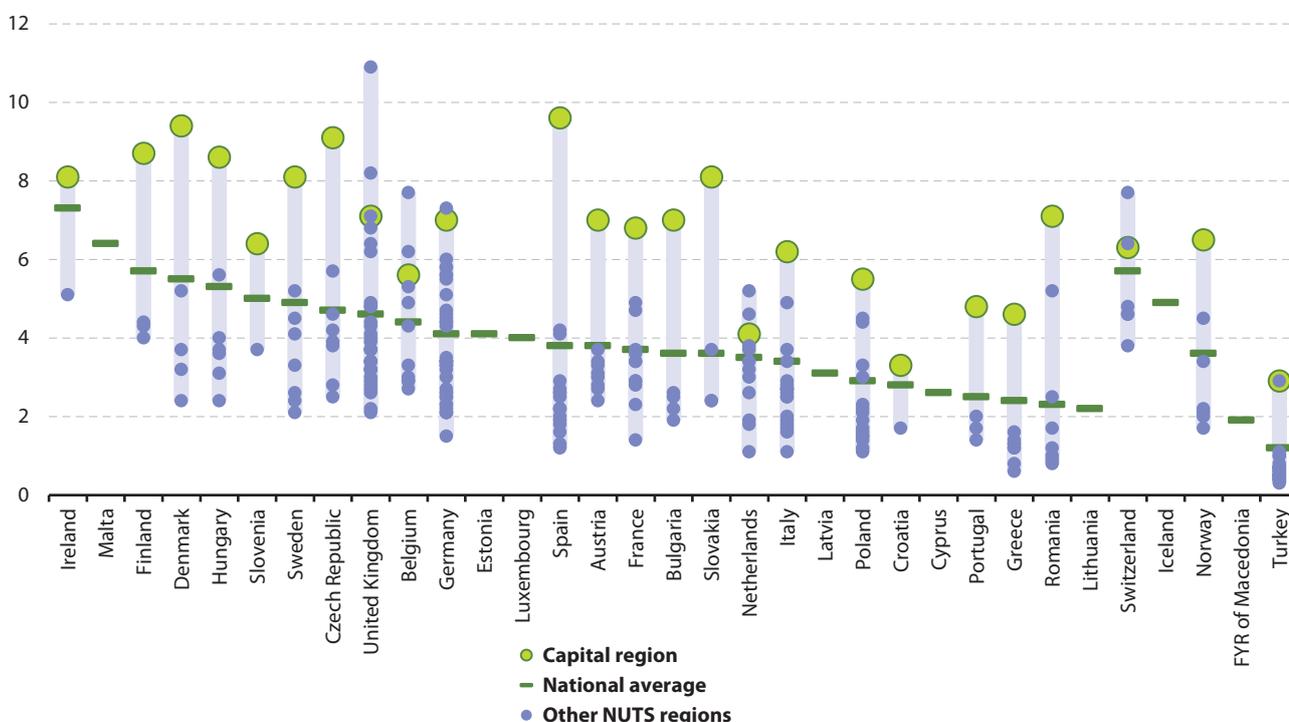
Legend:
- ● Capital region
- — National average
- ● Other NUTS regions

(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 light green circle shows the capital city region. The dark purple circles show the other regions. Severoiztochen (BG33), La Rioja (ES23), Languedoc-Roussillon (FR81), Burgenland (AT11), Opolskie (PL52), Sud-Est (RO22) and East Yorkshire and Northern Lincolnshire (UKE1): 2012. Yugoiztochen (BG34), Notio Aigaio (EL42) and Alentejo (PT18): 2011. Severozapaden (BG31), Dytiki Makedonia (EL13), Ipeiros (EL21), Ionia Nisia (EL22), Voreio Aigaio (EL41), Ciudad Autónoma de Ceuta (ES63), Ciudad Autónoma de Melilla (ES64), Champagne-Ardenne (FR21), Picardie (FR22), Basse-Normandie (FR25), Bourgogne (FR26), Lorraine (FR41), Franche-Comté (FR43), Poitou-Charentes (FR53), Limousin (FR63), Auvergne (FR72), Corse (FR83), Guadeloupe (FR91), Martinique (FR92), Guyane (FR93), Réunion (FR94), Valle d'Aosta/Vallée d'Aoste (ITC2), Molise (ITF2), Algarve (PT15), Região Autónoma dos Açores (PT20), Região Autónoma da Madeira (PT30), Åland (FI20), Cumbria (UKD1), North Yorkshire (UKE2), Lincolnshire (UKF3), Cornwall and Isles of Scilly (UKK3), North Eastern Scotland (UKM5) and the Highlands and Islands (UKM6): not available. Data for some regions are of low reliability (too numerous to document).

Source: Eurostat (online data codes: htec_emp_reg2 and htec_emp_nat2)

Map 8.5: Employment in high-tech sectors, by NUTS level 2 region, 2013 ([1])
(% of total employment)
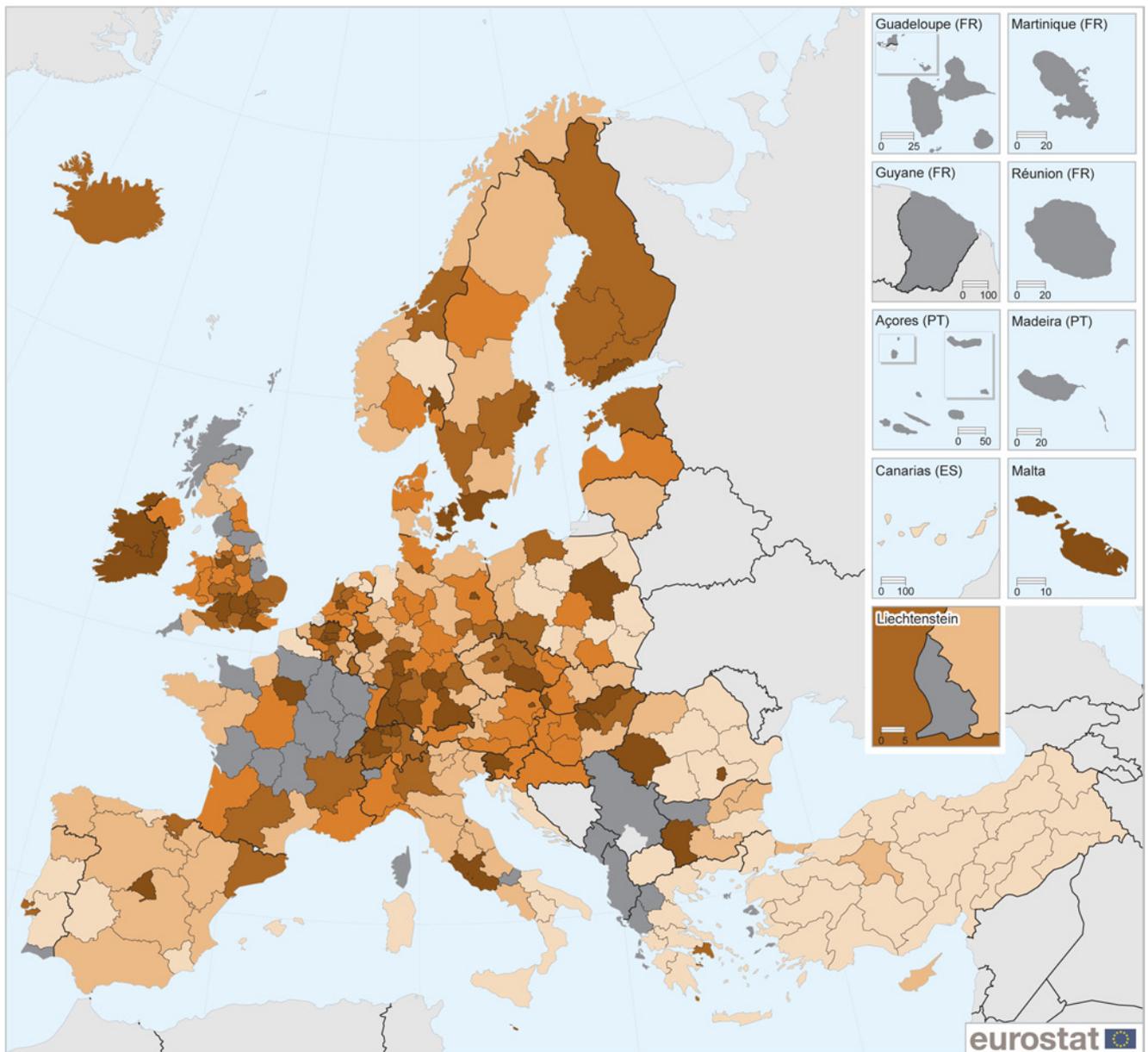
(% of total employment)

EU-28 = 3.9
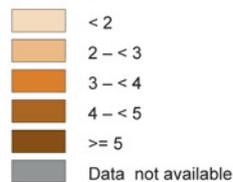
- < 2
- 2 – < 3
- 3 – < 4
- 4 – < 5
- >= 5
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
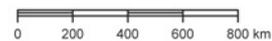
([1]) Severoiztochen (BG33), La Rioja (ES23), Languedoc-Roussillon (FR81), Burgenland (AT11), Opolskie (PL52), Sud-Est (RO22) and East Yorkshire and Northern Lincolnshire (UKE1): 2012. Yugoiztochen (BG34), Notio Aigaio (EL42) and Alentejo (PT18): 2011. Data for several regions are of low reliability (too numerous to document).
Source: Eurostat (online data codes: htec_emp_reg2 and htec_emp_nat2)

in the Provincie Vlaams-Brabant it was 6.2 %. There were two other Belgian regions where the share of employment in high-tech sectors was at least 5 %, the capital Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (5.6 %) and the Provincie Antwerpen (5.3 %). A similar pattern was observed in the Netherlands, as the regional shares of employment in high-tech sectors in Flevoland (4.6 %) and Utrecht (5.2 %) were higher than that recorded in the capital region of Noord-Holland (4.1 %). In Germany, there were nine regions where high-tech sectors accounted for more than 5 % of total employment: these included the capital region of Berlin (7.0 %), while the only German region with a higher share (7.3 %) was the southern region of Oberbayern, which contains Munich.

Intellectual property rights

The term intellectual property rights is used to cover the granting of different kinds of protection through the issuing of patents, copyrights and trademarks. The protection of intellectual property allows the holder to exercise a monopoly on the use of the item in question for a set period, as imitation and duplication are restricted. By doing so, enterprises may be encouraged to invest more in research and creative activity.

The number of patent applications from the EU-28 to the European Patent Office (EPO) rose at a relatively fast pace through to 1999, when an average of more than 100 applications per million inhabitants was passed for the first time. Thereafter, modest increases followed up until 2006 when a relative peak of 117.2 applications per million inhabitants was registered. From this relative high, the number of EPO patent applications per million inhabitants fell slowly to 108.6 applications per million inhabitants in 2012, which equated to a total of almost 55 thousand applications.

The average number of patent applications per million inhabitants in the EU-28 stood at 109.6 in 2011, the latest year for which regional information is available. As with the other research and innovation indicators, patent applications tend to be clustered geographically in a limited number of regions; this is especially true for high-tech patents. Indeed, **Map 8.6** shows that technological activity in the form of patent applications was very much concentrated in the centre of the EU and in particular in southern Germany and in Switzerland.

This relatively high degree of concentration of patent activity is demonstrated by the fact that in 2011, across the 1 227 NUTS level 3 regions for which data are available, around two thirds reported their ratio of patent applications per million inhabitants below the mean value for the EU-28, while the median value for all NUTS level 3 regions was 58 patent applications per million inhabitants.

The darkest shade in **Map 8.6** indicates those regions where this ratio reached at least 250 patent applications per million inhabitants. The overwhelming majority of these — more than 80 % — were located in Germany, with the only exceptions being five regions from each of Austria and Sweden, four regions from each of France and the United Kingdom, three regions from each of Denmark and Finland, two regions from the Netherlands and a single region from each of Belgium and Italy.

Four of the top five regions in the EU with the highest number of patent applications per million inhabitants in 2011 were from Germany. By far the highest ratio (2 246.3) was recorded in the Bavarian region of Erlangen, Kreisfreie Stadt, while the neighbouring region of Erlangen-Höchstadt had the third highest ratio (1 345.9); Erlangen is home to a number of research institutes and a university, with much of its research activity based on optics, engineering, technology and computer science. The two remaining

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ⓘ DEFINING PATENTS

Patent counts can provide a measure of invention and innovation. A patent is an intellectual property right that gives its owner the exclusive right to use his / her invention in a particular technical field for a limited number of years.

A patent application should be based on a new solution to a technical problem which satisfies three criteria: novelty; inventiveness; and industrial applicability. A patent may be granted to an enterprise, a public body, or an individual. Patents remain valid for a given country or area for a limited period of time.

Regional statistics for patent applications to the EPO build on information from the addresses of inventors, which is not always the place (region) of invention as inventors do not necessarily live in the same region as the one in which they work; the impact of this discrepancy is likely to be higher when smaller geographical units are being analysed.

Care should be taken interpreting this data as not all inventions are patented and patent propensities vary across activities and enterprises. Furthermore, patented inventions vary in technical and economic value.

Map 8.6: Patent applications to the EPO, by NUTS level 3 region, 2011 ([1])
(per million inhabitants)
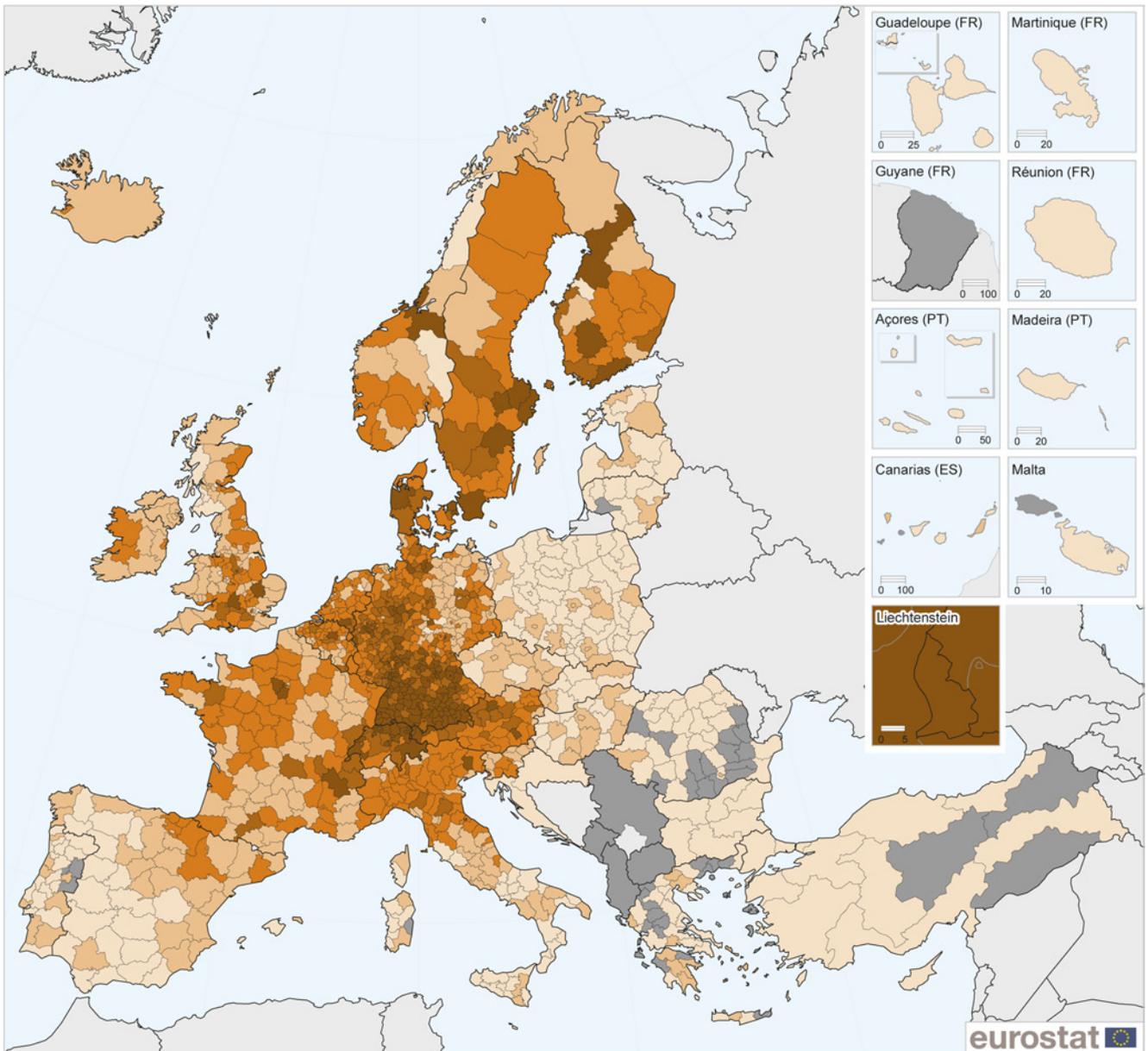
(per million inhabitants)

EU-28 = 109.6
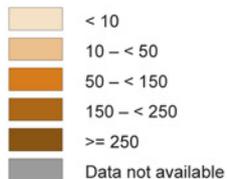
- < 10
- 10 – < 50
- 50 – < 150
- 150 – < 250
- >= 250
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

([1]) Bulgaria and Croatia: only available for NUTS level 2 regions. Turkey: only available for NUTS level 1 regions. For several regions the latest data is for 2008, 2009, 2010 or 2011 (too numerous to document). EU-28 and Liechtenstein: estimates.
Source: Eurostat (online data codes: pat_ep_rtot and pat_ep_ntot)

German regions were Heidenheim and Ludwigsburg (both located near Stuttgart in southern Germany). The exception to this pattern was the southern Dutch region of Zuidoost-Noord-Brabant, which had the second highest ratio, at 1 713.3 patent application per million inhabitants. Among the non-member regions, the highest ratio was recorded for the Swiss region of Basel-Stadt (693.5 patent application per million inhabitants).

By contrast, approximately one fifth of the NUTS level 3 regions in the EU for which data are available reported that they had less than 10 patent application per million inhabitants in 2011 (as shown by the lightest shade on **Map 8.6**; note that some of the information relates to earlier reference periods). Most of these regions were located in the east of the EU, the Baltic Member States, across the Iberian peninsula or in the southern half of Italy.

The French capital region of Île de France had the highest number of Community trademark and design applications

Trademarks are an essential part of the identity of goods and services, as they help to deliver brand recognition and play an important role in marketing and communication. A design is the outward appearance of a product or part of it, resulting from the lines, contours, colours, shape, texture, materials and /or its ornamentation.

Table 8.1 provides information on the application for and granting of Community trademarks and designs. The top 10 regions in 2013 are shown for each of these, with the highest number of applications and registrations for Community trademarks and designs made in the French capital of the Île de France. For each part of **Table 8.1**, the top 10 regions accounted for close to one quarter of the EU-28 total, with each ranking dominated by some of the most populous regions in the EU, either capital regions or regions characterised by a relatively high degree of specialisation in industrial activities.

Table 8.1: Top 10 regions in the EU for Community trademarks and designs, by NUTS level 2 region, 2013

Community trademark applications				Community trademark registrations			
	(number)	(per million inhabitants)	Share of EU-28 (%)		(number)	(per million inhabitants)	Share of EU-28 (%)
EU-28	80 306	158.5	–	**EU-28**	68 787	135.7	–
Île de France (FR10)	3 384	282.5	4.2	Île de France (FR10)	3 245	270.9	4.7
Inner London (UKI1)	2 955	886.7	3.7	Inner London (UKI1)	2 421	726.5	3.5
Lombardia (ITC4)	2 297	232.4	2.9	Lombardia (ITC4)	2 200	222.6	3.2
Cataluña (ES51)	2 217	297.6	2.8	Cataluña (ES51)	1 878	252.1	2.7
Oberbayern (DE21)	1 995	445.7	2.5	Oberbayern (DE21)	1 816	405.7	2.6
Comunidad de Madrid (ES30)	1 775	277.5	2.2	Comunidad de Madrid (ES30)	1 390	217.3	2.0
Düsseldorf (DEA1)	1 499	292.5	1.9	Düsseldorf (DEA1)	1 274	248.6	1.9
Stuttgart (DE11)	1 311	327.3	1.6	Veneto (ITH3)	1 109	226.1	1.6
Veneto (ITH3)	1 287	262.4	1.6	Stuttgart (DE11)	1 076	268.6	1.6
Berlin (DE30)	1 259	361.4	1.6	Darmstadt (DE71)	1 060	275.8	1.5
Community design applications				Community designs			
	(number)	(per million inhabitants)	Share of EU-28 (%)		(number)	(per million inhabitants)	Share of EU-28 (%)
EU-28	15 537	30.7	–	**EU-28**	60 476	119.3	–
Île de France (FR10)	713	59.5	4.6	Île de France (FR10)	3 182	265.6	5.3
Lombardia (ITC4)	458	46.3	2.9	Lombardia (ITC4)	2 280	230.7	3.8
Stuttgart (DE11)	407	101.6	2.6	Stuttgart (DE11)	2 031	507.1	3.4
Oberbayern (DE21)	366	81.8	2.4	Oberbayern (DE21)	1 739	388.5	2.9
Veneto (ITH3)	342	69.7	2.2	Veneto (ITH3)	1 593	324.8	2.6
Cataluña (ES51)	287	38.5	1.8	Arnsberg (DEA5)	1 312	365.1	2.2
Noord-Brabant (NL41)	257	103.8	1.7	Inner London (UKI1)	1 246	373.9	2.1
Mazowieckie (PL12)	257	48.6	1.7	Emilia-Romagna (ITH5)	1 165	264.1	1.9
Inner London (UKI1)	257	77.1	1.7	Düsseldorf (DEA1)	1 152	224.8	1.9
Rhône-Alpes (FR71)	255	39.7	1.6	Cataluña (ES51)	1 051	141.1	1.7

Source: Eurostat (online data codes: ipr_ta_reg, ipr_tr_reg, ipr_da_reg, ipr_dfa_reg and demo_r_pjanaggr3)

Data sources and availability

Methodology

The methodology for R & D statistics is laid down in the 'Frascati manual: proposed standard practice for surveys on research and experimental development' (OECD, 2002), which is also used by many non-member countries.

The methodology for statistics on human resources in science and technology (HRST) is laid down in the Canberra manual (OECD, 1995), which lists all HRST concepts.

Legal basis

Commission Regulation 995/2012 concerning the production and development of Community statistics on science and technology provides the legal requirements and determines the datasets, analysis (breakdowns), frequency and transmission delays to be respected by the EU Member States for these statistics.

Sources

Many of the statistics that are used to analyse research and innovation are derived from other statistical domains within Eurostat and a range of international databases provided by other organisations, including:

- statistics on human resources in science and technology (HRST) which are compiled annually based on microdata from the EU labour force survey (EU LFS);
- data on high-technology manufacturing industries and knowledge-intensive services are compiled annually, based on data collected from a number of official sources (such as the EU LFS and structural business statistics (SBS));
- data on patent applications to the European Patent Office (EPO) are compiled on the basis of microdata from the EPO which is located in Munich, Germany;
- the Office for Harmonisation in the Internal Market (OHIM) registers Community trademarks and designs and is located in Alicante, Spain.

Patent applications filed at the EPO are classified by the inventor's residence and in accordance with the international patents classification of applications (IPC). Patent data are regionalised using procedures linking postcodes and / or place names to NUTS level 2 and NUTS level 3 regions. Patent statistics published by Eurostat are almost exclusively based on the EPO worldwide statistical patent database, Patstat.

Data on Community trademarks and designs refer to trademark and design protections throughout the EU. Trademarks have to be represented graphically and must be capable of distinguishing products or services from those belonging to competitors, as defined in Directive 2008/95/EC. A Community design is 'the appearance of the whole or a part of a product resulting from the features of, in particular, the lines, contours, colours, shape, texture and/or materials of the product itself and / or its ornamentation', as defined by Council Regulation (EC) No 6/2002 on Community designs.

Information society

9

Introduction

The diffusion of information and communication technologies (ICTs) across the European Union (EU) is considered by many as fundamental for improving both productivity levels and the competitiveness of regions. ICTs are credited with delivering greater flexibility in the working environment (for example, working from home or other remote locations). These developments have created new dimensions of not only economic, but also social and political participation for individuals and groups. Indeed, the universal presence and reach of ICTs has had a profound effect on transforming society, allowing completely new ways of working, socialising and sharing information, irrespective of geographical location.

A fast connection to the internet (coupled with knowledge and relevant skills) makes it easy to carry out a range of activities online: for example, obtaining information about almost any topic; communicating via message, chat or video services; accessing work files; consuming media; buying or selling goods and services. These activities can be carried out through a growing range of devices (such as a smartphones, tablets and computers), while technological development continues apace, for example, in the development of wearable connected devices.

Although the internet is an almost constant part of the daily lives of many Europeans, some parts of the population continue to be excluded from the digital world. As an increasing share of our daily tasks are carried out online, digital skills become increasingly important as a means of allowing everyone to participate in society.

The digital agenda for Europe is one of seven flagship initiatives under the Europe 2020 strategy for 'smart, sustainable and inclusive growth'. In 2010, the European Commission adopted a communication concerning 'A Digital Agenda for Europe' (COM(2010) 245), which presents its strategy for promoting a thriving digital economy in the EU by 2020, with particular importance given to policy measures which may bridge the digital divide so that all EU inhabitants may profit from accessing and using ICTs.

The digital agenda contains 101 specific policy actions: 78 to be taken by the European Commission (including 31 legal proposals) and 23 for EU Member States. These actions are grouped into the following areas:

- creating a digital single market;
- providing greater interoperability;
- boosting internet trust and security;
- providing much faster internet access;
- encouraging investment in research and development;
- enhancing digital literacy skills and inclusion; and,
- applying ICTs to address challenges facing society like climate change and the ageing population.

The European Commission reviewed the digital agenda in 2012, by when close to half (45 %) of the 101 policy actions had been completed. While the full implementation of the original 101 actions remains a priority, seven areas for new initiatives linked to the digital economy were also identified for their potential to deliver an economic stimulus. The seven new areas included:

- creating a new and stable broadband regulatory environment;
- developing public digital service infrastructure (through the Connecting Europe facility);
- launching a grand coalition on digital skills and jobs;
- proposing an EU cyber-security strategy and Directive;
- updating the EU's copyright framework;
- accelerating the development of cloud computing through public sector buying power;
- launching an electronics industrial strategy.

THE DIGITAL AGENDA SCOREBOARD — BENCHMARKING ICT DEVELOPMENTS ACROSS THE EU

The digital agenda scoreboard identifies 13 key performance targets for measuring the progress of the digital agenda initiative. A scoreboard with these key indicators — supported by a wide range of additional indicators — is released on an annual basis. These 13 key targets foresee:

- the entire EU to be covered by broadband by 2013;
- the entire EU to be covered by broadband above 30 Mbps by 2020;
- at least 50 % of the EU to subscribe to broadband above100 Mbps by 2020;
- at least 50 % of the population to buy online by 2015;
- at least 20 % of the population to buy online and cross-border by 2015;
- at least 33 % of small and medium-sized enterprises to make online sales by 2015;
- the difference between roaming and national tariffs to approach zero by 2015;
- an increase in regular internet usage from 60 % to 75 % by 2015, and from 41 % to 60 % among disadvantaged people;
- the proportion of the population that has never used the internet to halve from 30 % to 15 % by 2015;
- at least 50 % of the EU's population using eGovernment services by 2015, with more than half of these returning completed forms;
- key cross-border public services to be available online by 2015;
- a doubling of public investment in ICT research and development to EUR 11 billion by 2020;
- a reduction in the energy use of lighting by 20 % by 2020.

For more information: Digital Agenda for Europe — scoreboard

Main statistical findings

The digital agenda for Europe is one of seven flagship initiatives under the Europe 2020 strategy. It aims to take advantage of the potential of ICTs, through the development of an inclusive digital society and digital single market, designed to foster innovation, thereby helping to generate 'smart, sustainable and inclusive growth'.

Broadband connections

Policymakers have made efforts to expand both the geographic reach and the speed of broadband internet. In 2014, some 78 % of all households (with at least one member being aged 16–74) in the EU-28 had a broadband connection. In some regions, broadband connectivity continued to grow in recent years and connection rates have approached saturation (see **Table 9.1**).

Highest share of households with broadband connectivity recorded in the Netherlands

Map 9.1 shows the proportion of households with a fixed and / or mobile broadband connection in 2014. There was a high share of broadband access across many regions in the north and west of the EU, particularly in the Netherlands, the Nordic Member States, Germany and the United Kingdom. There were 19 regions in the EU-28 (note that data for Germany, Greece, Poland and the United Kingdom are only available for NUTS level 1 regions) where the broadband connection rate was at least 90 % in 2014, including all 12 Dutch regions.

The digital agenda for Europe foresaw the entire EU being covered by broadband services by 2013. It is important to note that this benchmark is defined in relation to the technological possibilities of accessing broadband and not in terms of the take-up of broadband connections by households (as shown in **Map 9.1**).

The European Commission's Directorate-General for Communications Networks, Content & Technology estimates that almost all homes in the EU have the possibility to access at least a basic, fixed broadband service (running at 2 Mbps) if they choose to do so; a report on the situation of broadband coverage as of 1 July 2014 estimated that fixed broadband was available to around 97 % of homes within the EU.

The digital agenda has also set a target for the entire EU to be covered by fast broadband (operating at speeds of at least 30 Mbps) by 2020. Technologies capable of providing these download speeds were estimated to be covering more than half (56.9 %) of all households in the EU-28 by 1 July 2014 — principally through cable technologies (43.0 %), but also using very-high-bit-rate digital subscriber lines (VDSL) and fibre to the premises (FTTP). The next generation of broadband technology, ultrafast broadband (which runs at speeds of at least 100 Mbps), is also making advances, with an estimated 44.8 % of households in the EU thought to have the possibility of connecting to such networks.

The highest share (98 %) of households with a broadband connection was in the westernmost Dutch region of Zeeland, while a further eight regions from the Netherlands recorded rates of 94–96 %. Outside of regions in the Netherlands, broadband connectivity peaked at 93 % in Luxembourg (a single region at this level of detail) and Helsinki-Uusimaa, followed by London (92 %), South East (England) and Hamburg (both 91 %), while the western Swedish region of Västsverige and South West (England) both had rates of 90 %.

Among the EFTA countries, four regions — Iceland (one region at this level of detail), Zürich in Switzerland, and the Norwegian regions of Nord Norge and Oslo og Akershus — also reported that at least 90 % of their households had a broadband connection in 2014.

Less than 50 % of the households in the Bulgarian region of Severozapaden had a broadband connection

Broadband connectivity rates were particularly low in some eastern and southern regions of the EU. This was especially the case for the Bulgarian region of Severozapaden, the only NUTS level 2 region to report a connection rate of less than 50 %. There were 11 additional regions with rates of less than 58 % (the lightest shade in **Map 9.1**), including five from Romania, three from Bulgaria, two from Portugal, and one French overseas region.

Relatively low broadband connection rates were also recorded across most regions in Turkey (data are only available for NUTS level 1 regions), as the proportion of households with a broadband connection rate rose above 60 % in just two regions (İstanbul and Doğu Marmara).

Map 9.1: Broadband connections in households, by NUTS level 2 region, 2014 (¹)
(% of households with a broadband connection)
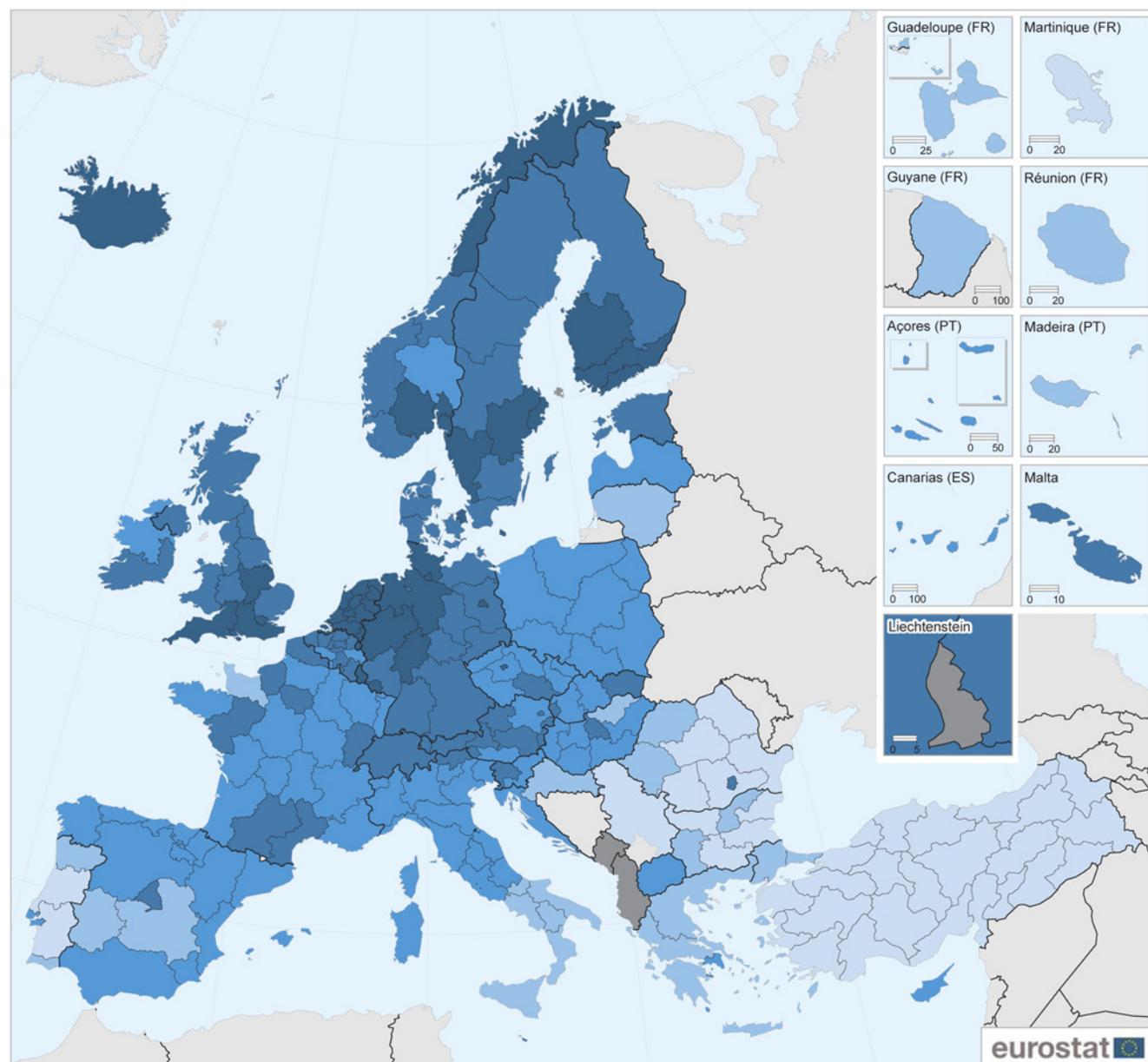
(% of households with a broadband connection)

EU-28 = 78
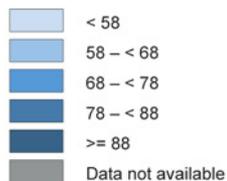
- < 58
- 58 – < 68
- 68 – < 78
- 78 – < 88
- >= 88
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

(¹) Germany, Greece, Poland, the United Kingdom and Turkey: only available for NUTS level 1 regions. Corse (FR83): low reliability.
Source: Eurostat (online data codes: isoc_r_broad_h and isoc_ci_eu_h)

People who never used the internet

At the start of the digital revolution, access to the internet was restricted to those who worked with or owned a desktop computer. Thereafter, a number of technological (and commercial) developments occurred, such that a wider range of alternative devices can now be used to go online, particularly when people are on the move. Possibly, the introduction of smartphones and tablet computers has helped bridge some of the digital divide, providing internet access to a variety of groups who previously had difficulties in accessing the internet, for example, those with low educational attainment, or those with low incomes.

Almost one in five Europeans has never used the internet

Although it may seem difficult to believe for those of us who spend hours each day in front of a computer screen or tied to a smartphone or tablet, almost one in five persons in the EU has never used the internet.

The digital agenda has a target for 2015, by when policymakers hope to see the proportion of the EU population that has never used the internet falling to 15 %. The latest information available for 2014 shows that some 18 % of the EU-28 population (aged 16–74) had never used the internet, some 2 percentage points lower than in 2013.

The share of the population who had never used the internet was more than one third in several eastern (exclusively in Bulgaria and Romania) and southern regions (exclusively in Greece, Italy and Portugal), as shown by the darkest shade in **Map 9.2**. Across the NUTS level 2 regions of the EU in 2014, the highest shares of the population never having used the internet were recorded in the two southern, neighbouring Romanian regions of Sud - Muntenia and Sud-Vest Oltenia, where almost half (47 %) of the population had never used the internet. By contrast, there were 18 northern and western regions where less than 1 out of every 20 residents had never used the internet, a share that fell to just 2 % of the population in two Danish (Hovedstaden and Syddanmark) and two Dutch (Friesland and Groningen) regions.

Regular use of the internet

The digital agenda for Europe set a target of increasing the regular use of the internet by individuals (defined here as at least once a week) to 75 % by 2015. This target was reached with a year to spare, as three quarters of the EU-28's population were using the internet on a regular basis in 2014. Although the proportion continued to rise (annual growth of 3 percentage points in 2014), its rate of increase has slowed since 2010.

Looking in more detail at the regional results, there were 112 regions out of the 205 in the EU for which data are

In 2014, three quarters (75 %) of the EU-28 population made regular use of the internet (defined here as those who accessed the internet, on average, at least once a week). This share was much higher in many northern European regions (including Iceland and Norway), as well as in Luxembourg and the Netherlands. In the EU, the share of people making regular use of the internet peaked at 94 % in six NUTS level 2 regions, one of which was the Swedish region of Östra Mellansverige (which surrounds the capital region of Stockholm).

Photo: Pownibe / Shutterstock.com

available, where at least 75 % of the population made regular use of the internet in 2014 (thereby meeting the digital agenda target).

Particularly high proportions of regular internet use in Danish and Dutch regions

The share of the population making regular use of the internet peaked at 94 % in three Dutch regions (Overijssel, Utrecht and Zeeland), the Danish capital region of Hovedstaden, the Swedish region of Östra Mellansverige, and London (a NUTS level 1 region).

The proportion of the population making regular use of the internet was at least 90 % in 24 regions of the EU that were concentrated in the north and west of the EU (as shown by the darkest shade in **Map 9.3**); all these regions also had a high proportion of households with broadband connections. Eight of the 24 regions were from the Netherlands, five from Sweden, four from Denmark, four were NUTS level 1 regions from the United Kingdom; while the remaining three regions included the capital region of Helsinki-Uusimaa, the German city of Hamburg, and Luxembourg (one region at this level of detail).

9

Map 9.2: People who never used the internet, by NUTS level 2 region, 2014 (¹)
(% of persons who never accessed the internet)
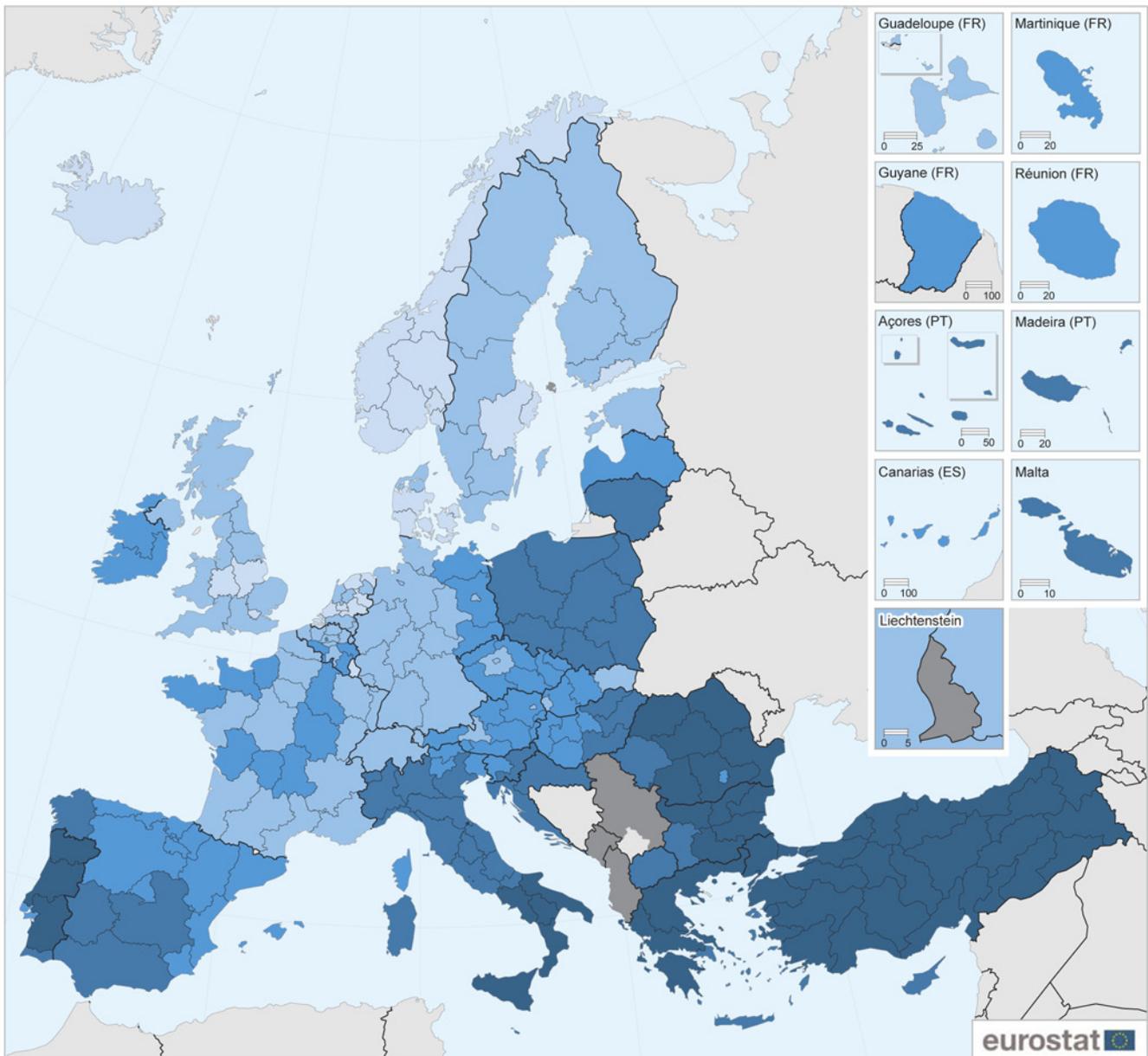
(% of persons who never accessed the internet)

EU-28 = 18
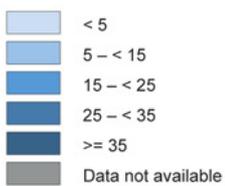
- < 5
- 5 – < 15
- 15 – < 25
- 25 – < 35
- >= 35
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

0 200 400 600 800 km

(¹) Germany, Greece, Poland, the United Kingdom and Turkey: only available for NUTS level 1 regions. Corse (FR83): low reliability.
Source: Eurostat (online data codes: isoc_r_iuse_i and isoc_ci_eu_i)

Map 9.3: Regular use of the internet, by NUTS level 2 region, 2014 (¹)
(% of persons who accessed the internet on average at least once every week)
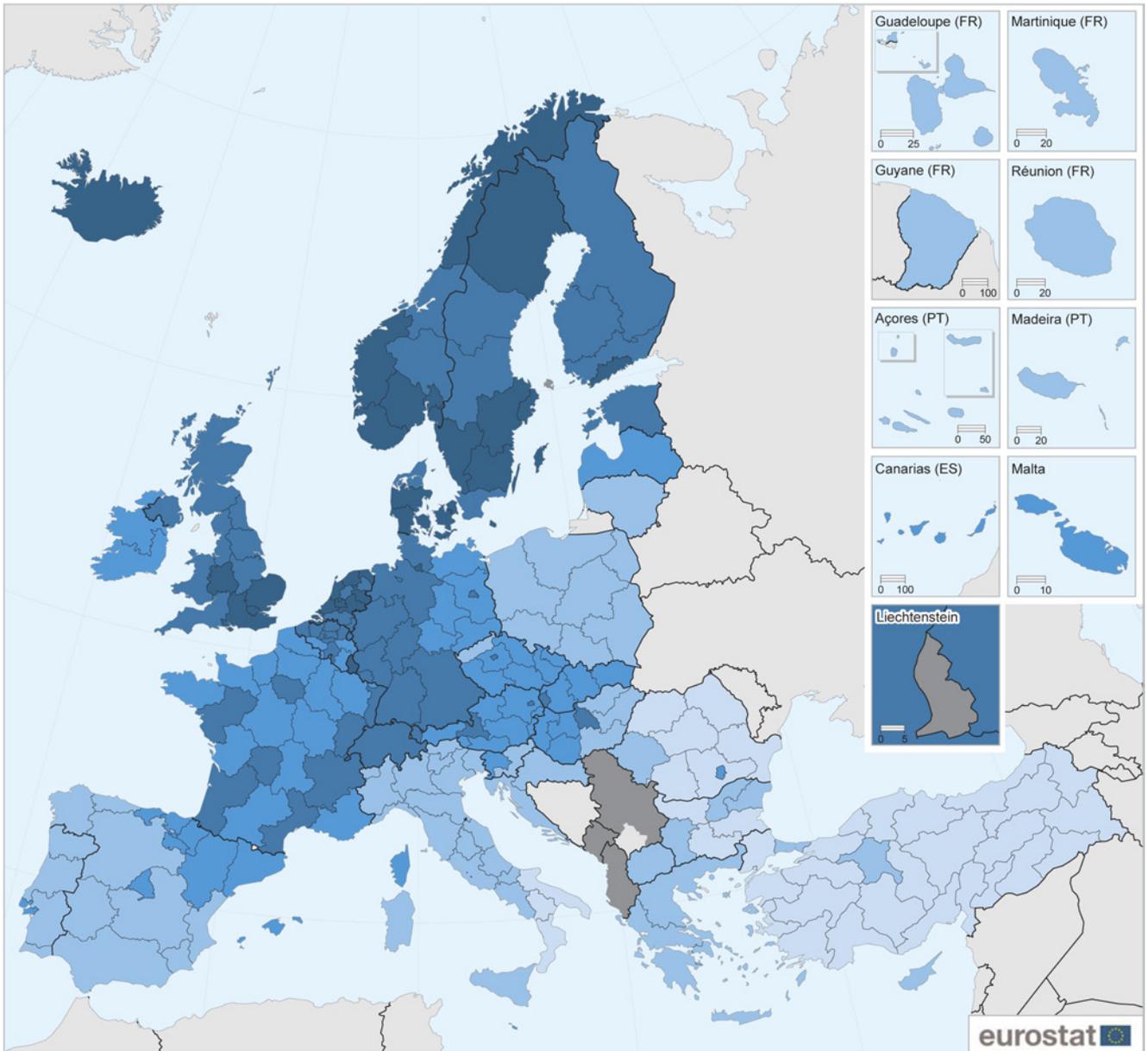
(% of persons who accessed the internet on average at least once every week)

EU-28 = 75
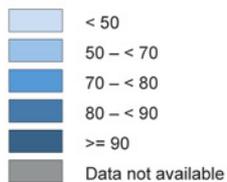
- < 50
- 50 – < 70
- 70 – < 80
- 80 – < 90
- >= 90
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

(¹) Germany, Greece, Poland, the United Kingdom and Turkey: only available for NUTS level 1 regions. Corse (FR83): low reliability.
Source: Eurostat (online data codes: isoc_r_iuse_i and isoc_ci_eu_i)

The capital region of Bucureşti - Ilfov as well as Vest were the only Romanian regions where more than half the population used the internet on a regular basis

By contrast, there were 12 regions across the EU where less than half of the population made regular use of the internet in 2014. Among these were six of the eight NUTS level 2 regions that compose Romania (the two exceptions being Vest (59 %) and the capital region of Bucureşti - Ilfov (70 %)), and three regions each from Bulgaria (Severozapaden, Yuzhen tsentralen and Yugoiztochen) and the south of Italy (Calabria, Basilicata and Puglia).

It is perhaps not surprising to find that the two regions with the lowest shares of their population making regular use of the internet were the same two that recorded the highest shares of their population having never used the internet. In the Romanian regions of Sud - Muntenia (38 %) and Sud-Vest Oltenia (37 %), just under 4 out of every 10 people accessed the internet at least once a week.

Regular internet use often peaked in capital regions

Capital regions often recorded the highest regional share of regular internet users. In several EU Member States their shares were considerably higher than in any other region (**Figure 9.1**). For example, the proportion of individuals

that made regular use of the internet in the Romanian capital region of Bucureşti - Ilfov was 22 percentage points higher than the national average, while in Praha and Lisboa the proportion of the population making regular use of the internet was 12 percentage points higher than their respective national averages.

Belgium was the only EU Member State where the share of the population living in the capital region and making regular use of the internet was below the national average. Germany, Italy, the Netherlands, Sweden, France, Croatia and Poland were the only other multi-region EU Member States where the capital region did not record the highest proportion of regular internet users in 2014.

Figure 9.1 also shows that there was a relatively wide disparity in the regular use of the internet between the regions of Romania, the Czech Republic, France, Germany, Bulgaria, Italy and Portugal; there was also a wide range between the regions of Turkey (data are only available for NUTS level 1 regions). The relatively wide gap in regular internet use between French regions may be attributed to a much lower proportion of regular internet users in the four Départements d'outre-mer (overseas regions), compared with relatively high shares across all metropolitan regions of France.

Figure 9.1: Regional disparities in regular use of the internet, by NUTS level 2 region, 2014 (¹)
(% of persons who accessed the internet on average at least once every week)
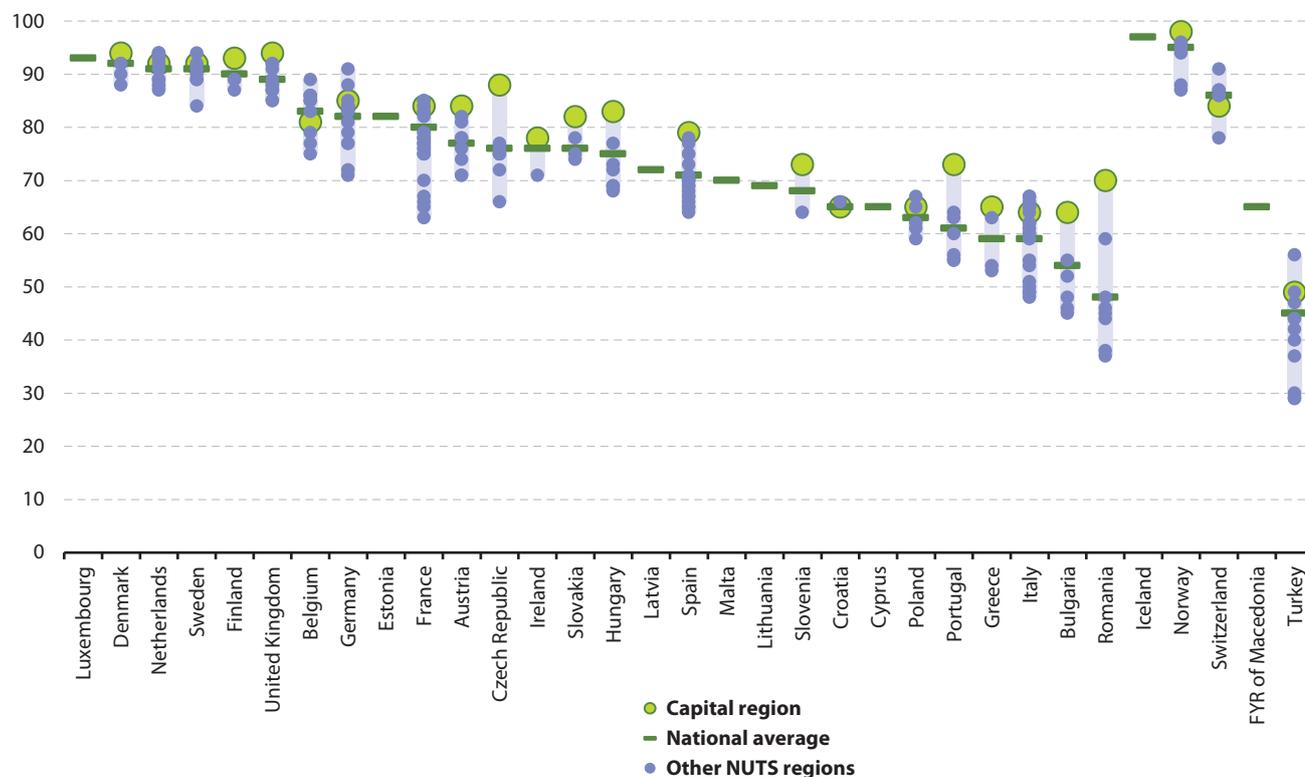
(¹) The light purple shaded bar shows the range of the highest to lowest region for each country. The dark green bar shows the national average. The light green circle shows the capital city region. The dark purple circles show the other regions. Germany, Greece, Poland, the United Kingdom and Turkey: only available for NUTS level 1 regions. Corse (FR83): low reliability. Åland (FI20): not available.
Source: Eurostat (online data codes: isoc_r_iuse_i and isoc_ci_eu_i)

Internet use: interaction with public authorities

There are considerable differences between the populations of the EU Member States in terms of the use that is made of online services allowing interaction with public authorities. The indicator reflects interaction in the form of obtaining information from public authorities' websites, downloading official forms, and, with or without prior download, submitting completed forms.

The digital agenda includes measures to promote e-government and exploit the benefits of information and communication technologies to help the public sector develop innovative ways of delivering services with fewer resources.

There was a steady increase in the proportion of individuals in the EU-28 that interacted with public authorities via the internet through to 2010; thereafter, the share of the population interacting with public authorities stagnated and even fell in 2013. The most recent results for 2014 show a reversal of this pattern, as an increase of 6 percentage points saw the proportion of the population making use of the internet to interact with public authorities rising to 47 % in 2014. The level in 2014 was just 3 percentage points below a target set as part of the digital agenda for 2015, when policymakers hope to see the share of the population that uses eGovernment services in the EU reach at least 50 %.

The highest degree of internet interaction with public authorities was recorded among those living in Nordic regions

Map 9.4 shows that the highest proportions of regional populations using the internet to interact with public authorities tended to be reported across the Nordic Member States and the Netherlands. The share of the population that interacted with public authorities was also relatively high in France, a cluster of regions in the north, west and capital region of Germany, Luxembourg and Belgium, and a band of regions running from Switzerland through Austria and into Slovenia, Slovakia and Hungary. By contrast, a relatively low share of the population interacted via the internet with public authorities in most Italian, Polish, Bulgarian and Romanian regions; this was also the case across Turkey (data are only available for NUTS level 1 regions).

The Danish capital region of Hovedstaden was the EU region with the highest level of online interaction with public authorities, as 89 % of its population made use of the internet in this way in 2014. All four of the remaining Danish regions, as well as four Swedish regions (Mellersta Norrland, Östra Mellansverige, Stockholm and Västsverige), two Finnish region (Etelä-Suomi and Helsinki-Uusimaa) and two Dutch regions (Zeeland and Utrecht) reported that at least 80 % of their populations made use of the internet for interacting with public authorities.

An increasing share of the EU's population makes use of the internet for interaction with public authorities (for example, to submit a tax declaration, apply for an identification card or residence permit, or to request a birth / death certificate). Almost half (47 %) of the EU-28 population used the internet for interacting with public authorities in 2014, a proportion that peaked at 89 % in the Danish capital region of Hovedstaden.

Photo: Alarico / Shutterstock.com

Aside from its capital region, only between 5 and 12 % of the population in the other Romanian regions made use of the internet for interacting with public authorities

Those regions characterised by low shares of their population making regular use of the internet are clearly more likely to record low levels of internet use for interacting with public authorities. Equally, the use of the internet for interacting with public authorities is also likely to be relatively low in those regions where public administrations offer a restricted range of online services.

Aside from those who prefer to have personal contact with public authorities, statistics for 2014 on reasons for not submitting completed forms online show that just over one quarter (28 %) of those in the EU-28 who had to submit forms but did not use the internet for this purpose refrained from doing so because of concerns about protection and security of personal data, while 27 % did not send forms via the internet because another person did so on their behalf (either a professional advisor or consultant, or a relative), and 23 % did not do so because they lacked the necessary skills or knowledge about how to use such services.

There were five regions in the EU where in 2014 the share of the population using the internet to interact with public authorities was low and varied between 5 and 7%. All of these — Nord-Est, Nord-Vest, Sud-Est, Sud - Muntenia and Vest — were located in Romania. Two of the three

Map 9.4: Use of the internet for interaction with public authorities, by NUTS level 2 region, 2014 ([1])
(% of persons)
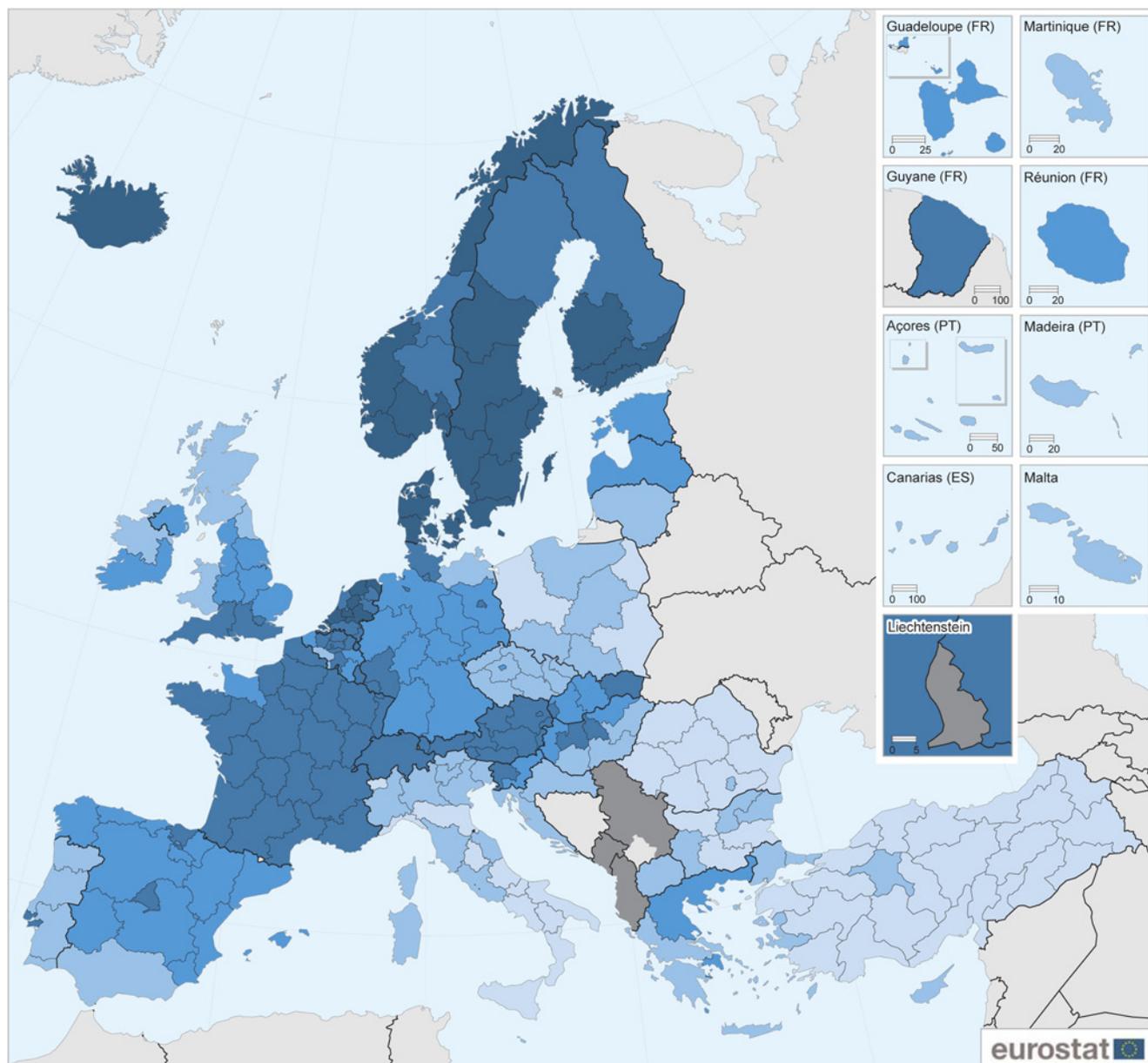
(% of persons)

EU-28 = 47

- < 25
- 25 – < 45
- 45 – < 55
- 55 – < 75
- >= 75
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

([1]) Germany, Greece, Poland, the United Kingdom and Turkey: only available for NUTS level 1 regions. Corse (FR83): low reliability.
Source: Eurostat (online data codes: isoc_r_gov_i and isoc_bde15ei)

remaining NUTS level 2 regions in Romania — Centru and Sud-Vest Oltenia — also recorded very low shares (11 and 12 % respectively). The only exception to this pattern was the Romanian capital region of Bucureşti - Ilfov, where 27 % of the population made use of the internet for interacting with public authorities.

Less than one in four of the population made use of the internet to interact with public authorities in 23 regions spread across eastern and southern regions of the EU (as shown by the lightest shade in **Map 9.4**). Aside from the seven regions already identified in Romania, among these 23 were three regions from Bulgaria (Severozapaden, Yugoiztochen and Yuzhen tsentralen) and two NUTS level 1 regions from Poland (Region Pólnocno-Zachodni and Region Wschodni). All of the remaining 11 regions were located in Italy and while these were predominantly in the south of the country (Sicilia, Calabria, Basilicata, Puglia, Campania and Molise), they also stretched northwards, to the central regions of Abruzzo and Umbria and the northern regions of Emilia-Romagna, Liguria and the Valle d'Aosta / Vallée d'Aoste.

Rankings of selected ICT indicators

Table 9.1 provides a summary for each of the indicators covered so far in this chapter. It confirms that regions from the Netherlands and the Nordic Member States have some of the highest connection rates, while individuals living in these regions also made far greater use of the internet, both on a regular basis in general and specifically for interacting with public authorities).

ICT access and usage rates particularly high in Helsinki and Utrecht

An analysis of the regions that appear more than once in the table shows that the Finnish capital region of Helsinki-Uusimaa and the Dutch region of Utrecht both feature for all three indicators that provide confirmation of a high degree of connectivity and internet use, while the Danish capital region of Hovedstaden, Luxembourg (a single region at this level of detail), the Dutch regions of Friesland, Overijssel and Zeeland, and the Swedish region of Östra Mellansverige each appeared twice.

It is interesting to note that of the 12 NUTS level 2 regions with the highest levels of broadband connectivity in 2014, only Helsinki-Uusimaa recorded a growth rate for broadband connectivity over the period 2012–14 that was below the EU-28 average, thereby suggesting that the digital divide between regions was becoming wider. There was further confirmation of the increasing divide between regions when looking at the 10 regions in the EU with the largest shares of their populations never having used the internet. In each of these regions, the reduction in the share of the population that had never used the internet over the period 2012–14 was systematically at a slower pace than the EU-28 average, while in the Bulgarian region of Yugoiztochen the proportion of the population that had never used the internet actually rose by 2 percentage points between 2012 and 2014.

Table 9.1: Top 10 regions in the EU for selected information society indicators, by NUTS level 2 region, 2012–14 (¹)

	2012	2013	2014	Average rate of change, 2012–14 (% per year)	Value for 2014 compared with national average (national average = 100)
	Broadband connectivity rates **(% of households with a broadband connection)**				
EU-28	72	76	78	4.1	–
Zeeland (NL34)	88	85	98	5.5	103.2
Overijssel (NL21)	88	88	96	4.4	101.1
Gelderland (NL22)	82	85	96	8.2	101.1
Utrecht (NL31)	79	92	96	10.2	101.1
Friesland (NL12)	81	83	95	8.3	100.0
Limburg (NL42)	84	85	95	6.3	100.0
Drenthe (NL13)	86	85	94	4.5	98.9
Noord-Holland (NL32)	85	90	94	5.2	98.9
Zuid-Holland (NL33)	84	86	94	5.8	98.9
Luxembourg (LU00)	68	70	93	16.9	100.0
Noord-Brabant (NL41)	86	85	93	4.0	97.9
Helsinki-Uusimaa (FI1B)	90	92	93	1.7	104.5
	Proportion of the population making regular use of the internet **(% of persons who accessed the internet on average at least once a week)**				
EU-28	70	72	75	3.5	–
Hovedstaden (DK01)	92	94	94	1.1	102.2
Overijssel (NL21)	92	92	94	1.1	103.3
Utrecht (NL31)	92	97	94	1.1	103.3
Zeeland (NL34)	92	93	94	1.1	103.3
Östra Mellansverige (SE12)	91	94	94	1.6	103.3
London (UKI)	88	93	94	3.4	105.6
Luxembourg (LU00)	90	93	93	1.7	100.0
Groningen (NL11)	88	93	93	2.8	102.2
Friesland (NL12)	90	89	93	1.7	102.2
Helsinki-Uusimaa (FI1B)	93	93	93	0.0	103.3
	Proportion of the population making use of the internet for interaction with public authorities **(% of persons)**				
EU-28	44	41	47	3.4	–
Hovedstaden (DK01)	87	88	89	1.1	106.0
Helsinki-Uusimaa (FI1B)	77	80	86	5.7	107.5
Stockholm (SE11)	77	81	84	4.4	103.7
Östra Mellansverige (SE12)	80	84	84	2.5	103.7
Västsverige (SE23)	80	78	84	2.5	103.7
Sjælland (DK02)	79	83	83	2.5	98.8
Midtjylland (DK04)	84	86	83	−0.6	98.8
Nordjylland (DK05)	79	83	83	2.5	98.8
Utrecht (NL31)	71	87	83	8.1	110.7
Mellersta Norrland (SE32)	74	68	83	5.9	102.5
	Proportion of the population who never used the internet **(% of persons)**				
EU-28	23	20	18	−11.5	–
Sud - Muntenia (RO31)	51	51	47	−4.0	120.5
Sud-Vest Oltenia (RO41)	53	46	47	−5.8	120.5
Severozapaden (BG31)	56	47	44	−11.4	118.9
Yugoiztochen (BG34)	41	44	43	2.4	116.2
Puglia (ITF4)	48	42	42	−6.5	131.3
Nord-Vest (RO11)	50	45	42	−8.3	107.7
Sud-Est (RO22)	50	47	42	−8.3	107.7
Yuzhen tsentralen (BG42)	44	45	41	−3.5	110.8
Campania (ITF3)	51	48	41	−10.3	128.1
Basilicata (ITF5)	47	39	41	−6.6	128.1

(¹) Based on the 10 NUTS level 2 regions in the EU with the highest shares for each indicator in 2014 — if there was more than one region in equal tenth place then each / all of these regions are shown. Germany, Greece, Poland and the United Kingdom: only available for NUTS level 1 regions.

Source: Eurostat (online data codes: isoc_r_broad_h, isoc_ci_eu_h, isoc_r_iuse_i, isoc_ci_eu_i, isoc_r_gov_i and isoc_bde15ei)

Data sources and availability

Regional statistics on ICT for the EU Member States are generally available for NUTS level 2 regions. However, the latest information for Germany, Greece, Poland and the United Kingdom is only provided for NUTS level 1 regions. ICT statistics are also presented for Iceland, Norway, Switzerland, the former Yugoslav Republic of Macedonia and Turkey; of these, only Norway, Switzerland and Turkey provide a regional breakdown (the latter only for NUTS level 1 regions).

EU statistics on the use of ICT are based on Regulation (EC) No 808/2004 concerning Community statistics on the information society. The regulation concerns statistics on the use of ICT in enterprises and statistics on ICT use in households and by individuals — only the latter are presented in this chapter. Since 2005, European Commission implementing regulations have been passed annually, specifying particular areas of interest for data collection, thereby allowing policymakers to compile data that aim to measure the impact of new technologies and services in this rapidly changing domain. The majority of the data shown in this chapter is based on implementing Regulation 859/2013 concerning Community statistics on the information society.

European ICT surveys aim to provide timely statistics on individuals and households relating to their use of ICTs. Many of these statistics are used in the benchmarking framework associated with Europe's digital agenda. Selected ICT data are also used for monitoring other EU policies, for example, on cohesion or consumer conditions.

The statistical unit for regional data on ICTs is either the household or the individual. The population of households consists of all households having at least one member in the age group 16–74 years. The population of individuals consists of all individuals aged 16–74. Questions on access to ICTs are addressed to households, while questions on the use of ICTs are answered by individuals within the household. As well as a core part of the questionnaire (which is repeated each year), the questionnaire includes special focus areas which are changed each year. Questions may be adapted to ensure that all developments concerning the use of ICTs are captured. As a result, some indicators have relatively short time series.

In general, the data presented were collected in the second quarter of the survey year (2014). EU-28 aggregates are

compiled when the information available for Member States represents at least 60 % of the EU's population and at least 55 % of the 28 Member States that make-up the EU aggregate. If additional national data become available, these are included in revised aggregates or they are used to construct aggregates which were previously not available (due to poor coverage). As such, ICT statistics are revised on a regular basis to reflect the supply of additional statistics.

Indicator definitions

Broadband refers to telecommunications in which a wide band of frequencies is available to send data. Broadband telecommunication lines or connections are defined as those transporting data at high speeds, with a speed of data transfer for uploading and downloading data (also called capacity) equal to or higher than 144 kbit/s (kilobits per second). The technologies most widely used for broadband access to the internet include digital subscriber lines (DSL) and cable modems.

The ICT survey of individuals asks those aged 16–74 when they last used the internet. This question is asked to all respondents, irrespective of whether they have used a computer (as it is possible to access the internet through a variety of other devices). An internet user, in this context, is defined as a person making use of the internet in whatever way: whether at home, at work, or anywhere else; whether for private or professional purposes; regardless of the device (computer, laptop, netbook or tablet, smartphone, games console or e-book reader) or type of connection being used. Regular internet users are those who used the internet, on average, at least once a week within the first three months of the calendar year (the reference period used for the survey).

Public authorities' websites include both local, regional and central government, as well as service providers which may be considered as 'semi-governmental', for example, public libraries, hospitals, or universities. The share of the population making use of the internet to interact with public authorities covers three different levels of interaction, namely: those individuals going on a website to look for information; those downloading official forms; and those submitting completed forms via the internet (the latter category excludes forms that are downloaded, printed, filled in and sent by post).

Tourism

10

Introduction

Tourism cuts across many economic activities: services to tourists include the provision of accommodation, gastronomy (for example, restaurants or cafés), transport, and a wide range of cultural and recreational facilities (for example, theatres, museums, leisure parks or swimming pools). It therefore has the potential to play a significant role in the development of European Union (EU) regions, contributing to employment and wealth creation, sustainable development, enhanced cultural heritage, and the overall shaping of European identity. Indeed, tourism can be particularly important in remote, peripheral regions, where it can often be one of the main sources of income for the local population; this especially applies in many of the EU's island states and regions, as well as in coastal and Alpine regions.

Policies

Tourism impacts on a wide range of policy areas, including regional policy, the diversification of rural economies, maritime policy, sustainability and competitiveness, social policy and inclusion (tourism for all). The EU's tourism policy — which is one of support and coordination — aims to maintain Europe's position as the world's leading tourist destination, while maximising the tourism industry's contribution to growth and employment. To do so, there are a wide range of EU funds made available for developing the tourism sector during the period 2014–20.

A European Commission communication titled 'Europe, the world's No. 1 tourist destination — a new political framework for tourism in Europe' (COM(2010) 352) was adopted in June 2010. It encourages a coordinated approach for initiatives linked to tourism and defined a new framework for action to increase the competitiveness of tourism and its capacity for sustainable growth. Four priorities for action were identified in order to: stimulate competitiveness; promote sustainable and responsible tourism; consolidate Europe's image as a collection of sustainable, high-quality destinations; and maximise the potential of EU policies and financial instruments for developing tourism.

The competitiveness of the EU's tourism sector is closely linked to its sustainability, as the quality of tourist destinations is strongly influenced by their natural and cultural environment and their integration into the local community. Sustainable tourism involves the preservation and enhancement of cultural and natural heritage, including the arts, gastronomy or the preservation of biodiversity.

Coastal and maritime tourism is the largest maritime activity in the EU and closely linked to other parts of the economy; it employs almost 3.2 million people, while almost half of all nights spent in EU accommodation establishments are in coastal localities. In a communication on maritime and coastal tourism titled 'A European strategy for more growth and jobs in coastal and maritime tourism' (COM(2014) 86), the European Commission reflected on the diversity of the EU's coastal regions and their capacity to generate wealth and jobs, in line with the EU's 'Blue growth strategy' (COM(2012) 494).

The continued globalisation of tourism opens up new opportunities and creates increased competition. The European Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs has focused efforts on encouraging the diversification of the European tourism offer through initiatives in the areas of maritime and coastal tourism, sustainable tourism, cultural tourism, tourism for all, accessible tourism and low-season tourism. It helps promote the visibility of, among other, European cultural routes and emerging and lesser-known destinations, through a commitment to social, cultural and environmental sustainability.

Furthermore the Virtual Tourism Observatory has explicitly been positioned by DG GROW as a tool to help stimulate the competitiveness of European tourism through an improved knowledge base about tourism. Since 2009, the European Commission has carried out an annual Flash Eurobarometer on the travel intentions of EU citizens. Its results provide valuable information to the Virtual Tourism Observatory about European tourists' preferences and trends in consumers' opinions concerning consumption of tourism products.

The European Commission also provide ad-hoc grants to the European Travel Commission (ETC), a non-profit organisation responsible for promoting Europe as an international tourist destination. This has resulted in the Destination Europe 2020 strategy (designed to increase the visibility of Europe as a destination in long-haul markets) and in the creation and maintenance of websites such as visiteurope.com and tastingeurope.com.

Main statistical findings

According to the United Nations World Tourism Organisation, Europe was the most frequently visited region in the world in 2013, accounting for over half (52 %) of all international tourist arrivals, some 563 million persons. The wealth of European cultures, the variety of its landscapes and the quality of its tourist infrastructure are likely to be among the varied reasons why tourists choose to take their holidays in Europe.

Number of overnight stays

The number of overnight stays in tourist accommodation, which reflects both the length of stay and the number of visitors, is considered a key indicator for tourism statistics. In 2013, there were 2.64 billion nights spent in EU-28 tourist accommodation. This figure marked a 2.4 % increase when compared with 2012, although it was unevenly distributed between residents (where there was a small contraction in the number of nights spent) and non-residents (where there was growth of 5.3 %).

The most used type of accommodation in the EU is hotels and similar accommodation

Figure 10.1 presents an alternative analysis: it shows that the total number of nights spent by residents (domestic tourists) and non-residents (inbound tourists) in EU-28 tourist accommodation was heavily skewed in favour of hotels and similar accommodation (hereafter referred as hotels), as this type of accommodation accounted for almost two thirds (64.4 %) of the total nights spent in 2013. Holiday homes and other short-stay accommodation (hereafter referred as rented holiday accommodation) accounted for just over one fifth (21.9 %) of the total number of nights, while camping grounds, recreational vehicle parks and trailer parks (hereafter referred to as campsites) accounted for the residual share of 13.8 %.

The relative importance of hotels in the EU regions may be illustrated by looking at the number of regions where such accommodation accounted for the largest number of nights spent. In 2013, using this measure, some 85.3 % of NUTS level 2 regions reported their main type of accommodation was hotels.

Figure 10.1: Nights spent in tourist accommodation establishments, EU-28, 2013 ([1])
(%)
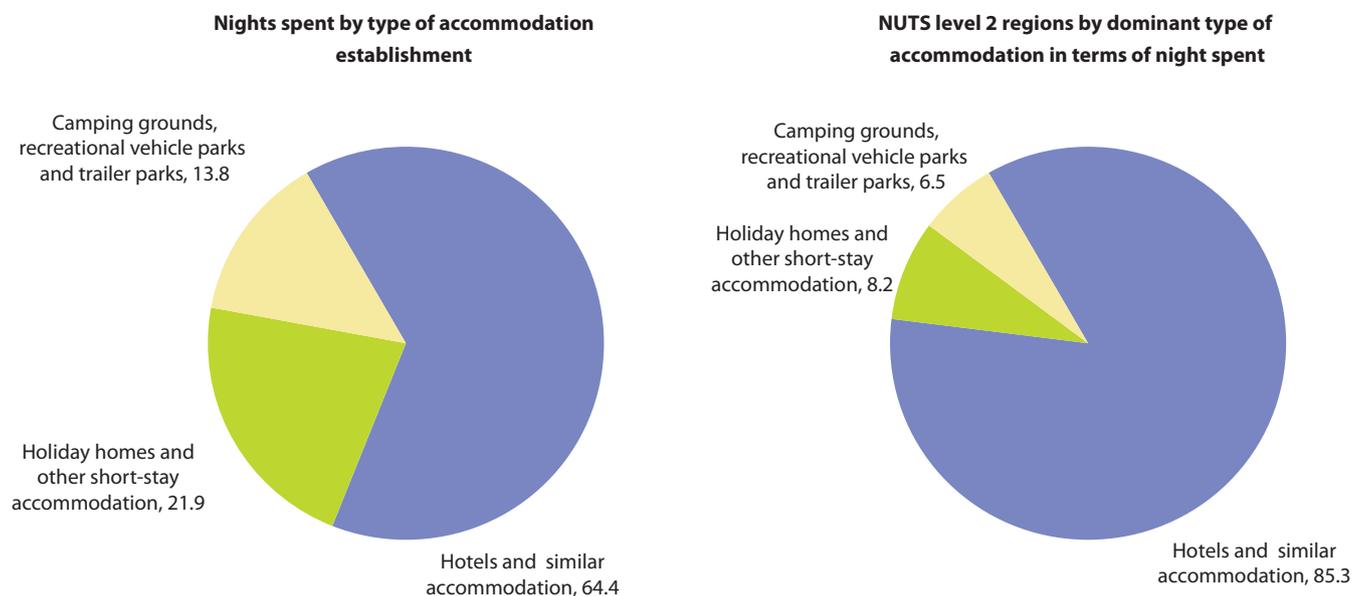
Nights spent by type of accommodation establishment

Camping grounds, recreational vehicle parks and trailer parks, 13.8

Holiday homes and other short-stay accommodation, 21.9

Hotels and similar accommodation, 64.4

NUTS level 2 regions by dominant type of accommodation in terms of night spent

Camping grounds, recreational vehicle parks and trailer parks, 6.5

Holiday homes and other short-stay accommodation, 8.2

Hotels and similar accommodation, 85.3

([1]) Hotels and similar accommodation: NACE Rev. 2 55.1. Holiday homes and other short-stay accommodation: NACE Rev. 2 55.2. Camping grounds, recreational vehicle parks and trailer parks: NACE Rev. 2 55.3. Bremen (DE50) and Thüringen (DEG0): camping grounds, 2012 instead of 2013. The United Kingdom: 2012 instead of 2013. EU-28: estimates.
Source: Eurostat (online data code: tour_occ_nin2)

Map 10.1: Nights spent in tourist accommodation establishments, by NUTS level 2 region, 2013 (^{1})
(million nights spent by residents and non-residents)

(million nights spent by residents and non-residents)
EU-28 = 2 642

- < 2
- 2 – < 5
- 5 – < 10
- 10 – < 20
- >= 20
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
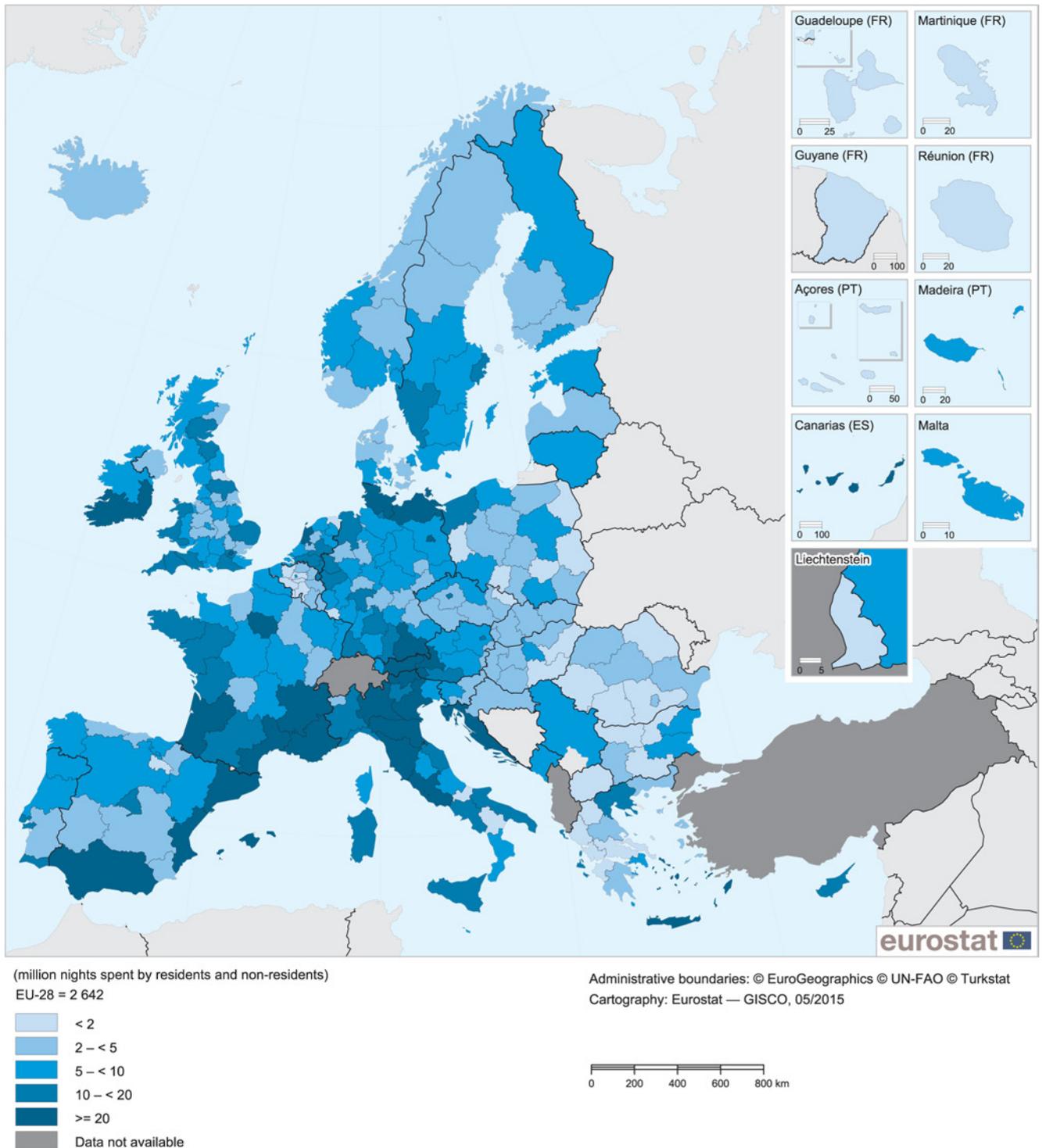
(^{1}) Tourist accommodation establishments: NACE Rev. 2 Groups 55.1 to 55.3. The United Kingdom, Norway and Montenegro: 2012. EU-28: estimate.
Source: Eurostat (online data code: tour_occ_nin2)

DEFINING THE SCOPE OF TOURISM

The statistical definition of tourism is broader than the common definition employed on an everyday basis, as it encompasses not only private trips but also business trips. This is primarily because tourism is viewed from an economic perspective, whereby private visitors on holiday and visitors making business trips have broadly similar consumption patterns (transport, accommodation and restaurant / catering services). As such, it may be of secondary interest to providers of tourism services whether their customers are private tourists on holiday or visitors on a business trip.

Tourist accommodation establishments are defined according to the activity classification, NACE. They are units providing, as a paid service, short-term or short-stay accommodation services, as defined by NACE Groups 55.1–55.3:

- hotels and similar accommodation (NACE Group 55.1);
- holiday and other short-stay accommodation (NACE Group 55.2); and,
- camping grounds, recreational vehicle parks and trailer parks (NACE Group 55.3).

The number of nights spent (or overnight stays) is the principal indicator used for analysis, covering each night a guest / tourist actually spends (sleeps or stays) in a tourist accommodation establishment. No regional statistics are available for nights spent in non-rented accommodation or for same-day visits.

The highest number of overnight stays were in coastal and Alpine regions, as well as in some of the EU's major cities

Map 10.1 provides a regional breakdown of the total number of overnight stays (domestic and inbound combined) in all types of tourist accommodation in 2013. The map shows that tourism in the EU was often concentrated in coastal regions (principally in the Mediterranean), Alpine regions and some of the EU's major cities.

A total of 28 NUTS level 2 regions in the EU-28 recorded more than 20 million nights spent in tourist accommodation (as shown by the darkest shade in **Map 10.1**). This list included six regions in Italy, five regions in each of Spain and France, four regions in Germany, two regions in each of Greece and Austria, and a single region in each of Ireland, Croatia, the Netherlands and the United Kingdom. Among these 28 regions there were six capital regions, namely, those of Berlin (Germany), the Île de France (France), Southern and Eastern (Ireland), Lazio (Italy), Noord-Holland (the Netherlands) and Inner London (the United Kingdom).

There were considerable regional disparities between the number of nights spent by domestic tourists and inbound tourists in the EU's tourist accommodation (**Figure 10.2**); note that the two parts of the figure have been ranked independently.

Capital regions were of particular appeal to non-nationals

One of the most striking aspects is the considerable differences in the balance between domestic and inbound tourists. For example, while more than 80 % of the total nights spent in Romania and Poland in 2013 were accounted for by domestic tourists, the share of inbound tourists in total nights spent in the traditional tourist destinations of Malta, Cyprus and Croatia rose to over 90 %. At a more detailed level, there were wide disparities between regions

SPOTLIGHT ON THE REGIONS: CANARIAS, SPAIN

Among the NUTS level 2 regions of the EU, the highest number of nights spent by residents and non-residents in tourist accommodation establishments was recorded in the Spanish island region of the Canarias (89.8 million nights); the majority of these nights were spent in hotels (59.3 million). In terms of the overall number of nights spent, two other Spanish regions featured among the top five EU tourist regions in 2013, Cataluña and the Illes Balears.

Photo: Slava296 / *Shutterstock.com*

of the same EU Member States with respect to the origin of tourists. For example, across Spanish regions, domestic tourists accounted for 88.1 % of the nights spent in the Principado de Asturias, while they only accounted for 8.6 % of the total nights spent in the Illes Balears.

Another interesting feature of **Figure 10.2** is the popularity of capital regions for inbound tourists (note that this may be driven by business travel, as well as personal travel). This was especially true for the more northerly EU Member States (but was also the case in Italy, Romania and Slovenia), in contrast to some of the more southerly Member States where the most popular regions for inbound tourists were often coastal areas, as this was the case in Croatia, Greece, Bulgaria and Spain. Even when inbound tourists were inclined to favour coastal regions, the share of their total nights spent in the capital region remained relatively high. For example, inbound tourists accounted for 60–70 % of the total nights spent in tourist accommodation of Kontinentalna Hrvatska (Croatia) and Attiki (Greece) in 2013 and for close to half of the total nights spent in Yugozapaden (Bulgaria) and the Comunidad de Madrid (Spain).

Outside of Paris and London, nationals accounted for more than 50 % of the overnight stays in every region of France and the United Kingdom, as well as Germany

Conversely, domestic tourists were generally found to spend a higher share of the total nights spent in regions outside of the capital. It is also interesting to note that in Germany, France and the United Kingdom (2012 data), aside from the capital regions of Île de France and London (Inner and Outer), nationals accounted for a majority of the total nights spent in every other region. The share of nationals in the total number of nights spent rose as high as 96.2 % in the northern German region of Mecklenburg-Vorpommern, while in the other large EU economies the share of nationals peaked at 95.2 % in Lincolnshire (the United Kingdom), 91.2 % in Basilicata (Italy), 88.1 % in the Principado de Asturias (Spain), and 87.3 % in the Auvergne (France).

Most popular tourist regions

The top 20 tourist regions — in terms of nights spent by domestic tourists and inbound tourists in all types of tourist accommodation — are shown in the first part of **Figure 10.3**. These 20 regions together accounted for more than one third (36.8 %) of the total number of nights spent in the EU-28 in 2013.

Almost 90 million overnight stays in the Canarias

In 2013, across all of the NUTS level 2 regions in the EU, the Spanish island region of the Canarias had the highest number (89.8 million nights) of overnight stays in tourist accommodation. The latest figures available show that the number of nights spent in the Canarias increased by 2.3 million (or 2.6 %) between 2012 and 2013.

The second most popular destination was the French capital region of Île de France (77.5 million nights), which marked a modest reduction of 0.6 million nights compared with 2012. The top five was completed by two more Spanish regions,

Cataluña (70.5 million nights) and the Illes Balears (65.3 million nights), and the Croatian coastal / island region of Jadranska Hrvatska (61.8 million nights). All three of these regions recorded an increase in their number of overnights stays between 2012 and 2013, the largest of which was in Jadranska Hrvatska (an additional 1.9 million nights). As a result, Jadranska Hrvatska moved into the top five of the ranking, pushing the Italian region of Veneto down into sixth place (61.5 million nights).

Hotels often accounted for the highest share of overnight stays in the most popular tourist destinations

Figure 10.3 also presents an analysis according to type of accommodation. Hotels accounted for more than half of the total number of overnight stays in tourist accommodation in 14 of the 20 most popular tourist regions of the EU in 2013. The French and Italian capital regions of Île de France and Lazio, the Spanish regions of the Illes Balears and Andalucía, as well as the Alpine regions of Oberbayern (Germany) and Tirol (Austria) each reported that more than four out of every five nights were spent in hotels in 2013. In absolute terms, there were more nights spent in hotels in the French capital region of Île de France (67.4 million) than in the Canarias (59.3 million), while the three Spanish regions of the Illes Balears, Cataluña and Andalucía were the only other NUTS level 2 regions to record in excess of 40 million nights.

Campsites accounted for a high proportion of tourist nights spent in several French regions

By contrast, Languedoc-Roussillon (in the south of France on the Mediterranean coast) was the only region among the top 20 to report that more than half of its total number of overnight stays were spent in campsites. Camping was also a popular option among tourists in other French regions, as it accounted for 47.3 % of the overnight stays in Aquitaine (south-west France) and for 27.7 % of the nights spent in Provence-Alpes-Côte d'Azur (which covers the remainder of the Mediterranean coastline). In absolute terms, there were almost 20 million nights spent in the campsites of Languedoc-Roussillon in 2013, while between 14.4 million and 16.5 million nights were spent in the campsites of five other regions, namely, Veneto, Cataluña, Aquitaine, Provence-Alpes-Côte d'Azur and Jadranska Hrvatska.

Rented holiday accommodation was popular in Rhône-Alpes and Jadranska Hrvatska

In relative terms, the most popular regions for rented holiday accommodation (among those in the top 20 tourist destinations) were the south-eastern French region of Rhône-Alpes (43.9 % of the total nights spent) and the Croatian region of Jadranska Hrvatska (42.0 %), while it accounted for just over one third (33.8 %) of the nights spent in the Canarias. In absolute terms, the same three regions

Figure 10.2: Regional disparities in nights spent in tourist accommodation establishments, by NUTS level 2 region, 2013 (¹)
(% of total nights spent)
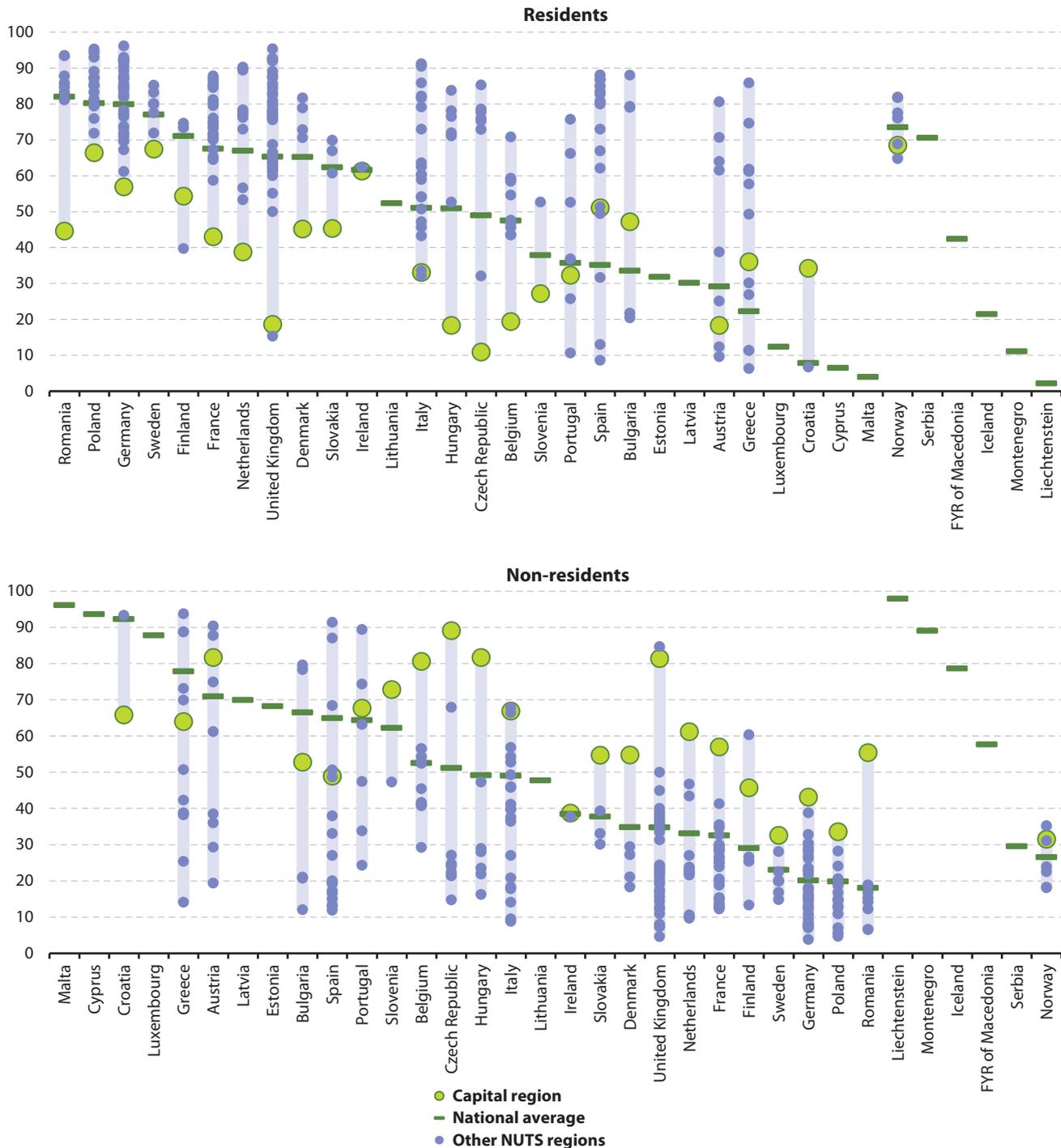
(¹) The light purple shaded bar shows the range of the highest to lowest region for each country. The dark green bar shows the national average. The light green circle shows the capital city region. The dark purple circles show the other regions. Tourist accommodation establishments: NACE Rev. 2 55.1–55.3. The United Kingdom, Norway and Montenegro: 2012.
Source: Eurostat (online data code: tour_occ_nin2)

Figure 10.3: Top 20 EU tourist regions, number of nights spent in tourist accommodation establishments, by NUTS level 2 region, 2013 (^{1})
(million nights spent by residents and non-residents)

Total

Region	
Canarias (ES70)	
Île de France (FR10)	
Cataluña (ES51)	
Illes Balears (ES53)	
Jadranska Hrvatska (HR03)	
Veneto (ITH3)	
Provence-Alpes-Côte d'Azur (FR82)	
Andalucía (ES61)	
Rhône-Alpes (FR71)	
Inner London (UKI1)	
Toscana (ITI1)	
Comunidad Valenciana (ES52)	
Emilia-Romagna (ITH5)	
Tirol (AT33)	
Languedoc-Roussillon (FR81)	
Lombardia (ITC4)	
Oberbayern (DE21)	
Aquitaine (FR61)	
Lazio (ITI4)	
Provincia Autonoma di Bolzano/Bozen (ITH1)	

Residents

Region	
Provence-Alpes-Côte d'Azur (FR82)	
Rhône-Alpes (FR71)	
Île de France (FR10)	
Emilia-Romagna (ITH5)	
Andalucía (ES61)	
Languedoc-Roussillon (FR81)	
Mecklenburg-Vorpommern (DE80)	
Aquitaine (FR61)	
Oberbayern (DE21)	
Cataluña (ES51)	
Veneto (ITH3)	
Comunidad Valenciana (ES52)	
Schleswig-Holstein (DEF0)	
Toscana (ITI1)	
Pays de la Loire (FR51)	
West Wales and The Valleys (UKL1)	
Bretagne (FR52)	
Berlin (DE30)	
Lombardia (ITC4)	
Weser-Ems (DE94)	

Non-residents

Region	
Canarias (ES70)	
Illes Balears (ES53)	
Jadranska Hrvatska (HR03)	
Cataluña (ES51)	
Île de France (FR10)	
Veneto (ITH3)	
Inner London (UKI1)	
Tirol (AT33)	
Andalucía (ES61)	
Toscana (ITI1)	
Kriti (EL43) (^{2})	
Notio Aigaio (EL42) (^{2})	
Lazio (ITI4)	
Provincia Autonoma di Bolzano/Bozen (ITH1)	
Lombardia (ITC4)	
Provence-Alpes-Côte d'Azur (FR82)	
Comunidad Valenciana (ES52)	
Salzburg (AT32)	
Rhône-Alpes (FR71)	
Noord-Holland (NL32)	

■ **Hotels and similar accommodation**
■ **Holiday homes and other short-stay accommodation**
■ **Camping grounds, recreational vehicle parks and trailer parks**

(^{1}) Hotels and similar accommodation: NACE Rev. 2 55.1. Holiday homes and other short-stay accommodation: NACE Rev. 2 55.2. Camping grounds, recreational vehicle parks and trailer parks: NACE Rev. 2 55.3. The United Kingdom: 2012.
(^{2}) Holiday homes and other short-stay accommodation: estimates.
Source: Eurostat (online data code: tour_occ_nin2)

recorded the highest number of nights spent, although their order was reversed. The number of overnight stays in rented holiday accommodation rose to a peak of 30.4 million in the Canarias, while Jadranska Hrvatska (25.9 million nights) and Rhône-Alpes (21.5 million nights) were the only other NUTS level 2 regions to record more than 20 million nights.

Three out of the five most popular regions for inbound tourists were in Spain

Figure 10.3 also provides a similar analysis for domestic tourists (those from the same country) and for inbound (foreign) tourists; note that the latter includes tourism between EU Member States.

The most popular destinations for foreign tourists included the three Spanish regions of the Canarias, the Illes Balears and Cataluña, along with Jadranska Hrvatska and the Île de France. The remaining regions most popular with inbound tourists were generally coastal regions, regions with major cities, or Alpine regions.

By contrast, among nationals, the list of regions with the highest number of overnight stays is dominated by the most populous EU Member States and may also reflect the choice of (year-round) destinations that are available in each country. That said, tourists from France had a particularly high share of overnight stays in France, as 5 of the top 10 regions were French. Across the whole of the EU, the most popular destinations for resident tourists included the three French regions of Provence-Alpes-Côte d'Azur, Rhône-Alpes and the Île de France, as well as the Italian region of Emilia-Romagna (which includes a line of coastal resorts stretching to the north of Rimini and the cities of Bologna, Modena and Parma) and the Spanish region of Andalucía (which includes the Costa de Almería, the Costa del Sol and the Costa de la Luz, as well as the cities of Córdoba, Granada and Sevilla).

Foreign visitors were principally attracted to coastal destination in southern regions of the EU and capital regions in more northerly Member States

Table 10.1 shows separately for domestic tourists and inbound tourists, which regions had the most overnight stays in tourist accommodation in 2013. As already seen, many tourists have a preference for visiting regions with a coastline. This is, by definition, the case for the 10 EU Member States which are characterised by all of their NUTS 2 regions having a coastline. Half of these Member States have more than one region and for these a north–south divide was apparent, insofar as foreign visitors were most likely to visit the capital regions of Denmark, Ireland, Finland and Sweden, while in Portugal the most popular destination for inbound tourists was the Algarve.

Among the four landlocked EU Member States with more than one region, the most popular regions for foreign visitors were also capital regions in the Czech Republic, Hungary and Slovakia, whereas foreigners spent a higher number of nights in the Tirol compared with the Austrian capital region of Wien; this may, at least in part, be due to winter skiing or summer hiking holidays often lasting a week or more, whereas tourist trips to cities are often shorter (for business meetings or for a weekend).

Of the remaining 13 EU Member States (that were neither landlocked nor completely coastal) the most visited region was generally different for domestic tourists and for inbound tourists, the only exceptions being the Black Sea coastal region of Yugoiztochen (Bulgaria) and the Adriatic coastline and islands of Jadranska Hrvatska (Croatia). Among inbound tourists, the capital regions of Belgium, Germany, France, the Netherlands, Romania, Slovenia and the United Kingdom attracted more foreign visitors than any other region. By contrast, the most popular regions for foreign visitors in Bulgaria (Yugoiztochen), Greece (Kriti), Spain (the Canarias), Croatia (Jadranska Hrvatska) and Italy (Veneto) were all coastal regions. A somewhat different pattern was observed in Poland, as the most popular region for foreign tourists was neither the capital region, nor a coastal region, but rather the southern region of Małopolskie (which includes the city of Kraków).

Tourism pressures

In a broad sense, uncontrolled tourism poses a number of threats to both natural areas and cities. Tourism pressures may be measured using a range of indicators, one of which is tourism intensity which is defined as the number of overnight stays in relation to the resident population, and can be used to analyse the sustainability of tourism (**Map 10.2**). An alternative measure, tourism density, is

Table 10.1: Most popular tourist regions, number of nights spent in tourist accommodation establishments, by NUTS level 2 region, 2013 (¹)

	Residents			Non-residents		
	Total nights spent in country (million nights)	Most popular region (NUTS level 2 regions)	Share of most popular region in national total (%)	Total nights spent in country (million nights)	Most popular region (NUTS level 2 regions)	Share of most popular region in national total (%)
Countries where all regions are coastal						
Denmark	18.6	Syddanmark (DK03)	30.4	9.9	Hovedstaden (DK01)	50.0
Estonia	1.8		–	3.9		–
Ireland	17.4	Southern and Eastern (IE02)	75.5	10.9	Southern and Eastern (IE02)	76.2
Cyprus	0.9		–	13.2		–
Latvia	1.1		–	2.6		–
Lithuania	3.2		–	2.9		–
Malta	0.3		–	8.2		–
Portugal	17.8	Algarve (PT15)	24.1	32.1	Algarve (PT15)	38.6
Finland	14.4	Pohjois- ja Itä-Suomi (FI1D)	38.1	5.9	Helsinki-Uusimaa (FI1B)	39.8
Sweden	38.3	Västsverige (SE23)	21.7	11.4	Stockholm (SE11)	31.2
Iceland	0.9		–	3.4		–
Montenegro	1.0		–	8.1		–
Countries with coastal and non-coastal regions						
Belgium	14.9	Prov. West-Vlaanderen (BE25)	30.3	16.5	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (BE10)	30.6
Bulgaria	7.2	Yugoiztochen (BG34)	25.4	14.4	Yugoiztochen (BG34)	46.1
Germany	283.7	Mecklenburg-Vorpommern (DE80)	8.5	71.2	Berlin (DE30)	16.2
Greece	20.4	Kentriki Makedonia (EL12)	17.0	71.5	Kriti (EL43)	30.6
Spain	136.8	Andalucía (ES61)	19.4	252.4	Canarias (ES70)	30.9
France	272.3	Provence-Alpes-Côte d'Azur (FR82)	13.1	131.3	Île de France (FR10)	33.7
Croatia	5.0	Jadranska Hrvatska (HR03)	82.1	59.4	Jadranska Hrvatska (HR03)	97.1
Italy	192.0	Emilia-Romagna (ITH5)	13.9	184.8	Veneto (ITH3)	22.1
Netherlands	64.3	Gelderland (NL22)	14.7	31.8	Noord-Holland (NL32)	43.3
Poland	50.5	Zachodniopomorskie (PL42)	16.9	12.5	Małopolskie (PL21)	21.9
Romania	15.8	Sud-Est (RO22)	24.0	3.5	Bucureşti - Ilfov (RO32)	37.8
Slovenia	3.6	Vzhodna Slovenija (SI01)	58.2	5.9	Zahodna Slovenija (SI02)	68.2
United Kingdom	198.1	West Wales and The Valleys (UKL1)	8.1	105.5	Inner London (UKI1)	34.6
Norway	22.0	Sør-Østlandet (NO03)	19.9	7.9	Vestlandet (NO05)	24.8
Landlocked countries						
Czech Republic	21.2	Severovýchod (CZ05)	24.9	22.1	Praha (CZ01)	59.0
Luxembourg	0.3		–	2.3		–
Hungary	12.4	Nyugat-Dunántúl (HU22)	20.0	12.0	Közép-Magyarország (HU10)	59.6
Austria	32.3	Steiermark (AT22)	19.1	78.4	Tirol (AT33)	40.5
Slovakia	7.1	Stredné Slovensko (SK03)	36.3	4.3	Bratislavský kraj (SK01)	27.9
Liechtenstein	0.0		–	0.1		–
FYR of Macedonia	0.6		–	0.9		–
Serbia	4.5		–	1.9		–

(¹) Tourist accommodation establishments: NACE Rev. 2 55.1–55.3. The United Kingdom, Norway and Montenegro: 2012.

Source: Eurostat (online data code: tour_occ_nin2)

presented in **Map 10.3**: it shows the relationship between the number of overnight stays and the total area of each region, in the form of a ratio per square kilometre (km²).

Tourism intensity in the Illes Balears, Notio Aigaio and the Provincia Autonoma di Bolzano / Bozen was more than 10 times the EU average

Across the whole of the EU-28 in 2013, there was an average of 5 209 nights spent by tourists in tourist accommodation per 1 000 inhabitants. Tourism intensity peaked in the Greek region of Notio Aigaio (67 840 overnight stays per 1 000 inhabitants), the Spanish region of the Illes Balears (58 811 overnight stays per 1 000 inhabitants) and the Italian Provincia Autonoma di Bolzano / Bozen (56 938 overnight stays per 1 000 inhabitants); none of the remaining NUTS level 2 regions recorded a ratio of more than 50 000 overnight stays per 1 000 inhabitants.

Map 10.2 shows that the highest tourism intensity rates were often concentrated in popular coastal regions, as well as a number of regions with relatively low levels of population density, for example, several Alpine regions, most regions in the Nordic Member States, the Highlands and Islands of Scotland, or Cumbria and North Yorkshire in England; a similar pattern was observed in Iceland and Norway.

Regional tourism density peaked in Inner London

In 2013, an average of 592 overnight stays in tourist accommodation were recorded for each square kilometre of the EU-28 (**Map 10.3**). Regional tourism density peaked in Inner London, with by far the highest concentration of tourists, as in 2012 there were 136 705 nights spent by tourists per km²; this was approximately 3.5 times as high as the second ranked region, the Belgian capital of the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (38 951 nights spent by tourists per km² in 2013) and 230 times as high as the EU average.

There were eight additional NUTS level 2 regions where the tourism density rate was higher than 10 000 nights spent by tourists per km² in 2013. These included three additional capital regions (Wien, Berlin and Praha), the urban regions of Hamburg and Outer London, and the popular island destinations of Malta (one region at this level of detail), the Illes Balears and the Canarias.

A comparison of the results shown in **Map 10.2** and **Map 10.3** indicates that tourism pressures were particularly high in 20 regions across the EU; each of these regions had an average of more than 10 thousand nights spent in tourist accommodation per 1 000 inhabitants and more than 2 thousand nights spent in tourist accommodation per km² — in other words, high levels of tourism intensity and tourism density. These 20 regions were spread across 10 of the EU Member States and included: three regions from each of Greece (the island regions of Ionia Nisia,

SPOTLIGHT ON THE REGIONS:
MALTA, MALTA

There are considerable differences between EU regions in relation to whether their demand for tourism comes from the domestic market or from inbound tourists arriving from other countries. As may be expected for a relatively small country, inbound tourists accounted for a high share (96.1 %) of the total nights spent in Malta and in Cyprus (93.6 %).

Photo: mRGB */ Shutterstock.com*

Notio Aigaio and Kriti), Italy (the northern regions of the Provincia Autonoma di Bolzano / Bozen, the Provincia Autonoma di Trento, and Veneto) and Austria (the Alpine regions of Salzburg, Tirol and Vorarlberg), two regions from each of Spain (the island regions of the Illes Balears and the Canarias), the Netherlands (Drenthe and Zeeland), Portugal (the Algarve and the Região Autónoma da Madeira) and the United Kingdom (Inner London and Cornwall and Isles of Scilly); and a single region from each of the Czech Republic (the capital region of Praha), Croatia (the coastal region of Jadranska Hrvatska) and Malta (which is a single region at this level of detail).

Coastal, rural and urban tourism

Many coastal regions are characterised by considerable building activity as more of the population chooses to live near the sea and mass-market tourism continues to expand. Coastal regions are characterised by a range of economic activities, covering among others: shipping and ports, fisheries, energy and coastal tourism. Such activity can potentially have serious implications in relation to sustainable development.

The pull of coastal localities as tourist destinations

Map 10.4 presents regional tourism statistics analysed according to whether or not tourist accommodation

Map 10.2: Nights spent in tourist accommodation establishments, by NUTS level 2 region, 2013 ([1])
(nights spent by residents and non-residents per 1 000 inhabitants)

(nights spent by residents and non-residents per 1 000 inhabitants)
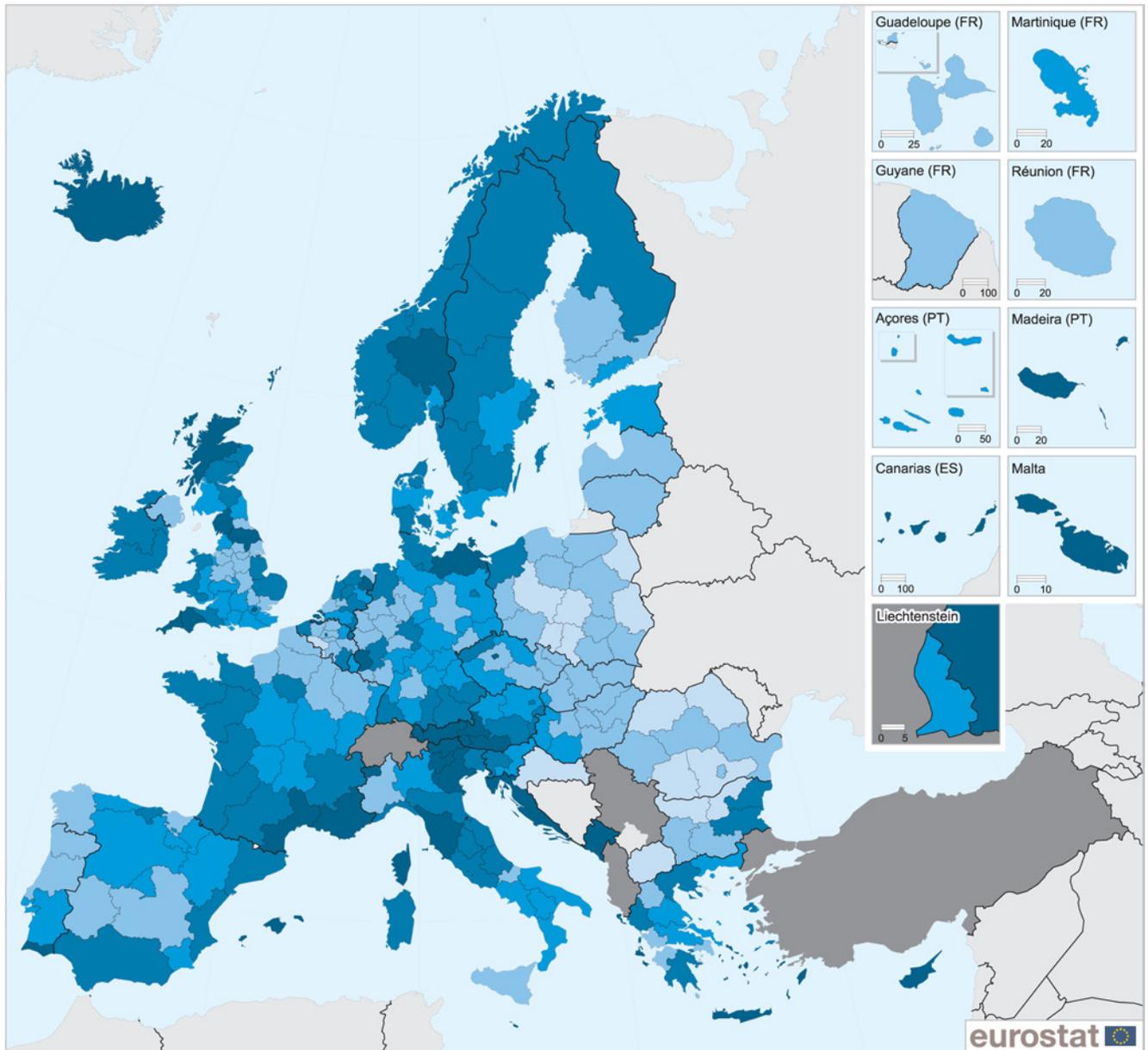
EU-28 = 5 209

- < 1 000
- 1 000 – < 3 000
- 3 000 – < 5 000
- 5 000 – < 10 000
- >= 10 000
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
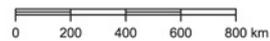
([1]) Tourist accommodation establishments: NACE Rev. 2 Groups 55.1 to 55.3. The United Kingdom, Norway and Montenegro: 2012. EU-28: estimate.
Source: Eurostat (online data code: tour_occ_nin2)

Map 10.3: Nights spent in tourist accommodation establishments, by NUTS level 2 region, 2013 (^{1})
(nights spent by residents and non-residents per km²)
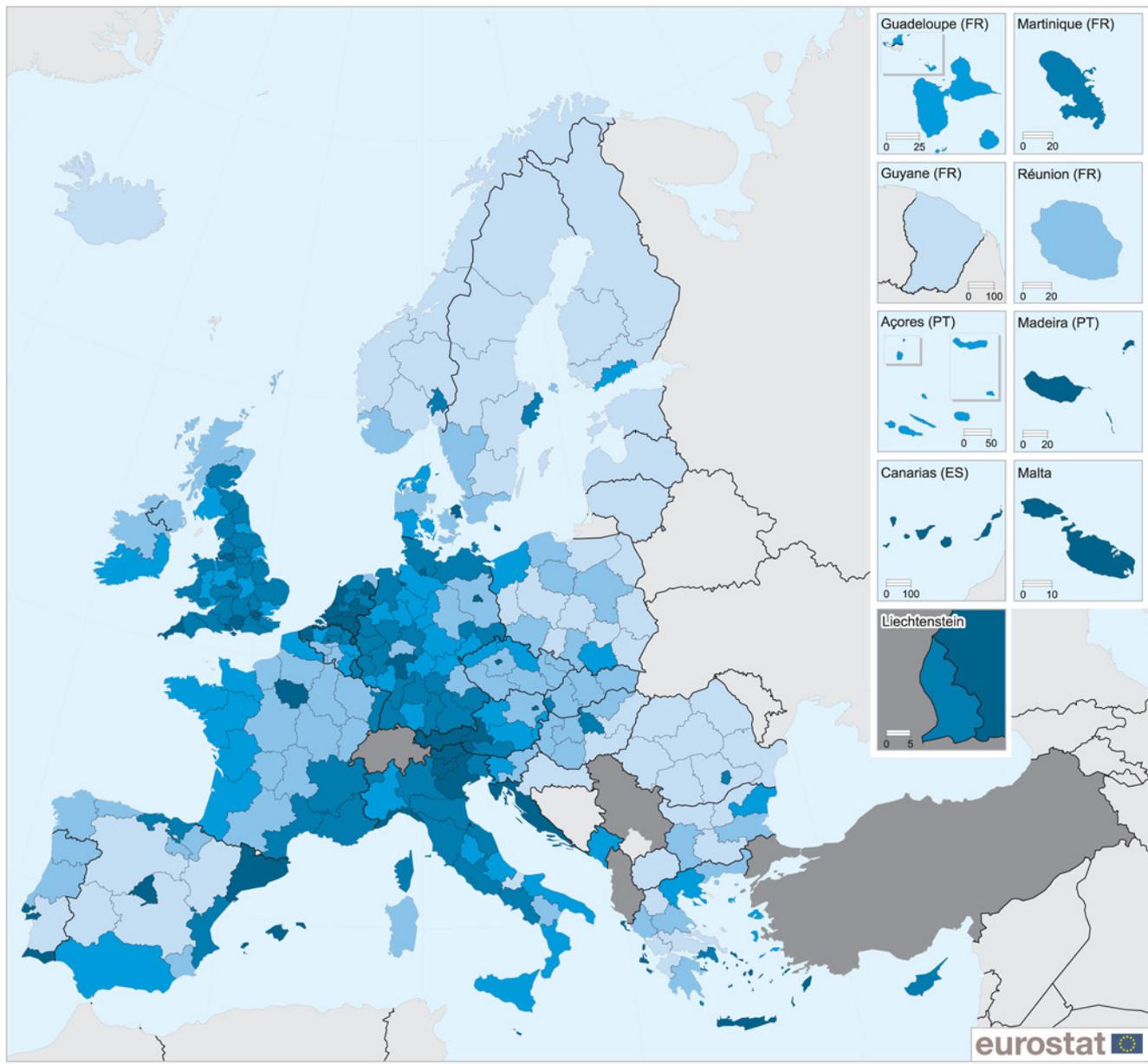
(nights spent by residents and non-residents per km²)

EU-28 = 592

- < 150
- 150 – < 450
- 450 – < 750
- 750 – < 2 000
- >= 2 000
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
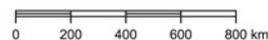
(^{1}) Tourist accommodation establishments: NACE Rev. 2 Groups 55.1 to 55.3. The United Kingdom, Norway and Montenegro: 2012. EU-28: estimate (incorporating land area and not total area for Croatia). Croatia: ratios are based on land area and not total area.
Source: Eurostat (online data codes: tour_occ_nin2 and demo_r_d3area)

establishments are in coastal localities. It shows, for each NUTS level 2 region with a coastline, the proportion of total nights spent in tourist accommodation in coastal localities. There were 16 regions across the EU-28 where coastal localities accounted for each and every night spent in such establishments. These covered a range of different coastal regions: from largely urban regions such as Bremen or Hamburg in Germany, through traditional tourist destinations such as the islands of the Canarias and the Illes Balears, or Cyprus and Malta (single regions at this level of analysis), to less well-known tourist destinations, Åland (in Finland) or East Yorkshire and Northern Lincolnshire (in the United Kingdom).

The pull of coastal localities can be seen by the skewed nature of the distribution of nights spent. Among the 121 NUTS 2 coastal regions across the EU for which data are available in 2012 or 2013 (no information for Greece), almost four out of every five regions reported that coastal localities accounted for a majority of the nights that were spent in tourist accommodation. The remaining 25 regions, where coastal localities accounted for less than 50 % of the nights spent in tourist accommodation (as shown by the lightest shade in **Map 10.4**), were often regions that had relatively short coastlines and major inland cities, for example, Picardie in the north of France, the Noord Brabant region of the Netherlands, Warmińsko-Mazurskie in Poland, or Cheshire in the United Kingdom.

Rural localities accounted for close to 45 % of the total nights spent by tourists in the EU

Figure 10.4 presents an alternative analysis, providing information for 2013 on overnight stays in tourist accommodation; it is based on the degree of urbanisation (defined in terms of rural areas, towns and suburbs, and

cities). The figure shows that the total number of nights spent (by domestic tourists and inbound tourists) in EU-28 tourist accommodation was relatively evenly spread according to the degree of urbanisation, as slightly more than one third of all overnight stays were in rural areas (35.0 %) and in cities (34.4 %), while towns and suburbs accounted for a somewhat lower share (30.5 %).

The relative importance of the three degrees of urbanisation may be further illustrated by looking at the number of regions in the EU where rural areas, towns and suburbs, and cities accounted for the highest number of nights spent. In 2013, using this measure, some 44.7 % of NUTS level 2 regions reported that the main type of accommodation used was located in rural areas, 31.5 % in cities and 23.7 % in towns and suburbs.

Looking in more detail at rural areas in 2013, there were five NUTS level 2 regions across the EU where more than 90 % of overnight stays were spent in rural localities, they were: the southernmost Belgian region of the Province Luxembourg, the westernmost Dutch region of Zeeland, the easternmost Austrian region of Burgenland, and two sparsely-populated regions of the United Kingdom (data are for 2012), namely, Cumbria (north-west England) and the Highlands and Islands (of Scotland).

In absolute terms, the French capital region of the Île de France recorded the highest number of overnight stays in city localities (62.2 million in 2013), followed by Inner London (44.8 million in 2012). By contrast, the highest number of overnight stays in rural localities in 2013 was recorded in Jadranska Hrvatska (42.4 million), followed by the Illes Balears (40.7 million).

Figure 10.4: Nights spent in tourist accommodation establishments, by degree of urbanisation, EU-28, 2013 (^{1}) (%)

Nights spent in tourist accommodation establishments, by degree of urbanisation

Rural areas, 35.0 | Cities, 34.4 | Towns and suburbs, 30.5

NUTS level 2 regions by dominant degree of urbanisation in terms of nights spent

Rural areas, 44.7 | Cities, 31.5 | Towns and suburbs, 23.7
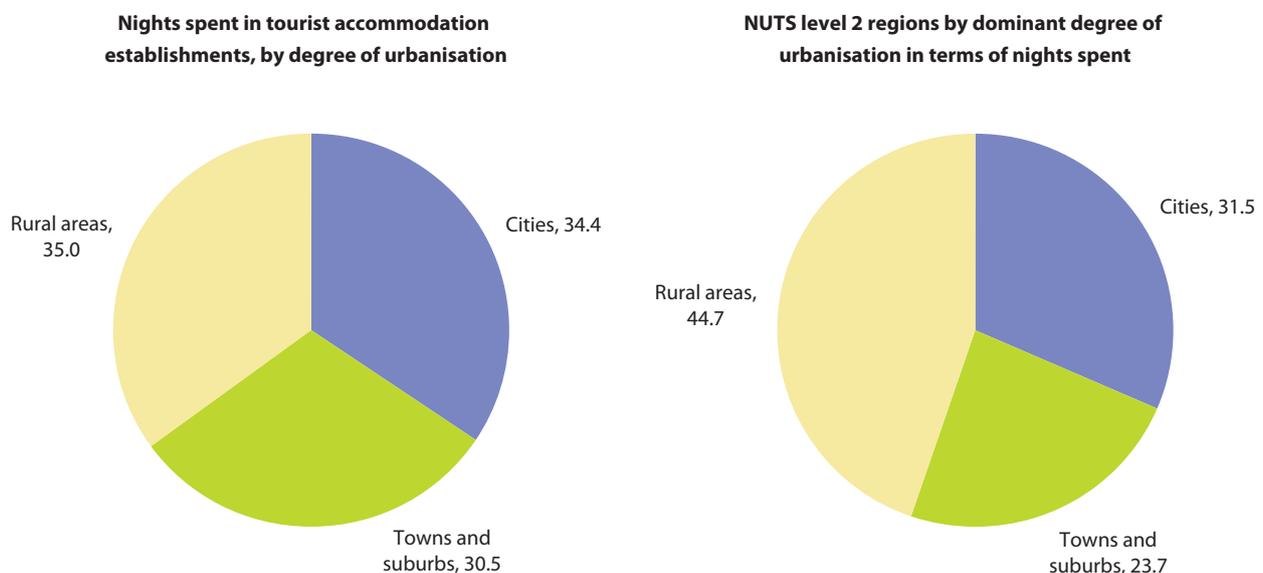
(^{1}) Tourist accommodation establishments: NACE Rev. 2 55.1–55.3. Bremen (DE50), Thüringen (DEG0) and Greece: not available. The United Kingdom: 2012 instead of 2013.
Source: Eurostat (online data code: tour_occ_nin2d)

Map 10.4: Nights spent in tourist accommodation establishments in coastal localities, by NUTS level 2 region, 2013 (¹)

(% of total nights spent by residents and non-residents in the regions' tourist accommodation establishments)
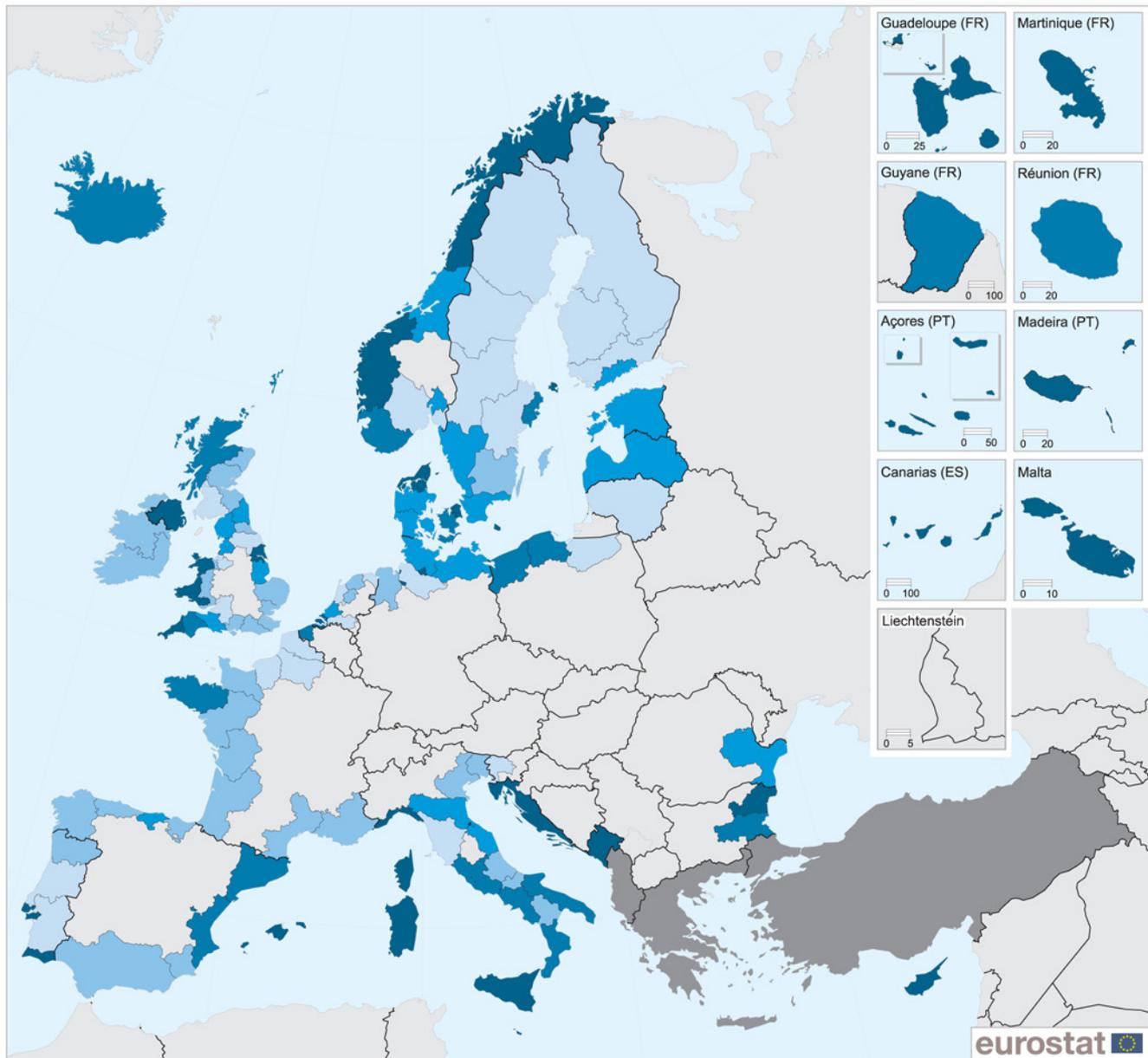
(% of total nights spent by residents and non-residents in the regions' tourist accommodation establishments)

- < 50
- 50 – < 75
- 75 – < 85
- 85 – < 95
- >= 95
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
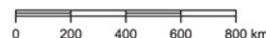
(¹) Tourist accommodation establishments: NACE Rev. 2 Groups 55.1 to 55.3. The United Kingdom, Norway and Montenegro: 2012.
Source: Eurostat (online data code: tour_occ_nin2c)

Accommodation capacity in hotels and similar establishments

Of the estimated 562 470 tourist accommodation establishments in the EU-28 in 2013, just over one third (36.1 %) were hotels. They provided a total of 6.6 million bedrooms and 13.7 million bed places, equivalent to an average of 32 bedrooms and 67 bed places per establishment.

While a count of the total number of bed places may be of interest in relation to the capacity of different regions to respond to tourism demand, those working within the tourism industry are more likely to be interested in net occupancy rates for bedrooms (room rates are often considered the preferred measure insofar as the turnover of a double room is often similar irrespective of whether the room is occupied by one or two persons).

The occupancy of hotels may vary according to the characteristics of each region. Urban regions are more likely to be characterised by large numbers of visitors who tend to stay for a relatively short period of time, with tourist trips to cities often spread throughout the year. Visitors to these regions may also be travelling for professional reasons, in which case demand for rooms will probably be spread throughout the working week, supplemented by private trips during weekends and holiday periods.

By contrast, the average length of stays is substantially longer in more traditional holiday regions which are visited chiefly for recreational purposes. Nevertheless, tourism demand for trips to these regions is often concentrated in the summer months (especially for those regions with coastlines), while there is a secondary peak in demand during the winter months, most apparent in Alpine regions.

Bedroom occupancy rates in hotels and similar establishments highest in London

Map 10.5 provides a regional analysis of bedroom occupancy rates in hotels in 2013; note that data for the United Kingdom are only available for NUTS level 1 regions (data for 2012) and that data for the Netherlands are only available at a national level, while there are no data available for Austria.

Bedroom occupancy rates in hotels were particularly high in the west of the EU, with particularly high rates across most regions of France, Germany, the Benelux countries, Ireland and the United Kingdom; as well as Iceland. Further south, there were several traditional tourist destinations which recorded relatively high rates, principally the island regions of Spain, France, Italy, Malta, Greece and Cyprus.

The highest net occupancy rate was recorded in London (**Figure 10.5**): in 2012, an average of just over four out of every five bedrooms in hotels (80.1 %) were occupied. In 2013, there were seven other NUTS 2 regions with occupancy rates of at least 70 %: two of these were the capital regions of Île de France and Berlin, there was one other German metropolitan region (Hamburg), while the others were the island destinations of the Illes Balears, the Canarias and Malta (one region at this level of detail); note that some hotels in these holiday destinations may close during the off-season, while others seek to keep their occupancy rates high through special offers which may, for example, encourage pensioners (typically from northern and western EU Member States) to spend longer periods on vacation during the winter months.

The darkest shade in **Map 10.5** shows the eight regions with occupancy rates of at least 70 %, together with a further 20 regions where bedroom occupancy rates for hotels

Figure 10.5: Top 10 and bottom 10 EU tourist regions in terms of bedroom occupancy rates in hotels and similar establishments, by NUTS level 2 region, 2013 ([1])
(%)
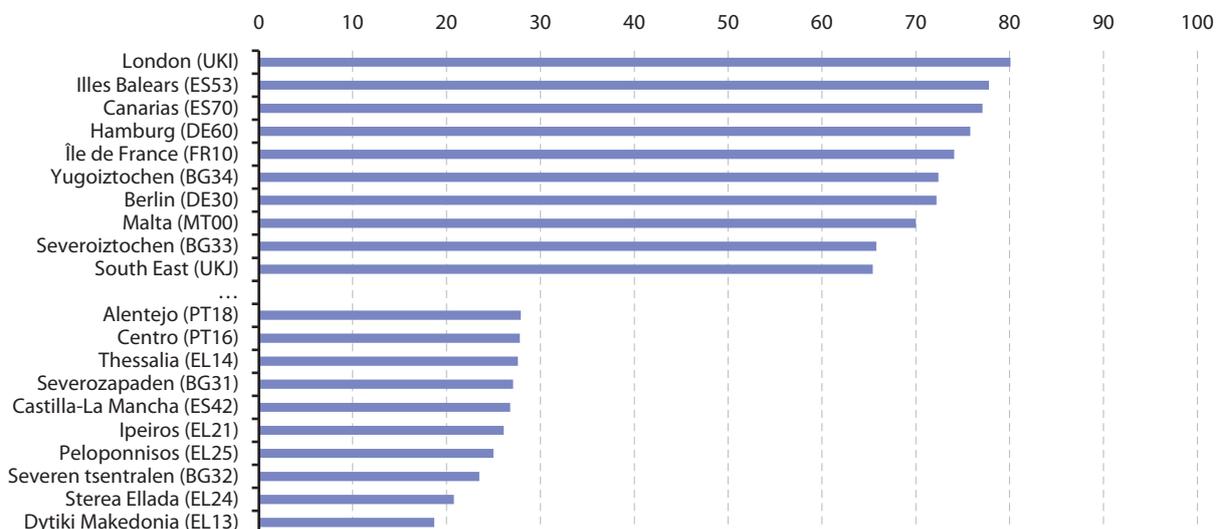
([1]) The United Kingdom: only available for NUTS level 1 regions; 2012. The Netherlands: only available at national level. Austria: not available.
Source: Eurostat (online data code: tour_occ_anor2)

Map 10.5: Bedroom occupancy rates in hotels and similar establishments, by NUTS level 2 region, 2013 (¹)
(%)

(%)
- < 30
- 30 – < 40
- 40 – < 50
- 50 – < 60
- >= 60
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
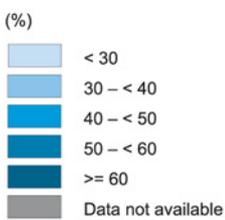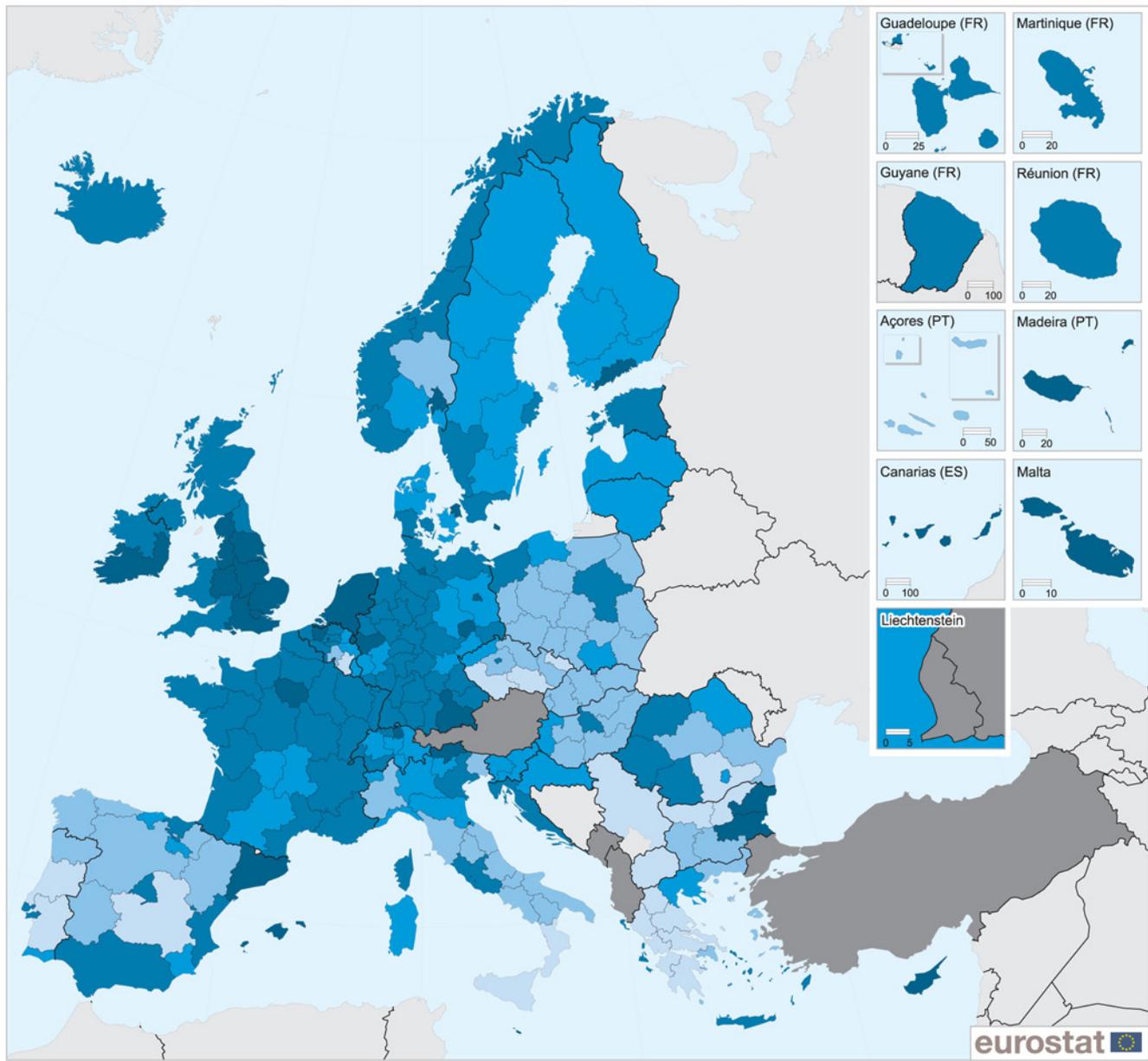
(¹) The United Kingdom: only available for NUTS level 1 regions. The Netherlands: only available at national level. The United Kingdom and Norway: 2012.
Source: Eurostat (online data code: tour_occ_anor2)

were within the range of 60–70 %. These 20 regions were often characterised as urban areas, as relatively few were popular tourist destinations — the main exceptions being the Provincia Autonoma di Bolzano / Bozen, Oberbayern, Cataluña and Cyprus (a single region at this level of detail).

Half of all regions in the EU had occupancy rates that were below 50 %

In 2013, bedroom occupancy rates in hotels were below 50 % in approximately half of the EU regions for which data are available (114 out of a total of 227). At the lower end of the ranking (as shown by the lightest shade in **Map 10.5**), there were 18 NUTS level 2 regions in the EU where occupancy rates fell below 30 %. Of these, the Belgian region of the Province Luxembourg stood out as having a particularly low occupancy rate compared with the relatively high

rates recorded in the remainder the regions of the Benelux countries (aside from the neighbouring southern Belgian region of the Province Namur). The 17 remaining regions with occupancy rates of less than 30 % were exclusively located across eastern and southern regions of the EU (two regions from Bulgaria, three from the Czech Republic and one from Romania; six from Greece and two each from Italy and Portugal); it is likely that the continuing effects of the financial and economic crisis impacted upon both business and leisure demand in some of these regions.

The lowest occupancy rate (18.7 %) was recorded in the Greek region of Dytiki Makedonia (an inland region in the north of the country that borders onto Albania). It had a relatively low level of tourism activity, as it accounted for 1.6 % of the nights spent by domestic tourists in the whole of Greece, and for 0.1 % of the nights spent by foreigners.

Data sources and availability

Legal basis

As of reference year 2012, the legal basis for the collection of tourism statistics is a Regulation of the European Parliament and of the Council concerning European statistics on tourism ((EU) no 692/2011) and a European Commission implementing regulation ((EU) no 1051/2011). Data are collected from all of the EU Member States, as well as from EFTA and candidate countries.

Regional tourism statistics are only available from suppliers of tourism services; they are collected via surveys filled in by accommodation establishments. The information covers accommodation capacity (establishments, room and bed places) and occupancy (number of arrivals and overnight stays).

Regional and sub-national breakdowns

Regulation (EU) 692/2011 foresees the collection of regional tourism statistics at the NUTS 2 level. The regulation introduced two new analyses for sub-national statistics relating to accommodation statistics, namely, by degree of urbanisation (rural areas, towns and suburbs, cities) and by coastal or non-coastal locality.

Statistical units and activity classification

A tourist accommodation establishment is a local kind-of-activity unit. It includes all establishments providing, as a paid service, accommodation for tourists, regardless of whether or not the provision of tourist accommodation is the main or a secondary activity of the enterprise to which the establishment belongs. As such, all establishments

providing accommodation are covered, even if a major part of their turnover comes from restaurant / catering services or other services.

Tourism accommodation establishments are classified, as:

- NACE Group 55.1: hotels and similar accommodation (this includes accommodation provided by hotels, resort hotels, suite / apartment hotels, motels);
- NACE Group 55.2: holiday and other short-stay accommodation (this includes holiday homes, visitor flats and bungalows, cottages and cabins without housekeeping services, youth hostels and mountain refuges);
- NACE Group 55.3: camping grounds, recreational vehicle parks and trailer parks — otherwise referred to as campsites (this includes the provision of accommodation in campgrounds, trailer parks, recreational camps and fishing and hunting camps for short stay visitors, and the provision of space and facilities for recreational vehicles, protective shelters or plain bivouac facilities for placing tents and / or sleeping bags).

Residents and non-residents

Domestic tourism comprises the activities of residents of a given country travelling to and staying in their own country, but outside their usual environment; this information may be contrasted with similar information on inbound tourists (also referred to as international or non-resident tourists). Inbound tourists are classified according to their country of residence, not their citizenship.

Transport

11

Introduction

The European Union (EU) transport policy endeavours to foster clean, safe and efficient travel throughout Europe, underpinning the right of citizens to move freely (for both work and pleasure) and for goods to circulate easily within the internal market (from their place of production to their place of consumption). Transport and mobility play a fundamental role in the EU and by joining regions together, transport policy can be used to reduce regional inequality and improve cohesion.

Jobs, growth and investment

The European Commission's jobs, growth and investment package highlights a range of transport projects including: infrastructure in industrial centres; transport links between EU Member States; the expansion and upgrading of freight and passenger capacities in ports and airports; dedicated rail connections between important airports and urban centres; 'green' projects in the area of maritime transport; or the promotion of alternative fuel-infrastructures along major roads. 'An investment plan for Europe' (COM(2014) 903) underlines the need for structural reforms to reap the benefits of the single market by resolving barriers to investment, notably those with a cross-border dimension, the European Single Sky and the Fourth Railway Package.

Transport policy in the EU

The European Commission's Directorate-General for Mobility and Transport is responsible for developing transport policy within the EU. Its remit is to ensure mobility in a single European transport area, integrating the needs of the population and the economy at large, while minimising adverse environmental effects.

In March 2011, the European Commission adopted a White paper titled 'Roadmap to a single European transport area — Towards a competitive and resource efficient transport system' (COM(2011) 144 final). This comprehensive strategy contained 40 specific initiatives for the next decade, designed to build a competitive transport system. The proposals also seek to reduce dramatically Europe's dependence on imported oil and to cut carbon emissions, with a set of goals to be achieved for 2050, including:

- no more conventionally-fuelled cars in cities;
- 40 % of the fuel being used in the aviation sector to come from sustainable low-carbon fuels;
- a reduction of at least 40 % in shipping emissions;

- a 50 % shift in medium-distance inter-city passenger and freight journeys away from roads to either rail or waterborne transport;
- all of which should contribute to a 60 % cut in transport emissions by the middle of the century.

Trans-European Transport Networks (TEN-T)

At the beginning of the 1990s, the EU agreed to set up an infrastructure policy at Community level in order to support the functioning of the internal market through continuous and efficient networks in the fields of transport, energy and telecommunications.

A substantial policy review was launched in 2009 and this led to a new legislative framework that came into force in January 2014 when the EU agreed on a new transport infrastructure policy: Union guidelines for the development of the trans-European transport network (Regulation (EU) No 1315/2013) which set out objectives, priorities and measures for establishing and developing networks, so as to create a framework for identifying projects of common interest. It seeks to create a core network which will connect 94 main European ports with rail and road links, 38 key airports with rail connections into major cities, upgrade 15 000 km of railway line to high speed track, and establish 35 cross-border projects to reduce bottlenecks.

Work is foreseen over nine implementing corridors on this core network, two north–south corridors (the North Sea–Mediterranean and Scandinavian–Mediterranean corridors) and seven with an east–west dimension (the Baltic–Adriatic, North Sea–Baltic, Mediterranean, Orient/East–Med, Rhine–Alpine, Atlantic, and Rhine–Danube corridors). The core network is due to be completed by 2030, with a comprehensive regional and national network feeding into it.

At the start of 2015 the European Commission published nine detailed studies on the development needs of each of the nine corridors and identified a need for approximately EUR 700 billion of financial investment through to 2030. These studies are being taken into account when deciding on the allocation of EU funds for the period 2014–20 under the Connecting Europe Facility (which governs EU funding in the transport, energy and telecommunications sectors during the period 2014–20) and the European investment plan.

Main statistical findings

Regional transport statistics aim to quantify the flows of passengers and freight between, within and through regions; differences between regions are often closely related to levels of economic activity. Transport statistics are also collected for a range of other indicators, for example, in relation to transport infrastructure (the length of transport networks) and equipment rates (the number of vehicles per inhabitant).

Road passenger transport

Motorisation rate for passenger cars

There were slightly fewer than 250 million passenger cars circulating on the roads of the EU-28 in 2012, with the largest stock of vehicles in Germany (43.4 million) and Italy (37.1 million).

The number of passenger cars per inhabitant — sometimes referred to as the motorisation rate — is calculated on the basis of the stock of vehicles as of 31 December and population figures as of 1 January of the following year. An estimation based on the latest available information (and excluding data for Denmark) suggests that across the EU there were an average of 486 passenger cars per 1 000 inhabitants at the start of 2013.

The number of passenger cars per 1 000 inhabitants for NUTS level 2 regions is shown in **Map 11.1**. The highest regional motorisation rates in the EU were generally registered across regions from the Member States which joined the EU before 2004, with a particularly high concentration of passenger cars relative to the population in most Italian regions, the eastern half of Austria (with the exception of the capital Wien), most of Finland, as well as in Lithuania, Luxembourg and Malta (all single regions at this level of analysis).

Valle d'Aosta / Vallée d'Aoste recorded the highest motorisation rate in the EU

The highest regional motorisation rate within the EU-28 was in the Valle d'Aosta / Vallée d'Aoste region of northern Italy, at 1 051 passenger cars per 1 000 inhabitants at the start of 2013; note this figure is influenced by a specific tax arrangement and therefore does not necessarily reflect the actual number of passenger cars per 1 000 inhabitants in the region.

There were five other Italian regions present among the 10 regions in the EU with the highest motorisation rates — Marche, Molise, the Provincia Autonoma di Bolzano / Bozen, Umbria and the Provincia Autonoma di Trento. They

were joined by Luxembourg (a single region at this level of analysis, data are for 2012), the Greek capital region of Attiki (data are also for 2012), the Finnish archipelago of Åland and the Dutch region of Flevoland, which recorded the second highest motorisation rate in the EU (804 passenger cars per 1 000 inhabitants).

Figure 11.1 provides an alternative presentation of the highest motorisation rates across EU regions. It shows that 13 of the top 20 regions were located in Italy; every Italian NUTS level 2 region (including those which do not appear in **Figure 11.1**) recorded a motorisation rate that was above the EU average. The highest motorisation rates in Italian regions were spread along the length of the country from Valle d'Aosta / Vallée d'Aoste and the Provincia Autonoma di Trento in the north, through Umbria and Lazio in the centre, down to Basilicata and Sicilia in the south.

These Italian regions characterised by high levels of car ownership recorded considerable differences in terms of changes in car ownership over the period 2008–13. The motorisation rate rose by approximately 30 % in the two northern Italian regions of the Provincia Autonoma di Trento and the Provincia Autonoma di Bolzano / Bozen, while it declined in the Valle d'Aosta / Vallée d'Aoste by 4.5 %.

SPOTLIGHT ON THE REGIONS:
VALLE D'AOSTA / VALLÉE D'AOSTE, ITALY

On average, there were 486 passenger cars per 1 000 inhabitants in the EU-28 in 2013. The highest regional value (among NUTS level 2 regions) was recorded in the Alpine region of Valle d'Aosta / Vallée d'Aoste in northern Italy, where, on average, there was more than one vehicle for each member of the population (1 051 passenger cars per 1 000 inhabitants).

Photo: Julia Kuznetsova */ Shutterstock.com*

High motorisation rates in island regions with few alternative modes of transport

Several island regions also reported relatively high motorisation rates, including Åland in Finland (which had the third highest regional motorisation rate), Sicilia and Sardegna in Italy, Corse in France, the Illes Balears in Spain, Cyprus and Malta (both single regions at this level of analysis). These relatively high figures may, in part, be explained by a lack of alternative modes of transport for inland travel; for example, most of these islands had relatively underdeveloped rail infrastructures or no rail services at all.

Low motorisation rates in several Greek, Hungarian and Romanian regions

At the other end of the ranking, the lowest motorisation rates — less than 300 passenger cars per 1 000 inhabitants — were distributed across all but one of the regions in Romania (the exception being the capital region of București - Ilfov), four regions in Greece (three of which were clustered around the capital; data are for 2012), the three easternmost regions of Hungary, Východné Slovensko (the easternmost region of Slovakia) and Inner London (the United Kingdom).

It is interesting to note that while the rate of change in car ownership in these Greek and Hungarian regions showed little change, the motorisation rate in each of the Romanian regions rose by 28–53 % between 2008 and 2013, while the rate of change in Východné Slovensko was just over 20 %. By contrast, the motorisation rate in Inner London fell by 13.8 %.

Western capital regions often characterised by low motorisation rates …

This pattern of a low and declining motorisation rate in Inner London was repeated, although to a lesser degree, in several other capital regions. It may be linked to issues such as congestion or having difficulties to find a place to park, with an increasing share of people living in some of the EU's largest cities choosing not to own a car and instead to rely on public transport. Along with Inner London (which had the fourth lowest motorisation rate among NUTS level 2 regions), the capital regions of most of the other Member States which joined the EU before 2004 (subject to data availability) also had relatively low motorisation rates: Berlin (Germany), Wien (Austria), Stockholm (Sweden), Noord-Holland (the Netherlands), Île de France (France), the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest, and Southern and Eastern (Ireland) each recorded levels of car ownership that were below the EU-28 average.

By contrast, in regions that were adjacent to those containing capitals, it was quite common to find relatively high motorisation rates. This suggests that these regions were characterised by large numbers of people commuting to work (in neighbouring regions). Examples include: Flevoland in the Netherlands; Niederösterreich in Austria;

Berkshire, Buckinghamshire and Oxfordshire in the United Kingdom; and Trier in Germany (from where many commuters cross the border to work in Luxembourg).

… while eastern and southern capitals were often characterised by relatively high motorisation rates

Among those Member States that joined the EU in 2004 or 2007 a different pattern was observed, as the capital region frequently recorded the highest motorisation rate and a level of car ownership that was above the EU average. This was the case in Zahodna Slovenija (525 passenger cars per 1 000 inhabitants), Bratislavský kraj (532), Praha (565) and Mazowieckie (555), as well as in Cyprus (553), Malta (602) and Lithuania (615), each of which is a single region at this level of analysis.

It is interesting to compare the contrasting developments for the motorisation rates of the three Baltic Member States. The very high level of car ownership in Lithuania has already been noted and was supplemented by a considerable expansion during the period 2008–13, as the motorisation rate rose by 17.1 %. A similar rate of growth (15.7 %) was recorded in Estonia, where the motorisation rate was close to the EU average, at 478 cars per 1 000 inhabitants. However, the level of car ownership was much lower and falling in Latvia, with a reduction of 26.5 % in the motorisation rate between 2008 and 2013, resulting in 317 cars per 1 000 inhabitants.

In southern capitals of the EU it was also common to find relatively high motorisation rates. Indeed, the Greek, Italian and Spanish capitals all reported levels of car ownership that were above the EU average. Note that in parts of Athens cars are generally restricted to circulate on alternate days according to their number plate and this may, at least to some degree, explain why this region has a much higher level of car ownership than other Greek regions (as households purchase two vehicles, one whose number plate ends with an odd number and another whose number plate ends with an even number).

Gap in motorisation rates between eastern and western EU regions was closing rapidly

These differences observed for capital regions were synonymous with a more general east–west pattern, as motorisation rates in these two areas moved closer together. **Map 11.1** shows that the change in motorisation rates between 2008 and 2013 (subject to data availability) was often at its lowest in western regions of the EU and its highest in eastern regions and the Baltic Member States (see above). The darkest shades in **Map 11.1** indicate those regions where the motorisation rate rose by at least 15 %, these included: all of the regions in Bulgaria, Poland, Romania and Slovakia, aside from the capital regions of Poland and Romania. There were, in addition, five regions in the west and north of the EU where the motorisation rate

Map 11.1: Motorisation rate and changes in motorisation rate, by NUTS level 2 region, 2008–13 ([1])
(number of passenger cars per 1 000 inhabitants in 2013, % overall change in motorisation rate from 2008–13)
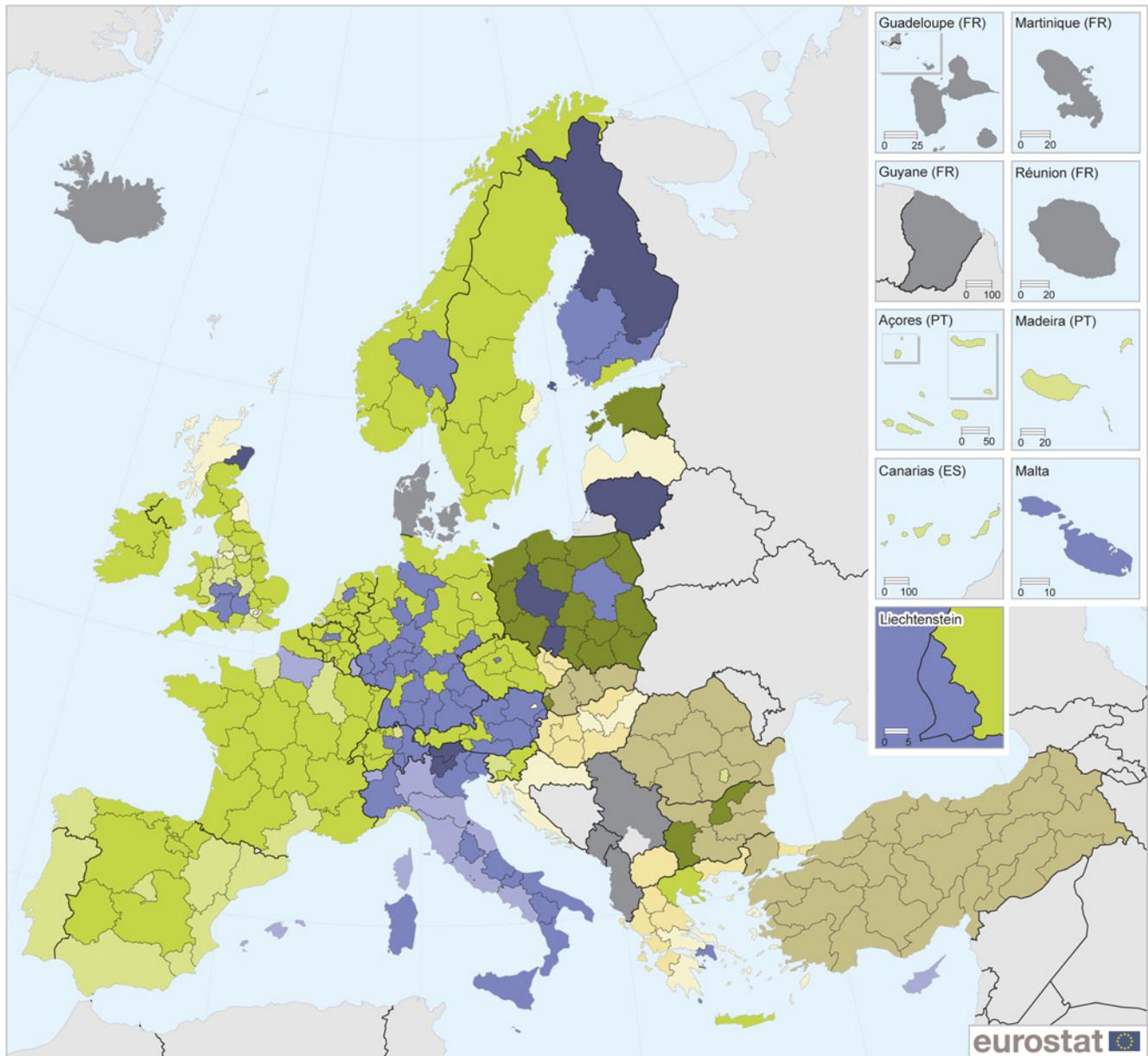
EU = 486

Overall change in motorisation rate, 2008–13 (%)

< 0.0	0.0 – < 15.0	>= 15.0

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

Motorisation rate, 2013 (passenger cars per 1 000 inhabitants)

- < 400
- 400 – < 550
- >= 550
- Data not available

0   200   400   600   800 km

Figure 11.1: Transport equipment rates, by NUTS level 2 region, 2013 ([1])
(number of vehicles per 1 000 inhabitants)

Passenger cars

Region	
Valle d'Aosta / Vallée d'Aoste (ITC2)	
Flevoland (NL23)	
Åland (FI20)	
Provincia Autonoma di Trento (ITH2)	
Attiki (EL30)	
Umbria (ITI2)	
Provincia Autonoma di Bolzano / Bozen (ITH1)	
Luxembourg (LU00)	
Molise (ITF2)	
Marche (ITI3)	
Piemonte (ITC1)	
Lazio (ITI4)	
Abruzzo (ITF1)	
Burgenland (AT11)	
Toscana (ITI1)	
Friuli-Venezia Giulia (ITH4)	
Niederösterreich (AT12)	
Berkshire, Buckinghamshire and Oxfordshire (UKJ1)	
Basilicata (ITF5)	
Sicilia (ITG1)	

Motor coaches, buses and trolley buses

| Region	
Ionia Nisia (EL22)	
Malta (MT00)	
Kýpros (CY00)	
Lietuva (LT00)	
Highlands and Islands (UKM6)	
North Eastern Scotland (UKM5)	
Cumbria (UKD1)	
Bucureşti - Ilfov (RO32)	
Eesti (EE00)	
Yugoiztochen (BG34)	
Yugozapaden (BG41)	
Gloucestershire, Wiltshire and Bristol / Bath area (UKK1)	
Luxembourg (LU00)	
West Wales and The Valleys (UKL1)	
Dytiki Makedonia (EL13)	
Devon (UKK4)	
Basilicata (ITF5)	
Małopolskie (PL21)	
Attiki (EL30)	
Merseyside (UKD7)	

([1]) Portugal: only available at national level. Greece, Luxembourg and Portugal: 2012. Sweden: 2011. Denmark, Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): not available.
Source: Eurostat (online data codes: tran_r_vehst and demo_r_pjanaggr3)

rose by at least 15 %, two from northern Italy (see above), the Finnish regions of Pohjois- ja Itä-Suomi and Åland, and North Eastern Scotland (in the United Kingdom).

Equipment rates for public transport passenger vehicles

There are a range of barriers to the improvement and development of public transportation systems in remote and rural areas, as these regions are characterised by dwellings being distributed over large areas, with a low density of potential passengers and a level of demand that is often unpredictable. This may result in limited services, as the provision of frequent and widespread commercial services may be financially unviable. As a result, some governments and regional / local authorities choose to subsidise public

transport services in remote and rural areas, or alternatively to bundle minimal service provisions on such routes with the operation of more lucrative services. In particularly remote and rural areas, the provision of public transport services is considered to be of even greater importance to disadvantaged groups (such as the young, the elderly, those at risk of poverty, or the disabled), as a well-organised public transport can stimulate economic growth and social inclusion through improving accessibility and mobility.

To some extent the information that is shown in **Map 11.2** for public transport passenger vehicles (motor coaches, buses and trolleybuses) mirrors that shown in **Map 11.1** for passenger cars; in those regions where car ownership is relatively low there is likely to be a higher demand for public transport as a means of ensuring mobility. However, it should

be noted that the statistics presented only concern public transport services on roads and are therefore influenced, to some degree, by the availability of alternative means of public transport, principally the provision of rail, metro and ferry services, the supply of which is often widespread in many of the EU's capital cities.

The equipment rate for public transport vehicles is calculated in the same manner as for passenger cars, based on the stock of vehicles as of 31 December and population figures as of 1 January of the following year. The second part of **Figure 11.1** shows equipment rates for public transport passenger vehicles. There are three regions which appear in both graphs: the Greek capital of Attiki, Luxembourg (a single region at this level of analysis) and the southern Italian region of Basilicata. Among the top 20 regions there were seven regions from the United Kingdom: these were principally rural regions ,such as the Highlands and Islands (of Scotland), North Eastern Scotland or Cumbria — all of which recorded equipment rates of at least 4 vehicles per 1 000 inhabitants — but also included one metropolitan area, Merseyside.

Public service provisions in remote and rural regions

At the start of 2013, there was an average of 1.7 public transport passenger vehicles on the roads of the EU for each 1 000 inhabitants. **Map 11.2** presents the equipment rate for public transport passenger vehicles by NUTS level 2 region. The lowest equipment rates were found across much of Germany, Austria and the Netherlands, as well as being sporadically distributed across selected regions in Belgium, Spain and Slovenia. By contrast, the highest equipment rates were concentrated in most regions in the Nordic and Baltic Member States, many of the more peripheral regions of the United Kingdom, as well as more generally across many of the eastern regions of the EU; while, there was a particularly high number of public road transport vehicles per inhabitant in Turkey.

The darkest shade in **Map 11.2** shows those regions where the equipment rate for public transport vehicles was at least 6 per 1 000 inhabitants, these were exclusively found in Turkey. Some 14 % of the NUTS level 2 regions in the EU reported a public transport passenger equipment rate of 3.0–4.7 vehicles per 1 000 inhabitants. The highest equipment rates were recorded in the Greek region of Ionia Nisia, Cyprus and Malta; note the latter two are both single regions at this level of analysis and that there are no rail services on either of these two Mediterranean islands. These relatively high rates may reflect demand from the tourism sector, insofar as a high number of motor coaches are used for airport transfers, day trips and excursions on these holiday islands.

By contrast, 17.5 % of the NUTS level 2 regions for which data are available had less than a single public transport vehicle per 1 000 inhabitants at the start of 2013 (as shown by the lightest shade in **Map 11.2**). All but one of these regions — Vzhodna Slovenija (eastern Slovenia) being the exception — were located within the those EU Member States that were members prior to 2004.

Motorway network

The 2011 White paper on transport defined some of the challenges facing the road transport sector. It highlighted a range of goals for European policy, including: increasing mobility on an ever-congested road network; reducing road fatalities, lowering carbon and other emissions to lessen the impact of climate change; and decreasing fossil fuel consumption.

The density of the motorways measures the length of the motorway network and compares this with the area of each region. This reflects a number of factors, including population density and transport demand (which is especially high in urban, industrial and other densely populated areas, as well as on the major transport axes across the EU). An estimate for the EU (based on the latest available data and excluding Denmark, Greece and Malta) indicates that there were almost 17 km of motorway per 1 000 km² of area.

Map 11.3 reveals the density of the motorway network across NUTS level 2 regions with the highest concentrations — at least 50 km of motorway per 1 000 km² — shown by the darkest shade. Many of these regions were characterised as large metropolitan areas and they were principally located in Belgium, Germany (note that data are presented for NUTS level 1 regions), Spain, Luxembourg (a single region at this level of analysis), the Netherlands and the United Kingdom (data are for 2012), but also included the capital regions of Île de France, Wien and Bratislavský kraj, as well as the Nord - Pas-de-Calais (also in France) and Liguria in north-western Italy. The highest density was recorded in the small German region of Bremen, with 179 km of motorway per 1 000 km², which was considerably higher than the second highest ratio, as recorded in the Dutch region of Zuid-Holland (129 km of motorway per 1 000 km² of area).

Motorways did not exist in 26 regions across the EU

While the motorway networks of the westernmost regions of the EU in mainland Portugal and Spain were relatively dense, the peripheral northern and eastern regions of the EU had much lower motorway densities. There were 26 NUTS level 2 regions (subject to data availability) with no motorway network in 2013; these, as shown by the lightest shade in **Map 11.3**, were distributed across 10 different EU Member States. Many of these regions were islands or remote regions, for example, the four overseas French regions and Corse, the two Portuguese autonomous islands, the two Spanish autonomous cities, the Finnish Åland islands, the two most northerly regions of Sweden and three relatively remote regions in the United Kingdom (although there was also no network in Lincolnshire or in Inner London). The Baltic Member State of Latvia, as well as four regions from Poland, and two regions from each of Bulgaria and Romania also reported no motorway network; several of these regions bordered onto non-member neighbouring countries to the east of the EU.

Map 11.2: Equipment rate for public transport vehicles (motor coaches, buses and trolleybuses), by NUTS level 2 region, 2013 (¹)
(number of public transport vehicles per 1 000 inhabitants)
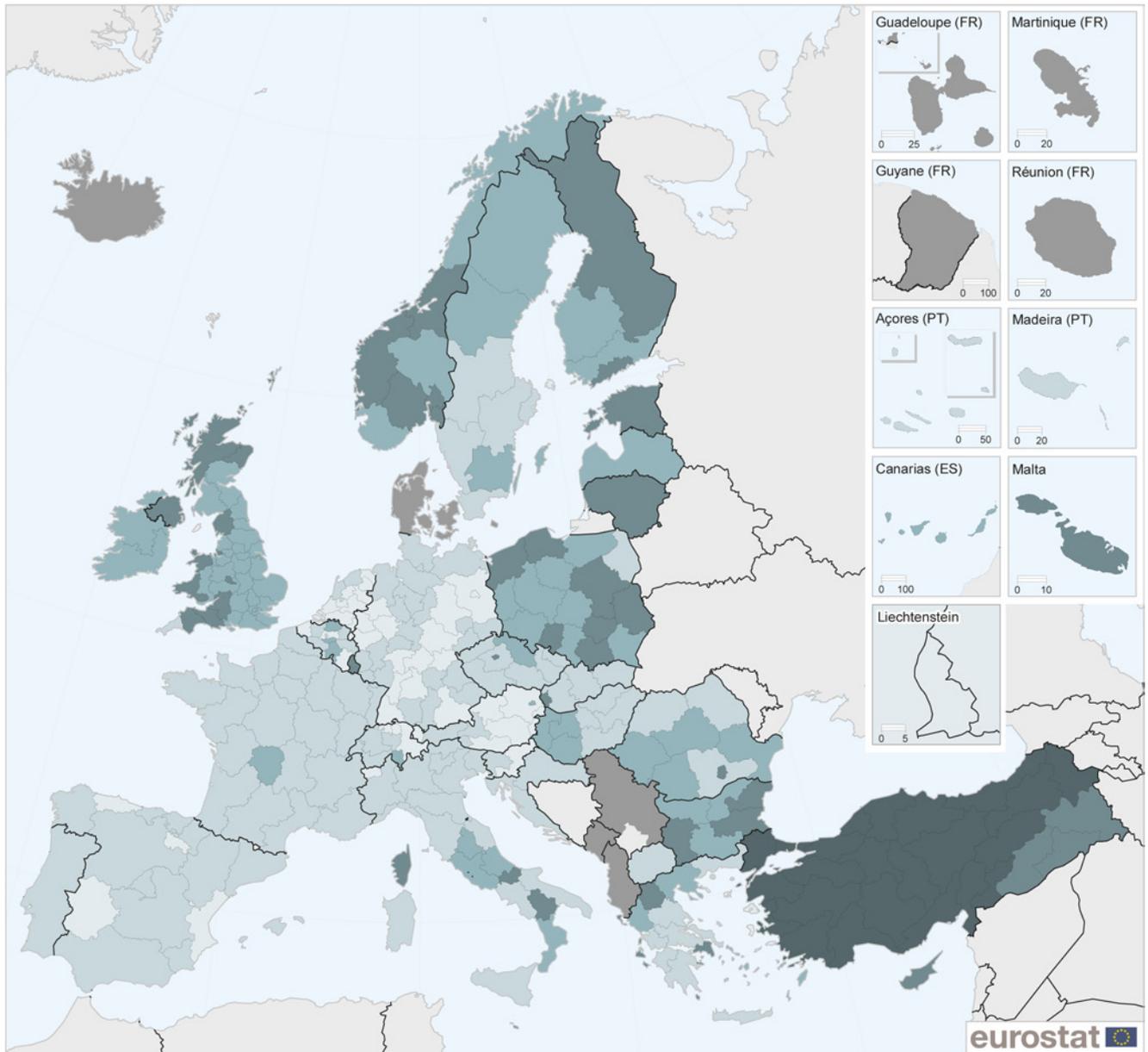
(number of public transport vehicles per 1 000 inhabitants)

EU = 1.7

- < 1
- 1 – < 2
- 2 – < 3
- 3 – < 6
- >= 6
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
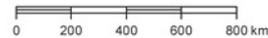
(¹) EU: estimate based on latest available data (excluding Denmark). Portugal: only available at national level. Luxembourg and the former Yugoslav Republic of Macedonia: 2012. Sweden: 2011. Greece: provisional.
Source: Eurostat (online data codes: tran_r_vehst and demo_r_pjanaggr3)

Map 11.3: Density of motorways, by NUTS level 2 region, 2013 (¹)
(km per 1 000 km² of total area)

(km per 1 000 km² of total area)

EU = 16.6

- < 1
- 1 – < 10
- 10 – < 30
- 30 – < 50
- >= 50
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0 200 400 600 800 km
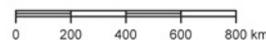
(¹) EU: estimate based on latest available data (excluding Denmark, Greece and Malta). Germany: only available for NUTS level 1 regions. Portugal: only available at national level. Italy, Luxembourg, the United Kingdom, Norway and the former Yugoslav Republic of Macedonia: 2012. Slovenia: 2011.
Source: Eurostat (online data code: tran_r_net, road_if_motorwa and demo_r_d3area)

Air and maritime transport

The rapid growth of air transport has been one of the most significant developments in transport services in recent years, both in the EU and around the rest of the world. There were three successive packages of liberalisation measures adopted at EU level covering air carrier licensing, market access and fares, designed to open-up the air transport market. Their effects have been most apparent in the growth of low-cost airlines and the expansion of several smaller regional airports which are generally less congested and charge lower landing fees than the main international airports.

Air transport — passengers

As air traffic continues to increase so do concerns about security. The EU has prioritised work on effective aviation safety standards and publishes a list of airlines banned from EU skies. In the light of the Germanwings disaster in March 2015, an additional concern has been added to the notion of security in the skies; the aviation industry is changing procedures and plans to take additional measures to prevent such occurrences in the future.

Almost 850 million air passengers in the EU

While many airports experienced a sharp decline in passenger and freight transport in 2009, reflecting the global financial and economic crisis, these reductions were relatively short-lived and by 2013 the number of air passengers carried (including passengers on domestic flights as well as international flights) in the EU-28 had reached 842.2 million passengers, some 5.8 % above its pre-crisis peak of 2008.

However, there was a mixed pattern to developments across the EU Member States, with the number of air passengers in the Czech Republic, Ireland, Slovenia and Slovakia falling by more than 10 % over the period 2008–13, while there was also a reduction in passenger numbers in Cyprus, Greece, Spain and the United Kingdom. By contrast, the number of air passengers rose by 20–30 % in Belgium, Poland, Romania, Luxembourg, Croatia, Malta and Latvia, peaking at 36.4 % in Lithuania.

Air passenger transport was concentrated in western regions of the EU

Map 11.4 shows the absolute number of air passengers and the average number of air passengers per inhabitant in 2013. The top-ranking regions in terms of the number of air passengers tended to be capital regions in western EU Member States; in other words, those regions in which the EU's largest airports were located. These relatively large airports often serve as hubs for intercontinental air traffic

and this is especially true for London-Heathrow, Paris-Charles de Gaulle, Frankfurt airport and Amsterdam-Schiphol.

The regional ranking of air passenger numbers in 2013 was headed by the French capital region of Île-de-France, with a total of 90.1 million passengers for Paris-Charles de Gaulle and Paris-Orly airports, followed by Outer London (London-Heathrow) with 72.3 million passengers, Darmstadt (Frankfurt airport) with 57.9 million passengers, Noord-Holland (Amsterdam-Schiphol) with 52.5 million passengers and Lazio (Fiumicino — Leonardo da Vinci airport and Ciampino — G.B. Pastine airport — both of which serve Rome) with 40.7 million passengers; none of the remaining regions recorded in excess of 40 million air passengers in 2013.

The 25 regions which reported at least 15 million air passengers in 2013 (as shown by the largest circles on **Map 11.4**) were located exclusively in Member States that were already part of the EU prior to 2004. Five of these regions were in Spain — reflecting both popular holiday destinations as well as a relatively developed national market for domestic air travel — while there were four regions from each of Germany and the United Kingdom, two regions from each of France and Italy, as well as single regions from each of Belgium, Denmark, Ireland, the Netherlands, Austria, Portugal, Finland and Sweden; principally covering capital regions, although Brussels airport is located in the Provincie Vlaams-Brabant and Vienna international airport is in the region of Niederösterreich.

Air passenger density and environmental pressures

The regions with the highest average number of air passengers per inhabitant were often characterised as being popular tourist destinations (principally in the southern parts of the EU) or alternatively regions which contained some of the main airport hubs within the EU. These regions face a range of environmental pressures associated with their relatively high number of flights and volume of air passengers.

There were 22 regions in the EU which recorded an average density of at least 8 air passengers per inhabitant in 2013 (as shown by the darkest shade in **Map 11.4**). This ratio peaked in the island destinations of Illes Balears (Spain) and Notio Aigaio (Greece), with 27.3 and 23.1 air passengers per inhabitant. The third and fourth highest average numbers of air passengers per inhabitant were recorded in Noord-Holland and Provincie Vlaams-Brabant (19.2 and 17.1 air passengers per inhabitant); these two regions host the principal airports of the Netherlands and Belgium, countries with high population densities, therefore increasing the likelihood that their catchment areas contain a large number of inhabitants.

Map 11.4: Number of air passengers, by NUTS level 2 region, 2013 ([1])
(passengers per inhabitant and thousand passengers)

Guadeloupe (FR)   Martinique (FR)

0   25   0   20

Guyane (FR)   Réunion (FR)

0   100   0   20

Açores (PT)   Madeira (PT)

0   50   0   20

Canarias (ES)   Malta

0   100   0   10

Liechtenstein

0   5

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
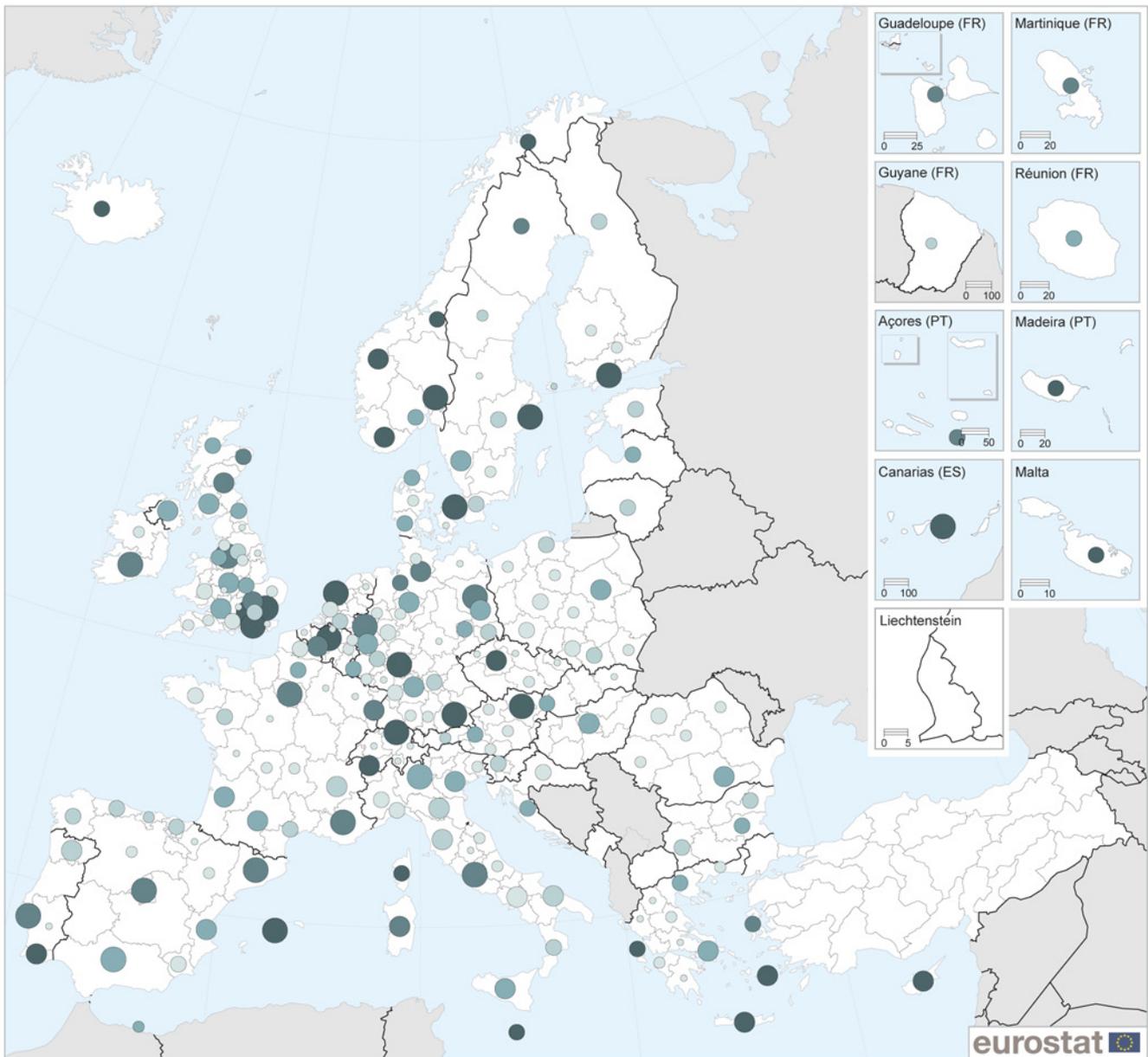
eurostat

EU-28 = 1.7

Average number of passengers
per inhabitant

	< 1
	1 – < 2
	2 – < 4
	4 – < 8
	>= 8

EU-28 = 842 220

Number of passengers (thousands)

○	< 250
○	250 – < 1 000
○	1 000 – < 5 000
○	5 000 – < 15 000
○	>=15 000

0   200   400   600   800 km
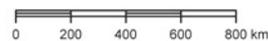
([1]) Greece: passengers per inhabitant estimated using population as of 1 January 2013.
Source: Eurostat (online data codes: tran_r_avpa_nm, avia_paoc and demo_r_pjanaggr3)

Those regions with high air passenger densities — an average of at least 8 air passengers per inhabitant — also included the island destinations of Ionia Nisia and Kriti (both Greece), the Canarias (Spain), Corse (France), the Região Autónoma da Madeira (Portugal), as well as Cyprus and Malta (both single regions at this level of analysis), where the considerable influx of tourists (often highly seasonal) is likely to put pressure on the environment; this was also the case in the Algarve (Portugal).

Air transport — freight

Air transport has a less pronounced role in freight (compared with passenger) transport, as it faces competition from other transport modes, especially for heavy, bulky goods of relatively low value. That said, air cargo services have expanded at a rapid pace in the EU and these are increasingly used for longer distances when transporting relatively light, high-value and / or perishable goods.

The volume of air freight and mail transported at an EU level reached a relative high of 14.1 million tonnes of goods loaded and unloaded in 2008. There was a 12.6 % reduction in air freight volumes in 2009 as the impact of the financial and economic crisis affected trade flows, although the volume of goods transported by air rebounded in 2010 recovering all of its losses from the crisis. Thereafter, the volume of air freight and mail transported in the EU fluctuated, with a total of 14.5 million tonnes in 2013.

Table 11.1 shows the top 20 regions in the EU with the highest amount of air freight and mail loaded and unloaded in 2013. Frankfurt airport in the German region of Darmstadt continued as the leading European airport for freight and mail transport in 2013, accounting for almost 16 % of the freight and mail transported by air in the EU-28. There were three other regions which recorded double-digit shares, the Dutch and French capital regions, as well as Outer London.

The next three regions were unusual insofar as they did not have particularly large flows of air passenger transport. Rather, each of these regions has developed as a logistics centre for freight transport with Leipzig / Halle airport a hub for DHL, Köln / Bonn airport a hub for FedEx and UPS, and Luxembourg-Findel airport the headquarters of Europe's largest all-cargo airline (Cargolux).

Table 11.1: Top 20 EU regions with the highest amount of air freight and mail loaded and unloaded, by NUTS level 2 region, 2013

	Volume of air freight and mailloaded and unloaded (thousand tonnes)	Volume of air freight and mailloaded and unloaded (tonnes per 1 000 inhabitants)	Volume of air freight and mailloaded and unloaded (tonnes per km²)
EU-28	13 384	26.4	3.0
Darmstadt (DE71)	2 095	548.1	281.4
Noord-Holland (NL32)	1 566	571.2	382.8
Île de France (FR10)	1 559	129.9	129.8
Outer London (UKI2)	1 514	295.8	1 195.1
Leipzig (DED5)	877	889.0	221.2
Köln (DEA2)	722	166.6	98.0
Luxembourg (LU00)	673	1 224.3	260.2
Lombardia (ITC4)	566	56.8	23.7
Prov. Liège (BE33)	534	486.1	138.3
Prov. Vlaams-Brabant (BE24)	379	341.7	180.0
Comunidad de Madrid (ES30)	367	57.5	45.7
Leicestershire, Rutland and Northamptonshire (UKF2)	297	170.2	60.4
Oberbayern (DE21)	288	64.4	16.4
Essex (UKH3)	236	134.2	59.8
Niederösterreich (AT12)	190	116.8	9.9
Helsinki-Uusimaa (FI1B)	187	117.9	19.5
Lazio (ITI4)	158	26.9	9.2
Hovedstaden (DK01)	137	78.3	53.7
Koblenz (DEB1)	133	90.2	16.5
Southern and Eastern (IE02)	127	37.7	3.5

Source: Eurostat (online data codes: tran_r_avgo_nm, avia_gooc, demo_r_pjanaggr3 and demo_r_d3area)

Maritime transport — passengers

Maritime transport facilitates trade between European nations and contributes towards the security of supply of energy, food and commodities from all over the world, while providing EU exporters with a means of reaching international markets; indeed, almost 90 % of the EU's international freight trade (in tonnage) is transported by sea.

The quality of life on many European islands and in peripheral maritime regions depends, to a large extent, upon the provision of maritime transport services (providing a means for passengers to come and go and for goods to be delivered).

SPOTLIGHT ON THE REGIONS:
ATTIKI, GREECE

There were almost 400 million maritime passengers in the EU-28 in 2013; as such, each member of the EU population took an average of 0.8 maritime journeys during the course of the year. The highest number of maritime passengers within the EU regions (among NUTS level 2 regions) was recorded in the Greek capital region of Attiki (24.4 million); Piraeus is a port near Athens and is often used as a starting point for visiting the Aegean islands, while there is a considerable volume of maritime traffic between the ports of Paloukia and Perama (which connect the island of Salamína to the mainland near Athens).

Photo: Mark52 / Shutterstock.com

### Almost 400 million maritime passengers in the EU

The total number of maritime passengers that embarked or disembarked in EU-28 ports in 2013 was almost 400 million, marking a modest increase of 0.5 % when compared with the year before, arresting a pattern of four consecutive annual reductions in the number of maritime passengers since a high of 438.9 million recorded prior to the financial and economic crisis in 2008.

Map 11.5 identifies the regions within the EU-28 with the highest number of maritime passengers (those regions with the largest circles in **Map 11.5**); there were 13 NUTS level 2 regions which had at least 10 million passengers in 2013. By far the highest number (24.4 million) passed through the Greek capital region of Attiki, which includes the port of Piraeus near Athens (often a starting point for visiting the Greek islands) as well as the ports of Paloukia and Perama which connect the island of Salamína to the mainland near Athens. The volume of passengers passing through Attiki was almost twice as high as in the region with the second highest number of maritime passengers, namely the Croatian region of Jadranska Hrvatska which had 13.2 million maritime passengers in 2013; the main ports in this coastal Croatian region include Dubrovnik, Split and Zadar, which act in a similar fashion to Piraeus, as hubs for reaching the Croatian islands. The only other regions in the Mediterranean with in excess of 10 million maritime passengers in 2013 were the Italian regions of Campania (which includes Napoli, a popular cruise destination and also a gateway for ferry services to several Italian islands) and the island region of Sicilia.

Aside from the Mediterranean, there were two other areas that accounted for a high share of passenger traffic. These included the port regions of Kent (the United Kingdom) and the Nord - Pas-de-Calais (France) on either side of the English channel which both maintained almost 13 million passengers. The remaining regions were, to some extent, all interconnected as there was a considerable flow of maritime passenger transport between the Nordic and Baltic Member States in the Baltic Sea and neighbouring areas (such as the Gulfs of Finland and Bothnia). In particular, there were large passenger flows in the ports located within the capital regions of Denmark, Finland and Sweden, Estonia (a single region at this level of analysis), the Danish region of Sjælland and the southern Swedish region of Sydsverige (which includes the ports of Malmö and Helsingborg); this was also true to some degree for the one German region that had in excess of 10 million passengers, Schleswig-Holstein.

Map 11.5: Number of maritime passengers, by NUTS level 2 coastal regions, 2013
(passengers per inhabitant and thousand passengers)
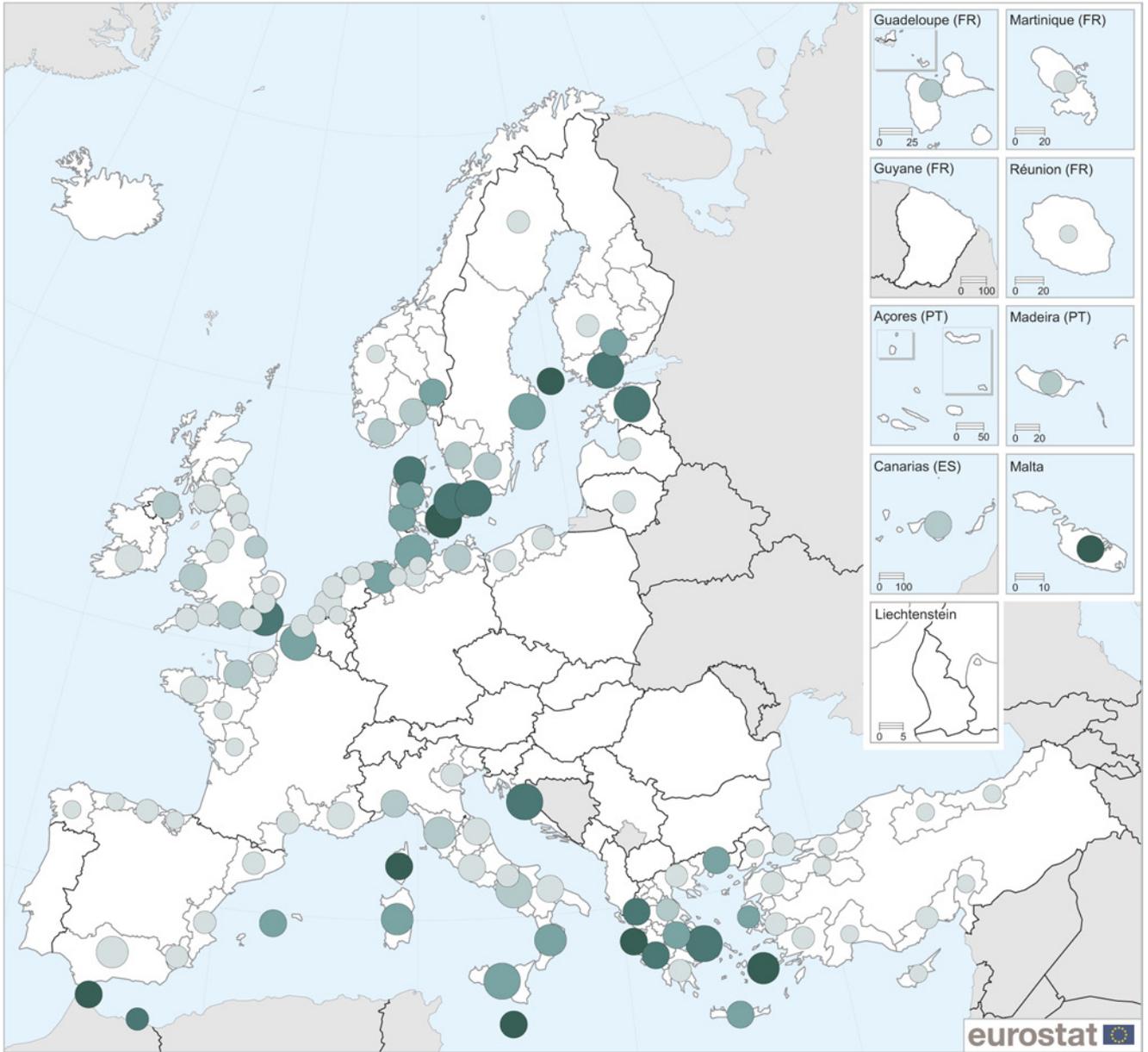
EU-28 = 0.8
Average number of passengers per inhabitant

- < 1
- 1 – < 2
- 2 – < 5
- 5 – < 10
- >= 10

EU-28 = 399 988
Number of passengers (thousands)

- < 100
- 100 – < 1 000
- 1 000 – < 5 000
- 5 000 – < 10 000
- >= 10 000

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Greece: passengers per inhabitant estimated using population as of 1 January 2013.
Source: Eurostat (online data codes: tran_r_avpa_nm, mar_pa_aa and demo_r_pjanaggr3)

Åland islands had by far the highest ratio of maritime passengers per inhabitant

The average number of maritime passengers per inhabitant provides an indication of the opportunities and pressures faced in EU regions which have a high dependence on maritime services. Many of the regions with the highest absolute number of maritime passenger transport also recorded some of the highest densities of maritime passenger numbers in relation to inhabitants; this may reflect relatively short maritime journeys (such as the 15 minute crossing between Paloukia and Perama) or alternatively maritime journeys where there is little or no competition from other modes of transport, for example between many of the Croatian islands. Otherwise, maritime services may appeal to travellers as they often allow a car to be taken on-board, thereby allowing travellers to make use of their own vehicle to and from the coast and thereafter.

The region with by far the highest number of maritime passengers per inhabitant was Åland (Finland), an archipelago situated between Finland and Sweden; it had an average of almost 137 passengers per inhabitant in 2013. A number of other island regions also recorded relatively high numbers of maritime passengers per inhabitant, for example, the Greek island regions of Notio Aigaio and Ionia Nisia, the French island of Corse, and Malta, reflecting not just tourist arrivals and departures by sea but also transport within the Maltese islands, principally between Malta and Gozo.

Maritime transport — freight

As noted above, just less than 90 % of the EU's international freight trade is transported by sea. In 2013, the volume of EU-28 international maritime freight was 3.7 billion tonnes, equivalent to an average of 7.3 tonnes per inhabitant.

Map 11.6 shows the largest ports in the EU (the biggest circles on the map are ports with at least 50 million tonnes of goods loaded and unloaded). Contrary to the patterns observed for passenger transport, the main area of activity for maritime freight transport was concentrated in the North Sea.

The Dutch region of Zuid-Holland recorded by far the highest volume of maritime freight in 2013 with 414 million tonnes (approximately 11 % of the EU total). Its main port is that of Rotterdam, the largest freight port in the EU, which benefits from an extensive transport distribution system via road, rail or inland waterway to many European markets. The second largest freight port was Hamburg in Germany (121 million tonnes), while Andalucía in southern Spain (which includes the ports of Malaga and Cádiz) had the third highest volume of goods transported by sea (115 million tonnes); no other region recorded in excess of 100 million tonnes of maritime freight. The next three regions in the ranking by volume of goods transported were Noord-Holland (which includes the port of Amsterdam), Haute-Normandie (which includes the ports of Le Havre and Dieppe) and East Yorkshire and Northern Lincolnshire (which includes the ports of Immingham and Hull).

Map 11.6: Maritime freight, by NUTS level 2 coastal regions, 2013
(tonnes per inhabitant and thousand tonnes)
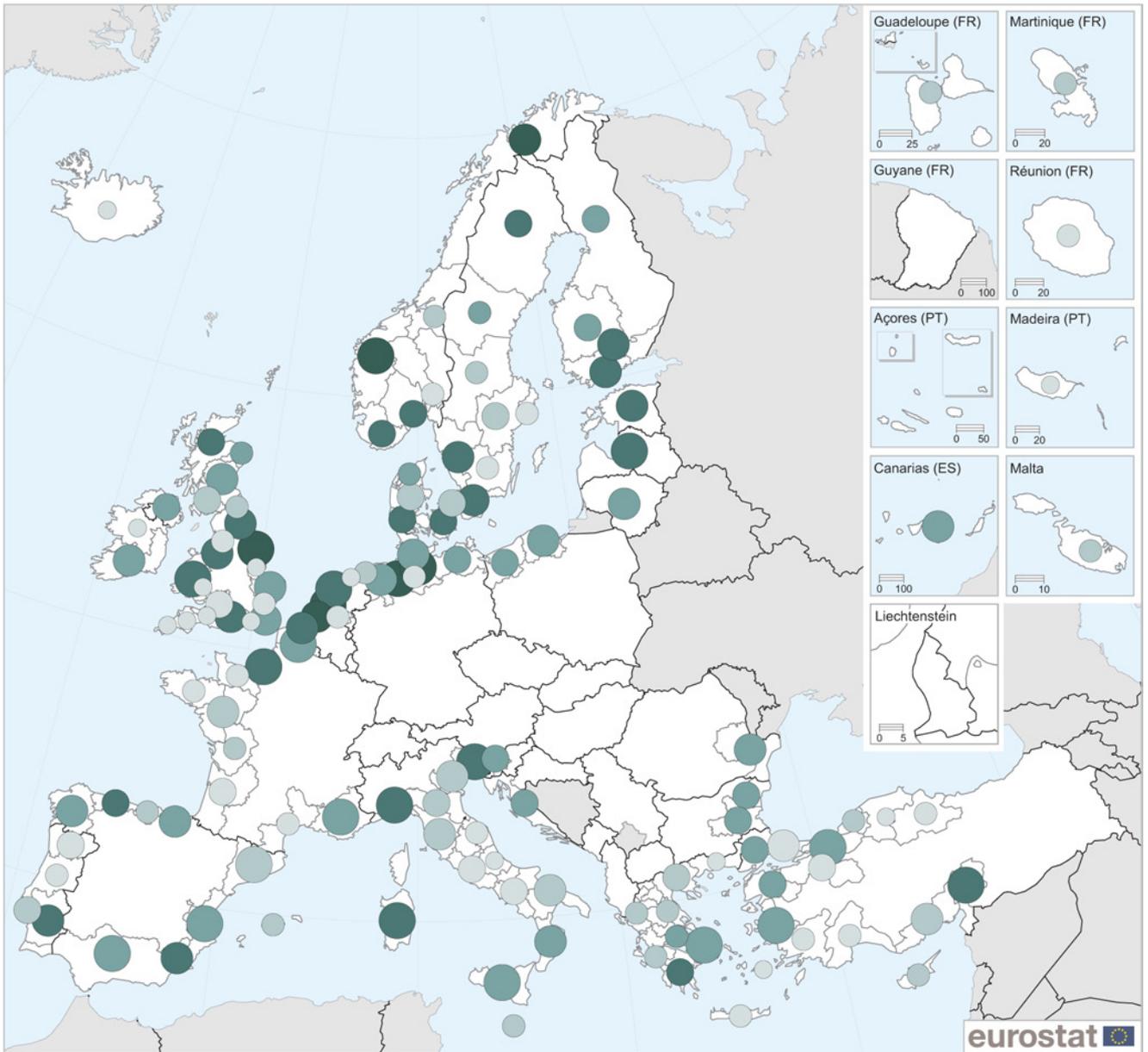
EU-28 = 7.3

Average freight per inhabitant (tonnes)

- [ ] < 5
- [ ] 5 – < 10
- [ ] 10 – < 20
- [ ] 20 – < 50
- [ ] >= 50

EU-28 = 3 718

Volume of freight (thousand tonnes)

- ○ < 2 500
- ○ 2 500 – < 10 000
- ○ 10 000 – < 25 000
- ○ 25 000 – < 50 000
- ○ >= 50 000

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
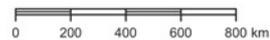
(¹) Greece: tonnes per inhabitant estimated using population as of 1 January 2013.
Source: Eurostat (online data codes: tran_r_mago_nm, mar_go_aa and demo_r_pjanaggr3)

Data sources and availability

Legal basis

Regional data on road infrastructure and vehicle stocks are currently collected by EU Member States, EFTA and candidate countries on a voluntary basis. Due to the nature of transport, a spatial reference is built into most legal acts dealing with transport statistics and this is the case for statistics on air and maritime transport (see below).

Air statistics

Regional air transport statistics show passenger and freight movements by NUTS level 2 region, measured in relation to the number of passengers and the quantity of freight in tonnes. Passenger data are divided into passengers embarking, disembarking and in transit. The data are collected according to Regulation (EC) No 437/2003 on statistical returns in respect of the carriage of passengers, freight and mail by air and its implementing legislation that is currently in force, such as European Commission Regulation (EC) No 158/2007 as regards a list of Community airports; these data are aggregated to NUTS level 2 regions. Regional air transport statistics cover main airports, in other words those registering more than 150 000 passenger units (per year) where a passenger unit is either a passenger or 100 kg of freight and mail.

Maritime statistics

The collection of maritime transport statistics is based on Directive 2009/42/EC on statistical returns in respect of carriage of goods and passengers by sea, an amending Regulation ((EU) No 1090/2010) and a Commission Delegated Decision (2012/186).

Note that these statistics are only collected for a list of the most important sea ports in the EU and then aggregated to NUTS level 2 regions, excluding double counting. A main port is considered as one which has annual movements of no less than 200 000 passengers or records more than one million tonnes of cargo; as such, the statistics shown in **Maps 11.5** and **11.6** may, to some degree, underestimate the regional values of maritime passenger and freight transport.

Indicator definitions

Road transport

Passenger cars are road motor vehicles, other than mopeds or motorcycles, intended for the carriage of passengers and designed to seat no more than nine persons (including the driver). Included are: passenger cars, vans designed and used primarily for the transportation of passengers, taxis, hire cars, ambulances and motor homes. Excluded are light goods road vehicles, as well as minibuses, mini-coaches, buses, motor coaches and trolleybuses.

The term public transport vehicle is used to cover minibuses, mini-coaches, buses, motor coaches and trolleybuses used to convey passengers by road. A minibus / mini-coach is a road motor vehicle designed to carry 10–23 passengers (including the driver); it may carry seated passengers or both seated and standing passengers. A bus is a road motor vehicle designed to carry more than 24 passengers (including the driver); it may be constructed with areas for standing passengers, to allow frequent passenger movement, or designed to allow the carriage of standing passengers in the gangway. A motor coach is a road motor vehicle designed to seat 24 or more passengers (including the driver) and constructed exclusively for the carriage of seated passengers. A trolleybus is a road vehicle designed to seat more than nine passengers (including the driver), which is connected to electric conductors and which is not rail-borne; this term covers vehicles which may be used either as trolleybuses or as buses, if they have a motor independent of the main electric power supply.

A motorway is a road that is designed and built for motor vehicle traffic, which does not directly provide access to the properties bordering on it. Other characteristics of motorways include:

- two separate carriageways for the opposing directions of traffic;
- carriageways that are not crossed at the level of the carriageway by any other road, railway or tramway track, or footpath; and
- the use of special signposting to indicate the road as a motorway and to exclude specific categories of road vehicles and / or road users.

In determining the length and extent of the motorway network, its entry and exit lanes are included irrespective of the location of the motorway signposts; urban motorways are also included.

Air

An airport is a defined area of land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft. Statistics on air freight refer to all freight and mail loaded onto or unloaded from an aircraft; this excludes direct transit freight and mail.

Maritime

A port is a place with facilities for merchant ships to moor and to load or unload cargo or to disembark or embark passengers (usually directly to a pier). For statistical purposes, a port consists of one or more ports, normally controlled by a single port authority, able to record ship and cargo movements.

Agriculture

12

Introduction

Although the economic significance of agriculture within the European Union (EU) economy has been in almost perpetual decline over the last 50 years, it remains a vital sector. Agricultural products form a major part of Europe's regional and cultural identity. This is, at least in part, due to a diverse range of natural environments, climates and farming practices that feed through into a wide array of agricultural products: food and drink for human consumption; animal feed; and inputs used in a variety of non-food manufacturing processes. The links between the richness of the natural environment and farming practices are complex. Many valuable habitats in Europe are maintained by extensive farming, and a wide range of wild species rely on this for their survival. By contrast, inappropriate agricultural practices and land use can also have an adverse impact on natural resources, for example, soil, water and air pollution, the fragmentation of natural habitats and the loss of wildlife. The sustainable development of rural areas is one of the key objectives of the EU's common agricultural policy (CAP).

Common agricultural policy (CAP)

Launched in 1962, the CAP sets conditions for farmers to fulfil multiple functions, including their principal aim of producing high-quality, safe food. Significant reforms of the CAP have taken place in recent years, most notably in 2003, 2008 and 2013. These have sought to make the EU's agricultural sector more market-oriented, ensure that safe and affordable food continues to be produced, while respecting environmental and sustainability concerns.

In December 2013, the latest reform of the CAP was formally adopted by the European Parliament and the Council. It is based on four new legislative instruments that aim to simplify the rules of the CAP and which cover:

- support for rural development, Regulation No 1305/2013;
- financing, management and monitoring of the CAP, Regulation No 1306/2013;
- direct payments, Regulation No 1307/2013;
- measures linked to agricultural products, Regulation No 1308/2013.

The main elements of the CAP post-2013 concern: a fairer distribution of direct payments (with targeted support and convergence goals); strengthening the position of farmers within the food production chain (such as through: the promotion of professional and inter-professional organisations; changes to the organisation of the sugar and wine sectors; revisions to public intervention and private storage aid; and new crisis management tools); and continued support for rural development, safeguarding the environment and biodiversity.

The CAP is financed by two funds: on the one hand, the European Agricultural Guarantee Fund (EAGF) finances direct payments to farmers, as well as measures to respond to market disturbances; on the other, the European Agricultural Fund for Rural Development (EAFRD) finances the rural development programme (see below for more details).

Almost one third (30 %) of direct payments in the post-2013 CAP are linked to sustainable and environmentally-friendly practices, such as crop diversification, the maintenance of permanent grassland, or the protection of ecological areas on farms; there is also specific aid for organic farming. Furthermore, the CAP helps farmers by aiming to stimulate employment, entrepreneurship and the diversification of farms beyond food production. Specific schemes are in place, for example, providing support to young farmers during their first five years in the sector.

Europe 2020

All of the above changes are designed to ensure that the CAP is more effective in delivering a competitive and sustainable agriculture sector, responding to the challenges of food safety, climate change, growth and jobs in rural areas. These reforms are made in relation to the goals of the Europe 2020 strategy, while taking account of the wealth and diversity of the agricultural sector across EU regions.

The Europe 2020 strategy has introduced seven flagship initiatives to boost growth and jobs. One of these initiatives is the innovation union, which includes a set of European innovation partnerships (EIPs). The agricultural EIP (EIP-AGRI) was launched in February 2012 by a European Commission communication titled European innovation partnership on agricultural sustainability and productivity (COM(2012) 79 final). The main aim of the agricultural EIP is 'to foster competitive and sustainable farming and forestry that achieves more and better from less' ensuring a steady supply of food, feed and biomaterials, as well as sustainable management of essential natural resources on which farming and forestry depend. It aims to do so by speeding-up the transfer of R & D from the laboratory and by focusing on partnerships which link farmers, researchers, advisors, businesses, non-governmental organisations and other interested groups.

Rural development

As noted above, Regulation No 1305/2013 provides for the reform of rural development policy post-2013; it is the latest in a series of policy developments aimed at developing Europe's rural areas. Three long-term strategic objectives

have been identified in relation to EU rural development policy during the period 2014–20, in line with Europe 2020 and CAP objectives: improving the competitiveness of agriculture; safeguarding the sustainable management of natural resources and climate action; and ensuring that the territorial development of rural areas is balanced. The European Agricultural Fund for Rural Development (EAFRD) is designed to help: foster the competitiveness of agriculture and ensure the sustainable management of natural resources; support action related to the climate; and achieve a balanced territorial development of rural economies and communities, including the creation and maintenance of employment. The policy will be implemented through national and / or regional rural development programmes (RDPs), which should be constructed so as to: strengthen

the content of rural development measures; simplify rules and / or reduce related administrative burdens; and link rural development policy more closely to other funds.

Aside from the EAFRD, several other EU funds provide support for rural areas, namely: the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund. All of these European structural and investments funds (ESIF) are coordinated with a set of common provisions that include the requirement to establish clear links to the Europe 2020 strategy, concentrating support on achieving the Europe 2020 headline targets. ESIF funding for rural development amounts to almost EUR 96 billion for the programming period of 2014–20.

Main statistical findings

Soil is the top layer of the earth's crust, formed by mineral particles, organic matter, water, air and living organisms. It performs a variety of functions: healthy soil is the basis for high-quality food production; soil supports biodiversity; soil can help to combat climate change as it plays a key role in the carbon cycle; soil can store and filter water. Soil formation is a very slow process, soil can be considered essentially as a non-renewable resource.

Soil degradation is a reduction in the capacity of soil: it manifests itself in a variety of forms, including: erosion, loss of organic matter, compaction, salinisation or contamination and has a negative impact on human health, natural ecosystems and climate, as well as the economy.

Survey on agricultural production methods

Given that 2015 has been declared international year of soils, this chapter begins by detailing regional developments based on the survey on agricultural production methods (SAPM), a one-off survey used to collect farm level data on, among others, tillage, crop rotation and manure management practices. All of these are closely linked to agri-environmental issues, such as pesticide and nutrient run-off, soil erosion, or greenhouse gas and ammonia emissions.

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i INTERNATIONAL YEAR OF SOILS — 2015

The 68th United Nations (UN) general assembly declared 2015 the international year of soils. The Food and Agriculture Organisation (FAO) was nominated to implement the international year, with the goal of increasing awareness and understanding of the importance of soil, through:

- raising awareness among civil society and decision makers about the importance of soil for human life;
- educating the public about the role soil plays in food security, climate change adaptation and mitigation, essential ecosystem services, poverty alleviation and sustainable development;
- supporting effective policies and actions for the sustainable management and protection of soil resources;
- promoting investment in sustainable soil management activities to develop and maintain healthy soils for different land users and population groups;
- strengthening initiatives in connection with the sustainable development goals process and the post-2015 agenda;
- advocating the collection of more information to monitor soils at all levels (global, regional and national).

Conservation tillage

Tillage practices refer to mechanically preparing soils so that they are ready for planting crops; these operations are principally carried out between the harvest and the following sowing / cultivation operation. Using less intrusive tillage and maintaining a soil cover during winter are two important practices that help reduce soil degradation and prevent nutrient and pesticide runoff.

Information about tillage practices helps assess soil cover, risks of nitrate leaching, and the organic matter of soils. Any disturbance of soils may enhance turnover of nutrients and thereby increase the potential risk of loss of nitrogenous compounds and phosphorus. This is especially the case when tillage practices are employed in the autumn and if the land is then subsequently left during the winter months.

Different tillage practices were distinguished in the SAPM: conventional tillage, conservation tillage, and zero tillage (in other words, no tillage). Conventional tillage concerns arable land where the soil has been inverted, normally using a mouldboard or a disc plough as the primary tillage operation, followed by secondary tillage with a disc harrow. By contrast, conservation tillage refers to arable land being treated by a tillage practice that leaves at least 30 % of plant residue on the soil's surface for erosion control and moisture conservation, normally by not inverting the soil.

In 2010, conservation tillage was applied to 18.5 % of the arable land in the EU-28; almost two thirds of the EU regions shown in **Map 12.1** reported a share that was below this average. The highest use of conservation tillage (as denoted by the darkest shade in **Map 12.1**) was reported in a band of regions running from north-east France, through Germany, into the Czech Republic and eastern Austria; the use of conservation tillage was also high across every region in Bulgaria and many regions of England, as well as in Cyprus (a single region at this level of analysis), two Greek regions, and a single region from each of Spain and Belgium.

Conservation tillage was applied to more than half of the arable land in every region of Bulgaria, and this pattern was repeated in the German regions of Sachsen, Sachsen-Anhalt, Mecklenburg-Vorpommern and Thüringen (note these are NUTS level 1 regions), as well as in Hampshire and the Isle of Wight (the United Kingdom). The highest proportion (66 %) of conservational tillage was applied on the arable land of Cyprus.

Crop rotation on arable land

Arable land is land worked (ploughed or tilled) regularly, generally under a system of crop rotation. Crop rotation is the practice of alternating annual crops grown on a specific field in a planned pattern or sequence in successive crop years so that crops of the same species are not grown without interruption on the same field. Crop rotation may be used to produce higher yields by replenishing soil nutrients, increasing organic matter and nutrient retention, and breaking disease and pest cycles. Arable land in the SAPM was considered to be out of crop rotation when it was cultivated with the same crop for three or more consecutive years and when it was not part of a planned crop rotation exercise.

Map 12.2 shows, for NUTS level 2 regions, the proportion of arable land that was remained under crop rotation for all three years prior to the SAPM; the EU-28 average was 69.8 % in 2010. Just under two thirds of the EU regions shown had a higher proportion of their arable land under continuous crop rotation, while approximately 10 % of them reported that at least 90 % of their arable land was continuously under crop rotation (as shown by the darkest shade in **Map 12.2**). Note that some of the highest proportions of arable land under crop rotation were often recorded in highly urbanised regions, especially capital regions, where the total area devoted to arable land was often extremely low.

By contrast, all five of the NUTS level 2 regions in Denmark reported that all of their arable land was at some stage in the three years prior to the survey out of crop rotation. The other regions where a relatively high proportion (more than 80 %) of arable land was out of crop rotation (during some stage in the previous three years) included all of the regions in Sweden, the Belgian regions of Provincie Antwerpen and Provincie Oost-Vlaanderen, the two Welsh regions in the United Kingdom, the Croatian region of Kontinentalna Hrvatska and the Austrian region of Vorarlberg.

Solid manure application with immediate incorporation

The utilised agricultural area (UAA) describes the area used for farming. It includes the following land categories: arable land; permanent grassland; permanent crops; other agricultural land such as kitchen gardens. The UAA does not include unused agricultural land, woodland and land occupied by buildings, farmyards, tracks or ponds.

Map 12.1: Arable land on which conservation tillage is applied, by NUTS level 2 region, 2010 ([1])
(%, based on hectares)
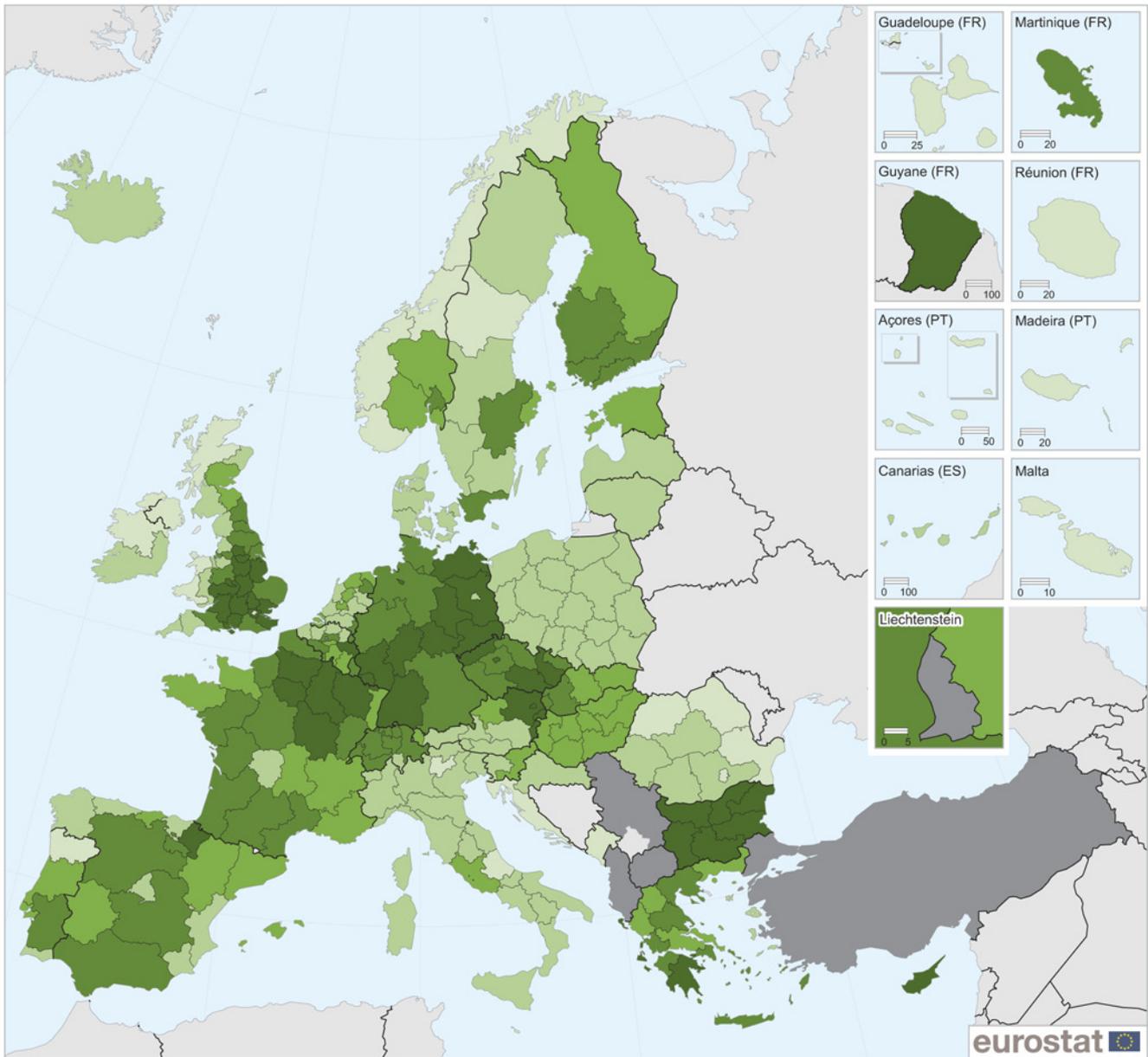
(%, based on hectares)

EU-28 = 18.5

- < 2
- 2 – < 8
- 8 – < 16
- 16 – < 32
- >= 32
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

0   200   400   600   800 km
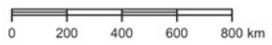
([1]) Germany: only available for NUTS level 1 regions.
Source: Eurostat (online data code: ef_pmtilaa)

Map 12.2: Arable land never out of crop rotation, by NUTS level 2 region, 2010
(%, based on hectares)
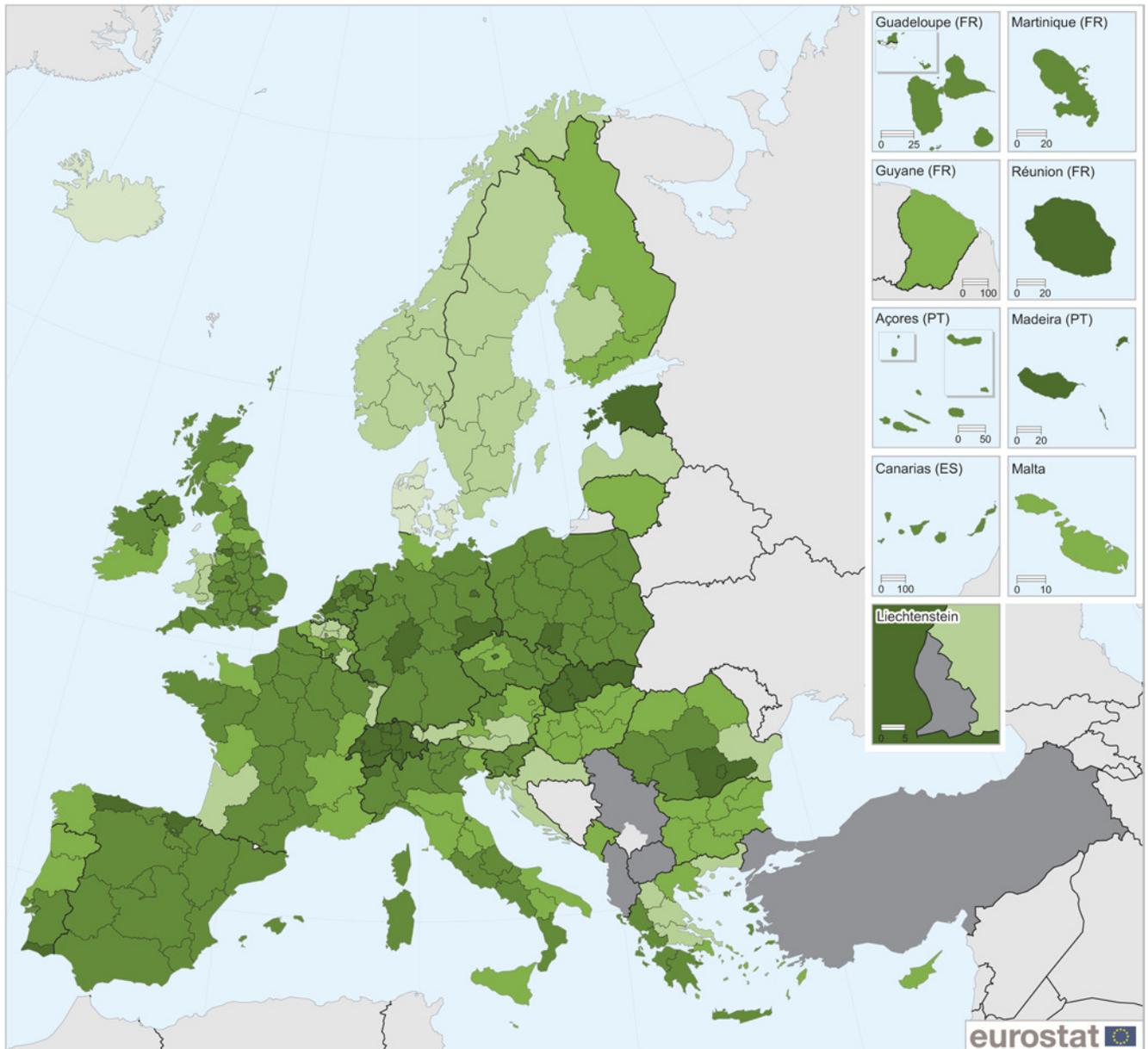
(%, based on hectares)

EU-28 = 69.8

- 0
- 1 – < 50
- 50 – < 70
- 70 – < 90
- >= 90
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

(¹) Germany: only available for NUTS level 1 regions.
Source: Eurostat (online data code: ef_pmsoilaa)

Immediate incorporation is when manure (solid dung or slurry) is directly incorporated by a manure-spreading machine or by a machine immediately following the spreading machine (chisel or disk ploughing); a four-hour threshold is set as a time limit for incorporation. Statistics on the application of solid manure can be used to analyse the environmental impact of manure application on soils; for example, the immediate incorporation of manure is an effective means of reducing ammonia emissions.

The SAPM collected data for the share of utilised agricultural area concerned by solid manure application with immediate incorporation; the areas on which solid manure was applied were counted only once, even if subject to several applications over the course of the year. Across the whole of the EU-28 in 2010 the following results were collected for the application of solid manure:

- on 75.3 % of the UAA there was either no solid manure application with immediate incorporation or no solid manure application at all;
- on 15.1% of the UAA, there was 0 % – < 25 % solid manure application with immediate incorporation;
- on 4.4 % of the UAA there was 25 % – < 50 % solid manure application with immediate incorporation;
- on 1.3 % of the UAA there was 50 % – < 75 % solid manure application with immediate incorporation;
- on 1.8 % of the UAA there was ≥ 75 % solid manure application with immediate incorporation.

Map 12.3 shows national results for 2010 with the size of each pie scaled to reflect the total utilised agricultural area. Each pie is then divided to show the relative shares of the different levels of solid manure application with immediate incorporation, with darker shades signifying increasing rates.

Among the EU Member States, the utilised agricultural area was highest in France (27.7 million hectares), Spain (23.8 million hectares), the United Kingdom (16.9 million hectares) and Germany (16.7 million hectares); Poland, Romania and Italy also recorded in excess of 10 million hectares.

The most striking aspect of **Map 12.3** is the high proportion of the utilised agricultural area which was not concerned by solid manure application with immediate incorporation. This was particularly true in Romania, where none of the agricultural area was concerned, while shares of less than 10 % were recorded in Ireland, Bulgaria, Italy, the United Kingdom and Finland; this was also the case in Iceland and Norway.

By contrast, 16.6% of the utilised agricultural area in Hungary was concerned by at least 75 % solid manure application with immediate incorporation. In Malta and Poland, some 12 % of the utilised agricultural area was concerned by at least 50 % solid manure application with immediate incorporation.

Loose places for animal housing of cattle

Statistics on animal housing distinguish different types of housing for cattle, pigs and laying hens. Loose housing systems cover those where animals are allowed to move freely and have free access over the whole area of the building or pen; such systems allow animals to enjoy more space and to exercise.

These statistics may be used to analyse the impact of animal housing systems on greenhouse gas emissions and, in particular, ammonia emissions, but also nitrous oxide and methane, which differ depending on the type of housing system and manure (solid dung, liquid manure or slurry). All three types of manure may be collected from both stanchion housing and loose animal housing; note that there is no difference in environmental impact between stanchion or loose animal housing, but the latter is considered more animal friendly.

Map 12.4 presents information on the proportion of loose places available for the housing of cattle across the NUTS level 2 regions. In 2010, loose places for housing cattle accounted for just over three fifths (62.2 %) of the total number of places in the EU-28. The darkest shade in **Map 12.4** shows those regions where the share of loose housing for cattle reached at least 90 %. Many of these regions were located in northern France, where a high number of regions are specialised in raising cattle and dairy farming. The other regions with at least 90 % shares included six regions from the United Kingdom (Bedfordshire and Hertfordshire; Lincolnshire; West Midlands; South Western Scotland; Eastern Scotland; and North Eastern Scotland), as well as Thüringen (Germany), Syddanmark (Denmark), Lombardia (Italy) and Malta (a single region at this level of analysis).

By contrast, loose places accounted for less than a quarter of the total places available for the housing of cattle (as denoted by the lightest shade in **Map 12.4**) in a band of regions running down the eastern edge of the EU, including: Latvia and Lithuania (both single regions at this level of analysis); all but one region in Poland (the exception being Lubuskie, which borders onto Germany); and all but the capital regions of Romania and Bulgaria. Southern regions of Spain were also characterised as having a low proportion of loose places available for the housing of cattle and this was also the case in the northern Spanish region of the Principado de Asturias.

Map 12.3: Utilised agricultural area (UAA) concerned by manure application with immediate incorporation, 2010
(% of utilised agricultural area with immediate incorporation)
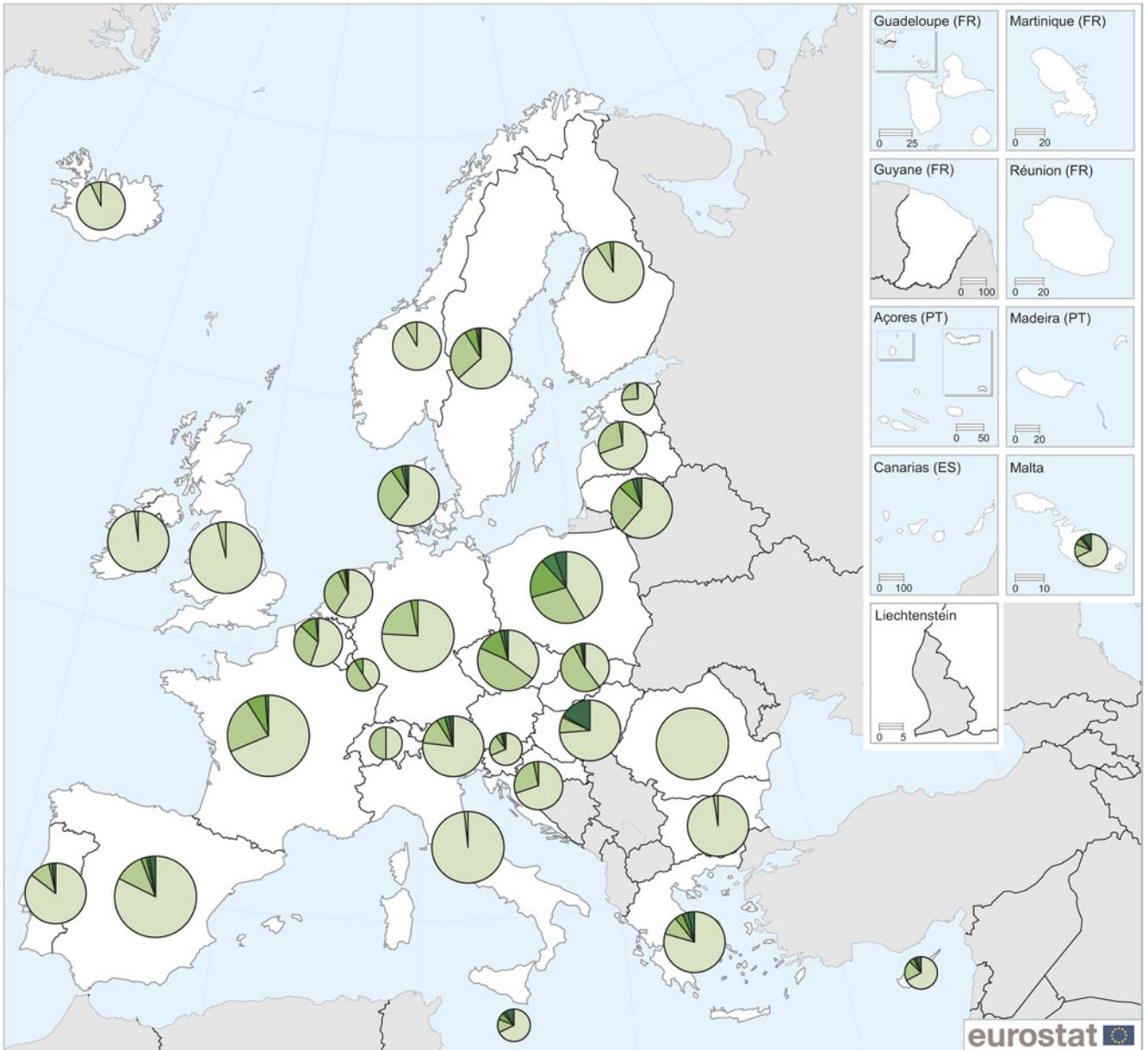
% of utilised agricultural area
with immediate incoporation

- 0
- > 0 - < 25
- 25 - < 50
- 50 - < 75
- >= 75
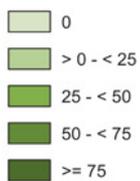
Utilised agricultural area (million ha.)
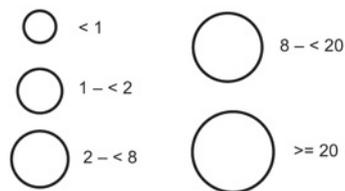
- < 1
- 1 – < 2
- 2 – < 8
- 8 – < 20
- >= 20

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
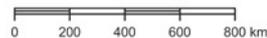
Source: Eurostat (online data code: ef_pmmanapaa)

Map 12.4: Loose places for animal housing of cattle, by NUTS level 2 region, 2010
(% of total places)
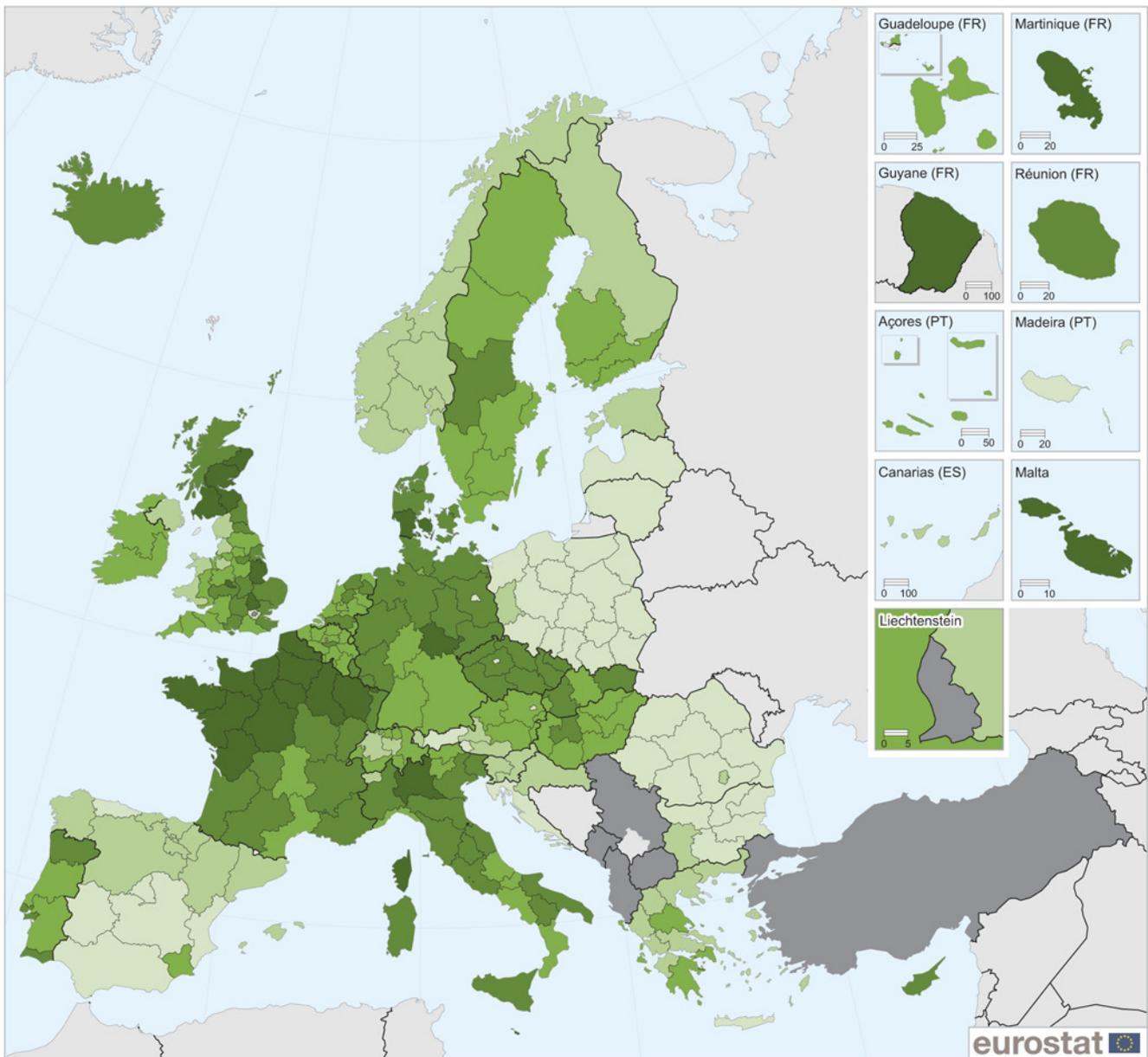
(% of total places)

EU-28 = 62.2

- < 25
- 25 – < 50
- 50 – < 75
- 75 – < 90
- >= 90
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

(¹) Germany: only available for NUTS level 1 regions.
Source: Eurostat (online data code: ef_pmhouscatlec)

Livestock

Dairy specialisation

The vast majority of the milk produced within the EU (more than 95 %) comes from cows. There are, however, significant quantities of milk produced from sheep, goats and buffaloes in some of the more southern EU Member States.

In December 2014, the EU-28 had an estimated 88.4 million bovine animals, just over one quarter of these were dairy cows (23.6 million). There were an estimated 409 thousand buffaloes, with approximately 90 % of these in Italy. Data on sheep and goats are incomplete: for sheep the highest number of heads was recorded in Spain (11.7 million ewes and ewe-lambs put to the ram), Romania (7.9 million; data are for 2013), Greece (6.8 million; data are for 2012) and Italy (6.2 million), while for goats the largest herds were located in Greece (4.2 million; data are for 2012), Spain (2.7 million) and Romania (1.4 million).

The information presented in Map 12.5 refers to the most popular form of dairy farming (in terms of the type of animals) with the specialisation of each NUTS level 2 region identified by the colour of its circle; the size of the circle provides information in relation to the size of the herd for the most popular dairy orientation. Dairy cow farming (shown in green) was most often found in those regions characterised as having large areas of grassland and temperate weather, with a relatively high degree of rainfall. This was particularly the case in the Benelux Member States, Denmark, Germany, Ireland, most of France, central Poland, many Alpine regions and the west of England. The highest number of dairy cows was recorded in Bayern (note that the data for Germany refer to NUTS level 1 regions), followed by Southern and Eastern (Ireland), Niedersachsen (also Germany) and Bretagne (France).

In those regions where grassland is rarer (for example, around the Mediterranean or in south-eastern EU regions) dairy farming tends to be relatively uncommon. Dairy cow farming is often substituted by sheep farming (shown in brown) when livestock farmers are confronted with relatively arid landscapes and less favourable climatic conditions; this is also true to some degree in upland regions. Ewes' milk is principally used for making cheese due to its higher fat and protein content. The highest number of ewes was recorded in Romania, which accounted for five of the top six regions, the exception being the Midi-Pyrénées region of France. The top 10 regions were completed by Sicilia and Sardegna (both Italy), Castilla y León (Spain) and Yuzhen tsentralen (Bulgaria).

In a similar vein, those regions specialising in the production of goats' milk were often located in the more southerly regions of the EU, although there were several regions across France that were also specialised (shown by the teal circles in the map). The highest numbers of goats mated and having already kidded were recorded in the French regions

of Rhône-Alpes and Poitou-Charentes, the Italian region of Piemonte and the Romanian region of Sud-Vest Oltenia.

There were eight regions in the EU that were specialised in buffalo dairy farming, five of which were located in Italy. Buffalo milk has a high calcium content which also facilitates cheese making, and is principally used for the production of mozzarella. The largest number of buffalo was located in the three Italian regions of Puglia, Lazio and Campania; the latter is famous for its production of Mozzarella di Bufala Campana, which has a protected designation of origin (PDO) status.

Pigs

There were 146.2 million pigs in the EU-28 in December 2013, of which 12.5 million were breeding sows. The location of pig farming is, to some degree, reliant upon easy access to animal feed and, in particular, cereals. Some areas with a high concentration of pig farming are close to sea ports, which may be used to import feed. Otherwise, the distribution of pig farms across the EU can be linked to consumer preferences for different types of meat and to the complementary nature of different types of pig farming (such as breeders or fatteners).

Regional data on livestock numbers for breeding sows provides information as to where the most concentrated regions for pig breeding are located across the EU. The most important zone extended from Denmark — one of the world's leading producers (and exporters) of pig meat — through northern Germany and into the Netherlands and Belgium. There were also other regional pockets where the density of breeding sows was relatively high: these included Cataluña, Aragón and Castilla y León in Spain, Bretagne in north-west France, Lombardia in northern Italy, and Wielkopolskie in central Poland.

Map 12.6 shows recent changes in the number of breeding sows for the period 2010–13. The most rapid growth in numbers of breeding sows (as indicated by the dark yellow shade in the map) was principally recorded in regions characterised by low numbers of sows. This was the case in the southern Italian regions of Abruzzo, Basilicata, Calabria and Puglia (none of which had more than 10 thousand heads), the Greek regions of Ionia Nisia, Notio Aigaio, Sterea Ellada and Voreio Aigaiore (none of which had more than 30 thousand heads), the Bulgarian and Czech capital regions of Yugozapaden and Praha (where the number of breeding sows was not higher than 3 thousand heads), as well as the Dutch region of Zeeland (which had 4 thousand breeding sows, compared with 512 thousand breeding sows in the Dutch region of Noord-Brabant). These were the only regions in the EU where the number of breeding sows rose by more than 10 % during the period 2010–13.

The Dutch region of Noord-Brabant was one of the NUTS level 2 regions with the highest number of breeding sows in December 2013, along with Cataluña (575 thousand)

Map 12.5: Dairy livestock specialisation, by NUTS level 2 region, 2013 (^{1})
(thousand dairy cow equivalents for the most popular type of dairy orientation)
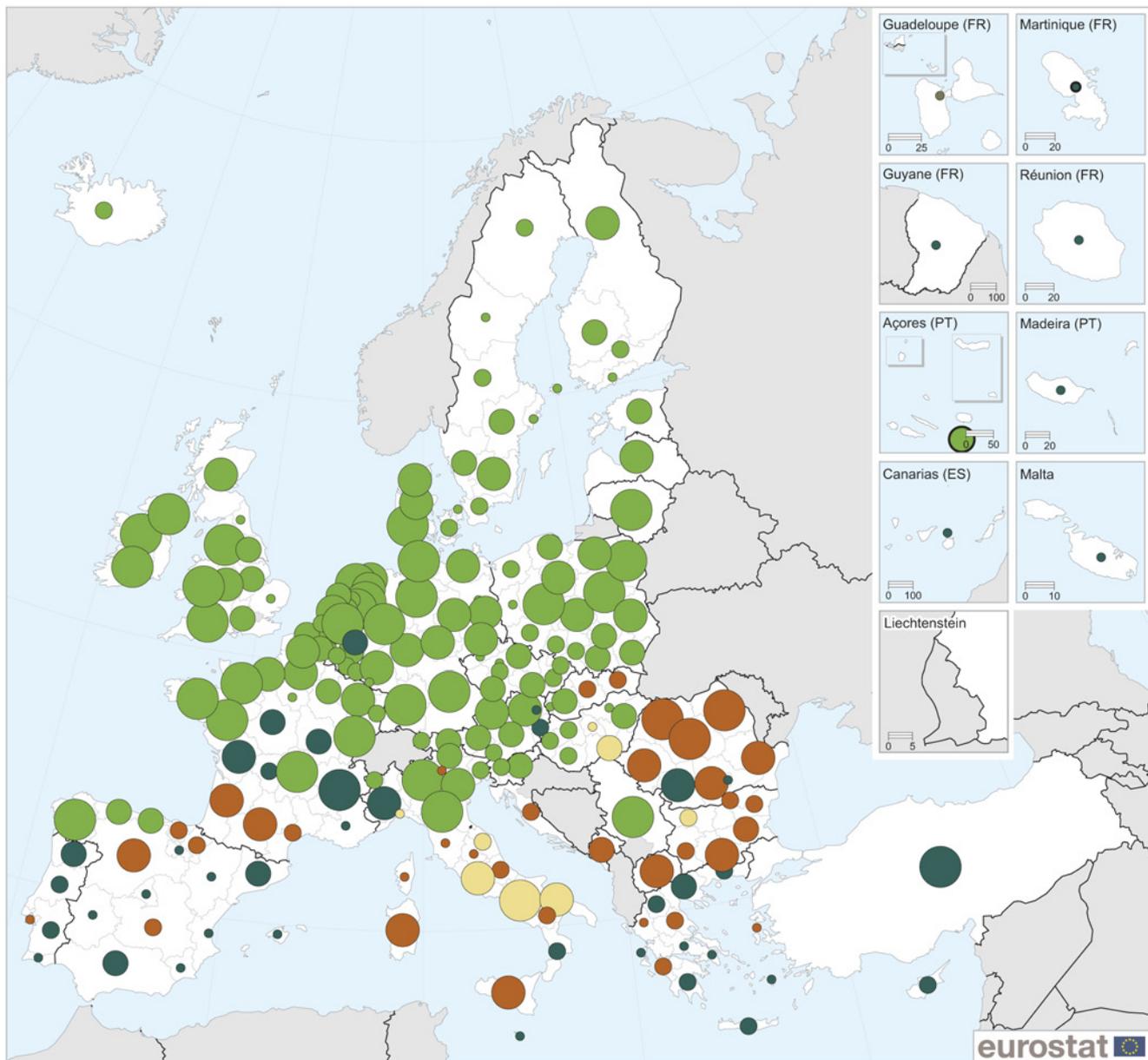
EU-28 = dairy cows
(Most popular type of dairy orientation)

- Dairy cows
- Buffaloes (all animals)
- Milk ewes
- Goats

EU-28 = 23 481
(Thousand dairy cow equivalents for the most popular orientation)

- < 20
- 20 – < 50
- 50 – < 100
- 100 – < 200
- >= 200

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 04/2015

(^{1}) The conversion factors used for dairy cow equivalents are as follows: dairy cows = 1.000; buffaloes = 0.089; milk ewes = 0.016; and goats = 0.034. Germany and the United Kingdom: only available for NUTS level 1 regions. Turkey: only available at national level. EU-28: Eurostat estimates for ewes' milk and for goats' milk. NUTS level 2 regions in Voreia Ellada (EL1) and Kentriki Ellada (EL2): 2012.
Source: Eurostat (online data codes: agr_r_milkpr, apro_mk_farm, agr_r_animal, apro_mt_lscatl, apro_mt_lssheep and apro_mt_lsgoat)

Map 12.6: Average change in the number of breeding sows, by NUTS level 2 region, 2010–13 ([1])
(% change per annum)
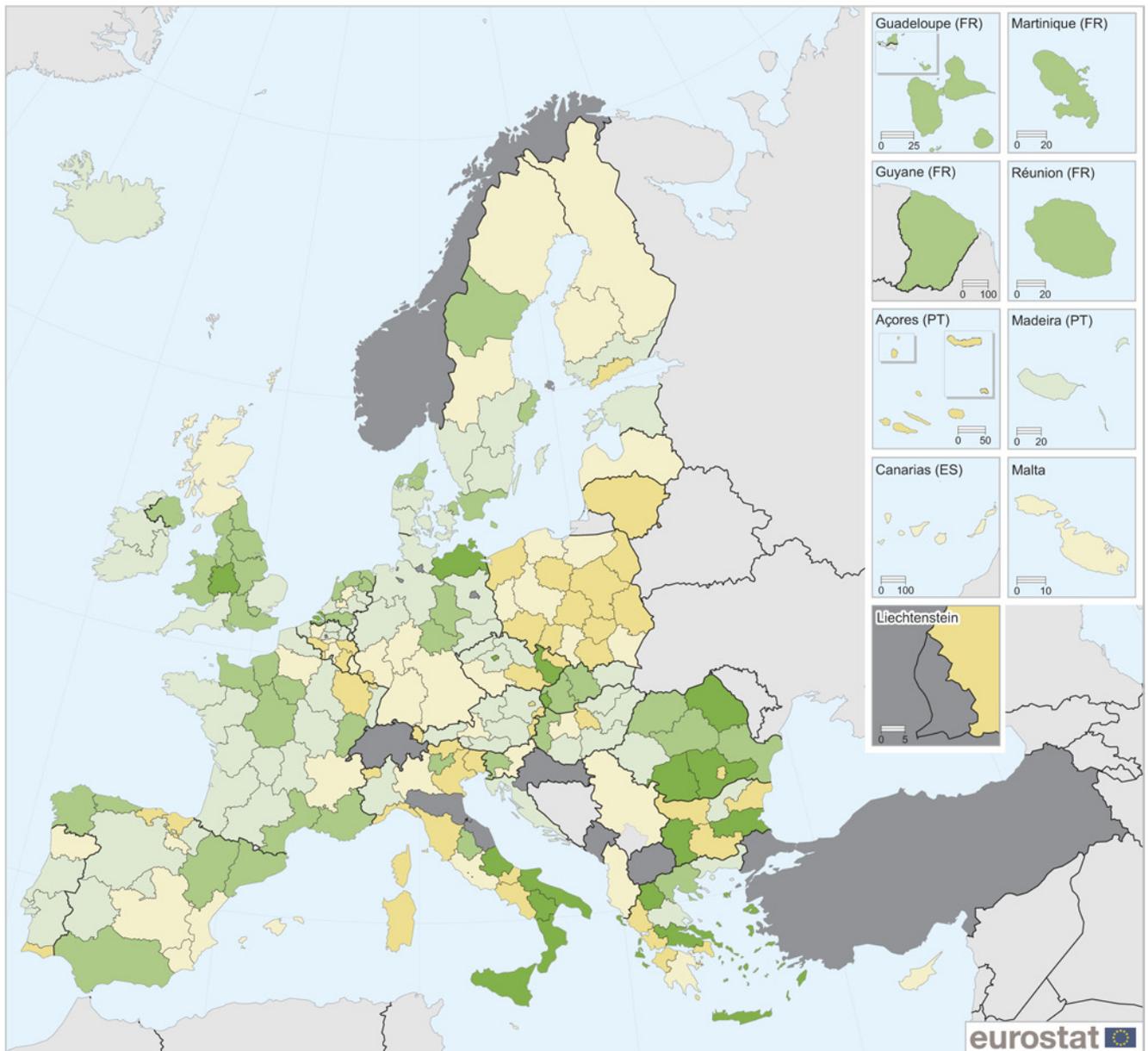
(% change per annum)

EU-28 = -2.7

- < -10
- -10 – < -5
- -5 – < 0
- 0 – < 5
- >= 5
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

0   200   400   600   800 km
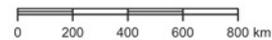
([1]) Germany and the United Kingdom: only available for NUTS level 1 regions. Croatia and Iceland: 2011–13. Estonia, Greece, Latvia and Lithuania: provisional.
Source: Eurostat (online data code: agr_r_animal)

and Bretagne (560 thousand). Each of these regions had a relatively modest change in their number of breeding sows over the period 2010–13, with changes of 1.8 %, 1.0 % and -2.2 % respectively. The two regions with the highest numbers of breeding sows in Germany also recorded modest changes, namely -2.9 % in Niedersachsen and -5.8 % in Bayern (note that the data for Germany refer to NUTS level 1 regions), a pattern that was repeated in the two Danish regions with the highest number of breeding sows, namely, Midtjylland (-1.4 %) and Syddanmark (-1.7%). The largest reductions in numbers of breeding sows (as shown by the dark green shade in **Map 12.6**) among those regions with relatively high numbers of sows were principally recorded across Polish regions.

Agricultural products

Cereals

Cereals are used primarily for human consumption and animal feed; they are also used to produce drinks and for industrial products (for example, starch). Cereals are the largest group of crops in the world and are also one of the most important outputs of the EU's agricultural sector. The information presented here includes the harvested production of rice.

In 2013, the area of agricultural land that was used for the production of cereals in the EU-28 was 57.6 million hectares. The EU-28's harvested production of cereals was 305.7 million tonnes. The EU harvest in 2013 was relatively high, reaching its uppermost level since 2008, while increasing by 7.1 % compared with a year before.

Cereals production in Europe thrives in lowland regions that are characterised by large plains, with a temperate climate and relatively modest levels of rainfall. France was the largest producer of cereals in the EU, accounting for 22.0 % of the EU-28 total in 2013, while Germany (15.6 %) was the only other EU Member State to record a double-digit share of the EU total. The fastest growth in harvested production between 2012 and 2013 was recorded in Romania (38.5 %), while there were also considerable increases in cereals output in Spain (35.4 %), Bulgaria (28.8 %) and Hungary (23.7 %). At a regional level, harvested production of cereals peaked at over 8 million tonnes in 2013 in three regions, they were: Bayern in Germany (note this is a NUTS level 1 region), Castilla y León in Spain, and Centre in France.

Map 12.7 shows harvested cereals production across the NUTS level 2 regions of the EU in 2013. Note that the statistics presented have been normalised by dividing production by the region's total area, to take account of the different size of regions and the availability of data at different levels of NUTS. It should be noted that this information is not equivalent to that for cereal yields, which are based on the weight of production divided by the cultivated area for a particular crop.

In 2013, an average of 68.5 tonnes of cereals (including rice) were harvested in the EU-28 for each square kilometre. The most specialised EU regions for cereals production included the northern half of France, eastern England, Belgium, northern Germany, Denmark, western Poland, northern Bulgaria and Hungary. The south-western Hungarian region of Dél-Dunántúl is largely composed of expansive plains and produced 195.2 tonnes of cereals per square kilometre — almost three times as high as the EU-28 average.

Photo: David Gulyas */ Shutterstock.com*

In 2013, an average of 68.5 tonnes of cereals was harvested per square kilometre (km²) in the EU-28. The most specialised areas of cereals production were in the northern half of France, eastern England, Belgium, northern Germany, Denmark, western Poland, Hungary and northern Bulgaria — as shown by the darkest shade in **Map 12.7**.

Cereals production (relative to a region's area) peaked in the northern French region of Picardie, with an average of 322.1 tonnes per km², 4.7 times as high as the EU-28 average. Sjælland (Denmark) recorded the second highest level of production relative to its area, at 291.5 tonnes per km², while two further French regions — Île de France and Nord - Pas-de-Calais — were the only other regions in the EU to report that their level of cereals production was above 250 tonnes per km².

By contrast, the lightest shade in **Map 12.7** shows those regions where the harvested production of cereals fell below 10 tonnes per km²; this was the case for almost one fifth of the 219 NUTS regions for which data are available. Some of the lowest levels of output were recorded in coastal regions (including several overseas regions and autonomous cities and islands), mountainous Alpine regions (for example, in northern Italy or western Austria), or the more northerly regions of Sweden; this was also the case in Norway and Iceland.

Map 12.7: Harvested production of cereals (including rice), by NUTS level 2 region, 2013 (¹)
(tonnes per km² of total area)

Guadeloupe (FR)

Martinique (FR)

Guyane (FR)

Réunion (FR)

Açores (PT)

Madeira (PT)

Canarias (ES)

Malta

Liechtenstein
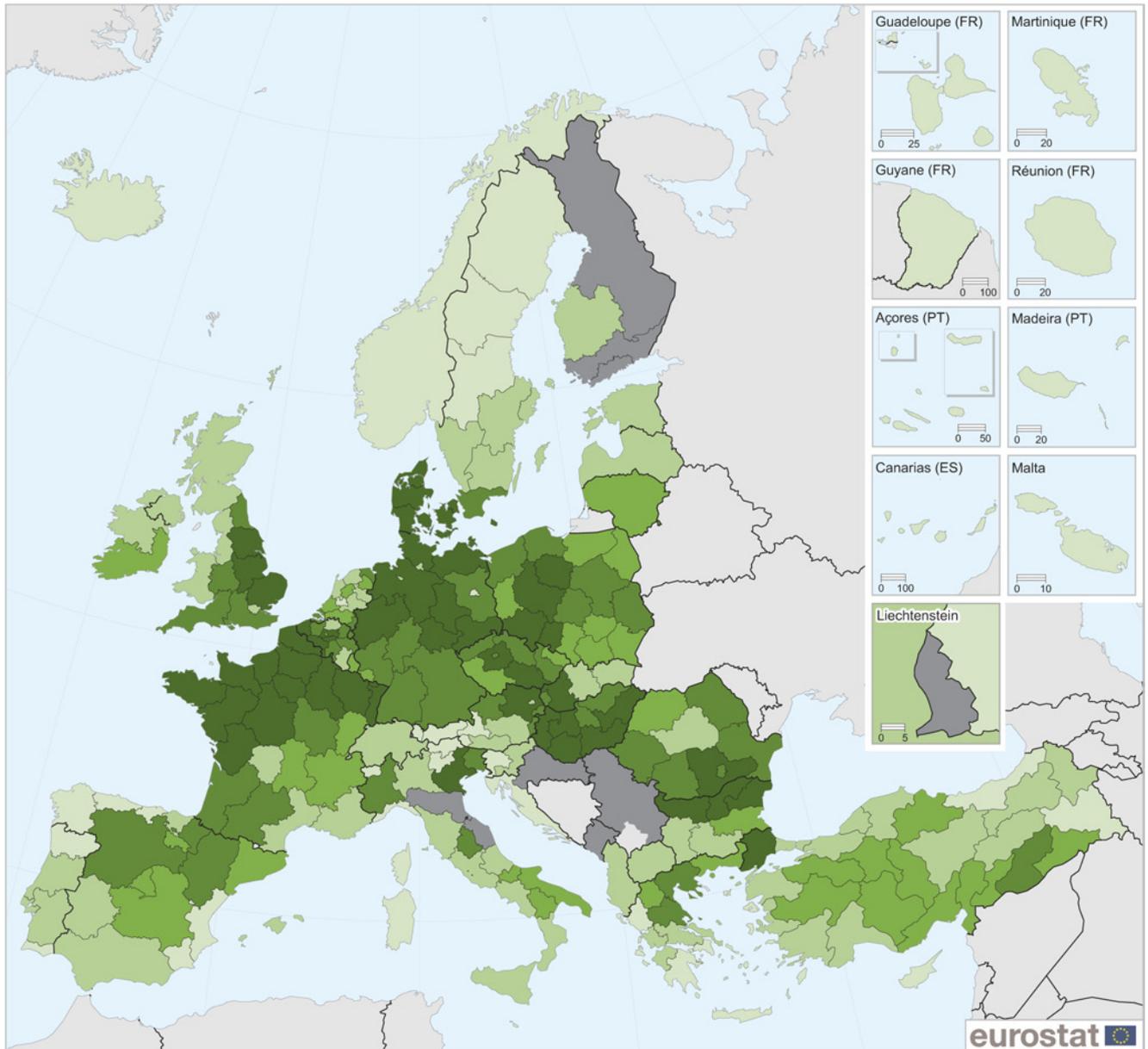
(tonnes per km² of total area)

EU-28 = 68.5

< 10

10 – < 40

40 – < 70

70 – < 120

>= 120

Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

0   200   400   600   800 km
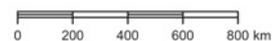
(¹) Germany and the United Kingdom: only available for NUTS level 1 regions. Norway, Switzerland and Albania: only available at national level. Croatia: ratio calculated using land area and not total area. Ireland, Italy, Norway, Switzerland, Albania and Turkey: 2012.
Source: Eurostat (online data codes: agr_r_crops, apro_cpp_crop and demo_r_d3area)

Potatoes

Map 12.8 provides a similar analysis to that for cereals, but instead the information presented is for the harvested production of potatoes (the data presented also includes seed potatoes). As for cereals production, the data are presented in relation to the total area of each region, which adjusts to some extent for the use of different NUTS levels.

In 2013, EU-28 harvested production of potatoes was 54.0 million tonnes. This marked a marginal increase compared with a year before, as output rose by 0.4 %. Germany, Poland, France, the Netherlands and the United Kingdom were the principal producers of potatoes in the EU: Germany accounted for 17.9 % of the EU-28's harvested production in 2013, while the shares for the other four Member States ranged from 13.2 % down to 10.5 %.

In absolute terms, harvested production peaked at 4.4 million tonnes in the north-western German region of Niedersachsen (note all of the German data are presented by NUTS level 1 region), while a considerable volume of potatoes was also harvested in Nordrhein-Westfalen (1.5 million tonnes) and Bayern (1.4 million tonnes). In France, the two highest levels of potato production were recorded in the regions of Nord - Pas-de-Calais (2.3 million tonnes) and Picardie (1.9 million tonnes). Harvested production levels in the Netherlands and Belgium were lower, in part because the average area of the NUTS regions was considerably smaller. The largest harvest of potatoes in the Netherlands was recorded in Drenthe (1.1 million tonnes), while the Provincie West-Vlaanderen recorded the largest harvest in Belgium (1.0 million tonnes).

The principal zones for potato production in the EU are shown on **Map 12.8**. Potatoes thrive in temperate climates with a relatively high amount of rainfall, as soil moisture needs to be maintained to allow the tubers to bulk up; as shown by a higher propensity to grow potatoes in the northern half of France or the north-west corner of Spain. **Map 12.8** also shows that more than one third of the 174 regions for which data are available had a production level of less than 2 tonnes of potatoes per km² (denoted by the lightest shade in the map).

There were particularly high specialisations in potato production relative to area in northern France, Belgium and the Netherlands. The highest ratio was in Drenthe (417 tonnes per km² of area). Three other Dutch regions (Groningen, Flevoland and Zeeland), together with three Belgian regions (Provincie West-Vlaanderen, Province

In 2013, an average of 12.1 tonnes of potatoes were harvested in the EU-28 for each square kilometre. There was a particularly high degree of specialisation in northern France, Belgium and the Netherlands. The highest ratio among NUTS level 2 regions was recorded in Drenthe in the north-east of the Netherlands, where 417 tonnes of potatoes were harvested per square kilometre. A high degree of specialisation in potato harvesting was also recorded in three other Dutch regions, namely: Groningen, Flevoland and Zeeland.

Photo: J. Marijs / Shutterstock.com

Brabant Wallon and Province Hainaut) were the only regions across the EU to record production per km² within the range of 200–400 tonnes. The remaining regions in the darkest shade — where production was within the range of 100–200 tonnes per km² — included three more Dutch regions and two additional Belgian regions, together with the two main potato producing regions of France, namely, Nord - Pas-de-Calais and Picardie.

The level of production relative to area was within the range of 20–100 tonnes per km² (the second darkest shade in **Map 12.8**) in Niederösterreich (Austria) and the neighbouring region of Bratislavský kraj (Slovakia), Lisboa, the Região Autónoma da Madeira (both Portugal) and Sydsverige (southern Sweden), as well as several NUTS level 1 regions in Germany and in Denmark, Malta, Poland and the United Kingdom (only national data are available for these four Member States).

Map 12.8: Harvested production of potatoes, by NUTS level 2 region, 2013 (¹)
(tonnes per km² of total area)
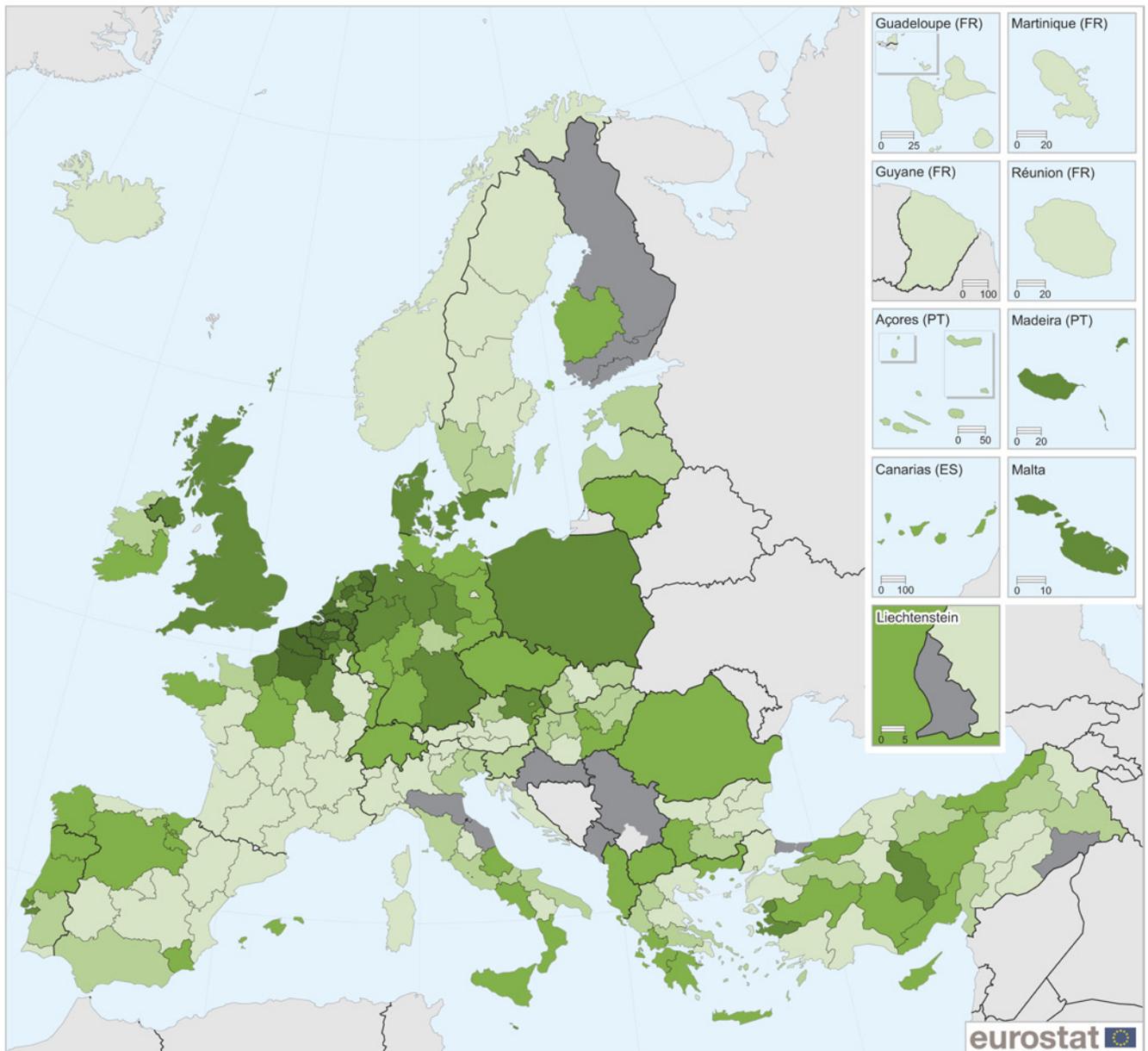
(tonnes per km² of total area)

EU-28 = 12.1

- < 2
- 2 – < 5
- 5 – < 20
- 20 – < 100
- >= 100
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat – GISCO, 04/2015

0   200   400   600   800 km
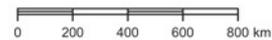
(¹) Germany: only available for NUTS level 1 regions. The Czech Republic, Denmark, Poland, Romania, the United Kingdom, Norway, Switzerland and Albania: only available at national level.
Croatia: ratio calculated using land area and not total area. Norway, Albania and Turkey: 2012. Bulgaria: 2011.
Source: Eurostat (online data codes: agr_r_crops, apro_cpp_crop and demo_r_d3area)

Data sources and availability

Farm structure survey

The farm structure survey (FSS) is a major source of agricultural statistics. A comprehensive survey is carried out by EU Member States every 10 years and is referred to as the agricultural census. This is complemented by intermediate sample surveys which are carried out three times between each census.

Under the guidance of the Food and Agriculture Organisation (FAO) the ninth round of the world agricultural census took place in 2010. The census was used to collect information about all agricultural holdings in order to present an updated picture of the structure of agricultural activities, covering: land use; livestock numbers; rural development (for example, activities other than agriculture); irrigable and irrigated areas; farm management and farm labour input.

The legal basis for the FSS in 2010 was provided by a regulation of the European Parliament and of the Council on farm structure surveys and the survey on agricultural production methods ((EC) No 1166/2008), while the definitions to be used in the survey are set out in an implementing Regulation (1200/2009). FSS data are used to collect information on agricultural holdings at different geographic levels and over different periods. Although not shown in this chapter, sub-national FSS data are available at a more disaggregated level, namely for NUTS 3 regions and for local administrative units (LAU) level 1.

Survey on agricultural production methods

The survey on agricultural production methods (SAPM) was carried out in 2010 to collect statistics for agri-environmental measures. Data were collected on tillage methods, soil conservation, landscape features, animal grazing, animal housing, manure application, manure storage and treatment facilities, and irrigation. The results of this survey are available at different geographic levels (EU Member States, regions and local administrative units).

The legal basis and the definitions to be used in the SAPM are laid down in the same Regulations as for the FSS. As individual agricultural holdings were used as the statistical unit this allowed the data collected under the SAPM to be linked with data obtained from the FSS in 2010 in order to derive a range of agri-environmental indicators.

Livestock

The purpose of Regulation (EC) No 1165/2008 concerning livestock and meat statistics is to establish a common legal framework for the systematic production of EU statistics on livestock and meat production in the EU Member States, in particular: statistics on the numbers of animals, slaughtering statistics in relation to the production of various types of meat, and production forecasts for these meat markets.

Dairy livestock statistics

A dairy farm is an agricultural holding producing milk, usually coming from dairy cows, but also from buffaloes, milk ewes or goats that have kidded. Indeed, most dairy products in the EU are derived from cows' milk, although significant quantities of milk are also produced by sheep, goats and buffaloes in several of the southern EU Member States. For the purpose of this chapter, the populations of dairy species have been adjusted using a conversion factor of 1.000 for dairy cows, 0.089 for buffaloes, 0.016 for milk ewes and 0.034 for goats in order to analyse the dairy livestock specialisation of each region.

A dairy cow is a domesticated animal of the species Bos taurus kept exclusively or principally for the production of milk for human consumption and / or other dairy produce, including cows for slaughter (whether fattened or not between last lactation and slaughter). Water buffaloes are domesticated animals of the species Bubalus bubalis; these statistics include female breeding buffaloes and other buffaloes. Sheep are domesticated animals of the species Ovis aries kept in flocks mainly for their wool, meat or milk. Statistics on milk ewes concern those sheep kept exclusively or principally for the production of milk for human consumption and / or for processing into dairy products, including sheep (whether fattened or not between last lactation and slaughter). Goats are domesticated animals of the species Capra aegagrus hircus. Statistics for milk production concern goats mated for the first time and having already kidded.

The minimal coverage for livestock surveys is at least 95 % of the national population with reference to the last survey on the structure of agricultural holdings (the farm structure survey). Regional livestock statistics are produced in November / December of each year. These statistics are generally available for NUTS level 1 and NUTS level 2 regions, although Germany and the United Kingdom have

an exemption to provide data only by NUTS level 1 region. These statistics are optional for territorial units having fewer than 75 000 bovine animals, 100 000 sheep and 25 000 goats if these territorial units together constitute 5 % or less of the national population of the relevant animals.

Statistics on pigs

Pigs are defined as domestic animals of the species Sus scrofa domestica. The information shown in this chapter focuses on the number of breeding sows. Eurostat collects a wide range of data on pigs that allow more profound analyses: among others, statistics are available by weight and for the number of piglets, fattening pigs, breeding pigs, boars and sows.

The minimal coverage for livestock surveys is at least 95 % of the national population with reference to the last survey on the structure of agricultural holdings. Regional pig livestock statistics are produced at least in November / December of each year. They are generally available for NUTS level 1 and NUTS level 2 regions, although Germany and the United Kingdom have an exemption to provide data by NUTS level 2 region. These statistics are optional for territorial units having fewer than 150 000 pigs if these territorial units together constitute 5 % or less of the national population.

Agricultural products

The legal basis for the collection of crop statistics is provided by Regulation (EC) No 543/2009; it refers to cereals, other field crops, fruits and vegetables and land use statistics. Since 2010, this legal basis has provided annual statistics for a wide range of crops. The data are obtained from sample surveys supplemented by estimates based on expert observations and administrative data.

Crop statistics refer to the following types of annual data: area, production harvested, yield and agricultural land use.

The statistics provide, for a given product, the area, the yield and the production harvested during the crop year.

Within this chapter, the information presented refers to the agricultural production of crops, which is synonymous with harvested production and includes marketed quantities, as well as quantities consumed directly on the farm, losses and waste on the holding, as well as losses during transport, storage and packaging.

The main cereals harvested within the EU include wheat, barley, grain maize, rye and maslin; in this chapter, the information presented refers to cereals for the production of grain including rice. The statistics presented for potatoes include early potatoes and seed potatoes. For cereals the data are generally presented by NUTS level 2 region, although statistics for Germany and the United Kingdom are presented by NUTS level 1 region, while those for Norway, Switzerland and Albania refer to national totals. For potatoes the data are generally presented by NUTS level 2 region, although statistics for Germany are presented by NUTS level 1 region, while those for the Czech Republic, Denmark, Poland, the United Kingdom, Norway, Switzerland and Albania refer to national totals.

Data interpretation

For variables such as harvested production of crops, Eurostat traditionally relies on additive variables showing absolute values. For illustrative purposes, some indicators in this chapter have been normalised, dividing the regional values by the region's total area (in km²). The resulting indicators (see **Map 12.7** and **Map 12.8**) should not be confused with crop yields, which are based not on the region's total area but the harvested area used for each crop. This normalisation by total area shows spatial distributions across the regions of Europe. For further analyses, it is recommended to make use of the indicators available on Eurostat's website.

Focus on
gender statistics

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Introduction

Gender inequalities (differences between the sexes) have been shaped through history as a result of ideological, historical, cultural, social, religious, political and economic factors. In recent years, there has been a considerable increase in the proportion of women who are active in the European Union's (EU's) labour market. Indeed, earning one's own living is one of the principal ways to achieve economic independence and these changes are likely to contribute to women's empowerment.

Legislative framework

Since 1957, equality between women and men has been one of the fundamental values of the EU, enshrined in its Treaties and in the 2009 Charter of Fundamental Rights. A wide-ranging legislative framework exists to promote gender equality, including: employment opportunities, working conditions, equal pay and social security benefits.

In 2006, the European Commission adopted a 'Roadmap for equality' (COM(2006) 92). This was followed in 2010 by the adoption of a 'Women's charter' (COM(2010) 78). Later the same year, the Commission adopted its 'Strategy for equality between women and men, 2010-15' (COM(2010) 491). The latter was composed of five key areas: equal economic independence for women and men; equal pay for work of equal value; equality in decision-making; dignity, integrity and ending gender violence; and, promoting gender equality beyond the EU.

Every year the European Commission reports on progress made in achieving equality between men and women through the publication of an annual report (which includes a range of gender equality indicators). The European Commission also aims to raise awareness on the issue of equal pay through initiatives such as European Equal Pay Day.

Europe 2020

Although the Europe 2020 strategy does not have any specific gender-based targets, it does promote a range of policies that address the sexes. Europe 2020 emphasises the need to reduce health inequalities as well as to ensure better access to healthcare systems, while the strategy for equality between women and men goes beyond access issues and focuses on addressing gender-specific health risks and diseases as well as tackling gender-based inequalities in healthcare and long-term care.

Skills are addressed in the Europe 2020 flagship initiative 'A Digital Agenda for Europe', which looks at the gender gap in digital literacy and skills and calls for the IT sectors to become more attractive to young women.

Within labour markets, the Europe 2020 strategy seeks to increase labour market participation, especially among women, and to lift women out of poverty or social exclusion. However, there are a range of constraints that may prevent or hold back progress, these often centre on the ability of women and men to reconcile their professional and private lives. For this reason, policy developments include the promotion of accessible and affordable childcare facilities and the removal of fiscal disincentives for second earners.

Main statistical findings

Today policymakers are increasingly aware of the importance of integrating and mainstreaming gender issues and many organisations work to promote equal opportunities for women and men, at a regional, national and international level. This chapter provides an insight into regional differences between the sexes: the information presented focuses on gender inequalities that often impact on the everyday lives of Europeans, through an analysis of health and education issues, as well as a description of the developments within the European labour market.

Life and health

There are considerable differences between women and men in terms of their health status, behaviours and the speed and ways that they choose to access health systems. Indeed, gender plays a specific role in both the incidence and prevalence of specific pathologies, while health outcomes may be affected by a range of socioeconomic factors, such as different working environments and lifestyles which influence the exposure of women and men to different diseases.

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Map 13.1: Gender gap for life expectancy at birth, by NUTS level 2 region, 2012 (¹)
(years, female life expectancy - male life expectancy)
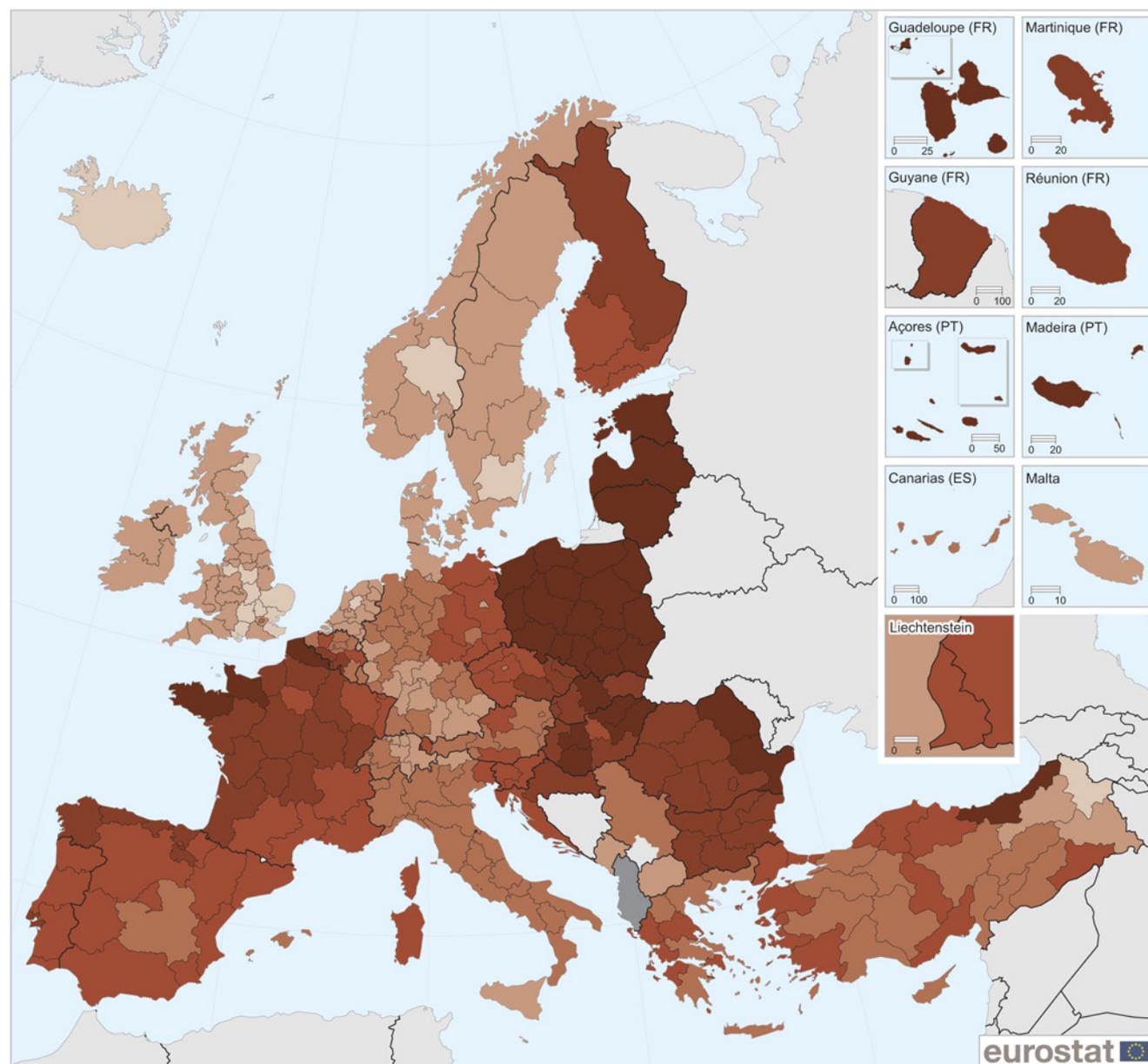
(years, female life expectancy - male life expectancy)

EU-28 = 5.6

- 0 – < 3.5
- 3.5 – < 4.5
- 4.5 – < 5.5
- 5.5 – < 6.5
- 6.5 – < 7.5
- >= 7.5
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Sachsen-Anhalt (DEE0), Ireland, Romania and Turkey: 2011. Guadeloupe (FR91): 2010.
Source: Eurostat (online data codes: demo_r_mlife and demo_mlexpec)

Life expectancy at birth

On average, a girl born in the EU-28 in 2012 could expect to live 83.1 years, while the corresponding life expectancy at birth for a newly-born boy was 5.6 years lower, at 77.5 years. The gender gap in life expectancy has slowly narrowed in recent decades (while overall life expectancy has continued to rise for both women and men).

Female life expectancy was higher than male life expectancy in every region of the EU

Women live, on average, longer than men across all of the EU Member States and a more detailed analysis of the gender gap for NUTS level 2 regions shows that their life expectancy at birth was higher than that for men in every region of the EU (see **Map 13.1**). However, although women may expect to live longer than men, they tend to spend a lower proportion of their lives free from disability (as measured in terms of healthy life years).

The darkest shade in **Map 13.1** shows the biggest gender gaps in life expectancy, where women could expect to live at least 7.5 years more than men. These regions were generally located in the Baltic Member States and eastern EU Member States (where there was a cluster of regions covering the whole of Poland, a single region in Slovakia, four regions in Hungary, and two regions in eastern Romania). The gap in life expectancy between the sexes was also at least 7.5 years in three northern French regions along the Channel (Bretagne, Basse-Normandie and Nord - Pas-de-Calais) and in the French overseas region of Guadeloupe.

The gender gap in life expectancy was particularly pronounced in the Baltic Member States

Figure 13.1 provides an alternative means of analysing this data on life expectancy at birth. The three Baltic Member States were the only NUTS level 2 regions to report that female life expectancy was at least 10 years higher than for men, peaking at a difference of 11.2 years in Lithuania. By contrast, the gender gap in life expectancy was relatively narrow in the north-western corner of the EU, across many regions of Sweden, Denmark, southern Germany, the Netherlands, the United Kingdom and Ireland; as well as in Iceland and Norway. Of the 13 regions in the EU where the gap for life expectancy was less than 3.5 years in 2012 (as shown by the lightest shade in **Map 13.1**), there were only two from outside of the United Kingdom: the southerly Swedish region of Småland med öarna and the Dutch region of Flevoland. The lowest gap in the EU was recorded in North Eastern Scotland, where women could expect to live 3.0 years longer than men.

There was no systematic pattern as regards life expectancy and whether or not this tended to be higher or lower than average in capital regions. There was generally little difference between the sexes, in other words, if the capital region had higher life expectancy then this pattern held for both men and women (or vice-versa when lower than average). The most notable difference was in Italy, where male life expectancy for those living in the capital region was 0.5 years lower than the national average, while women living in the capital region could expect to live 0.6 years longer than the national average.

Figure 13.1: Regional disparities in the gender gap for life expectancy at birth, by NUTS level 2 region, 2012 (^{1})
(years)
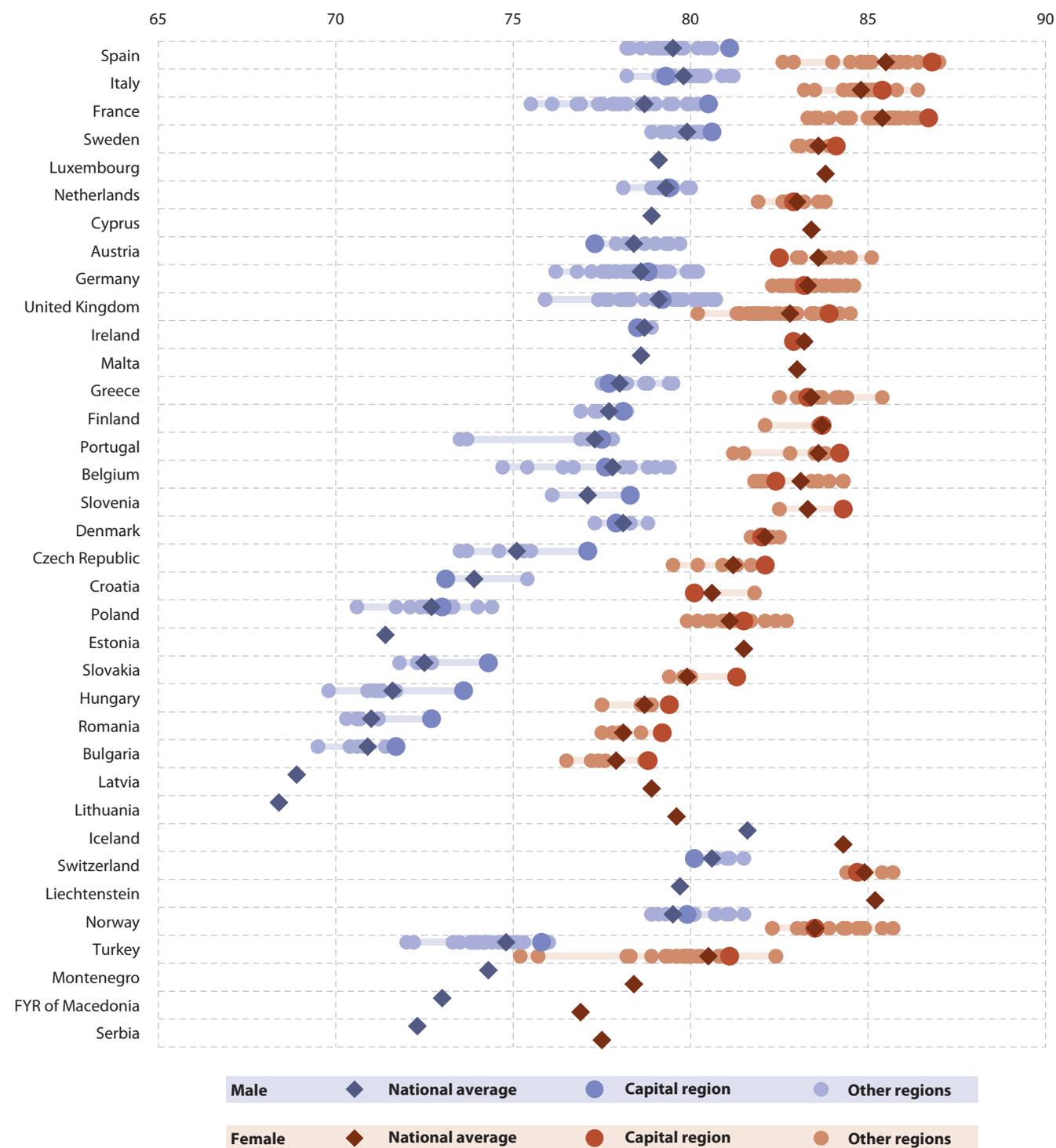
(^{1}) The figure is ranked on overall (for men and women combined) life expectancy at birth. Note the x-axis has been cut. The purple shade is used for men and the red shade is used for women. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for men (purple) and women (red). The dark circles show the values for the capital city for men (purple) and women (red). The light circles show the values for the other regions (subject to data availability) for men (purple) and women (red). Sachsen-Anhalt (DEE0), Ireland, Romania and Turkey: 2011. Guadeloupe (FR91): 2010.
Source: Eurostat (online data codes: demo_r_mlife and demo_mlexpec)

Mortality patterns and underlying causes of death

Some health problems are specific to one or other of the sexes: for example, women face health issues linked to childbirth / reproductive health or breast cancer (although the latter also affects a small proportion of men). Men are more prone to die from diseases related to smoking, alcohol or drug abuse, while they also have gender-specific causes of death, such as prostate cancer. Female deaths from breast cancer and male deaths from prostate cancer are analysed in more detail in Chapter 3.

Diseases of the circulatory system

Diseases of the circulatory system are the most common cause of death in the EU-28. Crude death rates (which do not take account of the increased longevity of women) for diseases of the circulatory system accounted for 400.4 deaths per 100 000 female inhabitants in the EU-28 in 2012, compared with a rate of 348.2 deaths per 100 000 male inhabitants. A more detailed analysis, by age, reveals that women were particularly susceptible to die from diseases of the circulatory system from the age of 65 onwards.

Figure 13.2 presents the regional disparities in crude death rates from diseases of the circulatory system by NUTS level 2 region for 2011. Perhaps the most striking aspect is not the difference in crude death rates between the sexes, but rather the variation in death rates between EU Member States. Indeed, crude death rates for diseases of the circulatory system were higher for women and men across all six Bulgarian regions than they were in any other region of the EU, apart from the death rates recorded for women in the Romanian regions of Sud-Vest Oltenia and Sud - Muntenia.

In Malta, Ireland, the United Kingdom and Bulgaria, the crude death rate for diseases of the circulatory system was higher among men than it was among women

There were four EU Member States where the crude death rate for diseases of the circulatory system was higher among men than it was among women in 2011: Malta, Ireland, the United Kingdom and Bulgaria. At the other end of the range, the gap between women and men rose to more than

100 deaths per 100 000 female / male inhabitants in Austria, Germany, Estonia, Slovenia and Croatia.

In 2011, the highest crude death rates for diseases of the circulatory system among both women and men were recorded in the Bulgarian region of Severozapaden (1 354 deaths per 100 000 female inhabitants and 1 335 deaths per 100 000 male inhabitants). By contrast, some of the lowest crude death rates were recorded in the French overseas regions and the Spanish islands of the Canarias. Aside from these outermost regions of the EU, the lowest crude death rates for women were recorded in the relatively young populations that were resident in the capital regions of Inner London, the Île de France, Southern and Eastern (Ireland) and the Comunidad de Madrid, as well as in Flevoland (the Netherlands), Outer London and Rhône-Alpes (France) — each of these regions recorded a crude death rate for diseases of the circulatory system that was less than 200 deaths per 100 000 female inhabitants. For men, low crude rates were also recorded in the above-mentioned regions, while rates of less than 200 deaths per 100 000 male inhabitants were also recorded in the Belgian capital of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest, Utrecht (in the Netherlands), Alsace (in France), as well as the Illes Balears, Región de Murcia and Ciudad Autónoma de Melilla (all in Spain).

The crude death rate for women for diseases of the circulatory system was higher than that for men in over four fifths of the regions in the EU

Of the 272 NUTS level 2 regions for which data are available, more than four fifths (83.5 %) recorded a higher crude death rate for women than for men for diseases of the circulatory system. The biggest gender gaps were recorded in the east German regions of Dresden, Leipzig and Chemnitz, where female death rates were 170–222 deaths per 100 000 inhabitants higher than for men. By contrast, crude deaths rates for diseases of the circulatory system were 27–34 deaths per 100 000 inhabitants higher for men than for women in Övre Norrland (Sweden), South Yorkshire (the United Kingdom), Martinique (France) and Yugoiztochen (Bulgaria), rising to a difference of 44 additional deaths per 100 000 male inhabitants in Lincolnshire (also the United Kingdom).

Figure 13.2: Regional disparities in the gender gap of deaths from diseases of the circulatory system, by NUTS level 2 region, 2011 (¹)
(crude death rate per 100 000 inhabitants)

Male	◆ National average	● Capital region	● Other regions

Female	◆ National average	● Capital region	● Other regions
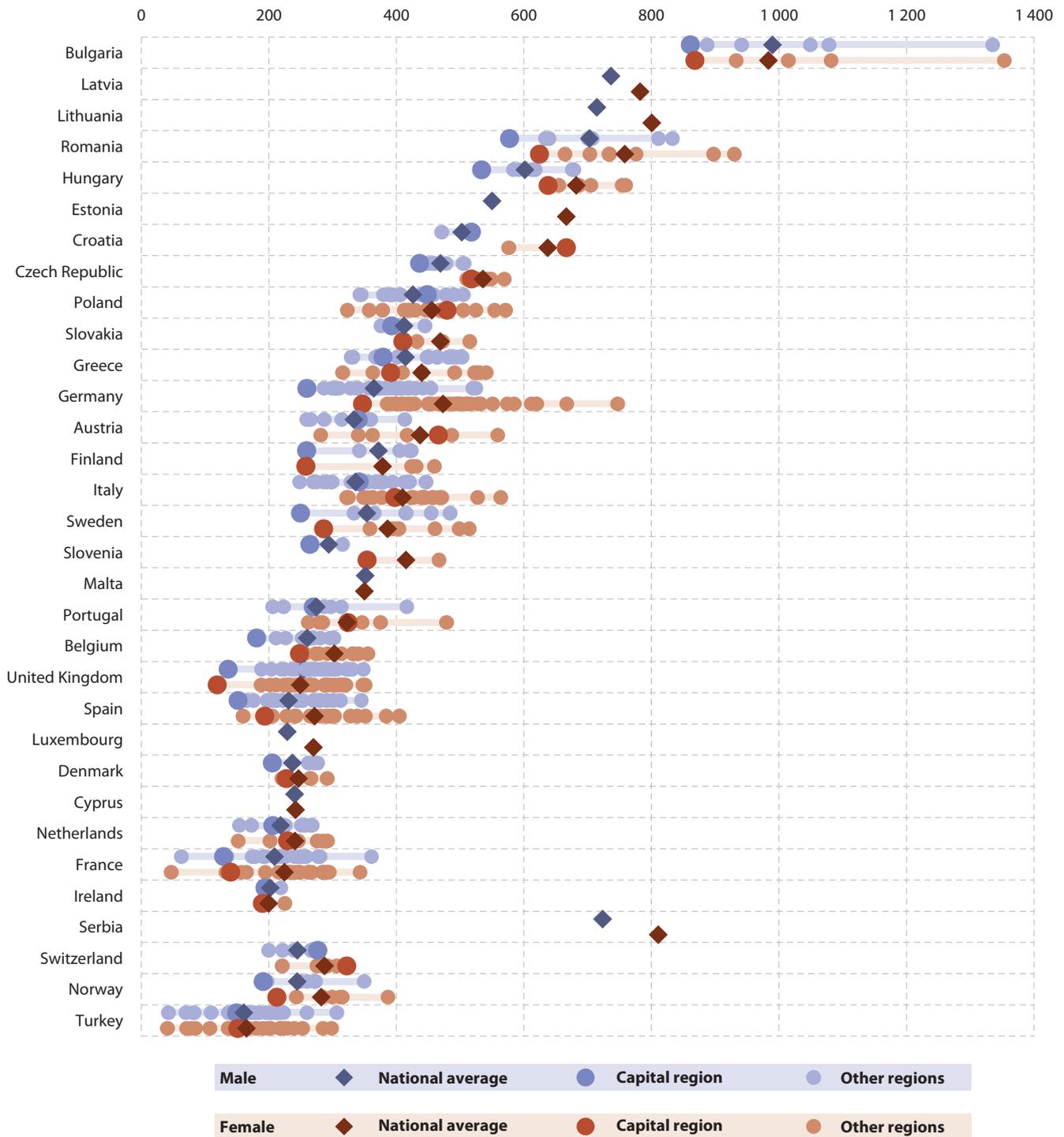
(¹) The figure is ranked on the overall (for men and women combined) death rate for diseases of the circulatory system. The purple shade is used for men and the red shade is used for women. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for men (purple) and women (red). The dark circles show the values for the capital city for men (purple) and women (red). The light circles show the values for the other regions (subject to data availability) for men (purple) and women (red).
Source: Eurostat (online data code: hlth_cd_acdr2)

Cancer (malignant neoplasms)

An analysis of crude death rates for cancer shows that across the EU-28 there were 294 deaths per 100 000 male inhabitants in 2012, while there were 219 deaths per 100 000 female inhabitants.

Figure 13.3 presents information at a regional level for 2011: in the Nordic Member States, the Netherlands and the United Kingdom, as well as Norway and Switzerland, crude death rates from cancer for men were only slightly higher than those for women. By contrast, a much wider gender gap was apparent in several eastern EU Member States (in particular those which had some of the highest death rates — for example, Hungary and Croatia), as well as in Greece, Portugal and Lithuania (a single region at this level of analysis).

Crude death rates from cancer were systematically higher among men than women in every region of the EU

There were four regions in the EU where crude death rates from cancer among men were higher than 400 deaths per 100 000 male inhabitants in 2011. These were two Hungarian regions (Közép-Dunántúl and Észak-Magyarország), the Italian region of Liguria and the Spanish region of the Principado de Asturias (where the highest male death rate was recorded, at 442 deaths per 100 000 male inhabitants).

There were five regions in the EU where crude death rates from cancer among women were higher than 300 deaths

per 100 000 female inhabitants in 2011. They were: Cumbria and the Highlands and Islands of Scotland (two sparsely populated regions from the north-west of the United Kingdom); Dél-Dunántúl (in the south-west of Hungary); and Friuli-Venezia Giulia and Liguria (two northerly, coastal regions in Italy). The highest death rate for cancer among women was recorded in Liguria (319 deaths per 100 000 female inhabitants).

Crude death rates from cancer were systematically higher among men than women across every NUTS level 2 region of the EU in 2011. There was, however, almost no difference in death rates in the Belgian capital (a gap of 2.7 deaths per 100 000 inhabitants) and this pattern was repeated in the capitals of Finland, Sweden, the United Kingdom, Austria, the Czech Republic and Denmark, where the gap between the sexes never rose above 25 deaths per 100 000 inhabitants; several other regions from these Member States also recorded relatively small differences.

At the other end of the range, crude death rates for men were almost 200 deaths per 100 000 inhabitants higher than those for women in the north-western Spanish region of the Principado de Asturias, while a difference of 150–170 deaths per 100 000 inhabitants was recorded in Alentejo (Portugal), the neighbouring region of Extremadura (in Spain), as well as three Greek regions (Ipeiros; Anatoliki Makedonia, Thraki; Thessalia).

Figure 13.3: Regional disparities in the gender gap of deaths from cancer (malignant neoplasms), by NUTS
level 2 region, 2011 (¹)
(crude death rate per 100 000 inhabitants)

| Male | ◆ National average | ● Capital region | ● Other regions |
| Female | ◆ National average | ● Capital region | ● Other regions |
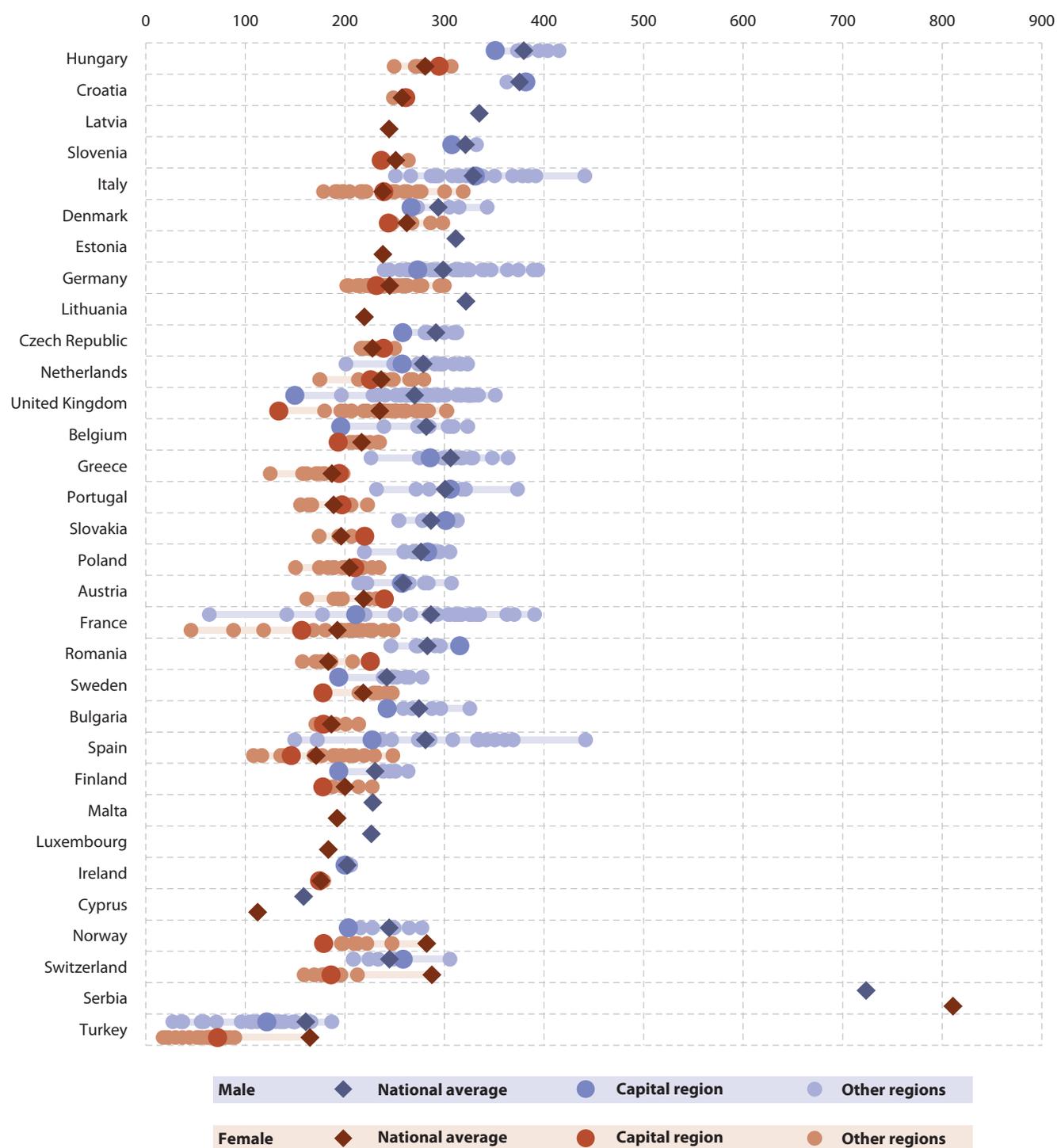
(¹) The figure is ranked on the overall (for men and women combined) death rate for cancer (malignant neoplasms). The purple shade is used for men and the red shade is used for women.
The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for men (purple) and women (red). The dark circles show the
values for the capital city for men (purple) and women (red). The light circles show the values for the other regions (subject to data availability) for men (purple) and women (red).
Source: Eurostat (online data code: hlth_cd_acdr2)

Education

Policymakers recognise the importance of education and the contribution that it may provide to socioeconomic development and sustainable growth. Indeed, education and training may be used to promote and ensure equal opportunities in life. Education affects women's and men's life chances, insofar as it provides the qualifications and skills that are necessary to enter the world of work, thereby affecting potential earnings and career development.

There are considerable and established differences between women and men in terms of the subjects that they tend to follow in tertiary education. Education statistics show that women account for a relatively low share of students following courses in science, technology, engineering or mathematics. By contrast, there are higher numbers of women students in the fields of languages, the arts, social sciences, education, welfare and health. Additionally, even if women outnumber men among university graduates, in general they are under-represented among researchers and academic staff.

Even if nowadays young women are more highly educated than men, their qualifications do not appear to be a dominant factor in their employment outcomes, as a smaller proportion of women are employed and those who are employed tend to be paid less than their male counterparts (see below under the heading of 'Gender pay gap').

The Europe 2020 strategy has two headline targets in relation to education:

- to reduce the proportion of early leavers from education and training to below 10 %; and,
- to raise tertiary educational attainment among those aged 30–34 to at least 40 %.

More information on the Europe 2020 targets for education is provided in Chapter 4.

Early leavers from education and training

Information relating to the proportion of early leavers from education and training may be analysed by sex. The share of women aged 18–24 in the EU-28 with at most a lower secondary level of education and who were not in further education or training fell in 2014 to 9.5 % and as such already reached the Europe 2020 target. The female rate for early leavers in the EU-28 was 3.2 percentage points lower than the corresponding rate for men in 2014. The gap therefore closed somewhat in recent years, as in 2008 — at the onset of the financial and economic crisis — it had been 4.0 percentage points lower for women (than for men).

In Italy, Latvia, Portugal, Spain, Estonia and Cyprus, the proportion of male early leavers was at least 5 percentage points higher than the female share

Bulgaria was the only EU Member State in 2014 where the male rate for early leavers was lower than the corresponding rate for women (a marginal difference of just 0.1 percentage points). Male early leaver rates were no more than a single percentage point higher than female rates in Slovakia, the Czech Republic and Croatia. By contrast, the biggest gender gaps for early leavers from education and training were recorded in Italy, Latvia, Portugal, Spain, Estonia and Cyprus, where the proportion of male early leavers was at least 5 percentage points higher than the corresponding share for women (**Figure 13.4**).

The rate of early leavers from education and training was lower for women than for men in 174 out of the 209 regions for which data were available for 2014. There were seven regions where this gap between the sexes rose to more than 10 percentage points, all of which were in the south, namely: the Greek region of Notio Aigaio (which had the biggest gap at 19.8 percentage points); La Rioja, Extremadura, the Comunidad Valenciana and the Illes Balears (all from Spain); and the Italian regions of Calabria and Sardegna.

In those regions where male early leaver rates were lower than those for women, the differences were usually quite small (generally less than 2 percentage points). Larger differences — in favour of men — were recorded in the Spanish autonomous city of Melilla, Severozapaden and Severen tsentralen (two northern regions of Bulgaria), Strední Cechy from the Czech Republic, Východné Slovensko from Slovakia, as well as two regions from the north-east of England (Tees Valley and Durham; Northumberland and Tyne and Wear). The biggest gap was recorded in Northumberland and Tyne and Wear, where male early leavers rate was 6.1 percentage points lower than that for women.

Tertiary educational attainment among those aged 30–34

As noted above, the second education target under the Europe 2020 strategy is to raise tertiary educational attainment among those aged 30–34 to at least 40 %. This target had already been reached for women when analysing the latest data available by sex, as the proportion of women aged 30–34 with a tertiary level of education rose to 42.3 % in 2014. By contrast, approximately one third (33.6 %) of men aged 30–34 in the EU-28 had attained this level of education. The gender gap of 8.7 percentage points between female and male rates in 2014 was wider than it had been in 2008 (6.4 percentage points), as a result of the female attainment rate rising at a faster pace than the male rate, with a gain of 7.9 percentage points between 2008 and 2014 compared with a 5.6 points increase for men.

Figure 13.4: Regional disparities in the gender gap for early leavers from education and training, by NUTS level 2 region, 2014 (¹)
(% share of 18–24 year-olds)

| Male | ◆ National average | ● Capital region | ● Other regions |
| Female | ◆ National average | ● Capital region | ● Other regions |

Contrary to the general pattern observed across the EU, there were several German regions where male tertiary educational attainment was higher than female attainment

Some 16 % of the 256 NUTS level 2 regions for which data for 2014 are available reported that a higher proportion of men aged 30–34 had attained a tertiary level of education. These 41 regions were distributed across a relatively small number of EU Member States and were mainly located in Germany, where at a national level the share of men aged 30–34 who had attained a tertiary level of education was 1.2 percentage points higher than the corresponding proportion for women. Male tertiary educational attainment was higher than female attainment in just over 70 % of the German regions. The United Kingdom (five regions including the capital of Inner London), Austria (three regions), the Netherlands and Romania (two regions each), and a single region from each of France and Spain were the only other Member States to report that at least one of their regions had a higher proportion of men than women aged 30–34 with a tertiary level of education (**Figure 13.5**).

The vast majority of the regions in the EU had a higher share of women than men aged 30–34 with a tertiary level of education. Some of the biggest gender gaps were recorded in the Baltic Member States, Slovenia, Poland, Portugal, Bulgaria and Sweden, where the proportion of women with a tertiary level of education was at least 15 percentage points higher than the share among men. Some of these regions with particularly large gender gaps in favour of highly qualified women could be characterised as relatively rural or sparsely-populated, where the gap often reflected lower attainment among men, rather than higher attainment among women, perhaps reflecting a higher tendency for men with a tertiary level of education to have left these regions. Examples of such relatively rural or sparsely-populated regions include the Province Namur in Belgium, the Auvergne in France, Umbria in Italy, Mellersta Norrland in Sweden or Cumbria in the United Kingdom. The largest gap between the sexes was recorded in the Danish region of Sjælland, where the share of women aged 30–34 who had completed tertiary studies was 28.5 percentage points higher than for men. The proportion of men aged 30–34 in Sjælland with a tertiary education was 20.9 %, compared with 54.9 % in the neighbouring capital region of Hovedstaden, while there was a far smaller difference in tertiary educational attainment levels among Danish women between Sjælland (49.4 %) and Hovedstaden (62.4 %).

Human resources in science and technology

Investment in research, development, education and skills constitutes one of the EU's main policy areas and is considered an essential element for promoting smart, sustainable and inclusive economic growth through the development of a knowledge-based economy. Indicators on the core measure of human resources in science and technology (HRST) provide details concerning the proportion of the economically active population who have completed a tertiary level of education and are employed in a science and technology occupation.

Map 13.2 shows the gender gap in relation to core HRST: across the EU-28, the proportion of the economically active population with a tertiary level of education working in a science and technology occupation was 5.1 percentage points higher among women than men in 2013. This gender gap was evident across almost the whole of Europe, with only two groups of exceptions: half of the regions in Germany (principally those in the west and the south) and Switzerland (only national data are available).

There were 15 NUTS level 1 regions in the EU where the female share of HRST in the economically active population was at least 10 percentage points higher than that for men, peaking at 17.6 points difference in Lithuania, while the other two Baltic Member States recorded the second and third highest differences. The remaining regions with relatively high gender gaps in favour of women were located in Poland (all six regions), Sweden (all three regions), Slovenia (a single region at this level of analysis), as well as the Région Wallonne (in Belgium) and Yugozapadna i Yuzhna Tsentralna Bulgaria; there was also a single region in Turkey, Bati Anadolu, where the difference between the sexes was 10 percentage points in favour of women.

Figure 13.5: Regional disparities in the gender gap for persons aged 30–34 with tertiary education (ISCED levels 5–8) attainment, by NUTS level 2 region, 2014 (¹)
(% share of 30–34 year-olds)

| Male | National average | Capital region | Other regions |
| Female | National average | Capital region | Other regions |
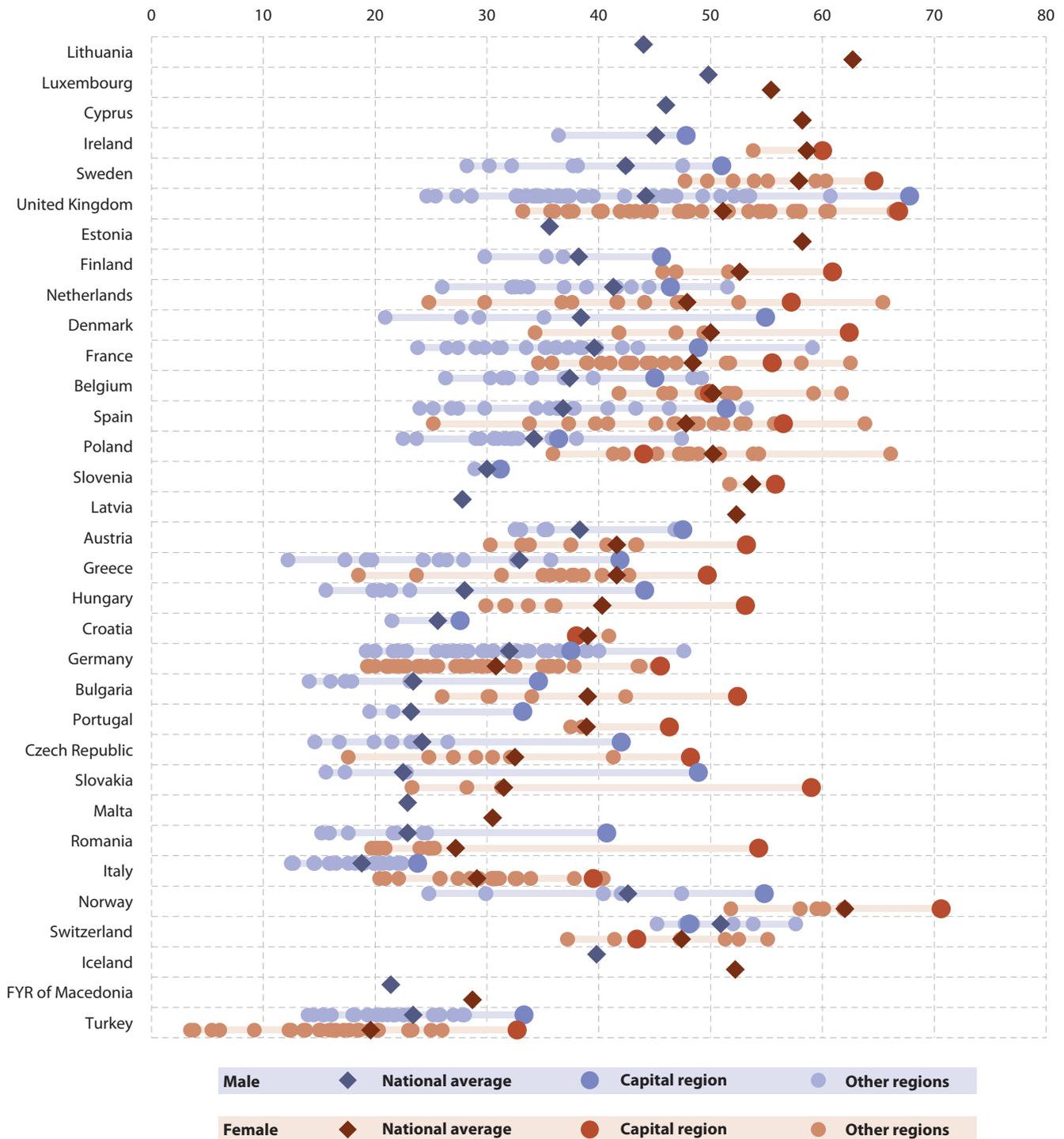
(¹) The figure is ranked on the overall (for men and women combined) share of persons aged 30–34 with tertiary education attainment. The purple shade is used for men and the red shade is used for women. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for men (purple) and women (red). The dark circles show the values for the capital city for men (purple) and women (red). The light circles show the values for the other regions (subject to data availability) for men (purple) and women (red). Cumbria (UKD1) and Cornwall and Isles of Scilly (UKK3): 2013. Voreio Aigaio (EL41): 2012. Data for several regions have low reliability (too numerous to document).
Source: Eurostat (online data code: edat_lfse_12)

Map 13.2: Gender gap for core human resources in science and technology (HRSTC), by NUTS level 1 region, 2013
(percentage points difference between the share of the economically active population for women and the share of the
economically active population for men)
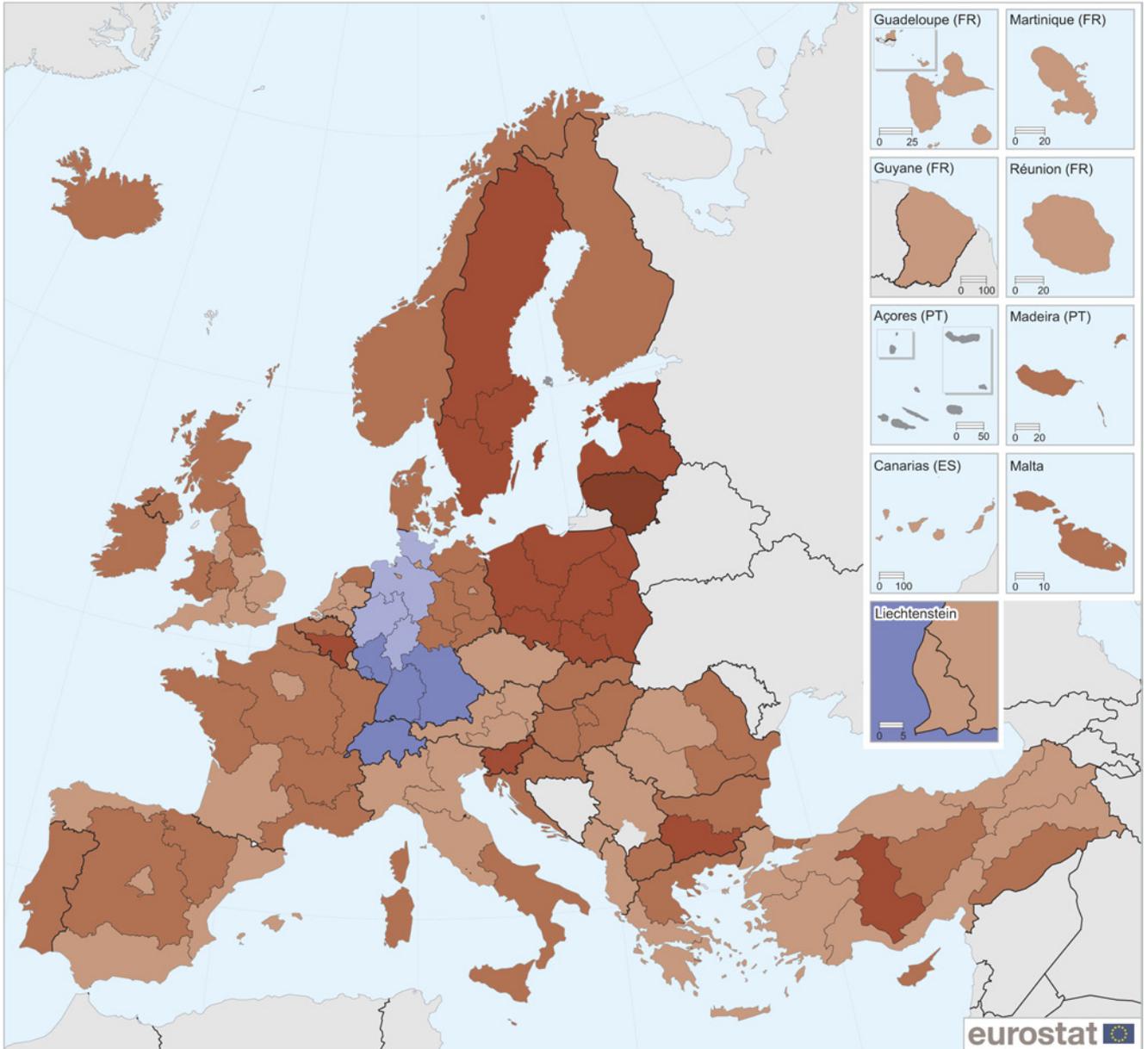
(percentage points difference between the share of the economically active population for
women and the share of the economically active population for men)

EU-28 = 5.1

	< -2.5
	-2.5 – < 0.0
	0.0 – < 5.0
	5.0 – < 10.0
	10.0 – < 15.0
	>= 15.0
	Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

Source: Eurostat (online data codes: hrst_st_rsex and hrst_st_ncat)

Working life

While there have been considerable changes in the workplace, women remain underrepresented in some sections of society (for example, in the academic world, in boardrooms, or in politics). Women are also less likely to participate in the labour market, and those who do are more likely to work on a part-time basis, have a temporary contract, work for a lower number of average hours per week, and receive a smaller salary.

One of the root causes of such differences lies outside of the workplace (and its potential for discrimination). Indeed, most women spend a considerable amount of their time taking care of children or relatives and carrying out (unpaid) household chores. If female labour force participation is to rise higher, then it is likely that further efforts will need to be made to promote a better work–life balance for women, for example, through increased provision of childcare, changes to tax systems, or the redistribution of family tasks and responsibilities.

Activity rates

The activity rate measures the share of those in work and actively seeking work (the employed and the unemployed) in the population of a particular age: for the analysis presented here the age range 15–64 is used. There were 242.6 million persons active in the EU-28 in 2014: the male activity rate stood at 78.1 %, while that for women was 66.5 %.

The EU's gender gap for activity rates continues to close as more women enter the labour market

Historically, there has been little change in the male activity rate, while there has been a considerable increase in the participation of women in the labour force. Even in the relatively short period from the onset of the financial and economic crisis to the latest period for which information are available there was a marked contrast in developments between the sexes. The male activity rate for the EU-28 rose by 0.3 percentage points between 2008 and 2014, while over the same period there was an increase of 2.8 points for the female rate.

The activity rate for women aged 15–64 in southern Italy and the Sud-Est region of Romania was less than 50 %

Less than half of all women aged 15–64 in southern Italy and the Sud-Est region of Romania were in work or available for work in 2014, this share falling to less than 40 % in the four Italian regions of Sicilia, Campania, Calabria and Puglia; this was also the case in about half of the regions in Turkey. By contrast, the activity rates of women and men were almost equal in the Nordic Member States of Finland and Sweden (as shown by the lightest shade in **Map 13.3**). Female activity rates rose above 75 % in several regions across (eastern) Germany, the Nordic Member States, the Netherlands and the United Kingdom.

In 2014, the gap between male and female activity rates was greater than 20 percentage points in 14 regions of the EU, which were principally located in south-eastern corner of the EU: three regions from Greece, seven from southern Italy (including the four mentioned above), Malta (a single region at this level of analysis), two regions from Romania, and the Spanish autonomous city of Ceuta. The biggest gap between the sexes was recorded in the Italian region of Puglia, where the male activity rate was 28.9 percentage points higher than that for women.

Employment rates

The employment rate is the share of employed persons in relation to the total population. Gender differences in employment rates may occur for a number of reasons, although family responsibilities are the most likely cause of higher inactivity among women.

Comparisons of employment rates can be made for different age groups: for example, within the Europe 2020 strategy the focus is on those within the range 20–64 years-old. The Europe 2020 strategy does not make a distinction between the sexes with respect to its target of a 75 % employment rate. In 2014, the male employment rate for the EU-28 was identical to the Europe 2020 target (75.0 %), while the female

🔍 **SPOTLIGHT ON THE REGIONS:**
KÝPROS, CYPRUS

Employment rates for women aged 25–34 years are generally lower than those for men; this may at least in part be related to some women taking a career break in order to start a family. This gender gap was, however, reversed in six NUTS level 2 regions in 2014. Two of the six regions where female employment rates were higher were from the Netherlands (Friesland and Groningen), two were from Spain (the Principado de Asturias and the Illes Balears), while the other two were also island regions, the Região Autónoma da Madeira (Portugal) and Cyprus (a single region at this level of analysis).

Photo: Kirill__M / *Shutterstock.com*

Map 13.3: Gender gap for the activity rate, persons aged 15–64, by NUTS level 2 region, 2014 (¹)
(percentage points difference between the activity rate for men and the activity rate for women)
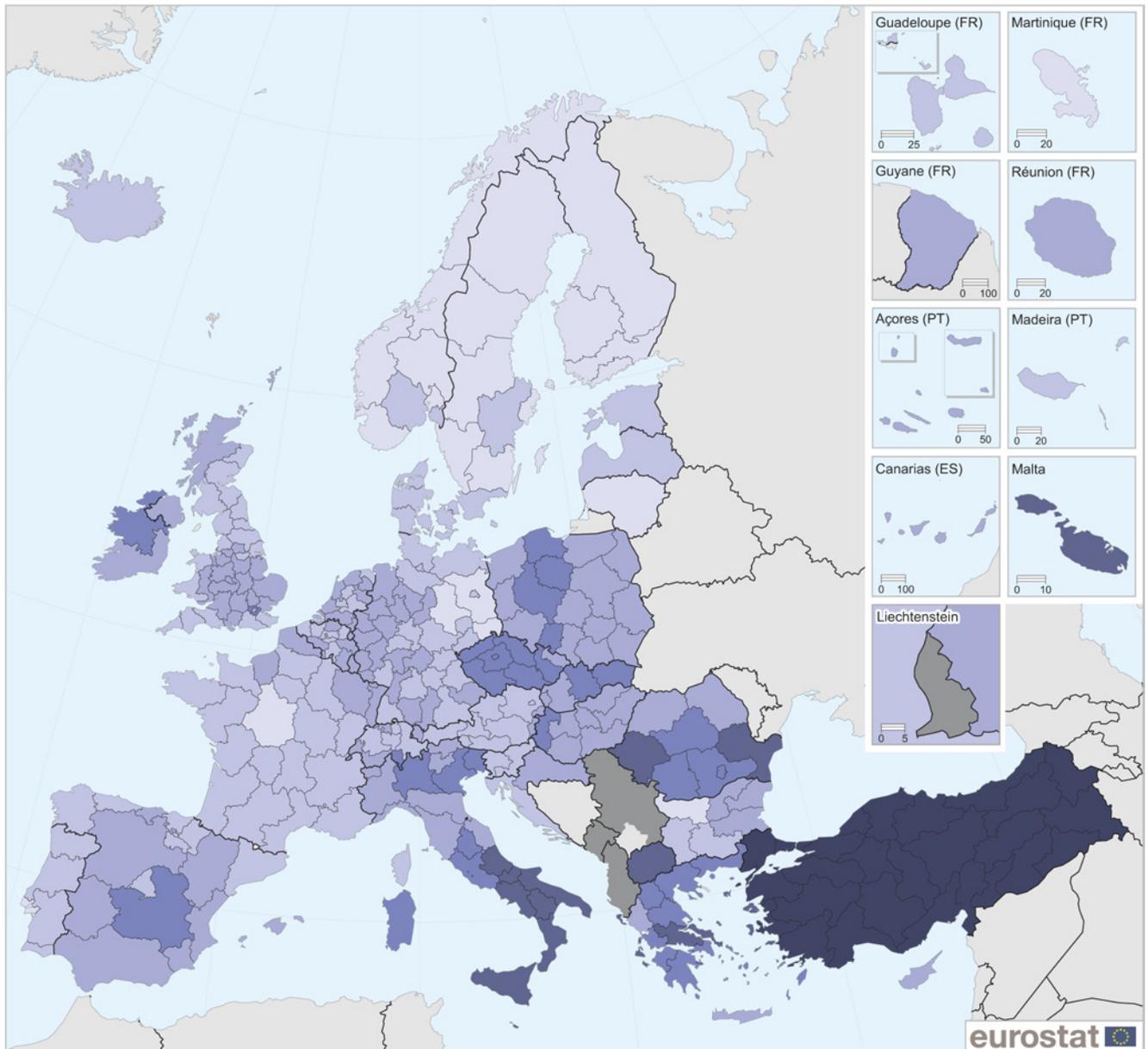
(percentage points difference between the activity rate for men and the activity rate for women)

EU-28 = 11.6

- 0 – < 5
- 5 – < 10
- 10 – < 15
- 15 – < 20
- 20 – < 30
- >= 30
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013.
Source: Eurostat (online data code: lfst_r_lfp2actrt)

rate was 11.5 percentage points lower, at 63.5 %. Although this gap is quite large, the financial and economic crisis affected traditionally male-dominated sectors (for example, construction) more than those where a higher proportion of women work and as a result the gender gap in employment rates narrowed somewhat.

Figure 13.6 shows a relatively strong link between female employment rates and overall employment rates, insofar as those regions with some of the lowest female employment rates were generally the same regions that had some of the lowest overall employment rates; furthermore, most of these regions were also characterised as having a relatively large gender gap between employment rates for men and women.

Male employment rates were higher than female rates in every region of the EU

In every NUTS level 2 region of the EU-28, male employment rates for those aged 20–64 exceeded the female employment rate. In 2014, female employment rates were relatively close to male rates in most of the Nordic and Baltic Member States, as well as in several regions of Bulgaria, Germany, France and Portugal. At the other end of the range, the largest differences between male and female employment rates were recorded in the Mediterranean region, in particular, Greece, southern Italy, and Malta. The biggest difference between the sexes was recorded in Malta, where the male employment rate (for those aged 20–64) was 28.4 percentage points higher than that for women in 2014.

Map 13.4 also presents data for the employment rate, but provides instead an analysis of gender differences for those aged 25–34, in other words, some of the prime child-bearing years for women; note also that it is relatively common in some of the EU Member States for students to still be at university at the start of this age range.

EU-28 employment rates among those aged 25–34 were, on average, higher than for the whole of the working-age population. This was the case for both women and men, with both sexes recording an employment rate in 2014 among those aged 25–34 that was 5.1 percentage points higher than for those aged 20–64.

There was a considerable gap in employment rates between the sexes for those aged 25–34 in the Czech Republic, Hungary and Slovakia

In the vast majority of regions, the employment rate for men aged 25–34 was higher than the rate recorded for women (of the same age). This gender gap remained relatively low in several regions of Belgium, eastern Germany, Spain, France, the Netherlands, Austria, Portugal and Sweden (as shown by the lightest blue shade in **Map 13.4**). By contrast, the biggest gaps were recorded in the Czech Republic, rising to upwards of 30 percentage points difference in the regions of Severozápad and Střední Morava. All eight of the regions in the Czech Republic recorded a gap of at least 20 percentage points between the employment rates of men and women aged 25–34. This was also the case in all but one (Dél-Dunántúl) of the NUTS level 2 regions in Hungary, and in three of the four regions from Slovakia (the exception being the capital region of Bratislavský kraj). There were 10 other regions in the EU where the gap between the sexes in the employment rate for those aged 25–34 was at least 20 percentage points: Dytiki Makedonia in Greece, Picardie and the Auvergne in France, Sicilia in Italy, Opoloskie in Poland, the Sud-Est region of Romania and four regions within the United Kingdom, namely: Cheshire; Leicestershire, Rutland and Northamptonshire; Shropshire and Staffordshire; and Outer London. The gender gap for those aged 25–34 was also particularly evident in Turkey, as the employment rate for men was more than 30 points higher than that for women in each of the 26 regions shown.

In 2014, there were six regions in the EU where the female employment rate for those aged 25–34 was above the corresponding male rate (as shown by the light red shade in **Map 13.4**). Two of these were neighbouring regions in the Netherlands (Friesland and Groningen), two were Spanish regions (the Principado de Asturias and the Illes Balears), while the other two were also islands, the Região Autónoma da Madeira (Portugal) and Cyprus (a single region at this level of analysis). The widest gender gap among these six regions was recorded in Madeira, where the female employment rate was 5.8 percentage points higher than that for men of the same age. There was also one region in Norway where the female employment rate for those aged 25–34 was higher than the corresponding rate for men: there was a difference of 1.2 percentage points between female and male rates in in Hedmark og Oppland.

Figure 13.6: Regional disparities in the gender gap for the employment rate, persons aged 20–64, by NUTS level 2 region, 2014 (¹)
(%)

Male	◆ National average	● Capital region	● Other regions
Female	◆ National average	● Capital region	● Other regions
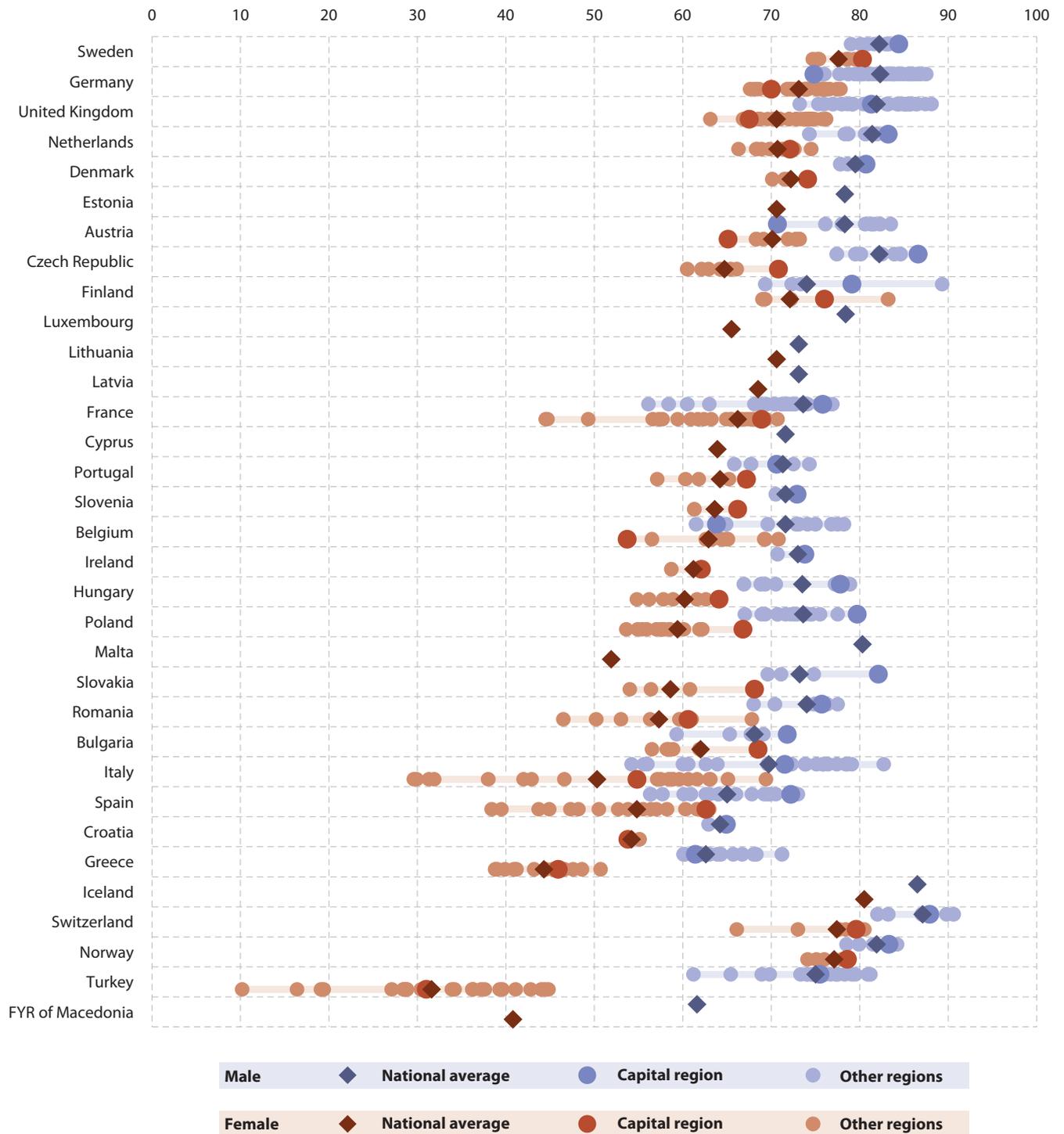
(¹) The figure is ranked on the overall (for men and women combined) employment rate. The purple shade is used for men and the red shade is used for women. The light shaded bars show the range from the highest to the lowest region. The diamonds show the national averages for men (purple) and women (red). The dark circles show the values for the capital city for men (purple) and women (red). The light circles show the values for the other regions (subject to data availability) for men (purple) and women (red). Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013.
Source: Eurostat (online data code: lfst_r_lfe2emprt)

**Map 13.4:** Gender gap for the employment rate of persons aged 25–34, by NUTS level 2 region, 2014 ([1])
(percentage points difference between the employment rate for men and the employment rate for women)

Guadeloupe (FR)   Martinique (FR)

0   25   0   20

Guyane (FR)   Réunion (FR)

0   100   0   20

Açores (PT)   Madeira (PT)

0   50   0   20

Canarias (ES)   Malta

0   100   0   10

Liechtenstein

0   5
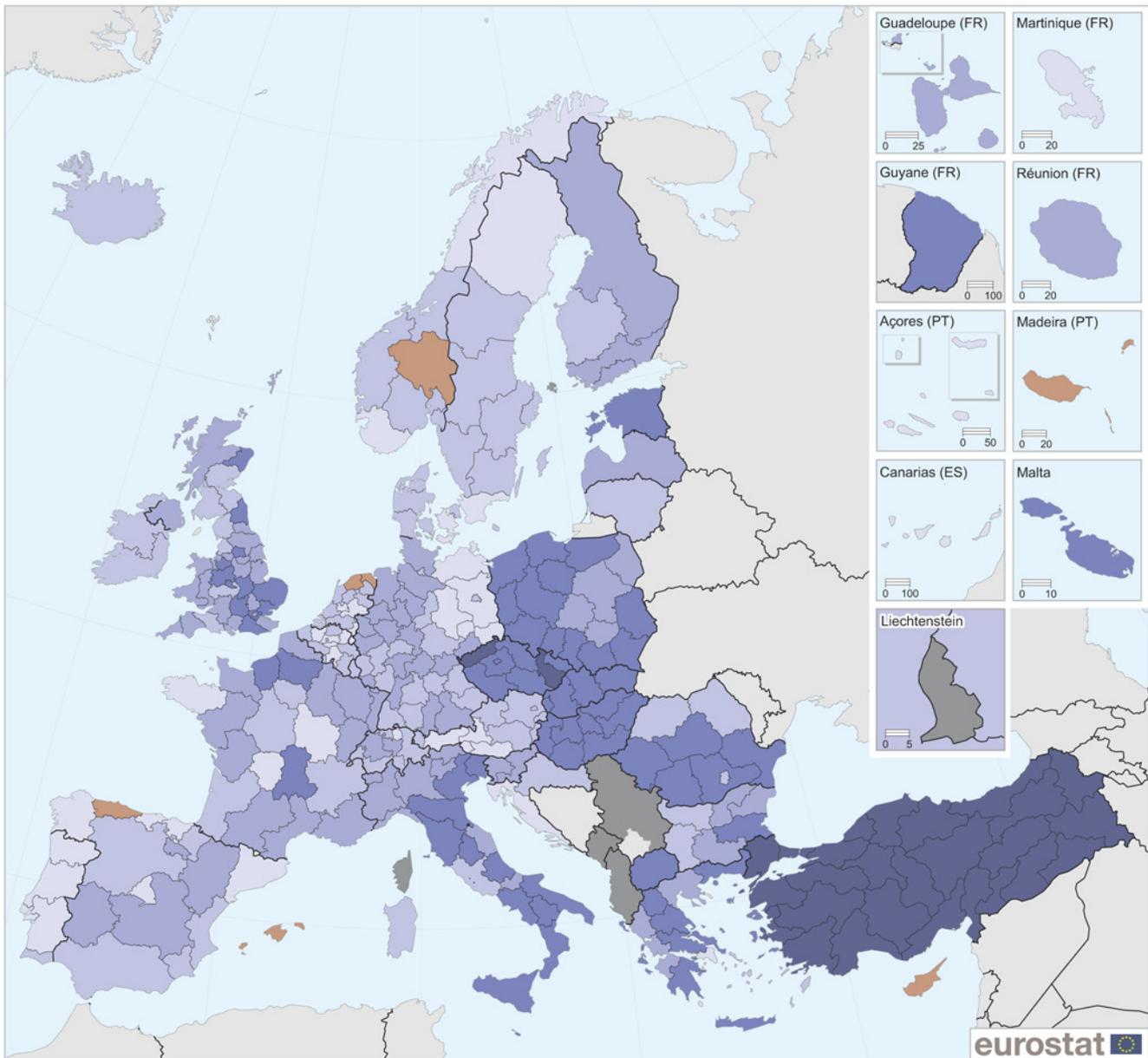
(percentage points difference between the employment rate for men and the employment
rate for women)

EU-28 = 11.5

- -6 – < 0
- 0 – < 5
- 5 – < 10
- 10 – < 15
- 15 – < 30
- >= 30
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km

([1]) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013.
Source: Eurostat (online data code: lfst_r_lfe2emprt)

Gender pay gap

One of the most highly publicised differences between the sexes is in relation to pay. The principle of equal pay is part of the Treaty on the Functioning of the European Union (Article 157), which states that each EU Member State 'shall ensure that the principle of equal pay for male and female workers for equal work or work of equal value is applied'.

Even in those EU Member States where the rights for paternal leave and childcare provisions are highly developed, women may face discrimination from employers who are reluctant to assign them to high level positions, or prefer not to hire women (perhaps fearing they could remain absent from work after childbirth). While the gender pay gap may reflect different forms of discrimination, it is also the result of a number of other factors that extend beyond the question of equal pay for equal work, for example:

- educational differences with respect to the subjects studied by women and men;
- segregation in the labour market as regards the different sectors and occupations traditionally occupied by women and men;
- unequal sharing of childcare and household responsibilities between women and men;
- difficulties in reconciling work with private life.

The EU-28's gender pay gap remained relatively unchanged at just over 16 %

The gender pay gap is calculated as the difference between average earnings of men and women as a percentage of average earnings of men. Across the whole of the EU-28 economy, women were paid, on average, 16.1 % less than men in 2010 (the latest date for which regional data are currently available). Fresher information shows that the gender pay gap in the EU-28 was relatively stable between 2010 and 2013, with a gap of 16.4 % in 2013.

The largest pay differentials between the sexes (as shown by the darkest blue shades in **Map 13.5**) were found in a cluster of NUTS level 1 regions covering western and southern Germany, the Czech Republic, Austria and western Hungary, as well as in Estonia, Finland and the southern half of England; all of these regions recorded a gender pay gap of at least 20 % in 2010. By contrast, the average difference between men's and women's hourly gross earnings was less than 5 % in two Polish regions, two eastern regions of

SPOTLIGHT ON THE REGIONS: SLOVENIJA, SLOVENIA

Across the whole of the EU-28 there was a relatively wide gender gap for pay. In 2010, the gender pay gap (defined here in relation to average hourly earnings of a male employee) in the EU-28 was 16.9 %. There were three regions — Region Wschodni in Poland and the Italian regions of Isole and Sud — where women were paid, on average, more than their male counterparts, while there was almost no difference in the level of pay between the sexes in Slovenia (a single region at NUTS level 1).

Photo: Matic Stojs */ Shutterstock.com*

Germany, in Macroregiunea Trei (Romania) and Slovenia (a single region at this level of analysis).

There were three regions in the EU where women earned more than men in 2010: two of these regions were in Italy, Isole and Sul, while the third was from Poland, the Region Wschodni. Female earnings were 6.8 % higher than those for men in Isole, 9.7 % higher in Sul, and 10.8 % higher in the Region Wschodni.

Part-time employment

In 2014, there were almost three times as many women as men working on a part-time basis in the EU-28. The 32.8 million women working part-time in the EU-28 accounted for almost one third (32.9 %) of the total female workforce, while about 10 % of the male workforce was working on a part-time basis.

Map 13.5: Gender pay gap, by NUTS level 1 region, 2010 (^{1})
(%, average gross hourly earnings of male paid employees - average gross hourly earnings of female paid employees, as
a percentage of average gross hourly earnings of male paid employees)
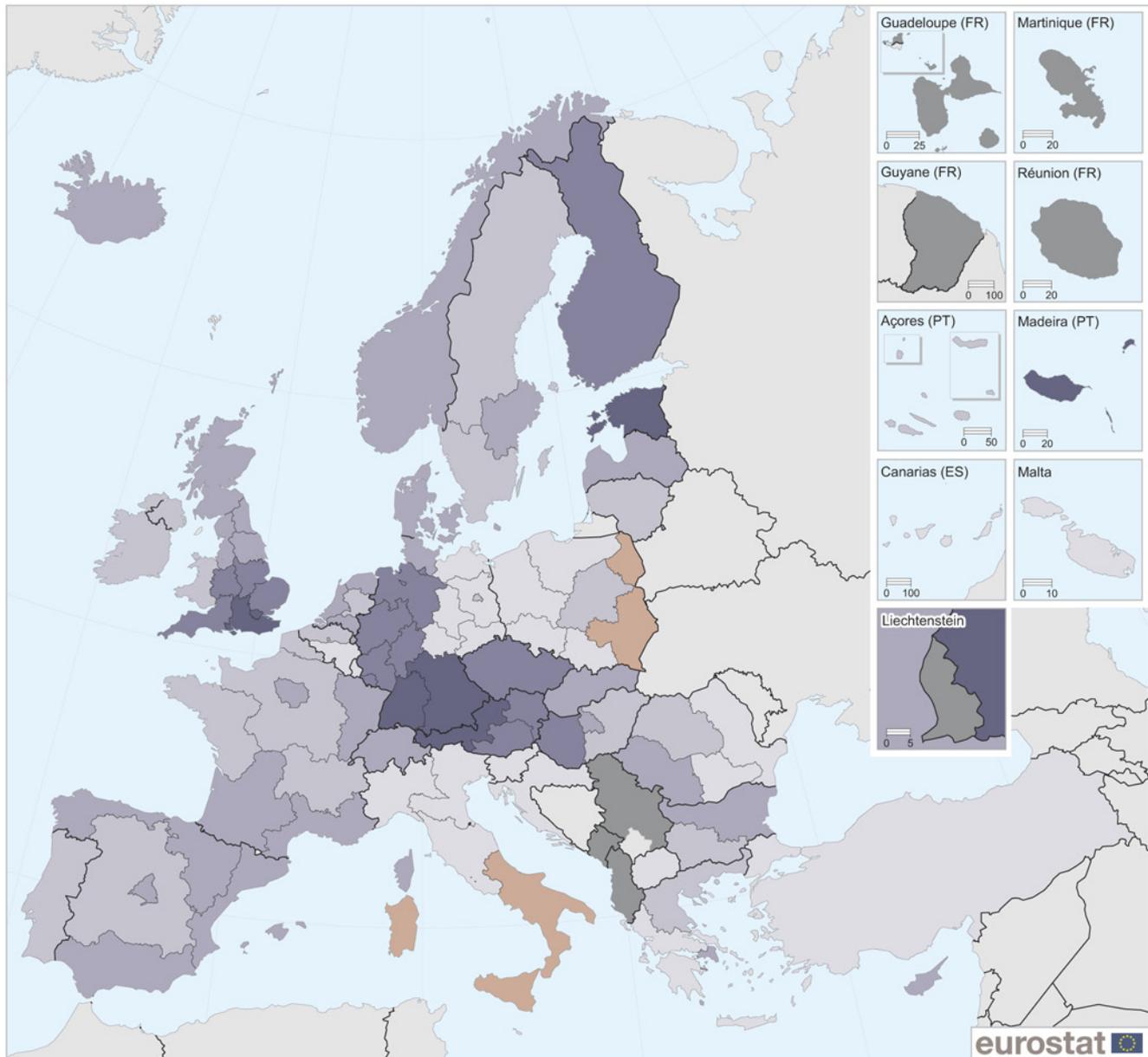
(%, average gross hourly earnings of male paid employees - average gross hourly earnings
of female paid employees, as a percentage of average gross hourly earnings of male paid
employees)

EU-28 = 16.1
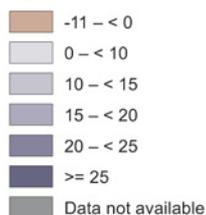
- ▉ -11 – < 0
- ▉ 0 – < 10
- ▉ 10 – < 15
- ▉ 15 – < 20
- ▉ 20 – < 25
- ▉ >= 25
- ▉ Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
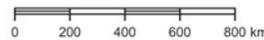
(^{1}) NACE Rev. 2 Sections B–S excluding O.
Source: Eurostat (online data codes: earn_ses10_rhr and earn_gr_gpgr2)

Map 13.6 shows the gender gap between the share of women and men working part-time in relation to the total working-age population (defined here as those aged 15–64 years). In the EU-28, one fifth (20.0 %) of the female population was employed on a part-time basis, while the corresponding share for men was 7.1 %; as such, the gender gap between the sexes was 12.8 percentage points.

The incidence of female part-time work was particularly low in Bulgaria, Slovakia, Croatia, Hungary and Latvia

Those EU Member States that were characterised by relatively large gender gaps tended to have high rates of part-time work, especially for women. While the incidence of female part-time work was as low as 3.1 % in Bulgaria, and remained below 10 % of the female workforce in Slovakia, Croatia, Hungary and Latvia, some 40–50 % of working women in Belgium, the United Kingdom, Austria and Germany worked on a part-time basis, a share that rose to 76.8 % in the Netherlands. As such, some of the EU Member States with the highest female employment rates in 2014 also displayed a high proportion of these women working part-time; this was particularly the case in the Netherlands, and to a lesser degree in Belgium, Denmark, Germany, Austria, Sweden and the United Kingdom.

In 2014, the Netherlands also recorded the highest share of part-time employment for men, as more than a quarter (28.2 %) of the male workforce in Netherlands was employed on a part-time basis. In the Nordic Member States, Germany, Austria, Cyprus, Portugal, the United Kingdom and Ireland more than 10 % of the male workforce was employed on a part-time basis.

The biggest gaps between the sexes in relation to part-time employment tended to be recorded in those EU Member States where the incidence of female part-time work was particularly high

Some of the biggest gender gaps between the sexes and some of the highest incidences of female part-time employment were recorded in the Netherlands, as well as some regions in the Nordic Member States, Germany, Austria and the United Kingdom. There were eight regions in the Netherlands and six regions in Germany where the share of the female working-age population working on a part-time basis was at least 30 percentage points higher than the corresponding share for men (as shown by the darkest red shade in **Map 13.6**). Across the whole of the EU, the biggest gap between the sexes was recorded in the Dutch region of Zeeland, where the share of the female working-age population employed on a part-time basis was 38.5 percentage points higher than for men.

By contrast, there was little difference between the sexes in relation to the incidence of part-time work in those regions / EU Member States characterised by a low propensity to employ on a part-time basis. There were five regions in

Romania, four in Portugal and three in Greece where a slightly higher share of the male (compared with female) working-age population was employed on a part-time basis; this pattern was repeated in several Turkish regions too. However, the differences between the sexes in these regions were generally very small, with the share among men no more than 2.5 percentage points higher than that for women in the Sud-Est region of Romania.

Average working time

On average, people in the EU-28 worked 37.2 hours per week in 2014. A closer analysis by sex reveals that women worked an average of 33.6 hours, compared with 40.2 hours for men, resulting in a difference of 6.6 hours per week between the sexes; this is not surprising given that a higher proportion of women worked on a part-time basis.

In every region of the EU, men spent more time at work than women

The average number of hours worked per week by men was systematically higher than the number worked by women in each of the NUTS level 2 regions for which data for 2014 are available. **Map 13.7** shows a close relationship between the average number of hours worked and the incidence of part-time employment. Those regions characterised by high shares of (female) part-time employment tended to record the largest differences between the sexes in relation to average hours worked. The gender gap was most pronounced in the United Kingdom, the Netherlands, Germany and Austria, with men working at least 10 hours more than women in 20 regions of the United Kingdom, 17 regions in Germany, eight in the Netherlands, and three in Austria. The biggest difference was recorded in the Highlands and Islands of Scotland, where an average man worked 44.2 hours per week, compared with an average of 29.7 hours for each women.

By contrast, those regions where there was a relatively low propensity to employ people on a part-time basis were characterised by small differences between the sexes in relation to their average time spent at work. This was particularly true in the eastern regions of the EU and in the Baltic Member States, but was also the case in Portugal and the Nordic Member States, where there was a higher propensity to employ on a part-time basis (although this was spread between the sexes).

There were 35 NUTS level 2 regions (shown by the lightest shade in **Map 13.7**) in the EU where, on average, men worked less than 2.5 hours per week more than women. They covered the Baltic Member States (single regions at this level of analysis) and every single region of Bulgaria, Croatia, Hungary, Slovenia, as well as all but one of the regions in Romania, three regions in Portugal, two each from Greece and Slovakia, as well as the autonomous Spanish city of Melilla.

Map 13.6: Gender gap for part-time employment, by NUTS level 2 region, 2014 (^{1})
(percentage points difference between the share of women aged 15–64 working part-time and the share of men aged 15–64 working part-time)
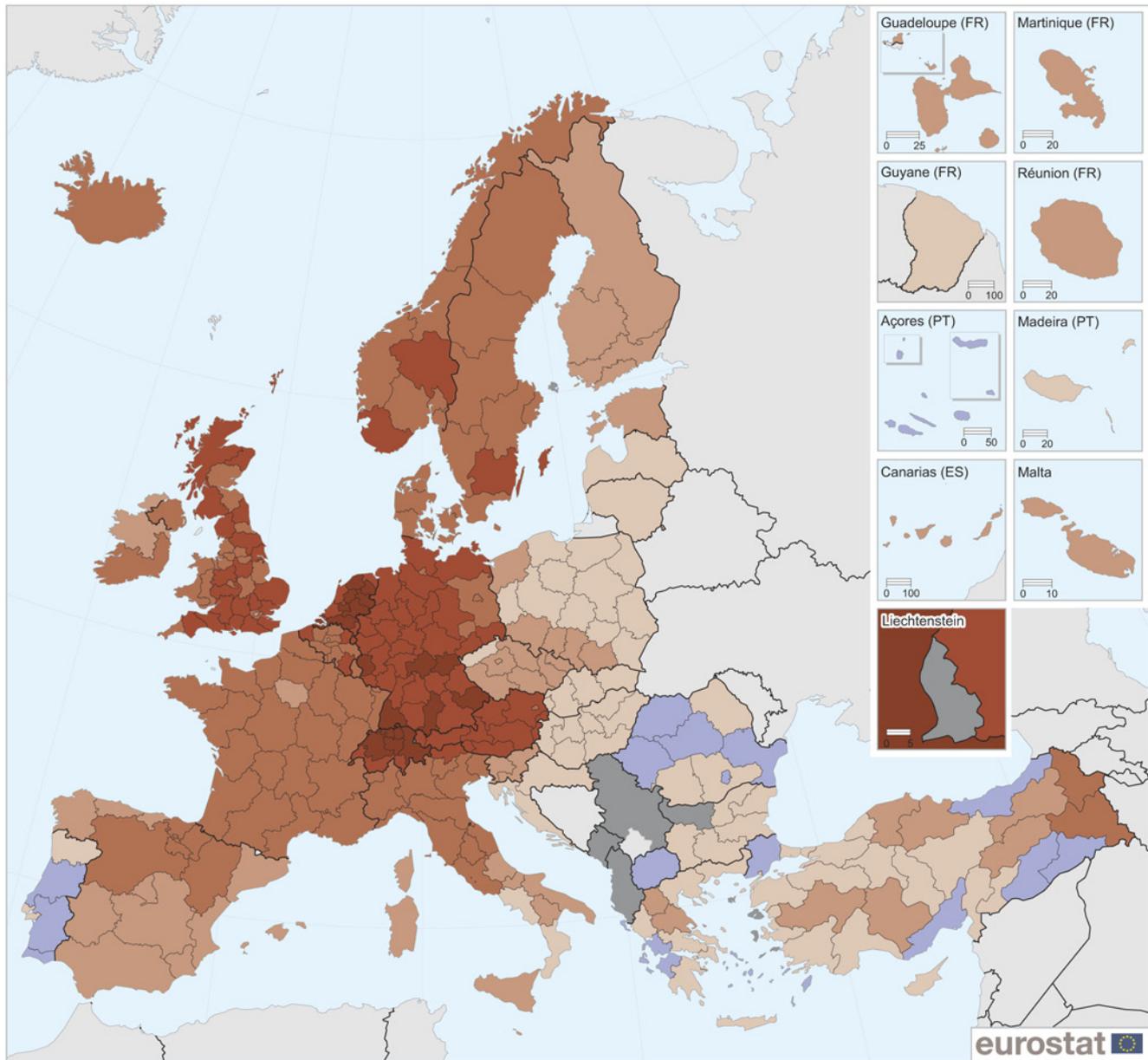
(percentage points difference between the share of women aged 15–64 working part-time and the share of men aged 15–64 working part-time)

EU-28 = 12.8
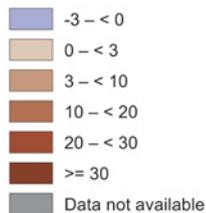
- -3 – < 0
- 0 – < 3
- 3 – < 10
- 10 – < 20
- 20 – < 30
- >= 30
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
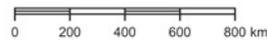
(^{1}) Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2013. Data for several regions are of low reliability (too numerous to document).
Source: Eurostat (online data codes: lfst_r_lfe2eftpt and lfst_r_lfsd2pop)

Map 13.7: Gender gap for average hours worked in main job, by NUTS level 2 region, 2014 (¹)
(hours per week, difference between the average hours worked by men and the average hours worked by women)
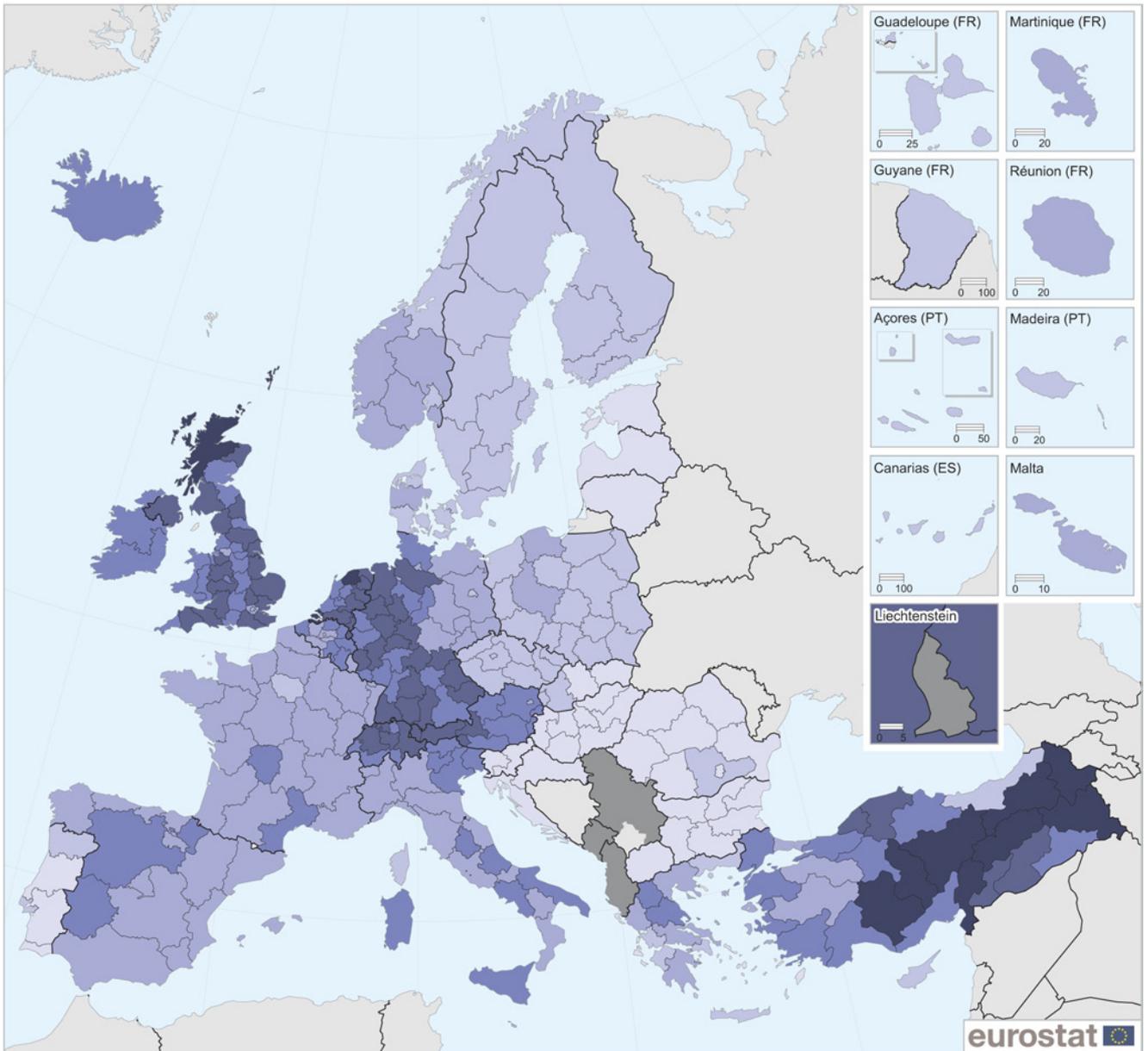
(hours per week, difference between the average hours worked by men and the average hours worked by women)
EU-28 = 6.6

- 0 – < 2.5
- 2.5 – < 5
- 5 – < 7.5
- 7.5 – < 10.0
- 10 – < 12.5
- >= 12.5
- Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015
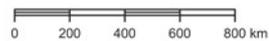
(¹) Turkey: 2013. Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): 2012.
Source: Eurostat (Labour Force Survey)

Data sources and availability

The subjects covered by gender statistics span a wide range of issues. In order to obtain more information on the data sources employed, please refer to the subject-specific chapters:

- health (Chapter 3);
- education (Chapter 4);
- labour market (Chapter 5).

Indicator definitions

Life expectancy at birth is the mean number of years a new-born child can expect to live if subjected throughout his or her life to the current mortality conditions (the probabilities of dying at each age).

The **cause of death** is defined as the disease or injury which started the train (sequence) of morbid (disease-related) events which led directly to death, or the circumstances of the accident or violence which produced the fatal injury.

An **early leaver from education and training** generally refers to a person aged 18–24 who has finished no more than a lower secondary level education and is not involved in further education or training. The indicator is calculated by dividing the number of early leavers from education and training, by the total population of the same age group.

Core human resources in science and technology cover those people who have completed a tertiary level education and are employed in a science and technology occupation.

The **activity rate** is the percentage of economically active persons in relation to the comparable total population. The economically active population comprises employed and unemployed persons.

The **employment rate** is the percentage of employed persons (of a particular age range) in relation to the comparable population.

The **gender pay gap** refers to the difference in average wages between men and women. The unadjusted gender pay gap is calculated as the difference between the average gross hourly earnings of male and female paid employees as a percentage of average gross hourly earnings of male paid employees.

Hours worked is the number of hours actually worked, defined as the sum of all periods spent on direct and ancillary activities to produce goods and services. The average number of hours worked corresponds to the number of hours the person normally works (this includes all hours worked including overtime, regardless of whether they were paid); it excludes travel time between home and the workplace, as well as main meal breaks.

Focus on quality of life

14

Introduction

The quality of life and living standards are key priorities for most governments, following work done by the Commission on the Measurement of Economic Performance and Social Progress and studies related to gross domestic product (GDP) and beyond (see box for more details). With challenges arising from an ageing population, increased levels of poverty and social exclusion, and the aftershocks of the financial and economic crisis still apparent in several European Union (EU) Member States, there has been renewed interest in this multidimensional data set which has the potential to provide a detailed picture of how Europeans experience and view their day-to-day lives and the societies they live in; as well as their objective and subjective living standards.

GDP AND BEYOND

In recent years, policymakers and statisticians have spent considerable time and effort in developing new measures that complement GDP and economic statistics, with the goal of providing a more complete picture of living standards, well-being and the quality of life.

In August 2009, the European Commission published a communication titled, 'GDP and beyond — Measuring progress in a changing world' (COM(2009) 433). One of the main goals of this communication was to underline the importance of complementing GDP through new approaches for monitoring social and environmental progress.

A month later, a report by the Commission on the Measurement of Economic Performance and Social Progress (the Stiglitz / Sen / Fitoussi report) was released, with 12 recommendations on how to measure economic performance, societal well-being and sustainability better, with a recommendation for developing quality of life indicators.

Thereafter, the European Statistical System Committee (ESSC) launched a sponsorship group on these matters which led to the adoption of a report on the Multidimensional measurement of the quality of life in November 2011, containing a list of proposals for indicators.

Sub-national statistics are particularly relevant in this context, as they move beyond aggregated national averages, providing information for specific regions / types of locality that allow individual's the opportunity to more clearly identify patterns and trends that touch upon their own lives. For example, while a big city may be characterised by a high number of job opportunities and relatively high levels of disposable income, it may also have significant levels of pollution, congestion and crime. By contrast, job opportunities and access to health services may be restricted in rural locations, although these may be countered by, for example, a high degree of community spirit and the opportunity to spend more leisure time with family and friends.

There has been much debate surrounding the pros and cons of producing a composite quality of life indicator. However, the varied relationships that exist across variables, EU Member States, and degrees of urbanisation, suggest that it is debatable whether a single figure could provide any meaningful indication as to preferred policy approaches. Rather, it may be more appropriate to analyse the performance of each particular region or type of area in terms of the degree of urbanisation, against a list of criteria so as to determine targeted measures that may be used to improve specific situations.

GDP per capita has traditionally been used by policymakers to measure living standards. While economic growth is often considered as crucial for improving overall well-being, GDP as such is a restricted measure of economic output and fails to capture social developments, welfare, or environmental aspects. For more information on regional disparities in GDP per capita, see Chapter 6.

The quality of life is a broader concept encompassing both objective factors (for example, health, labour status, income distribution or living conditions) and subjective perceptions (based on an individuals' assessment of different aspects that impact on their life).

Traditionally official statistics describe economic and social developments by using indicators such as GDP. However, GDP alone does not provide an overarching and informed opinion on how well or badly people are doing. Quality of life is indeed a broader concept which includes a full range of factors that people value in life and their subjective assessments of these. For more information on quality of life statistics, please refer to a recent publication, 'Quality of life in Europe — facts and views' (http://ec.europa.eu/eurostat/statistics-explained/index.php/Quality_of_life_indicators) or to an infographic available on the Eurostat website (http://ec.europa.eu/eurostat/cache/infographs/qol/index_en.html).

This chapter provides a selection of statistics, analysed by degree of urbanisation, across nine dimensions that have been identified as contributing towards an individuals' quality of life; the principal source is EU statistics on income and living conditions (EU-SILC).

The degree of urbanisation is a typology based on three types of area, identifying:

- thinly populated areas (referred to hereafter as rural areas);
- intermediate density areas (referred to hereafter as towns and suburbs);
- densely populated areas (referred to hereafter as cities).

Note that there are two related maps that appear elsewhere in this publication that may be of interest:

- a map of population distribution, by degree of urbanisation, showing rural areas, towns and suburbs, and cities appears in the introductory chapter;
- a map showing the resident population of EU cities is shown in Chapter 15.

Furthermore, Chapter 15 provides a range of quantitative information on the quality of life in the cities of the EU.

Main statistical findings

In 2013, some 42.2 % of the EU-28's population lived in cities, while the corresponding shares for towns and suburbs (30.2 %) and rural areas (27.6 %) were somewhat lower (Figure 14.1). Across the EU Member States, there were considerable differences in the shares of the population living in each of these three types of area, for example:

- Malta (89.0 %), the United Kingdom (55.9 %), Belgium (53.2 %) and Cyprus (51.4 %) were the only Member States where a majority of the population lived in cities;
- Belgium (42.6 %), Germany (41.1 %) and Italy (40.1 %) had the highest shares of their populations living in towns and suburbs, while;
- almost half (47–48 %) of the populations of Latvia, Lithuania, Luxembourg and Slovenia lived in rural areas.

The statistics presented hereafter take account of these differences, as the size of the bubbles in **Figures 14.2–14.14** reflect the relative share of each of the three types of area in the national population.

Quality of life dimensions

At risk of poverty or social exclusion

The Europe 2020 strategy set the joint goals of the EU becoming a 'smart, sustainable and inclusive economy', while reducing the number of people at risk of poverty and social exclusion by at least 20 million.

A higher proportion of people living in rural areas of the EU (compared with those living in cities) were at risk of poverty or social exclusion

Figure 14.2 presents the proportion of people at risk of poverty or social exclusion across the EU in 2013. This peaked at 27.4 % among those living in rural areas, while the risk of poverty and social exclusion touched almost one in four (24.4 %) of the EU-28's population living in cities, and a slightly lower share (22.1 %) among those living in towns and suburbs.

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i DEFINING POVERTY

Poverty is both an absolute and a relative concept. Although there was a reduction in real incomes during the financial and economic crisis in several of the EU Member States, this does not necessarily imply that a greater share of the population fell below the poverty threshold (defined as 60 % of the median equivalised disposable income).

Indeed, when incomes fall the poverty threshold may also fall: despite falling living standards and an increasing number of people finding it difficult to make ends meet, this may counter-intuitively lead to a lower share of people facing relative poverty. Similarly, when incomes rise, if the (re) distribution of wealth is not shared equitably / uniformly across income groups then some people will be relatively less well-off, which could result in a higher proportion of the population facing the risk of poverty.

Figure 14.1: Distribution of the population, by degree of urbanisation, 2013
(% of total)

■ **Rural areas**
■ **Towns and suburbs**
■ **Cities**
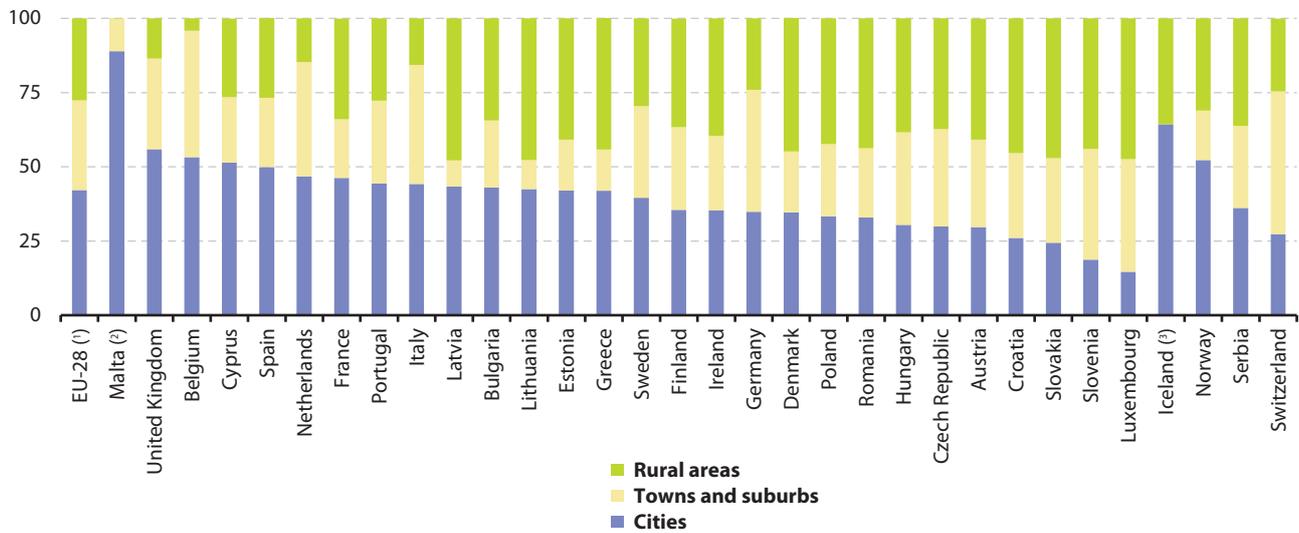
(¹) Rural areas: estimate.
(²) Rural areas: low reliability.
(³) Towns and suburbs: low reliability.
Source: Eurostat (online data code: ilc_lvho01)

SPOTLIGHT ON THE REGIONS:
PRAHA, THE CZECH REPUBLIC

In 2013, almost one quarter (24.4 %) of EU-28 residents living in cities were at risk of poverty or social exclusion, a share that rose to 27.4 % among those living in rural areas.

Upwards of 30 % of those living in cities in Bulgaria, Greece and Romania were at risk of poverty or social exclusion. By contrast, the lowest risk of poverty or social exclusion among those living in cities was recorded in the Czech Republic (13.7 %).

Photo: Shchipkova Elena */ Shutterstock.com*

There were considerable differences between the individual EU Member States. All eight where those living in cities had a higher risk of poverty or social exclusion were EU Member States who were already members prior to 2004. This was particularly the case in Austria and the United Kingdom,

as the risk of poverty or social exclusion was more than 10 percentage points higher than for those living in rural areas.

However, in a majority of the EU Member States (19 out of the 27 for which data are available; there are almost no rural areas in Malta), the proportion of people at risk of poverty or social exclusion was higher in rural areas than it was in cities: in Romania and Bulgaria this difference was around 20 percentage points.

Employment rate

Employment conditions and opportunities can play a considerable role in determining an individual's material living conditions. Work is considered important for well-being not only because it generates income but also because it occupies a significant part of each working day and has the potential to develop skills, social connections and a sense of achievement, satisfaction and worth. Conversely, those who struggle to find work, those who work in precarious jobs (temporary contracts, a low number of hours per week), those who work unsocial hours, or those who work long hours for low pay, are more likely to have low levels of job satisfaction which may impact on their quality of life.

There was almost no difference in the EU-28 employment rate for the different types of area

The Europe 2020 strategy set a target of increasing the EU-28's employment rate, among those aged 20–64, to 75 % by 2020. In 2013, there was little difference (0.8 percentage points) between employment rates according to the degree of urbanisation: the highest employment rate in the EU-28 was recorded for those living in towns and suburbs (68.8 %), while the corresponding rates for city dwellers (68.3 %) and those living in rural areas (68.0 %) were slightly lower.

Figure 14.2: People at risk of poverty or social exclusion, by degree of urbanisation, 2013 (¹)
(%)
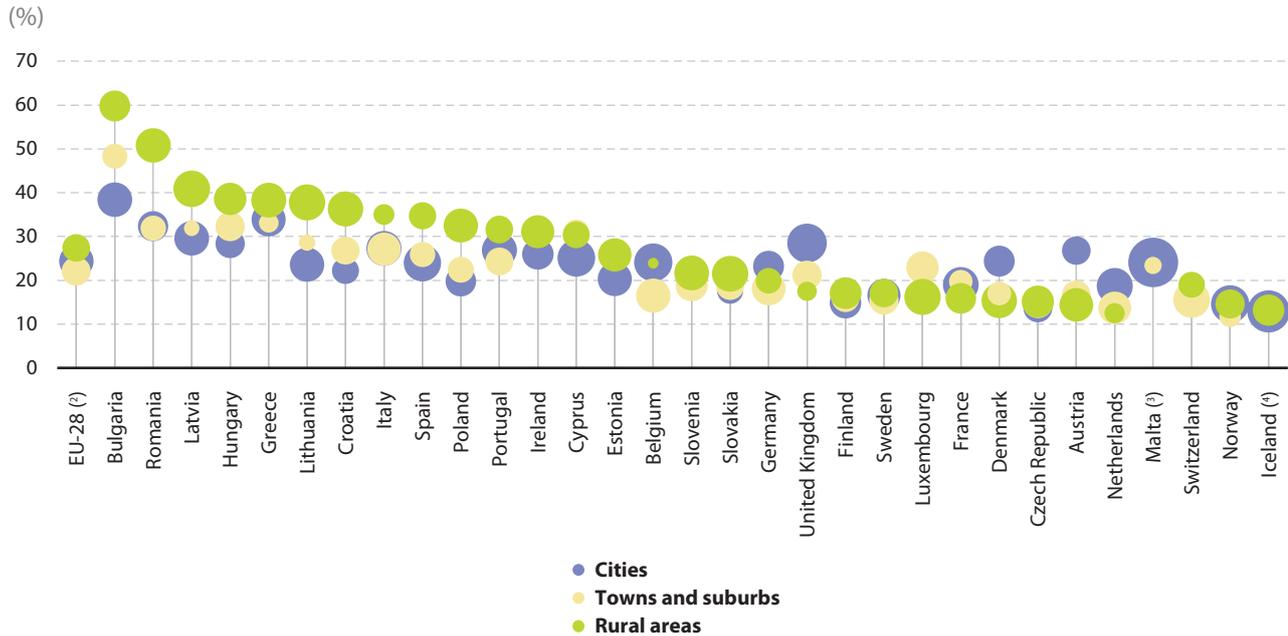
- Cities
- Towns and suburbs
- Rural areas

(¹) The size of the bubbles reflects the share of each degree of urbanisation in national population.
(²) Rural areas: estimate.
(³) Rural areas: not available.
(⁴) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_peps13 and ilc_lvho01)

Across the EU Member States, there was a far wider distribution of employment rates by degree of urbanisation (**Figure 14.3**). For example, in Belgium, the employment rate among those living in rural areas was 10.7 percentage points higher than that for city dwellers, a pattern that was repeated (although to a lesser degree) in 11 other Member States including three of the largest (Germany, France and the United Kingdom). By contrast, employment rates in Bulgaria and Lithuania were 14.3 and 12.3 percentage points higher among those living in cities than they were for inhabitants of rural areas. Denmark was the only EU Member State where the highest employment rate was recorded among those living in towns and suburbs.

Figure 14.3: Employment rate, persons aged 20–64, by degree of urbanisation, 2013 (¹)
(%)

- Cities
- Towns and suburbs
- Rural areas

(¹) Note the y-axis has been cut. The size of the bubbles reflects the share of each degree of urbanisation in national population.
(²) Rural areas: estimate for population.
(³) Rural areas: not available.
(⁴) Towns and suburbs: not available.
Source: Eurostat (online data codes: lfst_r_ergau and ilc_lvho01)

SPOTLIGHT ON THE REGIONS: BURGENLAND, AUSTRIA

People living in rural areas of the EU tended to be slightly more satisfied with their accommodation than those living in cities. This was particularly the case in the Nordic Member States of Denmark, Finland and Sweden, as well as in Austria. In each of these, satisfaction with accommodation in rural areas reached 8.5 (on a scale of 0–10), which could be compared with an average score of 7.5 for rural areas across the whole of the EU-28.

Photo: Pecold / *Shutterstock.com*

Average satisfaction with accommodation

Housing is also considered as an important dimension for measuring the quality of life, as appropriate shelter is one of the most basic human needs. Housing can be measured in an objective manner by recording the existence of structural problems (such as a leaking roof or damp walls), a lack of space (overcrowding) or a lack of basic amenities (for example, no toilet or bath within the dwelling). Alternatively, it can also be measured as a subjective indicator, namely, through an individual´s satisfaction with their housing conditions. Note that housing issues are often closely connected to other dimensions of well-being, such as health and overall life satisfaction, while housing costs often represent one of the largest components of a household's expenditure (mortgages, rents and maintenance costs accounted for almost one fifth of the total budget of an average household in the EU-28 in 2010 according to the household budget survey).

The proportion of people satisfied with their accommodation was relatively high in the rural areas of most western EU Member States

In 2013, there was a relatively narrow range in average levels of satisfaction experienced by individuals in the EU-28 in relation to their accommodation (**Figure 14.4**). Satisfaction was highest (7.6 on a scale of 0–10) among those living in towns and suburbs, while the corresponding values for those living in rural areas (7.5) and in cities (7.4) were slightly lower.

Figure 14.4: Average satisfaction with accommodation, by degree of urbanisation, 2013 (¹)
(scale, 0–10)
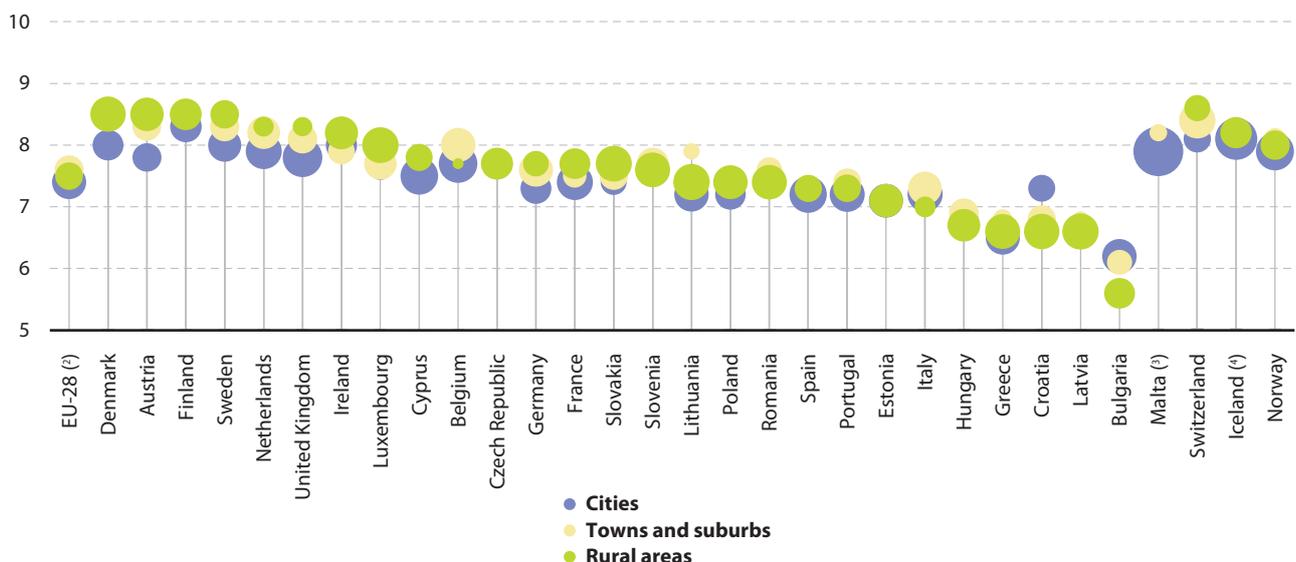
(¹) Note the y-axis has been cut. The size of the bubbles reflects the share of each degree of urbanisation in national population.
(²) Rural areas: estimate for population.
(³) Rural areas: not available.
(⁴) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_pw02 and ilc_lvho01)

Those living in cities in Bulgaria and Croatia were clearly more satisfied with their accommodation than the population living in rural areas. The converse was true in Denmark, Germany, France, Luxembourg, the Netherlands, Austria, Sweden and the United Kingdom, where those living in rural areas had, on average, a higher degree of satisfaction with their accommodation.

Average satisfaction with commuting time

As part of a 2013 module on well-being, EU statistics on income and living conditions provide information detailing respondent's opinions concerning their degree of satisfaction with commuting time, in terms of a broad appraisal of the time it took to travel to and from work. On a scale of 0–10, the highest level of satisfaction among individuals in the EU-28 was recorded for those living in towns and suburbs (7.5), just ahead of those living in rural areas (7.4) and in cities (7.3).

Bulgarian and Greek commuters living in cities were least satisfied with their commute to work …

Among the EU Member States, those living in the cities of Bulgaria and Greece were relatively unsatisfied with their commute to work, and this was also the case (although to a lesser degree) for those living in cities in Spain and the United Kingdom (**Figure 14.5**). Compared with those living in rural areas, city dwellers in Croatia, Cyprus, the

Czech Republic, Slovenia, Estonia, Luxembourg, Romania, Germany and France were more satisfied with their commuting time.

## Average satisfaction with time use

The same ad-hoc module also asked respondents to assess their satisfaction with time use, having made a broad appraisal of the things they liked to do (essentially a self-defined and a self-perceived concept).

In 2013, there was little or no difference at an EU level in relation to the average levels of satisfaction experienced by individuals in relation to their time use. Satisfaction was highest (6.8 on a scale of 0–10) among those living in towns and suburbs and those living in rural areas, while the corresponding value for those living in cities was marginally lower (6.7).

… while those living in the Nordic Member States and the Netherlands were most inclined to be satisfied with their time use

There was a mixed pattern among the EU Member States, although national characteristics appeared to play a greater role than sub-national characteristics (**Figure 14.6**). For example, those living in the Nordic Member States and the Netherlands were more inclined to be satisfied with their time use than those living in Bulgaria or Hungary, irrespective of whether they lived in cities or rural areas.

Figure 14.5: Average satisfaction with commuting time, by degree of urbanisation, 2013 ([1])
(scale, 0–10)
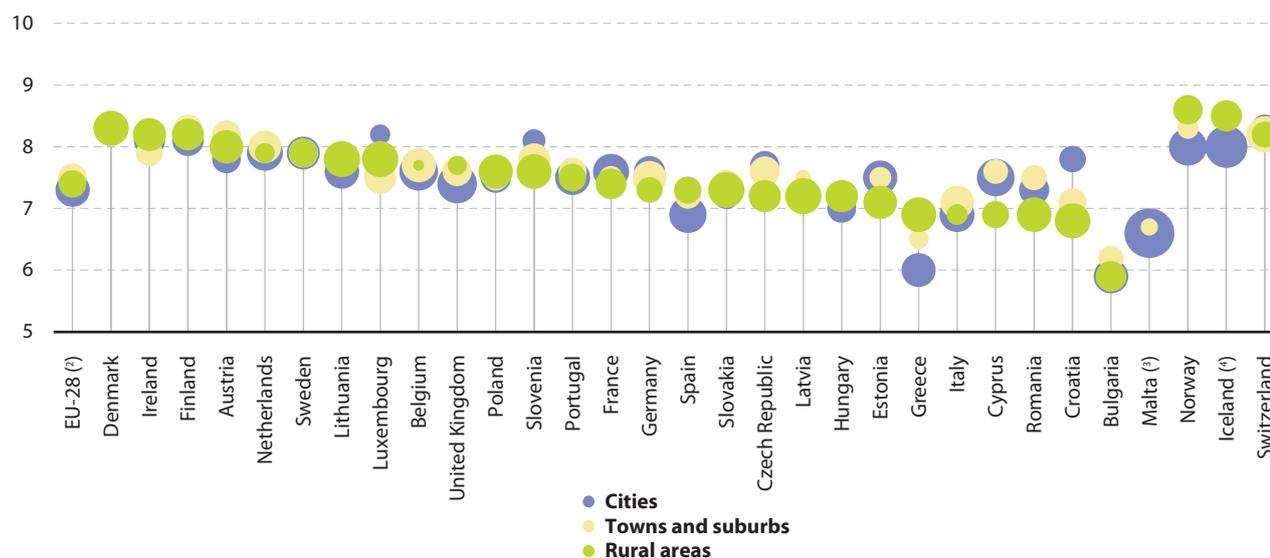
([1]) Note the y-axis has been cut. The size of the bubbles reflects the share of each degree of urbanisation in national population.
([2]) Rural areas: estimate for population.
([3]) Rural areas: not available.
([4]) Towns and suburbs: not available.
*Source:* Eurostat (online data codes: ilc_pw02 and ilc_lvho01)

That said, the proportion of people living in cities that were satisfied with their time use was, in Croatia, Belgium and Bulgaria, considerably higher than among those living in rural areas, whereas the converse was true in Luxembourg, Ireland, the United Kingdom and Greece.

People that self-assess their health as bad or very bad

Ill health not only undermines an individuals' quality of life, at a collective level it also hinders economic and social

Figure 14.6: Average satisfaction with time use, by degree of urbanisation, 2013 (^{1})
(scale, 0–10)
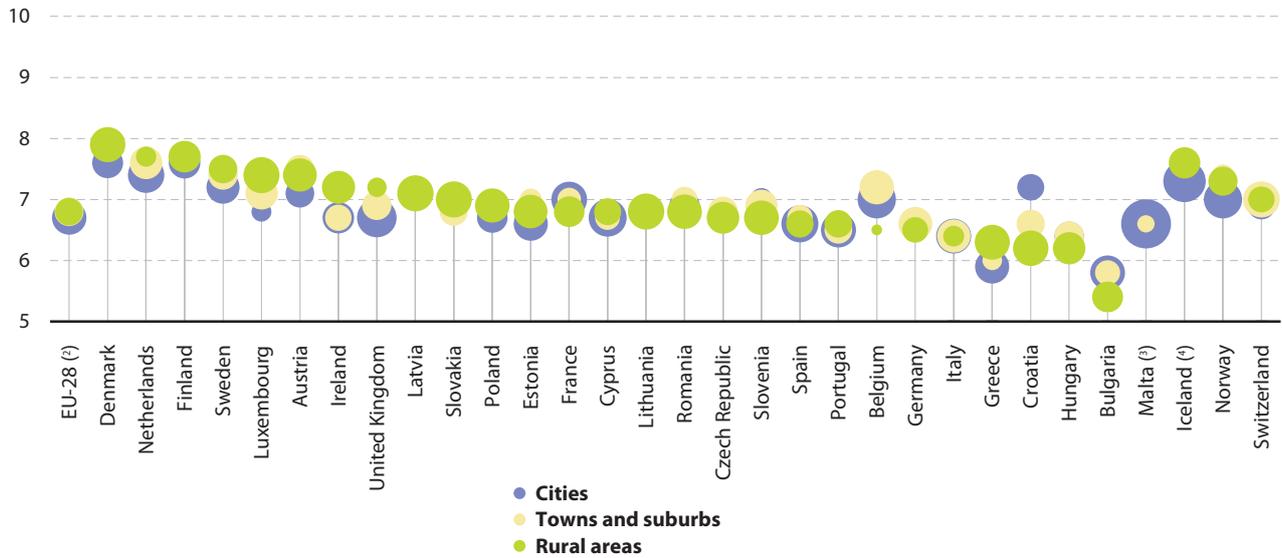
(^{1}) Note the y-axis has been cut. The size of the bubbles reflects the share of each degree of urbanisation in national population.
(^{2}) Rural areas: estimate for population.
(^{3}) Rural areas: not available.
(^{4}) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_pw02 and ilc_lvho01)

Figure 14.7: Self-assessment of health, by degree of urbanisation, 2013 (^{1})
(% of persons aged 18–64 assessing their own health as bad or very bad)
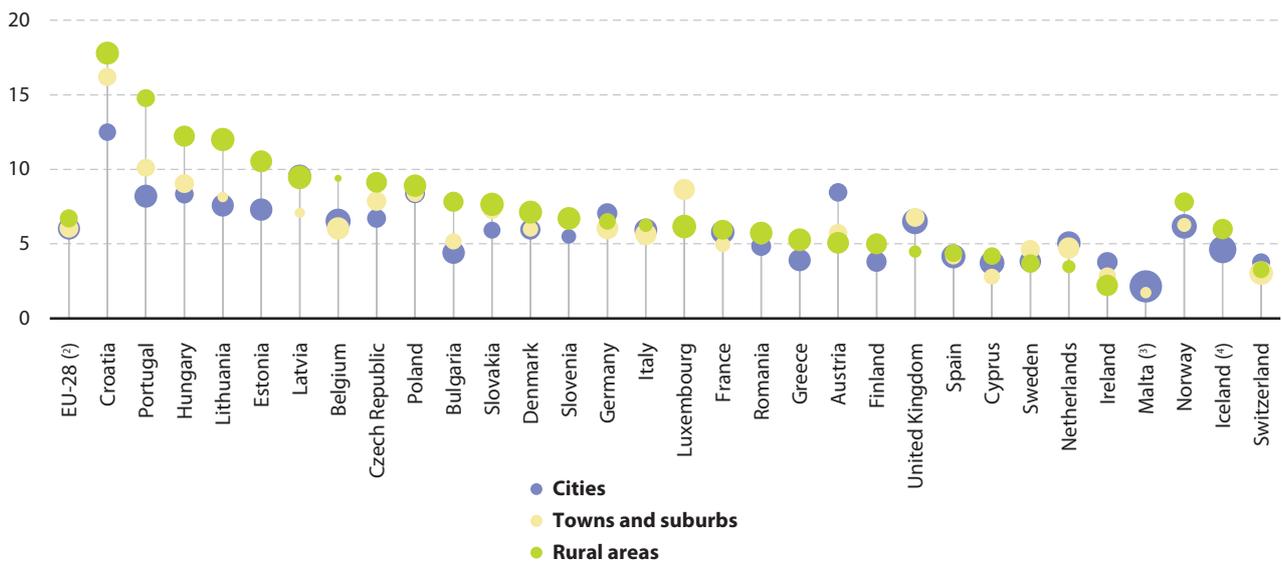
(^{1}) The size of the bubbles reflects the share of each degree of urbanisation in national population.
(^{2}) Rural areas: estimate for population.
(^{3}) Rural areas: not available.
(^{4}) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_lvhl01 and ilc_lvho01)

development by reducing the quality of human capital. Living a long and healthy life is therefore not just a personal aim, but also a likely efficiency gain for societal well-being, which could be increasingly important in the context of the EU's ageing population. While health conditions are often measured using objective indicators (such as life expectancy or the infant mortality rate), a subjective self-evaluation of health is also very relevant, as it has a strong impact on well-being.

A lower proportion of city dwellers (compared with those living in rural areas) assessed their own health as being bad or very bad

In 2013, the proportion of the EU-28 population (aged 18–64) who assessed their own health as being bad or very bad reached 6.7 % among those living in rural areas, which was somewhat higher than the shares recorded among those living in towns and suburbs (6.1 %) or cities (6.0 %). This pattern was repeated in a majority of the EU Member States and was particularly prevalent in the eastern Member States (**Figure 14.7**). By contrast, in Ireland, Austria, the Netherlands and the United Kingdom the proportion of people living in cities reporting bad or very bad health was higher than among those living in rural areas.

Early leavers from education and training

Education plays an important role in determining life chances and raising the quality of life of a specific individual:

some of these differences can be measured through indicators such as the number of early school leavers, an assessment of educational attainment, or participation in lifelong learning. By contrast, a lack of educational skills and qualifications can limit an individual's access to a variety of jobs and may therefore result in an increased risk of poverty or social exclusion.

Those living in rural areas were more inclined to leave education or training at a relatively young age …

As with health, education also has social returns, insofar as raising overall educational standards will likely result in a more productive workforce which should, in turn, drive economic growth. Across the EU, the proportion of early leavers from education and training was higher among those living in rural areas (13.3 %) than it was for those living in towns and suburbs (12.6 %) or cities (10.7 %).

There were widespread differences both between and within EU Member States (**Figure 14.8**). As a general rule, early leavers accounted for a higher share of the population aged 18–24 living in rural areas in most of the EU Member States. The proportion of young people who were early leavers was particularly high in the rural areas of Bulgaria, Spain and Romania. By contrast, the proportion of early leavers from education and training was particularly high among those living in the cities of Austria, Belgium, Germany and the United Kingdom.

Figure 14.8: Early leavers from education and training, by degree of urbanisation, 2013 ([1])
(% of 18–24 year-olds)
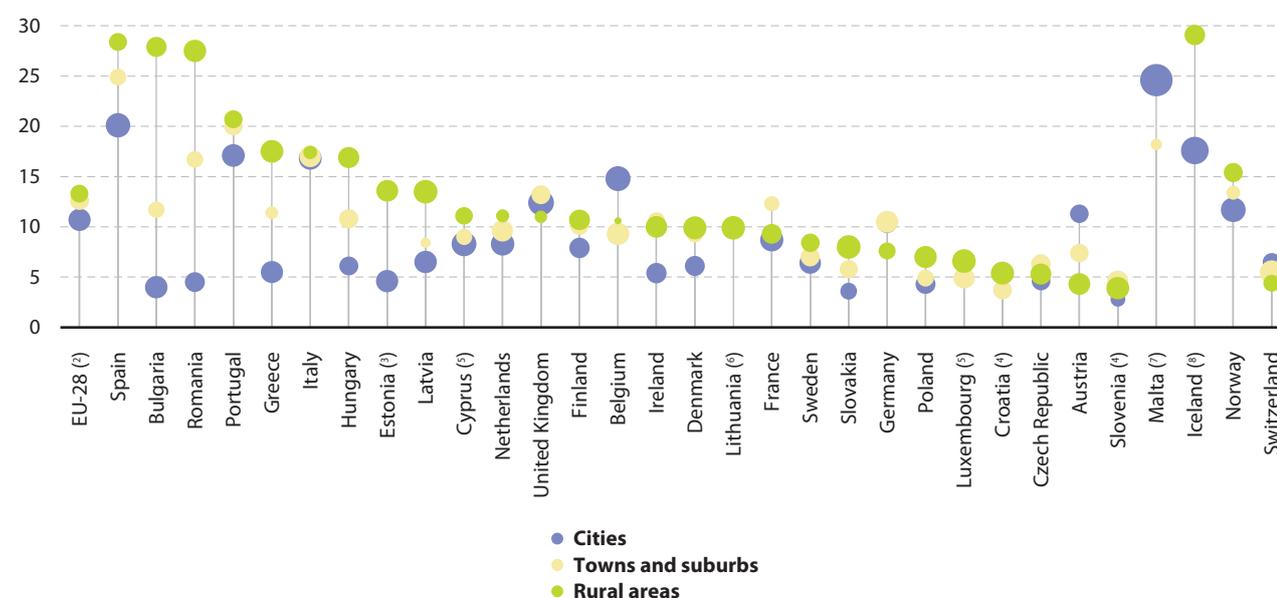
- Cities
- Towns and suburbs
- Rural areas

([1]) The size of the bubbles reflects the share of each degree of urbanisation in national population.
([2]) Rural areas: estimate for population.
([3]) Cities: low reliability.
([4]) Low reliability.
([5]) Towns and suburbs: low reliability.
([6]) Cities and towns and suburbs: not available.
([7]) Rural areas: not available.
([8]) Towns and suburbs: not available.
Source: Eurostat (online data codes: edat_lfse_30 and ilc_lvho01)

People with at least an upper secondary level of education

The proportion of the EU-28 population (aged 18–74) who had attained at least an upper secondary level of educational attainment in 2013 was particularly high in cities, at 77.8 %; note that the denominator for this indicator covers the working adult population and not just those of school leaving age and therefore captures those people who may have moved from rural areas to cities in search of employment (**Figure 14.9**). While almost four out of every five persons living in cities across the EU-28 had completed at least an upper secondary level of education, this share fell to less than three quarters in towns and suburbs (73.8 %) and rural areas (71.2 %).

… and the level of educational attainment among those living in rural areas was generally lower than that recorded in cities

In the vast majority of the EU Member States, a lower share of the rural population (compared with those living in cities) had attained at least an upper secondary level of educational attainment. In Bulgaria, Greece, Spain, Italy, Malta, Portugal and Romania, more than 40 % of the population living in rural areas had not attained at least an upper secondary level of educational attainment. Belgium, Germany, Malta and the United Kingdom were atypical insofar as they were the only EU Member States where a higher proportion of the population living in rural areas (compared with those living in cities) had attained at least an upper secondary level of education.

Having someone to rely on in case of need

Loneliness is a factor considered as detrimental to the quality of life, in contrast to social interactions and supportive relationships. Social support may be measured through a variety of subjective indicators, for example, whether or not people have someone to rely on for help. This is strongly related to overall life satisfaction as more than double the proportion of people who could not count on friends or family when help was needed had a low level of life satisfaction in 2013 (44.8 % compared with 19.0 %).

More than 90 % of the EU's population declared they had someone to rely on in the event that they needed help

The vast majority of the EU-28 population declared that they had someone to rely on in the event that they needed help. In 2013, some 94.1 % of those living in rural areas stated this was the case, which was marginally higher than the shares recorded among those living in cities (92.9 %) and those living in towns and suburbs (93.2 %).

Across the EU Member States, a relatively low proportion of the populations of Croatia, Greece, Luxembourg, Italy and Portugal reported that they had someone to rely on, irrespective of the degree of urbanisation under consideration (**Figure 14.10**). A somewhat higher proportion — differences of at least 2 percentage points — of those living in the cities (compared with those living in rural areas) of Luxembourg, Bulgaria and Italy felt they could rely on someone when in need of help, while the opposite was true in Austria and the United Kingdom, where those living in rural areas were more inclined to feel they could rely on someone when in need of help.

Figure 14.9: People with at least an upper secondary level of education, by degree of urbanisation, 2013 (^{1}) (% of 18–74 year-olds)
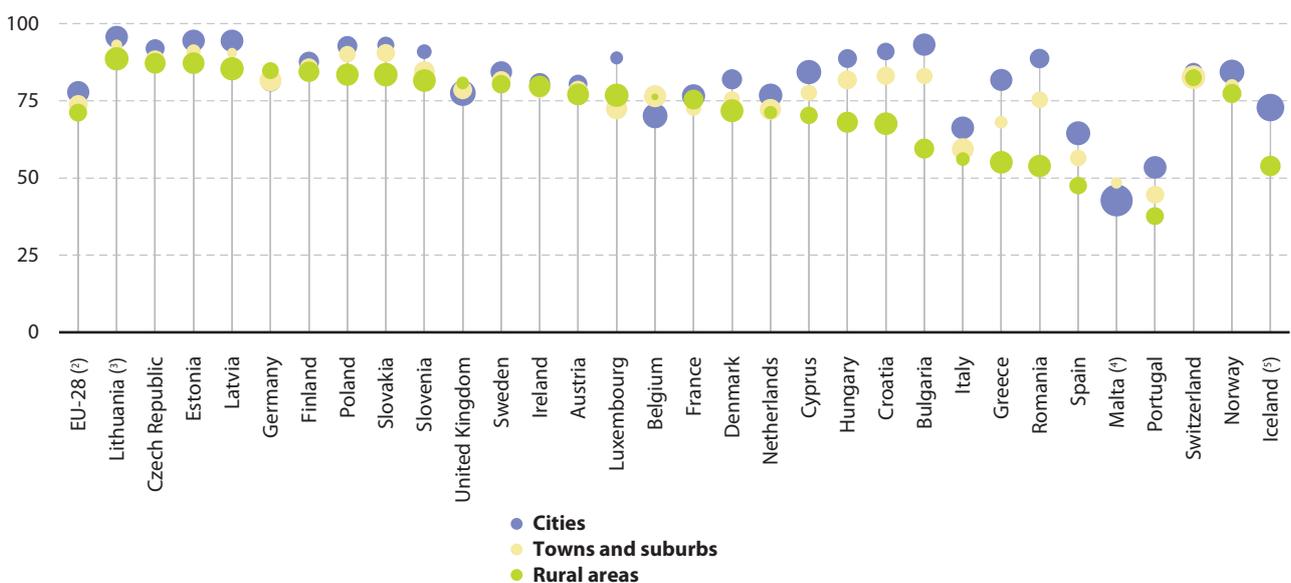
- ● Cities
- ● Towns and suburbs
- ● Rural areas

(^{1}) The size of the bubbles reflects the share of each degree of urbanisation in national population.
(^{2}) Rural areas: estimate for population.
(^{3}) Towns and suburbs: low reliability.
(^{4}) Rural areas: not available.
(^{5}) Towns and suburbs: not available.
Source: Eurostat (online data codes: edat_lfs_9913 and ilc_lvho01)

People reporting crime, violence or vandalism in their area

A household's material security may be put at risk by a range of factors (such as losing one's job, worsening health, or a sudden downturn in overall economic conditions). Aside from these, people also face risks linked to crime and violence which generally impacts on physical safety. Within this domain, subjective perceptions are considered to be of particular importance, as individuals who are worried about their property and personal safety frequently overestimate the true prevalence of crime, and their quality of life is negatively impacted.

Crime, violence and vandalism were more prevalent in the EU's cities than in rural areas …

Nevertheless, a far higher share of people living in cities reported crime, violence or vandalism in 2013 (**Figure 14.11**). More than one in five persons, 20.9 % of those living in cities across the EU-28, reported crime, violence or vandalism in their local area. This could be contrasted with a much lower share among those living in towns and suburbs (12.0 %), falling to 7.3 % of the population living in rural areas.

In the EU Member States, this pattern was repeated, with higher rates of crime, violence and vandalism in cities than in rural areas. The difference was particularly marked in Poland, Germany and Italy, where those living in cities were at least four times as likely to report crime, violence or vandalism as those living in rural areas. The gap between the proportion of people living in cities and the proportion of people living

in rural areas that reported crime, violence or vandalism was 19.7 percentage points in Greece, while the difference was almost as high in Germany and Italy, and was at least 10 percentage points in a further 13 EU Member States. Cyprus was atypical insofar as it was the only EU Member State in which a higher proportion of people living in rural areas reported crime, violence or vandalism in their area.

People reporting pollution, grime or other environmental problems

The environment, while usually discussed in the context of sustainability, is also considered to be of importance for the quality of life. Changes in the environment not only affect human health and well-being directly, but also indirectly, through changes to ecosystems and biodiversity. Quality of life measures in the environmental domain are predominantly affected by local environmental factors, and as such are generally measured through indicators that are linked to self-reporting, as it the case here, in relation to an individual's perceived exposure to pollution, grime and other environmental problems.

… as was pollution, grime and other environmental problems

Across the EU-28 in 2013, the proportion of people reporting pollution, grime or other environmental problems was highest, unsurprisingly, among those living in cities, where almost one in five persons (19.4 %) expressed the opinion that they were affected by these issues (**Figure 14.12**). There

Figure 14.10: People stating they have someone to rely on in case of need for help, by degree of urbanisation, 2013 (¹)
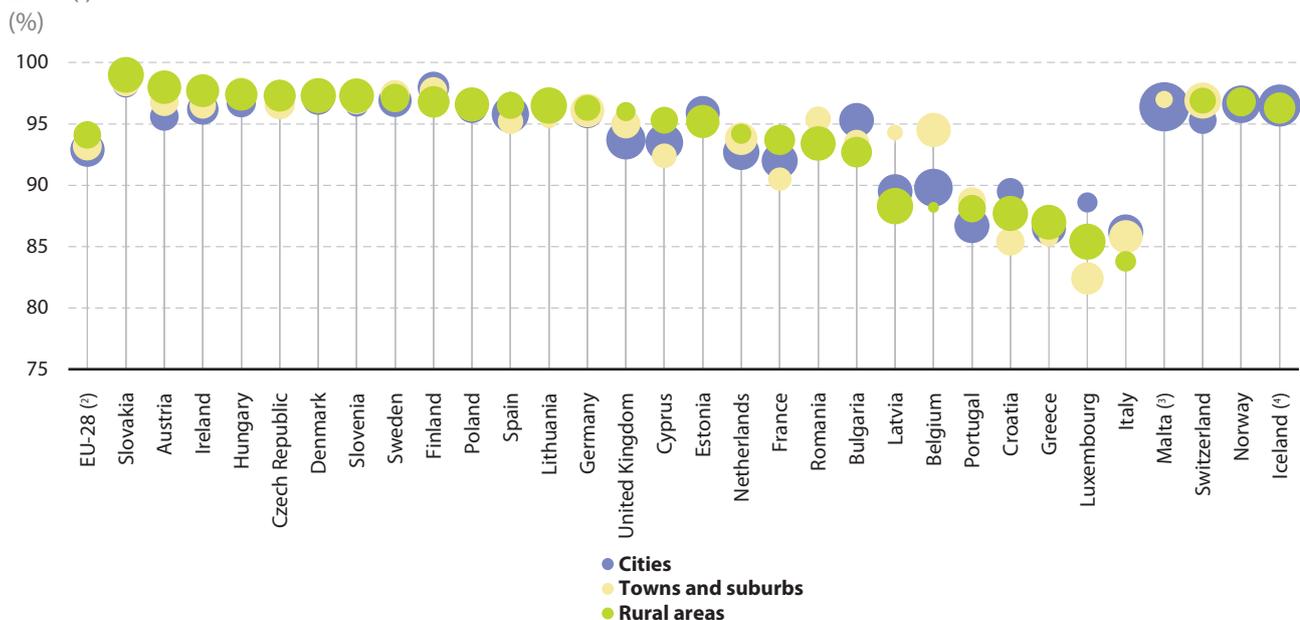
(%)

- ● **Cities**
- ● **Towns and suburbs**
- ● **Rural areas**

(¹) Note the y-axis has been cut. The size of the bubbles reflects the share of each degree of urbanisation in national population.
(²) Rural areas: estimate for population.
(³) Rural areas: not available.
(⁴) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_pw07 and ilc_lvho01)

was a clear relationship between degrees of urbanisation and the share of the population reporting pollution, grime or other environmental problems, as these touched a much lower share of the EU's population living in towns and suburbs (12.8 %), or rural areas (8.3 %).

Overall, without taking account of the degree of urbanisation, respondents in the Nordic Member States, Spain, Croatia, Ireland and the United Kingdom reported some of the lowest levels of exposure to pollution, grime and other environmental problems.

Figure 14.11: People reporting crime, violence or vandalism in their area, by degree of urbanisation, 2013 ([1]) (%)
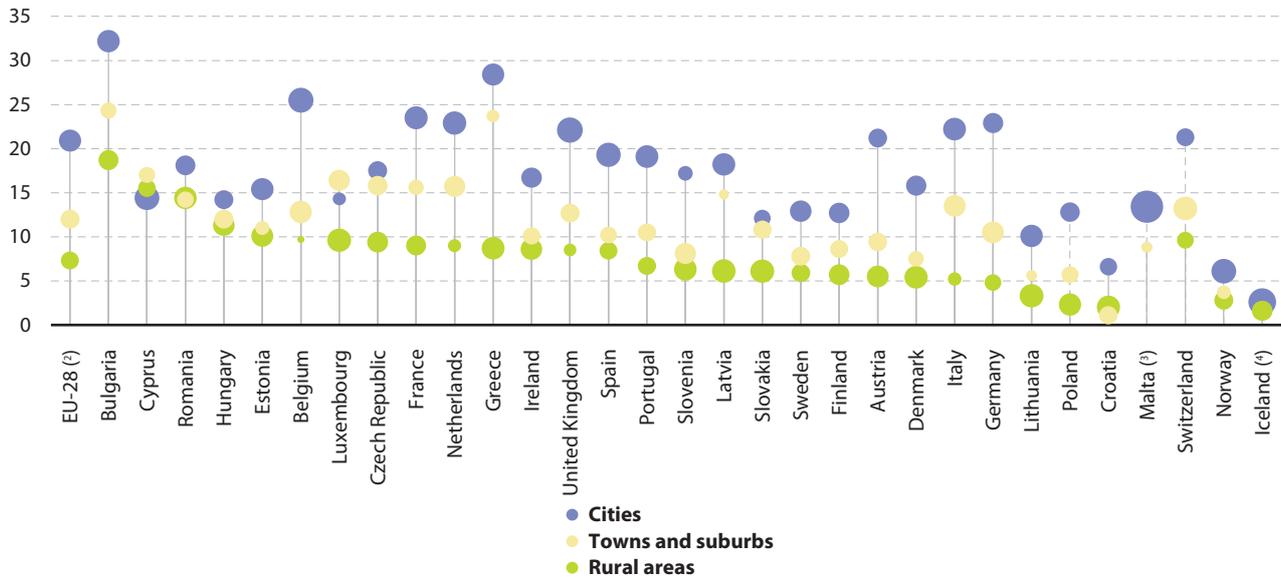
● Cities
● Towns and suburbs
● Rural areas

([1]) The size of the bubbles reflects the share of each degree of urbanisation in national population.
([2]) Rural areas: estimate.
([3]) Rural areas: not available.
([4]) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_mddw06 and ilc_lvho01)

Figure 14.12: People reporting pollution, grime or other environmental problems in their area, by degree of urbanisation, 2013 ([1]) (%)
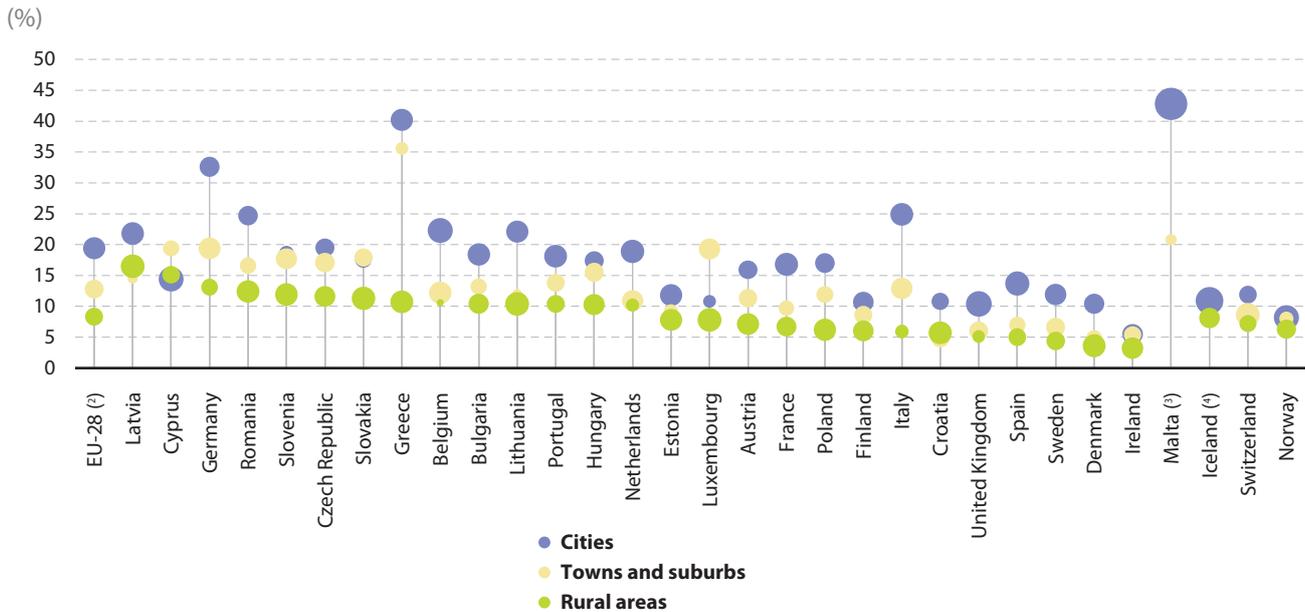
● Cities
● Towns and suburbs
● Rural areas

([1]) The size of the bubbles reflects the share of each degree of urbanisation in national population.
([2]) Rural areas: estimate.
([3]) Rural areas: not available.
([4]) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_mddw05 and ilc_lvho01)

Looking in more detail, a very high proportion of those living in the cities of Malta, Greece and Germany reported exposure to pollution, grime and environmental problems; this was also the case for those living in town and suburbs in Greece. This pattern of greater environmental pressures in cities was repeated in all but one of the EU Member States, the exception being Cyprus, where a marginally higher proportion of the rural population reported pollution, grime or other environmental problems in their area.

Average trust in others

As noted above, social interactions, supportive relationships and interpersonal trust are also important aspects with respect to an individual's quality of life. One subjective indicator within this domain concerns perceptions of trust in others (defined on a scale of 0–10). In 2013, average trust in others was identical in the EU-28 for the three different degrees of urbanisation, at 5.8 (**Figure 14.13**).

The largest variations in average trust in others were recorded between Member States and not by degree of urbanisation

Across the EU Member States, trust in others varied considerably more across EU Member States than it did by degree of urbanisation within the same Member State. That said, those living in the cities of Bulgaria, Estonia, France, Croatia, Hungary and Portugal tended to record somewhat higher levels of trust (than those living in towns and suburbs and those living in rural areas). By contrast,

those living in the rural areas of Denmark, Ireland, Cyprus, Luxembourg and the United Kingdom had a higher degree of trust in others.

Average overall life satisfaction

Subjective well-being encompasses various dimensions: overall cognitive assessment of one's life; positive and negative feelings, such as happiness, sadness or anger; as well as feelings of meaning and purpose in one's life.

The most relevant of these indicators gives an overall evaluative assessment of life satisfaction, which integrates a diverse range of experiences, choices, priorities and values for each individual.

Life satisfaction tended to be lower than average in some of the eastern EU Member States and those Member States most affected by the financial and economic crisis

In 2013, overall life satisfaction in the EU-28 (as measured on a scale of 0–10) was similar across the three different degrees of urbanisation: satisfaction was slightly higher in towns and suburbs (7.1) than it was in either cities or rural areas (both 7.0).

Across the EU Member States, life satisfaction (irrespective of the degree of urbanisation) tended to be highest in the Nordic Member States, the Netherlands and Austria, and lowest in Bulgaria, Greece, Hungary and Portugal (**Figure 14.14**). Satisfaction was often lower among those Member States that joined the EU in 2004 or more recently;

Figure 14.13: Average trust in others, by degree of urbanisation, 2013 ([1])
(scale, 0–10)
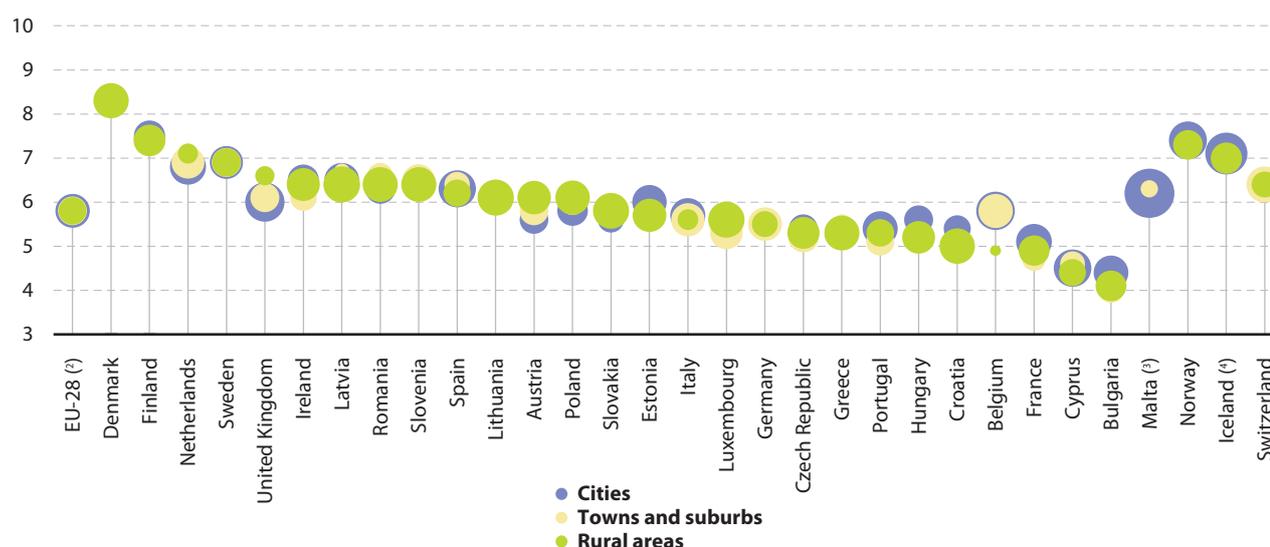
([1]) Note the y-axis has been cut. The size of the bubbles reflects the share of each degree of urbanisation in national population.
([2]) Rural areas: estimate.
([3]) Rural areas: not available.
([4]) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_pw04 and ilc_lvho01)

Figure 14.14: Overall life satisfaction, by degree of urbanisation, 2013 (^{1})
(scale, 0–10)
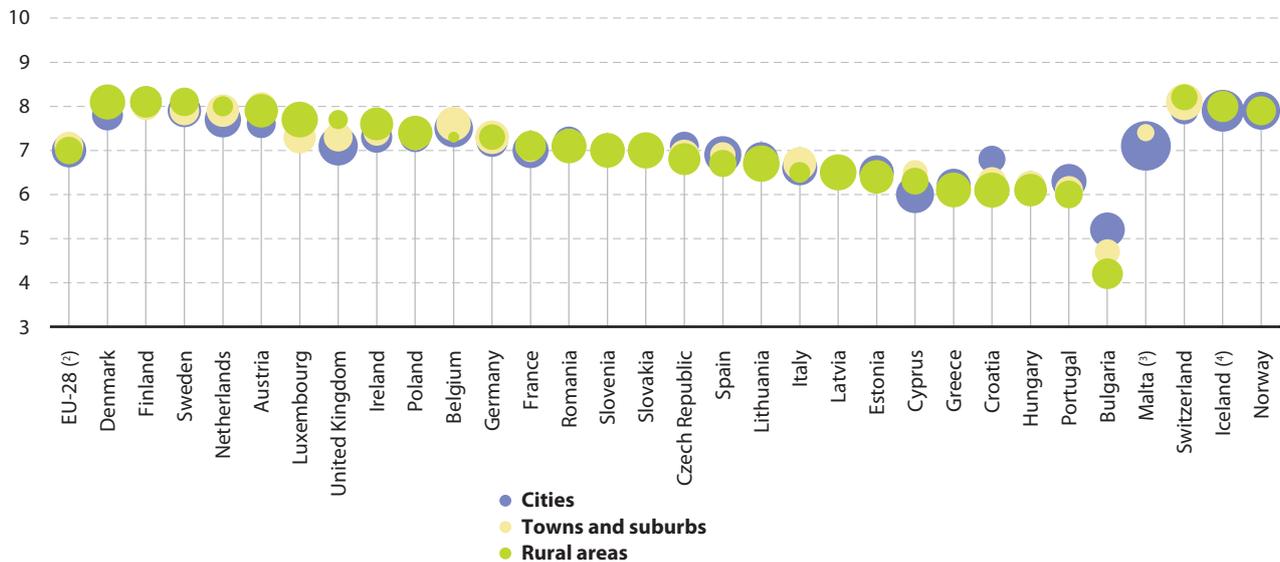
- Cities
- Towns and suburbs
- Rural areas

(^{1}) Note the y-axis has been cut. The size of the bubbles reflects the share of each degree of urbanisation in national population.
(^{2}) Rural areas: estimate.
(^{3}) Rural areas: not available.
(^{4}) Towns and suburbs: not available.
Source: Eurostat (online data codes: ilc_pw02 and ilc_lvho01)

this may reflect relatively low levels of income and the rapid development of economic, social and political circumstances in some of these Member States.

At a more detailed level, those living in the cities of Bulgaria, Croatia and Portugal expressed a higher degree of life satisfaction than their counterparts living in towns and suburbs and in rural areas. The opposite was true in Denmark, Ireland, Cyprus, Luxembourg and the United Kingdom, where those living in rural areas reported a higher level of life satisfaction.

Quality of life dimensions — conclusions

The information presented above shows a contrasting set of results. In order to draw some conclusions, this chapter closes with a summary of the results by quality of life dimension and by groups of EU Member State.

There are several indicators where cities tended to record a higher quality of life, for example, in relation to a self-assessment of health or educational opportunities and attainment. By contrast, the prevalence of crime and violence was generally higher in cities, as was environmental exposure to pollution and grime, and those living in cities were generally less inclined to be satisfied by their accommodation or their use of time.

An analysis by EU Member State suggests a difference by degree of urbanisation between those Member States that joined the EU in 2004 or more recently and those who were EU Member States prior to 2004. It was more common for people living in the cities of Bulgaria, the Czech Republic,

Croatia, Cyprus and Romania to have a higher quality of life than those living in rural areas; this was also true for Portugal.

By contrast, among the EU Member States who were already members prior to 2004 it was generally more common to find that people living in rural areas enjoyed a higher quality of life; this was particularly the case in Denmark, Ireland, the Netherlands, Austria and the United Kingdom. Some of these differences may be explained through the changes being experienced in rural areas, where a decline in traditional agricultural activities and a higher number of inter-connections between rural and urban areas (for example, increased commuter flows), coupled with more flexible working practices may have led to a blurring of the distinction between rural and urban areas.

It is also of interest to note that within some of the EU's largest cities there are wide-ranging differences in the quality of life between those living in different localities. For example, while one part of a capital city may be characterised as having a stock of low quality housing and higher risks of poverty and crime, a neighbouring locality may well be characterised by a stock of expensive housing, a relatively affluent population, and lower levels of crime.

As such, the areas where people live can play a considerable role in determining their life chances, their well-being and their quality of life. Sub-national statistics can potentially provide useful information that could be used by policymakers to deliver a higher quality of life through targeted initiatives that are based on specific measures for particular types of areas.

Data sources and availability

Legal basis

EU statistics on income and living conditions (EU-SILC) is the reference source for comparative statistics on income distribution and social inclusion across the EU. It covers objective and subjective aspects in both monetary and non-monetary terms for households and individuals. It is based on a framework which defines: multidimensional micro data on income, poverty, social exclusion, housing, labour, education and health; harmonised lists of target variables; common guidelines and procedures; common concepts and classifications aimed at maximising comparability.

The reference population includes all private households and their current members residing in the territory at the time of data collection. Persons living in collective households and in institutions are generally excluded. All household members are surveyed, but only those aged 16 and more are interviewed.

The main regulation setting out these statistics with specifications on survey design, survey characteristics, data transmission, publication and decision-making processes is Regulation (EC) No 1177/2003 of the European Parliament and of the Council of 16 June 2003 concerning Community statistics on income and living conditions (EU-SILC). It was followed by a range of implementing regulations which provide further specifications on definitions and data formats, as well as a set of ad-hoc data modules whose subject matter is changed each year.

The data presented in this chapter are largely derived from a European Commission implementing Regulation (EU) No 62/2012 concerning Community statistics on income and living conditions (EU-SILC) as regards the 2013 list of target secondary variables on well-being. In the coming years, this source will be refined and developed so that it may serve as the core instrument for the collection of EU data on the quality of life.

Indicator definitions

Based on academic research, Eurostat together with representatives from EU Member States have designed an overarching framework for analysing the quality of life through nine different dimensions, one of which covers the overall experience of life (see **Diagram 1**); each of these feeds into the measurement of the quality of life. Ideally, the different indicators that are available for each of these dimensions should be considered concurrently, due to a range of potential trade-offs that may exist (for example, someone may decide that they can accept a congested commute to work in order to be able to live in an area that does not have any environmental problems or crime).

People at risk of poverty or social exclusion

This is the headline indicator for monitoring the Europe 2020 poverty target. It refers to people who are in at least one of the following states: at risk of (monetary) poverty; severely materially deprived; living in a household with very low work intensity.

Employment rate

The employment rate is the percentage of employed persons in relation to the total population. For the overall employment rate, a comparison is generally made for the population of working-age, considered here as those aged 20–64.

Diagram 1: dimensions for the quality of life
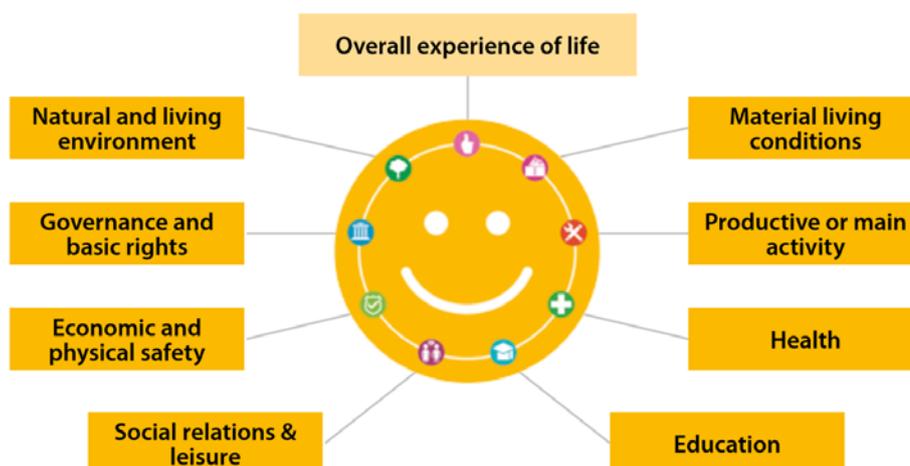
Average satisfaction with accommodation

This indicator refers to the respondent's opinion / feeling about their satisfaction with their accommodation, rated on a scale of 0–10, taking account (among others) of whether the accommodation: meets the household's needs; is of sufficient quality; is a financial burden; provides adequate space; is in a desirable neighbourhood; is a relatively short distance to work.

Average satisfaction with commuting time

This indicator is collected among those aged 16 and over who were employed at the time of the survey. The variable refers to the respondent's opinion / feeling about their degree of satisfaction with their current commuting time to work, rated on a scale of 0–10.

Average satisfaction with time use

The importance attributed by modern societies to a work–life balance underlines the important role that leisure can play in raising an individual's perception of their quality of life. Indeed, such perceptions are influenced by our ability to engage in and spend time on the activities we like, as life satisfaction has both a quantitative and qualitative aspect. This indicator refers to the respondent's opinions / feelings, or broad, reflective appraisal of their time use at a particular point in time, with reference to things the respondent likes doing; it is essentially a self-defined measure and a self-perceived concept, rated on a scale of 0–10.

People that self-assess their health as bad or very bad

This indicator expresses a subjective assessment by the respondent of their health. Each respondent is asked the following question: "How is your health in general?" The results are used to evaluate the general health status of a population, health inequalities and health care needs.

Early leavers from education and training

Early leavers from education and training are defined as those aged 18–24 who have finished no more than lower secondary education (as defined by the international standard classification of education (ISCED)) and who were not involved in any form of further education or training during the four weeks preceding the survey; their number is expressed as a percentage of the total population aged 18–24.

People with at least an upper secondary level of education

This indicator is defined as the share of persons aged 18–74 who have at least an upper secondary education level, as defined by ISCED.

Having someone to rely on in case of need

This indicator refers to the respondent's possibility to receive help (of any kind, whether moral, material or financial) when needed, from a relative, friend or neighbour (irrespective of whether the respondent actually needs the help or not). Only relatives and friends (or neighbours) who do not live in the same household as the respondent are considered.

People reporting crime, violence or vandalism in their area

This indicator refers to the percentage of total population who reported the existence of these problems in the area in which they live. Crime is defined as a deviant behaviour that violates prevailing norms, specifically, cultural standards prescribing how humans ought to behave normally; the approach adopted is based on the perceptions of each individual rather than a legal approach (in other words, the results do not reflect the number of acts committed / oversights of individuals that are banned by law and penalised by the legal system).

People reporting pollution, grime or other environmental problems in their area

This indicator measures the proportion of the total population that self-assesses exposure to problems like smoke, dust, unpleasant smells or polluted water in the area in which they live.

Average trust in others

This indicator measures generalised trust, whether or not the individual thinks most people can be trusted. Respondents are asked to state what level of trust they have in others on a scale of 0–10 (where zero is no trust at all and 10 is complete trust).

Average overall life satisfaction

Life satisfaction represents how a respondent evaluates or appraises their life as a whole. It is intended to represent a broad, reflective appraisal of life, covering all areas at a specific point in time ('these days'). The intent is not to obtain the current emotional state of the respondent but for them to make a reflective judgement on their current level of satisfaction; the indicator is measured on a scale of 0–10 for each respondent.

Focus on European cities

15

Introduction

The manner in which cities across the European Union (EU) are governed and their autonomy varies considerably across EU Member States, according to a combination of administrative layers, at a national, regional, metropolitan / urban, city or borough level.

Cities in the EU face a variety of challenges: ranging from ageing populations, through migration and the consequences of urban sprawl, to counteracting climate change. By contrast, cities attract investment, people and services, thereby stimulating creativity and innovation. There is often a paradox insofar as some of the most thriving cities in the EU have some of the highest levels of social exclusion and income disparities and while cities generally offer the widest range of employment opportunities, some of them have the highest levels of unemployment.

EU urban development policy

The European Commission has stated that 'it is crucial that all levels of governance be aware of the need to implement effectively the Europe 2020 strategy'.

Urban development policy seeks to promote the economic, social and environmental transformations of cities through integrated and sustainable solutions. It can play a valuable role in the implementation of the Europe 2020 strategy,

through a range of sectoral initiatives. Furthermore, urban development issues have been integrated, to a large extent, into regional and national programmes supported by structural and cohesion funds, principally the European Regional Development Fund (ERDF) and the European Social Fund (ESF). For example, during the period 2014–20, each EU Member State should invest at least 5 % of the ERDF in sustainable urban development (to be decided by national urban authorities), while at least 20 % of the ESF budget is available for actions targeting social exclusion, poverty and discrimination, especially among vulnerable groups in society (for example, low-skilled workers, ethnic minorities, the elderly, lone parents or migrants).

Nevertheless, a number of commentators and stakeholders have argued that cities need to be more involved in the conception and implementation of EU policies. Indeed, despite their economic weight, there is no explicit urban dimension to the Europe 2020 strategy or its targets, although three flagship projects — the digital agenda, the innovation union and youth on the move — address urban challenges. As a result, there have been calls for an EU urban agenda to bring together the increasing number of sectoral policies that impact on the EU's urban areas: for example, within the domains of energy, the information society, climate action, the environment, transport, education or culture.

ⓘ TOWARDS AN EU URBAN AGENDA

In February 2014, the European Commission organised a CITIES forum, to discuss how to strengthen the urban dimension of EU policymaking; it was centred on a debate over the need for an EU urban agenda. Many stakeholders saw an opportunity to implement a framework to guide action, to bring coherence to a diversity of initiatives and policies, and to give clear roles for European, national, regional and local authorities. Europe 2020 was seen by many participants as a starting point for priority setting, although some argued that there was a need to go further both in scope and time, given that city development involves long-term processes and long-lasting infrastructure investments.

This was followed, in July 2014, by a European Commission Communication titled, 'The urban dimension of EU policies — key features of an EU urban agenda' (COM(2014) 490). It discussed a range of options for developing an urban agenda, including:

- a role for the EU institutions as a facilitator of urban development;
- further integration of sectoral policies so that these are better adapted to urban realities;
- an instrument to involve cities and their political leaders in EU policymaking and policy implementation;
- a tool to integrate the goals of the Europe 2020 strategy with cities' own strategies.

The communication was also used to launch a public consultation on the urban agenda, the results of which were presented at a second CITIES forum held in June 2015.

Main statistical findings

Built-up areas — defined as cities, towns and suburbs — provide a home to almost three quarters (72.4 %) of the EU-28's population. As shown in the previous chapter, the quality of urban life in the EU is considered to be crucial for attracting and retaining a skilled labour force, businesses, students and tourists. However, the social and economic concentration of resources in cities can result in undesirable side-effects: for example, congestion or crime. Cities are therefore seen as both the source of and solution to economic, environmental and social challenges and, as such, they may be viewed as being central to achieving the Europe 2020 goals of 'smart, sustainable and inclusive growth'.

Demography

Number of inhabitants

Across the EU there is a diverse mix of cities: at one end of the scale are the global metropolises of London and Paris, while approximately half of the cities in the EU had a relatively small urban centre of between 50 000 and 100 000 inhabitants. Many of the EU's largest cities (especially capitals) attract both internal and external migrants and their population numbers therefore tend to increase at a faster pace than national averages. This often implies a process of urban sprawl, as previously rural areas in the neighbourhood of expanding urban areas are developed to accommodate the growing population.

The distribution of cities across Nordic regions, France and the interior regions of Portugal and Spain was relatively sparse

One of the most striking aspects of the distribution of cities across the EU is the close proximity of cities to each other: this can be seen over much of Belgium, the Netherlands, western parts of Germany, northern Italy and the southern half of the United Kingdom. By contrast, the Nordic Member States, France and the interior of Spain and Portugal (as well as Turkey) were characterised by a more sparse distribution of cities over a greater area.

DEFINING CITIES AND FUNCTIONAL URBAN AREAS

In 2011, work carried out by the European Commission's Directorate-General for Regional and Urban Policy (DG REGIO), Eurostat and the OECD resulted in a harmonised definition of cities and their surrounding areas.

A city consists of one or more local administrative unit (LAU) where the majority of the population lives in an urban centre of at least 50 000 inhabitants (previously known as the core city).

A greater city is an approximation of the urban centre when this stretches beyond the administrative city boundaries (previously referred to as the kernel).

A functional urban area consists of the city and its surrounding commuting zone (previously known as a larger urban zone (LUZ)).

An example: three different spatial levels for the city of Dublin (Ireland)
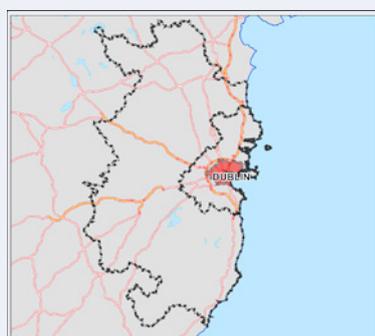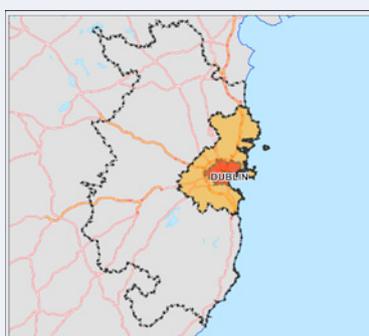
City   **Greater city**   **Functional urban area**

As a result, the information presented in this chapter has been adapted to reflect the most appropriate definitions. The city statistics that follow are therefore sometimes based on greater cities, reflecting those cases where a relatively high share of the population lives outside of the administrative boundaries of the urban centre (for example, Athens), and those cases where several towns and cities have morphed into one greater city (for example, the greater city of Porto, which is made-up of five cities — Porto, Gondomar, Matosinhos, Valongo and Vila Nova de Gaia).

Map 15.1: Resident population in European cities, 1 January 2012 (^{1})
(inhabitants)

Guadeloupe (FR)

Martinique (FR)

0   25

0   20

Guyane (FR)

Réunion (FR)

0   100

0   20

Açores (PT)

Madeira (PT)

0   50

0   20

Canarias (ES)

Malta

0   100

0   10

Liechtenstein

0   5

(inhabitants)

- ○ < 100 000
- ○ 100 000 – < 250 000
- ○ 250 000 – < 500 000
- ● 500 000 – < 1 000 000
- ● 1 000 000 – < 3 000 000
- ● >= 3 000 000

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 06/2015

0   200   400   600   800 km
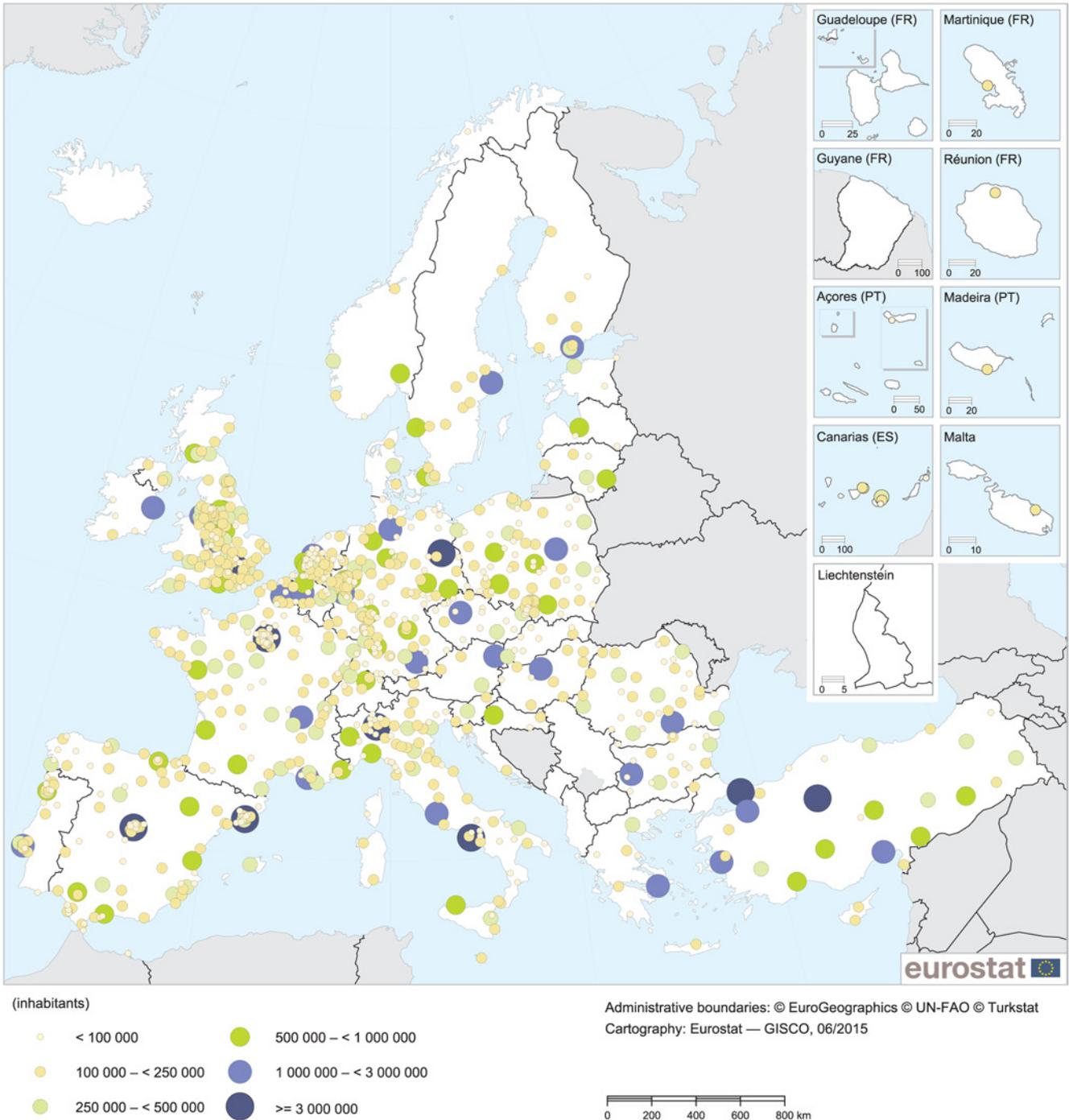
(^{1}) Luxembourg: 2015. Denmark, Portugal and Norway: 2013. Ireland, France and Sweden (see exceptions that follow): 2011. Greece, Cyprus, Malta and Austria: 2009. Västerås (SE), Norrköping (SE), Helsingborg (SE), Lund (SE) and Borås (SE): 2008. Turkey: 2004. Croatia: 2001. Dublin, Athina, Barcelona, Bilbao, Paris, Milano, Napoli, Amsterdam, Rotterdam, Lisboa, Porto, Helsinki / Helsingfors, Stockholm, London, Liverpool, Manchester, Leicester, Portsmouth, Nottingham, Southend-on-Sea, Reading, Preston, Zürich, Genève, Basel, Bern, Lausanne, Luzern and Lugano: greater city. Bulgaria, Ireland, Greece, Paris, Latvia, Lithuania, Malta, Poland, Portugal, the United Kingdom and Turkey: estimates.
Source: Eurostat (online data code: urb_cpop1)

These differences in spatial distribution may reflect levels of centralisation. On one hand, there are countries like France which appear to have a relatively monocentric structure based on Paris. This may be contrasted with the polycentric structure observed in Germany, where there is no single dominant city.

Almost 10 million inhabitants in Istanbul …

Map 15.1 presents the resident population of cities as of 1 January 2012: the size of each circle reflects the number of inhabitants of each city. Note that the map mixes concepts to capture the full extent of all urban areas (for details of coverage, see **Map 15.1**). On the basis of the data presented, the most populous cities in the EU in 2012 were London (8.3 million inhabitants) and Paris (6.7 million inhabitants in 2011); note that these data refer to the concept of the greater city. The next largest city in the EU was Berlin (3.5 million), while Napoli, Milano, Barcelona and Madrid each reported 3.1–3.2 million inhabitants; there were also large populations in the Turkish cities of Istanbul (almost 10 million inhabitants) and Ankara (3.4 million inhabitants) — note that these data refer to 2004. At the other end of the range, the smallest capital city in the EU was Luxembourg, which had 111 thousand inhabitants (data are for 2015).

… while the functional urban areas of Paris and London each had around 12 million inhabitants

An extended analysis based on the number of inhabitants living in functional urban areas in 2012 shows that the largest populations in the EU were recorded in London and Paris (12.2 and 11.8 million inhabitants; data for Paris relate to 2011), followed — at some distance — by Madrid (6.6 million). The next largest concentration was the urban agglomeration of the Ruhrgebiet in Germany (which includes, among others, Bochum, Dortmund, Duisburg, Essen and Oberhausen) with 5.1 million inhabitants, while the functional urban area of the German capital of Berlin also had a population of just over 5 million persons. There were four functional urban areas with between 4 and 5 million inhabitants, all of which were located in the southern EU Member States, namely, Athina (data are for 2009), Roma, Milano and Barcelona.

Age structure

Figure 15.1 shows an example of how the age structure of the population varies across cities in the EU. It provides a comparison of the age structure for eight EU Member States and compares this with similar information for each of their capital cities. The figure is split into two parts identifying those capital cities where the population aged 20–54 accounted for a relatively high share of the total population and those where the elderly accounted for a relatively high share.

### Younger and middle-aged adults generally drawn to capital cities

The existence of greater opportunities for higher education and employment offered by most capital cities might lead to the assumption that capital cities have a higher share of younger and middle-aged adults. Indeed, among those capitals shown in **Figure 15.1**, the share of persons aged 20–54 in the total population peaked in the Danish capital of København, at 61.6 % (compared with a national average of 45.9 % in 2013). In 2012, the younger and middle-aged adult populations of Amsterdam and Helsinki / Helsingfors accounted for between 7 and 8 percentage points more of the total population than their respective national averages, while the difference in Sofia was almost 6 percentage points. There were however some exceptions to this rule, as the proportions of younger and middle-aged adults living in Warszawa, Lisboa (data are for 2013) and Bratislava were lower than the respective national averages for Poland, Portugal and Slovakia.

One hundred cities across Italy and Germany with an old-age dependency ratio of at least 35 %

It is conceivable that older persons (aged 65 and over) might be tempted to move away from capital cities for their retirement to avoid some of the perceived disadvantages often associated with big cities, such as congestion and crime. However, in Madrid, Warszawa, Lisboa and Bratislava, elderly persons accounted for a higher proportion of the total population than the national average.

Figure 15.1: Age structure of the population, national averages and selected capital cities from the Urban Audit, 2012 (^{1})
(% of total population)

Examples with relatively high share of working age population in capital city

Bulgaria
Sofia

Denmark
København

Netherlands
Amsterdam (greater city)

Finland
Helsinki / Helsingfors (greater city)

Examples with relatively high share of elderly population in capital city

Spain
Madrid

Poland
Warszawa

Portugal
Lisboa (greater city)

Slovakia
Bratislava
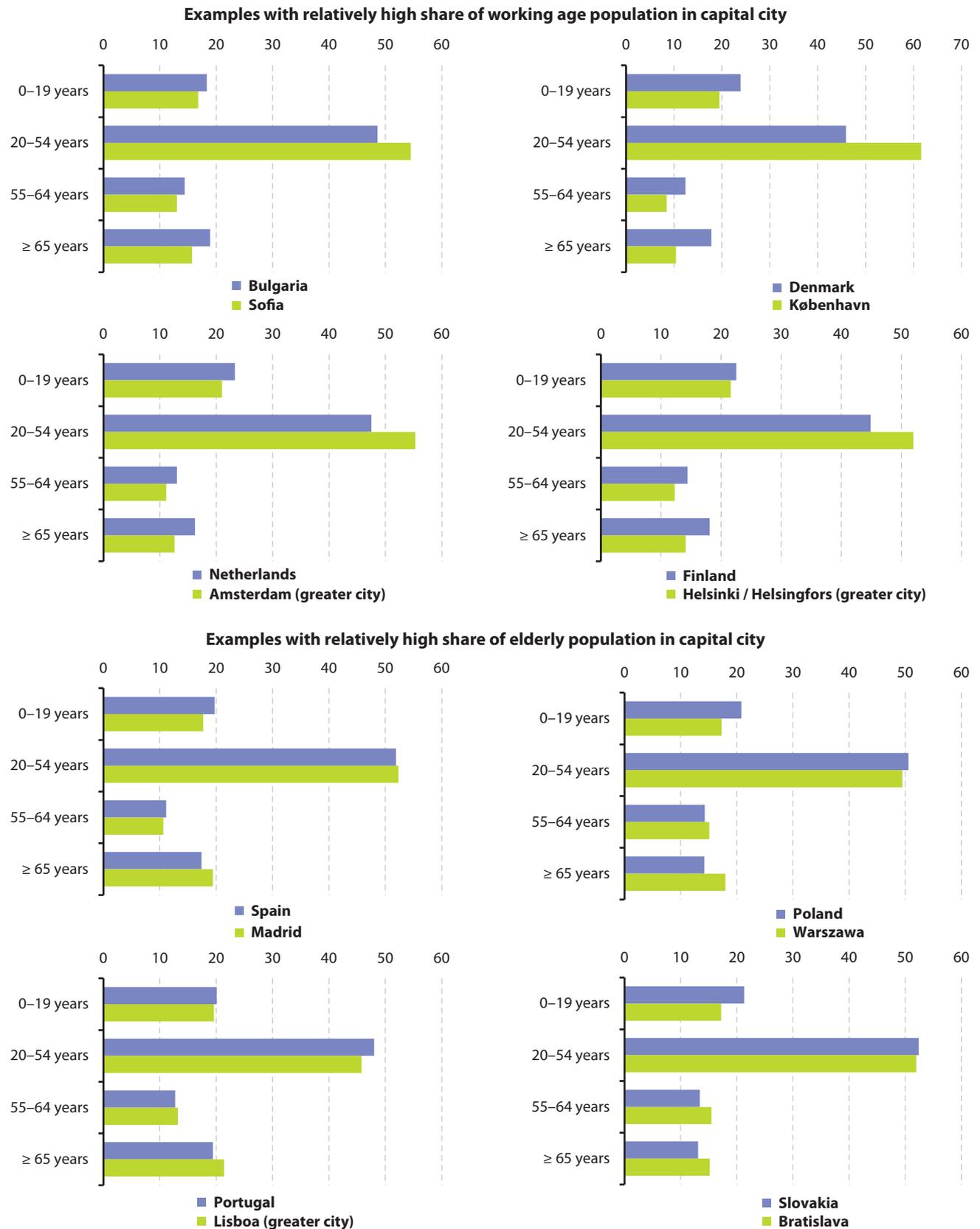
(^{1}) Denmark and Portugal: 2013. Bulgaria, Latvia, Poland and Portugal: estimates.
Source: Eurostat (online data code: urb_cpopstr)

The French town of Fréjus, which is situated in Provence on the Côte d'Azur, had the highest old-age dependency ratio (58.0 %) of any town /city in the EU-28. In 2011, there were less than two persons aged 20–64 years who were resident in Fréjus for each person aged 65 years or above. The only other towns / cities with old-age dependency ratios of more than 50 % were located just over the border in Liguria on the Italian Riviera, with ratios of 51.2 % in Savona and 52.1 % in Sanremo (data are for 2012).

Photo: Christian Musat */ Shutterstock.com*

The ratio between the number of older persons and those aged 20–64 is sometimes referred to as the old-age dependency ratio, and this is shown in **Map 15.2**. In 2012, the majority of the cities with an old-age dependency rate of 35 % or more (as shown by the darkest shade in the map) were located in Italy and Germany; together, these two Member States counted 100 such cities.

Aside from Germany, the distribution of these cities with relatively high old-age dependency ratios was often close to a coastline (including popular retirement destinations), with particularly high concentrations on the Italian Adriatic coast and the Mediterranean coast from southern France into northern Italy.

In 2012, there were only three cities in the EU where the old-age dependency ratio exceeded 50 % and all three of them were located on the Mediterranean coast. The highest old-age dependency ratio was recorded in the French resort of Fréjus (58.0 %; data are for 2011), while the other two cities were located just over the border in the Italian towns of Sanremo and Savona. However, the French and Italian Riviera was not the only coastal region that seemingly attracted retirees, as relatively high old-age dependency ratios (of at least 40 %) were recorded elsewhere on the coasts of France (Bayonne and Toulon), Spain (Ferrol in Galicia and Torrevieja on the Costa Blanca), the United Kingdom (Waveney in Suffolk, Eastbourne and Torbay (both on the south coast)) and Belgium (Oostende).

The largest cities with a population of at least 500 thousand inhabitants and an old-age dependency rate of at least 35 % included: the Italian cities of Roma, Milano, Torino and Genova; Nice in the south-east of France (data are for 2011); the German city of Essen in the Ruhr valley; and the Portuguese capital of Lisboa (data are for 2013).

Relatively few old persons living in satellite cities around the Spanish and French capitals

In 2012, there were only four cities across the whole of the EU with at least 500 thousand inhabitants and an old-age dependency ratio that was less than 20 % (as shown by the lightest shade in **Map 15.2**). Each of these was a capital city, namely København, Amsterdam, Dublin and London; they were joined by 10 Turkish cities (including Ankara, Istanbul and Izmir) and the Norwegian capital of Oslo.

In 2012, the lowest old-age dependency ratio in a city in the EU was 9.2 % in the southern Romanian city of Slatina, while two suburban areas close to Madrid — Fuenlabrada and Parla — had the second and third lowest ratios (9.8 % and 10.6 %). This pattern of relatively low old-age dependency ratios observed for suburban areas around the Spanish capital extended to Coslada, Las Rozas de Madrid and Torrejón de Ardoz (all of which reported rates of less than 15 %) and was repeated around the French capital, as the cities of Marne la Vallée, Cergy-Pontoise and Saint-Quentin en Yvelines (which are all situated within a radius of no more than 20 km from central Paris) also recorded old-age dependency ratios that were below 15 %.

Map 15.2: Old-age dependency ratio in European cities, 2012 (¹)
(%, persons aged ≥ 65 years / persons aged 20–64 years)

Old-age dependency ratio
(%, persons aged ≥ 65 years
/ persons aged 20–64 years)

	< 20
	20 – < 25
	25 – < 30
	30 – < 35
	>= 35

Population of the city
(inhabitants)

○	< 100 000
○	100 000 – < 250 000
○	250 000 – < 500 000
○	500 000 – < 1 000 000
○	1 000 000 – < 3 000 000
○	>= 3 000 000

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

(¹) Denmark, Portugal and Norway: 2013. Ireland, France and Sweden (see exceptions that follow): 2011. Greece, Luxembourg and Austria: 2009. Västerås (SE), Norrköping (SE), Helsingborg (SE), Lund (SE) and Borås (SE): 2008. Malta: 2006. Cyprus and Turkey: 2004. Croatia: 2001. Dublin, Athina, Barcelona, Bilbao, Milano, Napoli, Amsterdam, Rotterdam, Lisboa, Porto, Helsinki / Helsingfors, Stockholm, London, Liverpool, Manchester, Leicester, Portsmouth, Nottingham, Southend-on-Sea, Reading, Preston, Zürich, Genève, Basel, Bern, Lausanne, Luzern and Lugano: greater city. Bulgaria, Ireland, Greece, Cyprus, Latvia, Lithuania, Malta, Poland, Portugal, the United Kingdom and Turkey: estimates.
Source: Eurostat (online data codes: urb_cpopstr and urb_cpop1)

Figure 15.2: Disparities in the old-age dependency ratio in European cities, 2012 (^{1})
(%, persons aged ≥ 65 years / persons aged 20–64 years)

● Capital city
── National average
● Other cities
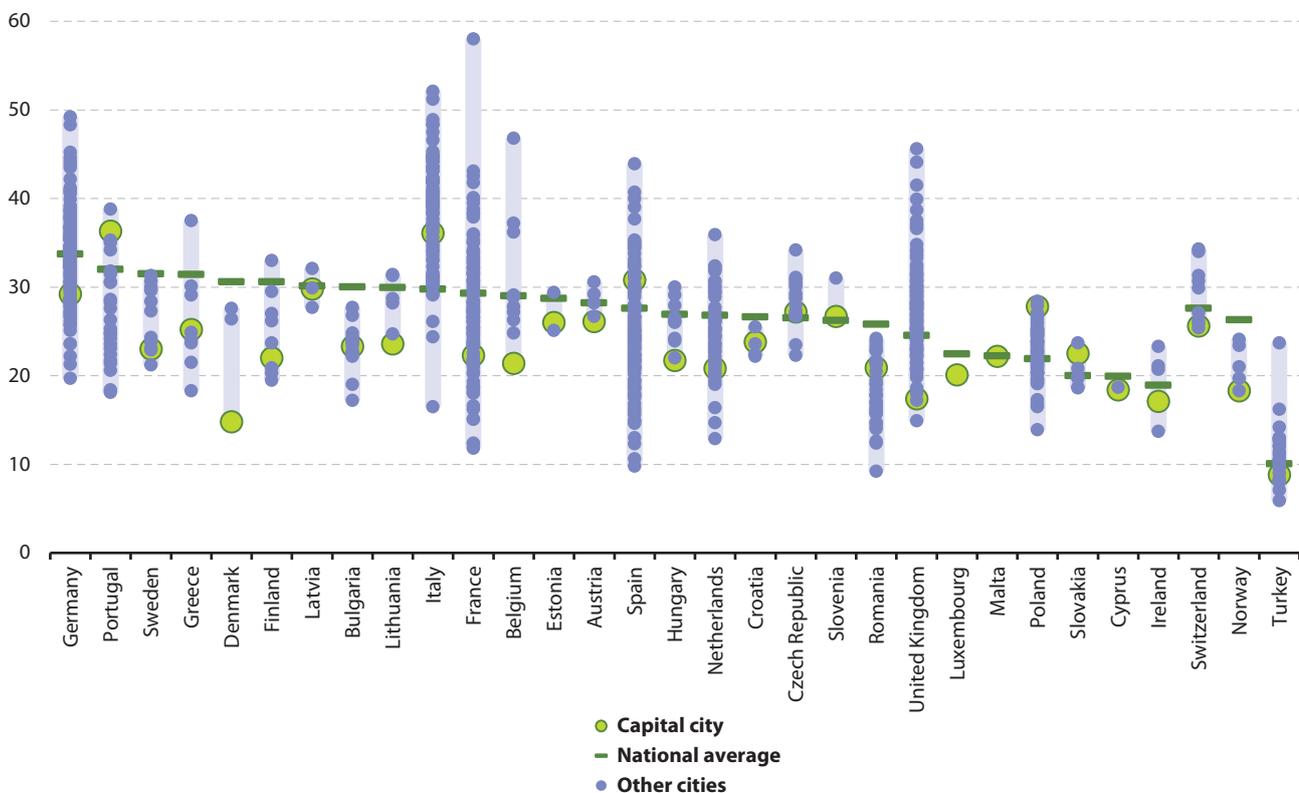
(^{1}) The light purple shaded bar shows the range of the highest to lowest city for each country. The dark green bar shows the national average. The green circle shows the capital city. The dark purple circles show the other cities covered by the Urban Audit (subject to availability). Denmark, Portugal and Norway: 2013. Ireland, France and Sweden (see exceptions that follow): 2011. Greece, Luxembourg and Austria: 2009. Västerås (SE), Norrköping (SE), Helsingborg (SE), Lund (SE) and Borås (SE): 2008. Malta: 2006. Cyprus and Turkey: 2004. Croatia: 2001. Dublin, Athina, Barcelona, Bilbao, Milano, Napoli, Amsterdam, Rotterdam, Lisboa, Porto, Helsinki / Helsingfors, Stockholm, London, Liverpool, Manchester, Leicester, Portsmouth, Nottingham, Southend-on-Sea, Reading, Preston, Zürich, Genève, Basel, Bern, Lausanne, Luzern and Lugano: greater city. Bulgaria, Ireland, Greece, Cyprus, Latvia, Lithuania, Malta, Poland, Portugal, the United Kingdom and Turkey: estimates.
Source: Eurostat (online data codes: urb_cpopstr and demo_pjangroup)

Several reasons may underlie these patterns: young people may be unable to afford to buy or rent in city centres (especially in capital cities) and instead choose to live in the surrounding suburbs, while families may choose to move to the suburbs to have more living space, and older people might move out of the suburbs to retire to the countryside or the coast.

A low proportion of the elderly were living in cities in Bulgaria, Denmark, Croatia, Cyprus, Luxembourg and Romania

Figure 15.2 provides an alternative analysis of the range of old-age dependency ratios across cities. It confirms that the elderly generally tended to preferred or chose to live outside the EU's capital cities. There were some exceptions, with relatively high old-age dependency ratios in Madrid, Warszawa, Lisboa and Bratislava, while the old-age dependency ratios of three other capitals, Praha, Roma and Ljubljana, were also above their respective national averages.

In Bulgaria, Denmark, Croatia, Cyprus, Luxembourg and Romania, the national average for the old-age dependency

ratio was above the range shown for all cities: in other words, each of these EU Member States was characterised by a relatively low share of its elderly population living in cities; this was also the case in Norway.

### Native and foreign-born populations, national and non-national citizens

The free movement of EU nationals within the Union, unrest in a number of neighbouring countries around the EU, migrant flows and asylum seekers are just some of the many reasons why cities in the EU have become more culturally and ethnically diverse. Indeed, most EU cities have seen their share of non-nationals grow in recent decades.

Map 15.3 analyses the share of the total population that are native-born, in other words, those persons born in the same Member State for which the data are reported, irrespective of their citizenship; note that there are no data available for several of the EU Member States (including Denmark, Greece, Croatia, Italy, Cyprus, Luxembourg, Malta, most cities in the Netherlands, Austria, Romania and Slovakia).

Map 15.3: Proportion of the population who are native-born in European cities, 2012 (¹)
(% of total population)

Native-born population
(% of total population)

- < 75
- 75 – < 85
- 85 – < 90
- 90 – < 95
- >= 95

Population of the city
(inhabitants)

- < 100 000
- 100 000 – < 250 000
- 250 000 – < 500 000
- 500 000 – < 1 000 000
- 1 000 000 – < 3 000 000
- >= 3 000 000

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
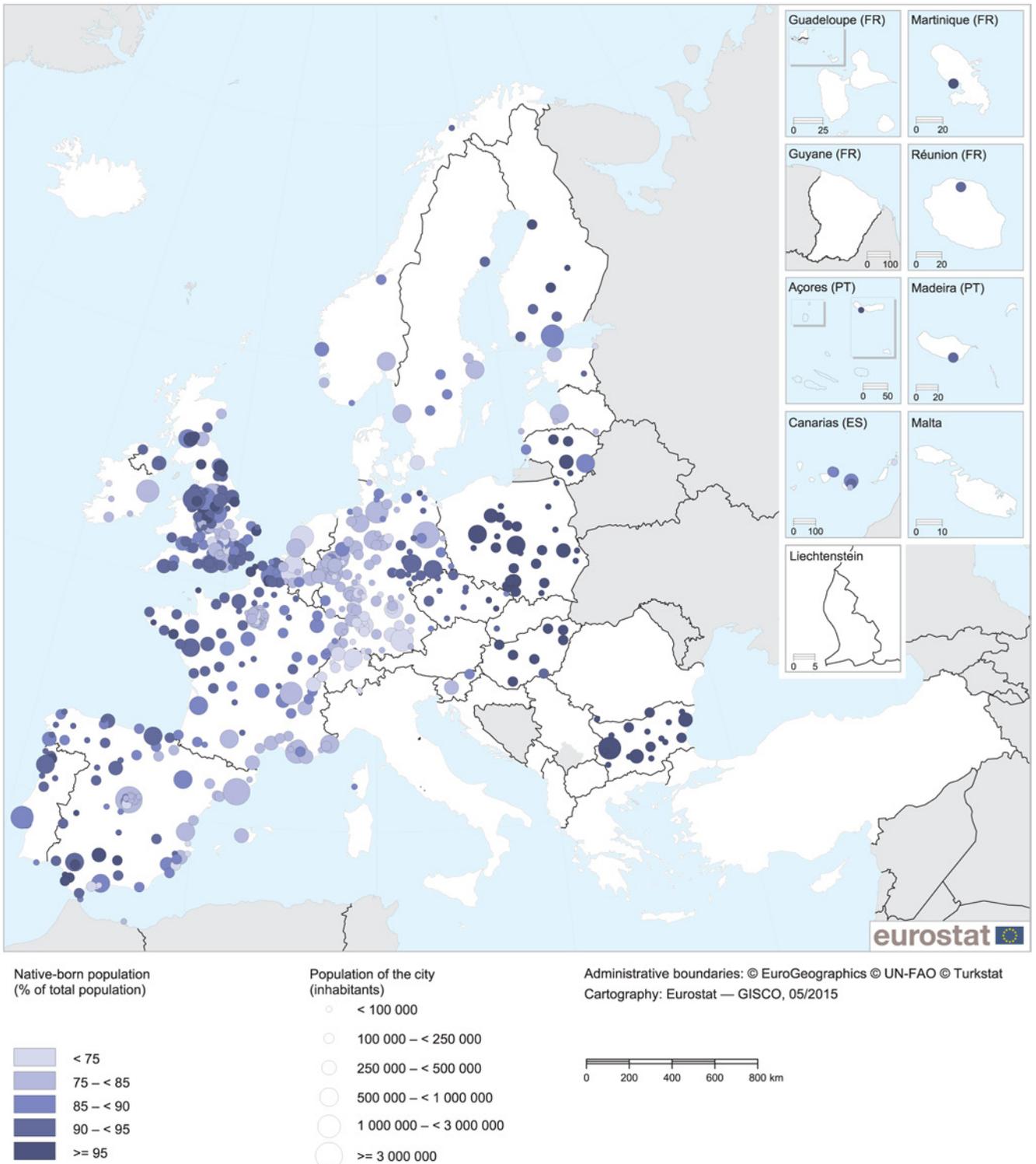
(¹) Bulgaria, Ireland, France, Latvia, Lithuania, Hungary, Poland, Portugal, Slovakia, Sweden and the United Kingdom: 2011. Dublin, Barcelona, Bilbao, Amsterdam, Rotterdam, Lisboa, Porto, Helsinki / Helsingfors, London, Liverpool, Manchester, Leicester, Portsmouth, Nottingham, Southend-on-Sea, Reading, Preston, Zürich, Genève, Basel, Bern, Lausanne, Luzern and Lugano: greater city. Bulgaria, Germany, Ireland, Latvia, Lithuania, Poland and Portugal: estimates.
Source: Eurostat (online data codes: urb_cpopcb and urb_cpop1)

The share of the native-born population in the total number of inhabitants was relatively low in a band of cities running from the Baltic Member States, through the capitals of the Nordic Member States, across most of Germany into Switzerland and southern France, before finishing on the eastern and southern coasts of Spain. To the north and west of this band, there were a number of major cities in Ireland, France and the United Kingdom where the native-born population accounted for a relatively low share of the total population, while to the south and east of this band the share of the native-born population was high in almost every city.

Bulgarian and Polish cities were often populated almost entirely by native-born inhabitants

There were 112 cities in 2012 where at least 95 % of the population was native-born. In every one of the Bulgarian and Polish cities shown in **Map 15.3** the share of the native-born population was at least 95 %, while in Hungary all but one of the cities shown reported a similarly high share. In absolute terms, there were 33 cities in Poland, 22 in the United Kingdom and 18 cities in Bulgaria where the native-born population accounted for at least 19 out of 20 residents; this was also the case in 7 or 8 cities from each of Spain, France and Hungary.

There were only three relatively large EU cities (with a population of at least 500 000 inhabitants) where the share of the native-born population rose above 95 %: the Bulgarian capital of Sofia (98.1 %) and the two Polish cities of Lódz and Poznan (both 98.8 %). By contrast, there were eight cities in the EU with in excess of 500 000 inhabitants where more than 25 % of the population had been born in another country: four German cities (Frankfurt am Main, München, Nürnberg and Stuttgart), three capital cities (Bruxelles / Brussel, Amsterdam and London) and the Belgian city of Antwerpen; this was also the case in the Swiss city of Zürich. In London, the largest city in the EU, less than two thirds (63.3 % in 2011) of the population was native-born.

Some coastal resorts in Spain were inhabited by a high proportion of people born in other EU Member States

Looking in more detail, Torrevieja, a Spanish coastal resort located on the Costa Blanca to the south of Alicante, was the only city in the EU to report that less than half (44.8 % in 2012) of its total number of inhabitants were native-born — largely due to a relatively high number of inhabitants born in other EU Member States (principally, the United Kingdom, Germany and the Nordic Member States).

It is interesting to note that a similar pattern was repeated on the same coast, to the north of Alicante, in Benidorm (37.1 % of the population was born outside of Spain) and in the more southerly Spanish coastal resorts of Fuengirola,

Marbella and Torremolinos (all on the Costa del Sol); these were the only Spanish cities where more than 30 % of the population was born in another country, with the bulk of their inhabitants coming from other, more northerly, EU Member States.

Outside of Spain, there were just two other cities in the EU where the share of the population born outside the reporting Member State was higher than 40 % in 2012. The first of these was the Estonian city of Narva that is located on its eastern border with Russia, where (according to population and migration statistics) most non-native-born people were from Russia, Belarus or Ukraine. The other was the Belgian capital of Bruxelles / Brussel, where those born abroad principally originated from other EU Member States (France, Italy, Spain, Poland and Romania) or from Morocco, Turkey and sub-Saharan former colonies (the Democratic Republic of the Congo, Rwanda and Burundi). Among the non-member countries presented in **Map 15.3**, there were three Swiss cities — Genève, Lausanne and Lugano — where close to half of the population was not native-born.

Map 15.4: Proportion of the population who are nationals in European cities, 2012 (¹)
(% of total population)

National population
(% of total population)

	< 50
	50 – < 75
	75 – < 85
	85 – < 95
	>= 95

Population of the city
(inhabitants)

∘	< 100 000
∘	100 000 – < 250 000
○	250 000 – < 500 000
○	500 000 – < 1 000 000
○	1 000 000 – < 3 000 000
○	>= 3 000 000

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2015

0   200   400   600   800 km
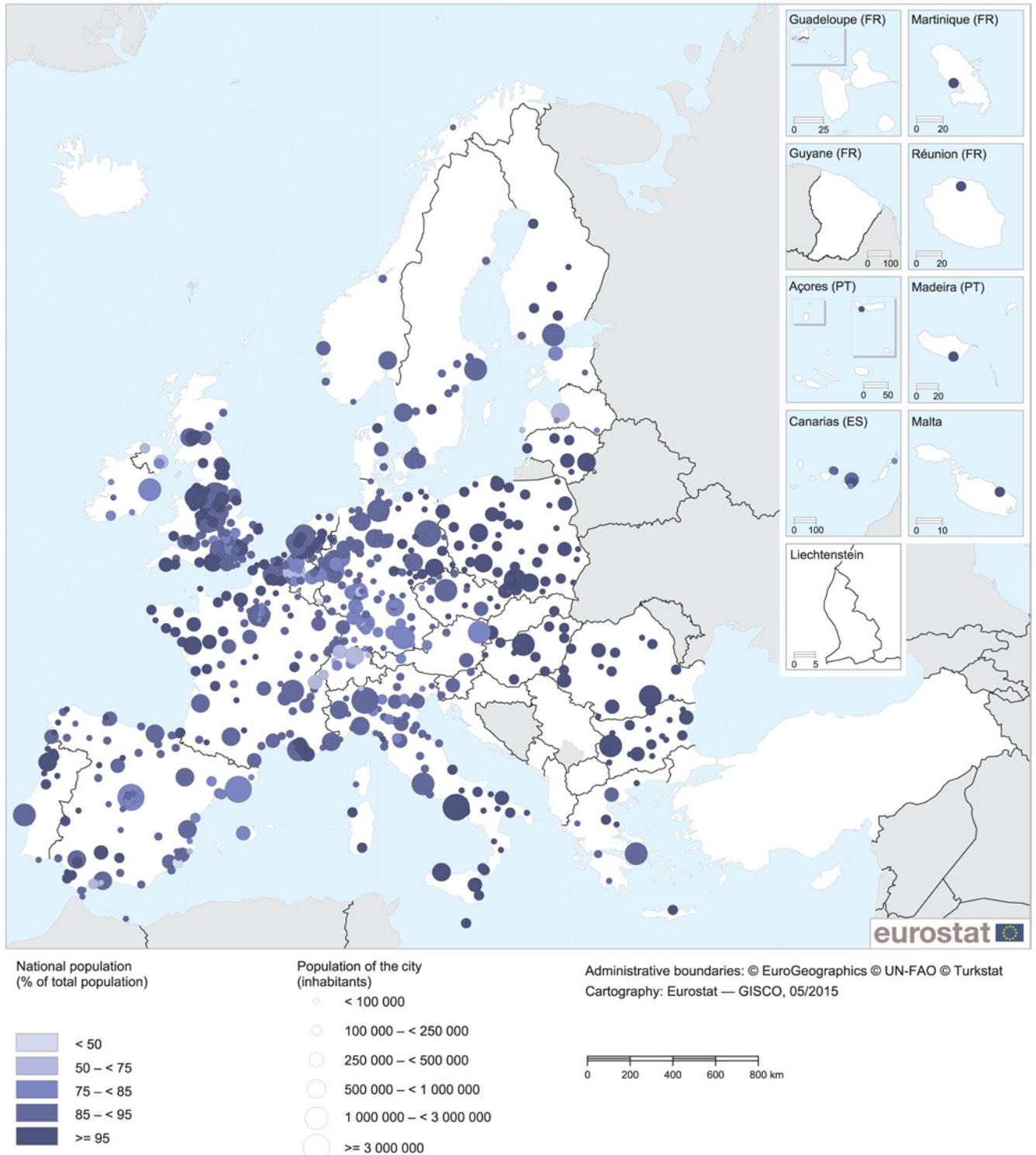
(¹) Ireland, France, Latvia, Lithuania, Budapest (HU), Poland, Portugal and the United Kingdom: 2011. Greece, Luxembourg, Malta and Austria: 2009. Slovakia: 2008. Romania: 2002. Dublin, Athina, Barcelona, Bilbao, Milano, Napoli, Amsterdam, Rotterdam, Lisboa, Porto, Helsinki / Helsingfors, Stockholm, London, Liverpool, Manchester, Leicester, Portsmouth, Nottingham, Southend-on-Sea, Reading, Preston, Zürich, Genève, Basel, Bern, Lausanne, Luzern and Lugano: greater city. For some cities: estimates, the list is too lengthy to document.
Source: Eurostat (online data codes: urb_cpopcb and urb_cpop1)

Nationals accounted for just over one third of the population of Luxembourg city …

Map 15.4 provides a contrasting analysis, namely, the share of the total population who are nationals (in other words, those who have the citizenship of the Member State in which they live). The division between national and foreign citizens depends, at least to some degree, on the inclination or possibility for foreign citizens to take the citizenship of the Member State they are living in.

In Luxembourg city, nationals accounted for just over one third (36.2 %) of the total population in 2009, which was the lowest share among any of the cities for which data are available. There were two other cities where less than half of the population were nationals, namely, Narva (in Estonia) and Torrevieja (in Spain), while Derry (in Northern Ireland in the United Kingdom) had the fourth highest share of non-nationals (54.4 % in 2011, with its foreign population being predominantly of Irish citizenship).

Subject to data availability, there were only three cities with more than 500 000 inhabitants where nationals accounted for less than 75 % of the population in 2012 and they were: the Belgian and Latvian capitals of Bruxelles / Brussel and Rīga (data are for 2011) and the Swiss city of Zürich. Russians made up the largest group of non-Latvian citizens living in Rīga, followed by smaller proportions of citizens from Belarus, Ukraine and the other Baltic States.

… but for 95 % or more in Sofia, Vilnius, Bratislava and Budapest

Figure 15.3 provides a more detailed analysis of the breakdown of foreign citizens in capital cities (note that a range of different reference years are used). It confirms that more than 95 % of the populations in Sofia, Vilnius, Bratislava and Budapest were composed of national citizens. By contrast, there were only four EU capital cities where the share of nationals was below 80 %, namely, London (78.4 %), Rīga (73.9 %), Bruxelles / Brussel (66.2 %) and Luxembourg (36.8 %).

Figure 15.3 also shows an analysis of non-national populations, for those with the citizenship of another EU Member State and those who were citizens of non-member countries. There were five capital cities where non-EU nationals accounted for slightly more than one in ten of the population, namely, Berlin, London, Madrid, Wien and Bruxelles / Brussel. However, by far the highest share (25.5 %) of foreign citizens from outside of the EU was recorded in Rīga; this latter figure is principally due to a high number of recognised non-citizens who are mainly former Soviet Union citizens, permanently resident in Latvia although they have not acquired any other citizenship.

Figure 15.3: Breakdown of population by nationality, selected capital cities from the Urban Audit, 2012 ([1]) (% of total population)
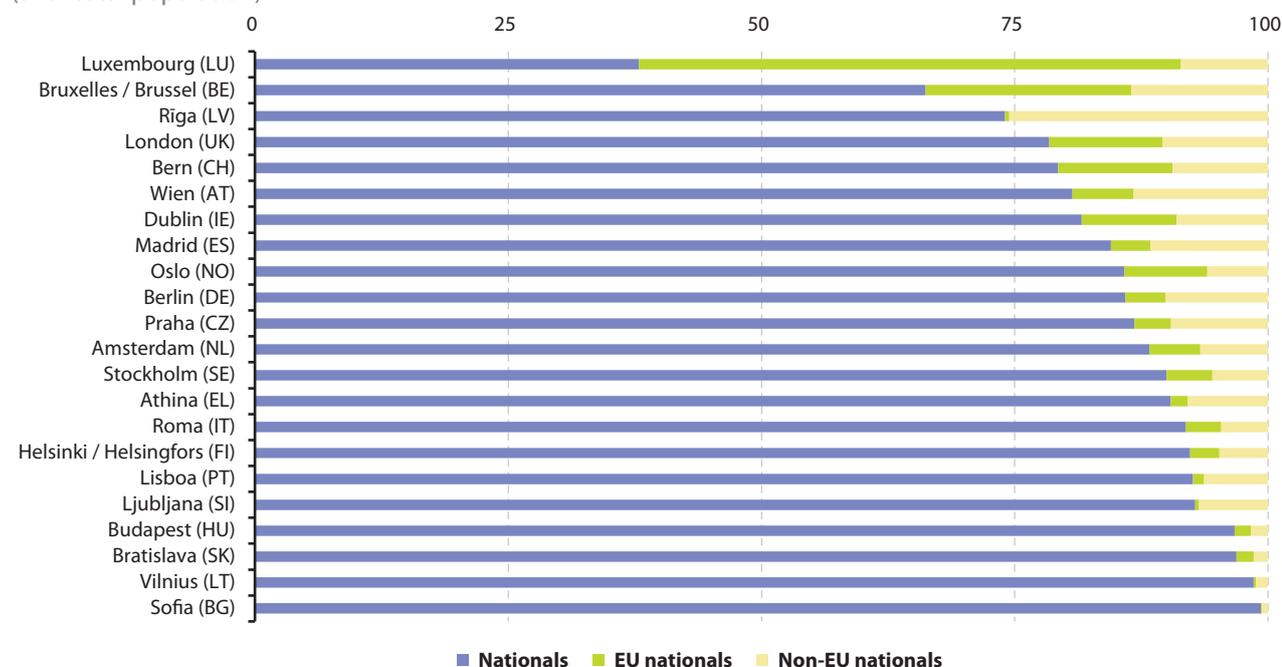
([1]) The figure shows the Urban Audit capital cities for which data are available from 2008 onwards. Praha, Dublin, Roma, Riga, Vilnius, Budapest, Lisboa and London: 2011. Stockholm: 2010. Athina: 2009. Sofia, Luxembourg, Wien and Bratislava: 2008. Dublin, Athina, Amsterdam, Lisboa, Helsinki / Helsingfors, Stockholm and London: greater city. Sofia, Dublin, Athina, Riga, Vilnius and Lisboa: estimates.
Source: Eurostat (online data code: urb_cpopcb)

More than half of all the inhabitants of Luxembourg city were citizens of another EU Member State

A majority (53.5 %) of the population in Luxembourg was composed of foreign citizens from other EU Member States. The next highest share of EU nationals was recorded in Bruxelles / Brussel, at just over one in five (20.3 %) of the population; these relatively high figures may, at least in part, be explained by both Luxembourg and Bruxelles / Brussel being home to various EU institutions. Otherwise, London (11.2 %) was the only other capital city within the EU-28 to report that more than 10 % of its population was made-up of nationals from other EU Member States; a similar share was recorded in the Swiss capital of Bern, where 11.3 % of the inhabitants were EU nationals.

Housing

The EU does not have any specific responsibilities with respect to housing; rather, national governments develop their own policies. Nevertheless, many of the EU Member States face similar challenges: for example, how to renew housing stocks, how to plan and combat urban sprawl, how to help young and disadvantaged groups get into the housing market, how to promote sustainable development, or how to promote energy efficiency among homeowners.

Average size of households

The average size of dwellings across EU Member States reflects, at least to some degree, population density and housing concentration, but may also be influenced by variations in the price of land and housing, income distribution, as well as the housing stock available for rent or for purchase. Housing in rural areas tends to be larger (in terms of land area and floor space) than housing in cities.

Demographic changes and increased population mobility have resulted in a lower average number of persons per household. If these developments continue in the coming years this will be reflected in the further dissolution of traditional family structures, an increasing proportion of elderly people, and even more fragmented populations, thereby creating demand for a higher number of (smaller) dwellings, despite little or no change in overall population numbers.

The largest households were in Slovakia, where each household was composed of an average of 3.1 persons

Households in the EU-28 were composed of an average of 2.4 persons. In those Member States that joined the EU in 2004 or more recently, average household size tended to be somewhat larger and this pattern was also apparent in most

Figure 15.4: Disparities in the average size of households in European cities, 2012 ([1])
(persons)
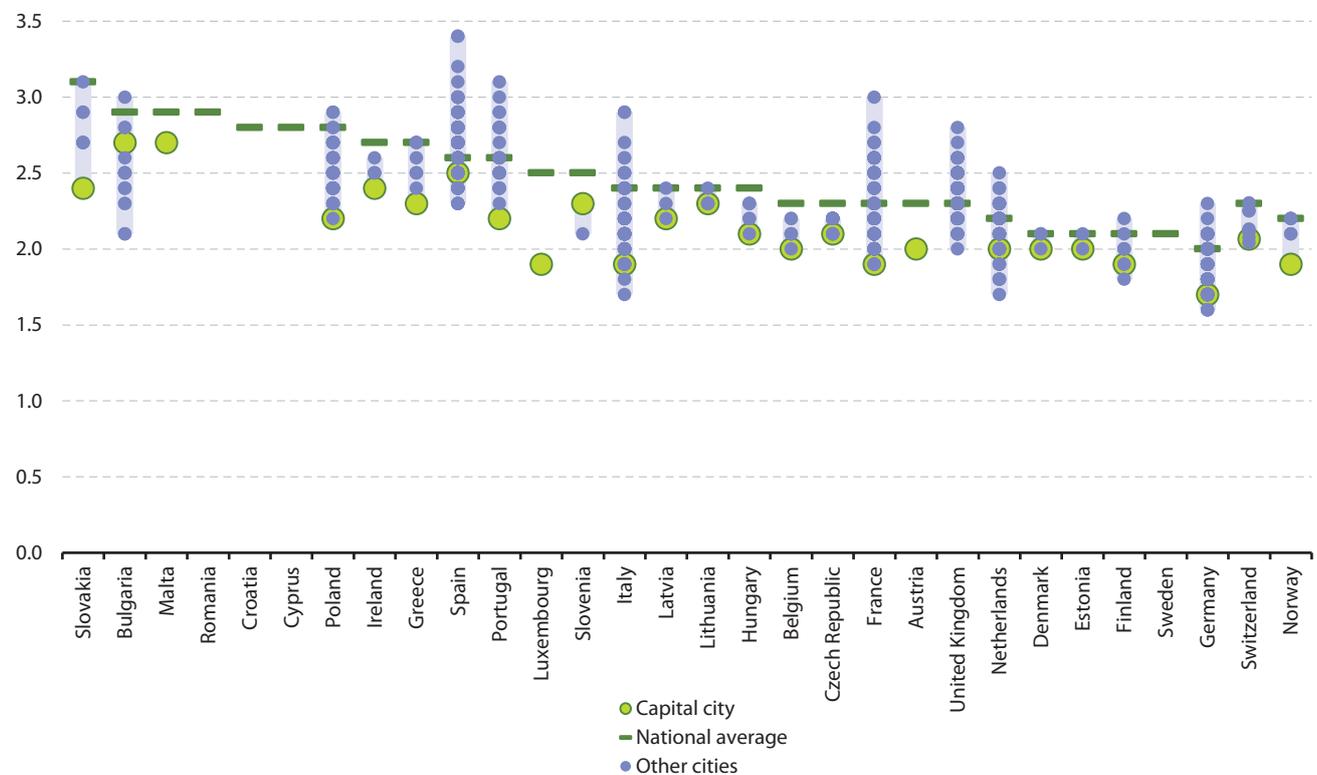
([1]) The light purple shaded bar shows the range of the highest to lowest city for each country. The dark green bar shows the national average. The green circle shows the capital city. The dark purple circles show the other cities covered by the Urban Audit (subject to availability). Croatia, Cyprus, Romania, Sweden and the United Kingdom: national average sourced from EU-SILC and therefore not strictly comparable. Switzerland: 2013. The Czech Republic, Estonia, Ireland, France, Latvia, Lithuania, Hungary, Poland, Portugal, Slovenia, Slovakia and the United Kingdom: 2011. Greece: 2009. Belgium, Bulgaria, Luxembourg, Malta and Austria: 2008. Dublin, Athina, Barcelona, Bilbao, Milano, Napoli, Amsterdam, Rotterdam, Lisboa, Porto, Helsinki / Helsingfors, Liverpool, Manchester, Leicester, Portsmouth, Nottingham, Southend-on-Sea, Reading and Preston: greater city. Croatia, Cyprus, Romania and Sweden: cities, not available. The United Kingdom: capital city, not available. Bulgaria, Germany, Ireland, Greece, Spain, Luxembourg and Malta: estimates.
Source: Eurostat (online data codes: urb_clivcon and ilc_lvph01)

of southern EU Member States. By contrast, the smallest average household sizes were often found in northern and western Member States (Ireland being an exception to this pattern). Among the Member States, the average size ranged from highs of around three persons per household in Slovakia, Bulgaria, Malta and Romania, down to close to two persons in the Nordic Member States, Estonia and Germany.

The disparities in the average size of households between the cities within each EU Member State were generally quite narrow. The widest dispersion was among Italian, Spanish and French cities. For example, in Italy the lowest average household size was in the northern city of Milano (1.7 persons per household in 2012), while in the southern cities of Matera (Basilicata) and Barletta (Puglia) the average size of each household was 2.9 persons.

Figure 15.4 shows that the national average for the number of persons per household was higher than in any of the cities in Ireland, Luxembourg, Slovenia, Hungary, Belgium, the Czech Republic and Austria, indicating that in each of these Member States the average number of persons per household was higher outside of cities.

Some of the EU's biggest cities had a relatively low average number of persons per household. Indeed, using this measure among the cities shown, capitals recorded the

smallest average household sizes in Slovakia, Poland, Ireland, Greece, Portugal, Luxembourg, Latvia, Lithuania, Hungary, Belgium, the Czech Republic, France, Austria, Denmark and Estonia; this was also the case in Norway. In the remaining EU Member States — those where the capital city did not record the lowest average household size among the cities shown — the average number of persons per household in capital cities remained consistently below the national average.

The average number of persons per household fell to 1.7 in the German capital

Berlin had the lowest average household size among EU capital cities, with each household composed, on average, by 1.7 persons. There were a number of other capitals where households were composed of less than two persons on average, namely, Paris, Roma, Luxembourg city and Helsinki / Helsingfors; this was also the case in Oslo.

Average price of houses

For those who decide to buy a home, it is likely to be the single, most expensive purchase that they make during the course of their lives, while for those who rent, housing often accounts for a substantial share of their monthly

Figure 15.5: Disparities in the average price of a house in European cities, 2012 ([1])
(EUR)
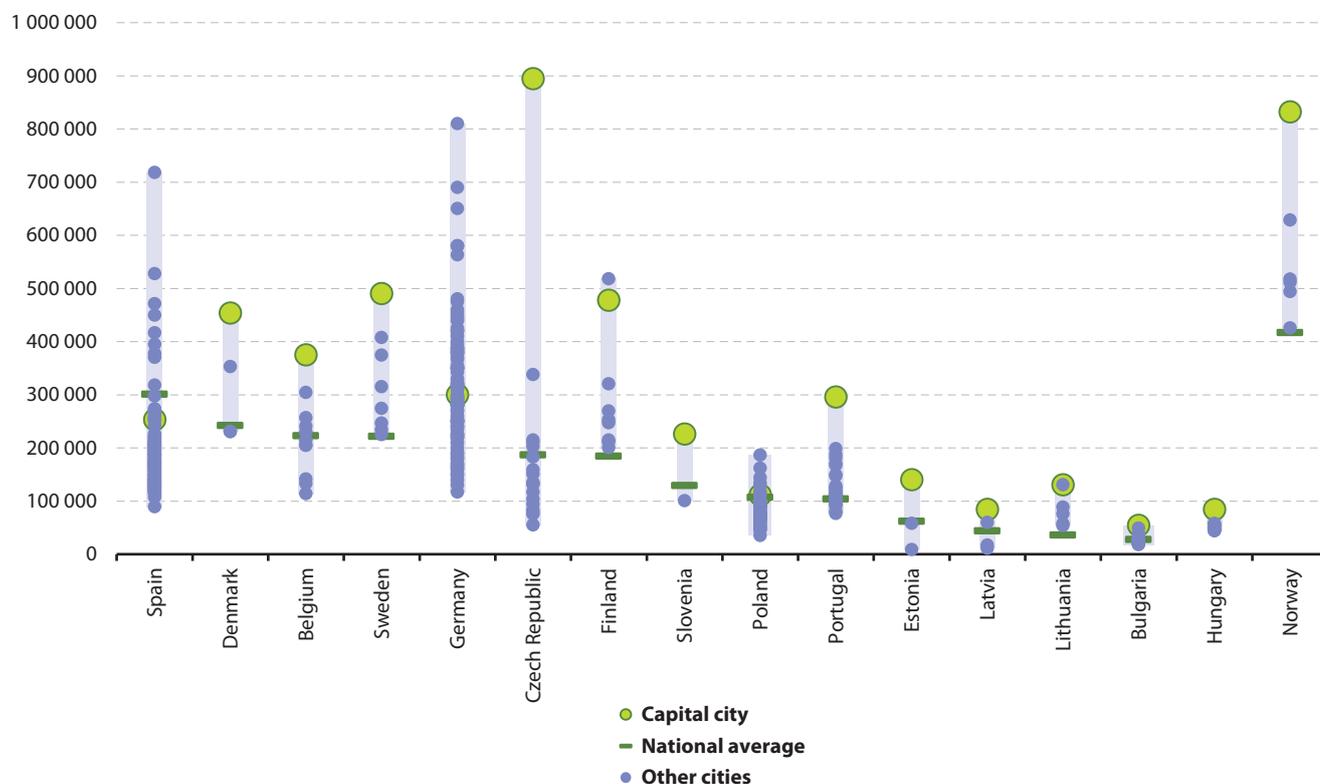
([1]) The light purple shaded bar shows the range of the highest to lowest city for each country. The dark green bar shows the national average. The green circle shows the capital city. The dark purple circles show the other cities covered by the Urban Audit (subject to availability). Those Member States not shown: not available. Germany, Estonia, Latvia, Lithuania, Slovenia, Sweden: 2011. Poland: mixed reference periods, 2010–12. Bulgaria: average price of an apartment and not the average price of a house. Barcelona, Bilbao, Lisboa, Porto, Helsinki / Helsingfors and Stockholm: greater city. Germany and Hungary: national average, not available. Bulgaria, the Czech Republic, Latvia and Portugal: estimates.
Source: Eurostat (online data code: urb_clivcon)

expenditure. Homes are highly durable but require extensive financial and material investment to build and maintain, such that property owners in the EU often have a considerable amount of their personal wealth invested in 'bricks and mortar'.

Figure 15.5 shows the considerable range of average house prices across EU cities. In 2012, it was in some cases possible to purchase a house for an average of less than EUR 100 000, while the average price of a house in several capitals was nearer to EUR 500 000.

Nationally, the average price of a house in Lithuania, Finland and Sweden (as well as Norway), was lower than the average price in any of the cities shown; this indicates that the average price of houses outside of cities in these northern Member States was lower than the price of houses in cities.

### Particularly high house prices in capital cities

House prices were generally highest — for most EU Member States — in their capital city. This was particularly true in the Czech Republic, where the average price of a house in Praha (EUR 894 000) was almost five times as high as the national average; note that these figures are estimated and based on

a limited sample. It was more typical to find house prices in capital cities around twice as high as national averages.

Subject to data availability, there was only one EU Member State — Spain — where the average price of a house in the capital city was lower than the national average. Note however that the highest house prices in Spain were registered in a group of satellite cities to the north of the Spanish capital, in the suburbs of Las Rozas de Madrid, Majadahonda and Alcobendas.

Spain was one of four EU Member States (for which data are available) where the average house price in the capital was lower than the price in at least one other city in the same Member State. In Germany, the highest average prices were in München (EUR 810 000), while Düsseldorf, Frankfurt am Main, Heidelberg, Konstanz, Stuttgart and Wiesbaden all registered average house prices over EUR 500 000. These prices were all considerably higher than in the German capital, as the average price of a house in Berlin was EUR 300 000. In Poland there were also several cities that reported average house prices above those recorded for Warszawa: among these, the highest average price of a house was recorded in the northerly city of Gdansk. In

Figure 15.6: Disparities in the proportion of lone parent households (with children aged 0–17) in European cities, 2012 (¹)
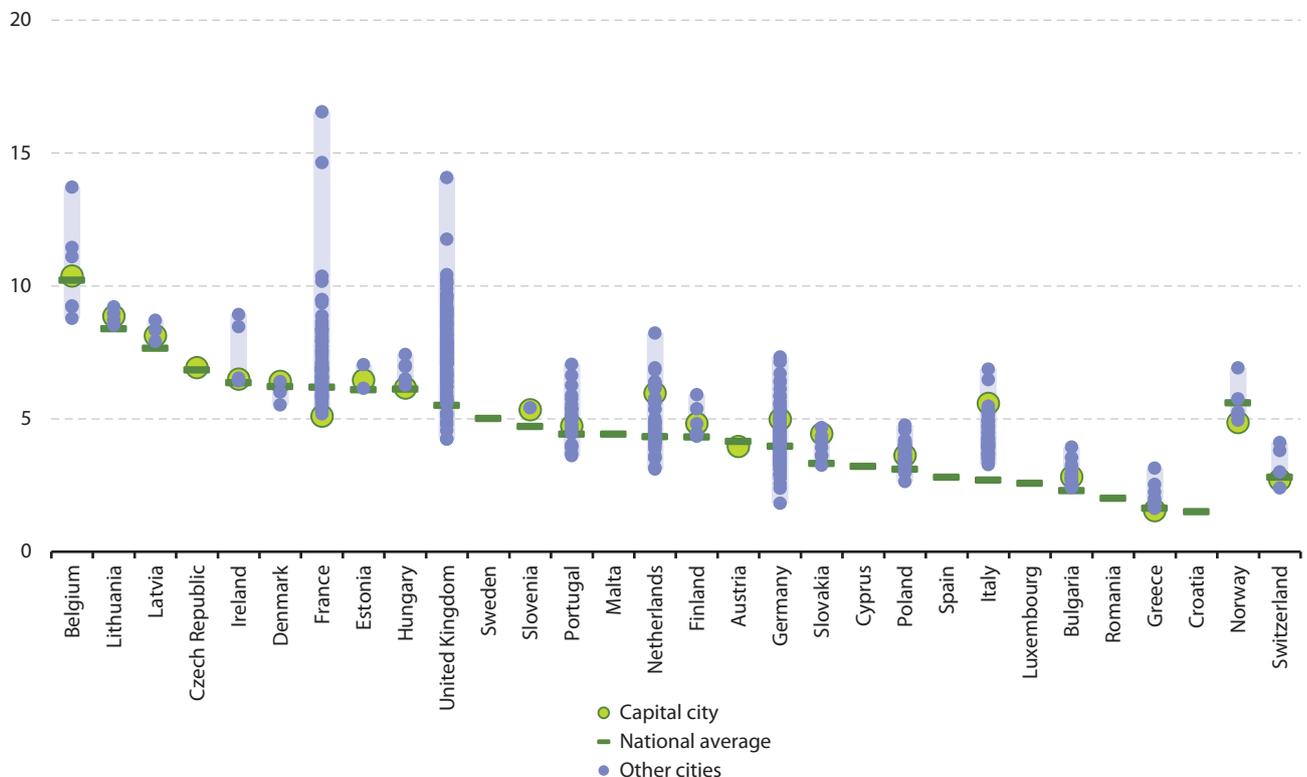
(% of all households)

(¹) The light purple shaded bar shows the range of the highest to lowest city for each country. The dark green bar shows the national average. The green circle shows the capital city. The dark purple circles show the other cities covered by the Urban Audit (subject to availability). Spain, Croatia, Cyprus, Romania, Sweden and the United Kingdom: national average sourced from EU-SILC and therefore not strictly comparable (data cover lone parents with dependent children of any age). Bulgaria, the Czech Republic, Germany, Estonia, Ireland, France, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Slovenia and Slovakia: 2011. Luxembourg: 2009. Belgium, Greece, Roma (IT) and Austria: 2008. Dublin, Athina, Milano, Napoli, Amsterdam, Rotterdam, Lisboa, Porto and Helsinki / Helsingfors: greater city. Luxembourg, Malta and the United Kingdom: capital city, not available. Germany, Ireland, Greece and Luxembourg: estimates.

Source: Eurostat (online data codes: urb_clivcon and ilc_lvph02)

Finland there was a single city that recorded average house prices above those recorded in the capital, namely Espoo / Esbo (the second largest city in the country, just to the west of Helsinki).

Lone parent households

Across the EU, one of the main driving forces behind the fall in the average size of households has been the growing number of people living alone and the increasing share of single parent families. This may be linked to a wide range of factors, including: people seeking more independence; increased workforce mobility; a reduction in the longevity of relationships (including higher divorce rates); women generally outliving their partners; and changes in healthcare which allow a greater proportion of the elderly to live (alone) into very old age.

### Lone parent households accounted for 4.1 % of all households in the EU

According to EU statistics on income and living conditions (EU-SILC), in 2012, single persons with dependent children accounted for just over 4 % of the total number of households in the EU-28.

Figure 15.6 shows the distribution of lone parent households with children aged less than 18 across cities. The share of lone parent households in capital cities was generally slightly higher than the national average: the biggest differences were recorded in Italy and the Netherlands. By contrast, in the French, Austrian and Greek capitals, the proportion of lone parent households was lower than the national average as was also the case in Norway.

Figure 15.6 also shows that the proportion of lone parent households at a national level was often at the bottom end of the range for each EU Member State, sometimes below all values recorded for any of the cities, suggesting that a lower proportion of the rural population was living in lone parent households.

Lone parent households were relatively common in several Belgian, French and British cities, where they accounted for more than 10 % of all households. The highest shares in Belgium were recorded in the Walloon region for the cities of Charleroi, Liège and Namur, and in the capital city. Aside from Fort-de-France (the capital of Martinique in the Caribbean), there were three French cities where lone parent households accounted for more than 10 % of all households: each of these was located in the suburbs around

Figure 15.7: Disparities in the proportion of lone pensioner (above retirement age) households in European cities, 2012 (^{1})
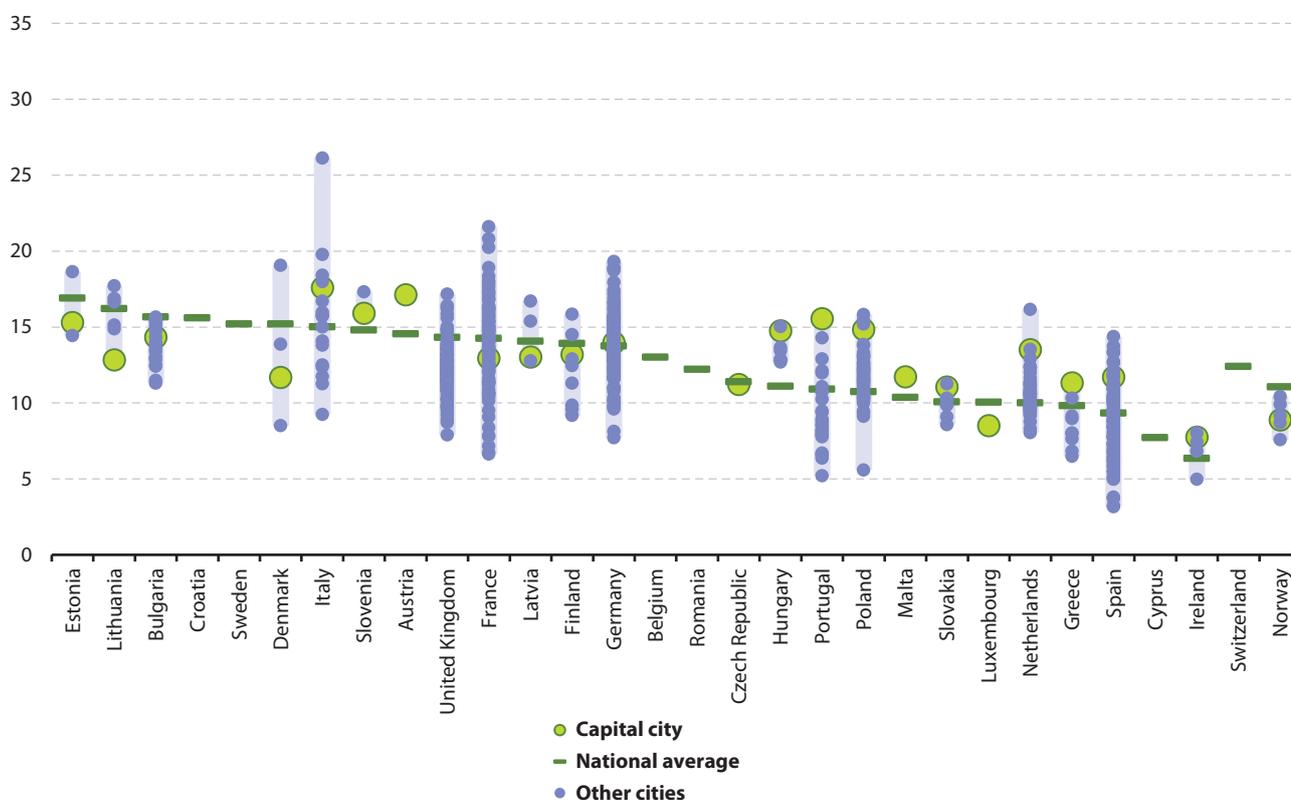
(% of all households)

- ● Capital city
- ─ National average
- ● Other cities

(^{1}) The light purple shaded bar shows the range of the highest to lowest city for each country. The dark green bar shows the national average. The green circle shows the capital city. The dark purple circles show the other cities covered by the Urban Audit (subject to availability). Belgium, Croatia, Italy, Cyprus, Hungary, Romania, Sweden, the United Kingdom and Switzerland: national average sourced from EU-SILC and therefore not strictly comparable. The Czech Republic, Estonia, Ireland, France, Latvia, Lithuania, Hungary, Poland, Portugal, Slovenia, Slovakia and the United Kingdom: 2011. Greece: 2009. Italy, Luxembourg, Malta and Austria: 2008. Dublin, Athina, Milano, Napoli, Amsterdam, Rotterdam, Lisboa, Porto and Helsinki / Helsingfors: greater city. The United Kingdom: capital city, not available. Bulgaria, Germany, Ireland, Greece, Spain, Luxembourg and Malta: estimates.

Source: Eurostat (online data codes: urb_clivcon and ilc_lvph02)

Paris (Saint Denis and communauté d'agglomération Val de France to the north; and communauté d'agglomération des Lacs de l'Essonne to the south). In the United Kingdom the prevalence of lone parent households was particularly high in and around London, as well as in Birmingham, Liverpool and Middlesbrough, and three cities from Northern Ireland (Derry, Belfast and Lisburn).

Lone pensioner households

According to EU statistics on income and living conditions, in 2012, some 5.6 % of households in the EU-28 were composed of a single person aged 65 years and over. This value is quite low when compared with the information presented in **Figure 15.7** which is based on the proportion of lone pensioners (irrespective of their age); as such, some of the differences may be attributed to people retiring 'early', for example, out of choice or because of ill-health.

Women tend to account for a much higher share of the elderly living alone, in part due to their longevity. Indeed, differences in life expectancy between the sexes may explain why some EU Member States have a relatively high proportion of their elderly populations living alone.

The share of lone pensioner households peaked at 15 % or more in Italy, Denmark, Sweden, Croatia, Bulgaria, Lithuania and Estonia. By contrast, retired persons living alone accounted for less than 1 in 10 households in Greece, Spain, Cyprus and Ireland.

The share of lone pensioner households was relatively high (compared with respective national averages) in the capital cities of Portugal, Poland, the Netherlands and Hungary. An analysis of cities with more than 100 000 households shows that the highest proportion of lone pensioner households was recorded in the Italian city of Napoli (data are for 2008), with more than one in four households (26.1 %) occupied by a lone pensioner. Subject to data availability, there were six cities where the share of lone pensioner households stood within the range of 17.5 %–20 %. Of these, three more were Italian cities (Genova, Venezia and Roma), two were southern French cities (Toulon and Nice, already noted as popular retirement destinations), and the final city was Chemnitz (in eastern Germany). By contrast, in the capital cities of Denmark, Lithuania and Luxembourg, the proportion of lone pensioner households was considerably lower than the national average; this was also the case in Norway.

The national average for the share of lone pensioner households was lower in Austria, Hungary, Slovenia and Malta than the shares recorded for any of their cities, suggesting that areas outside of cities were characterised by a lower proportion of lone pensioner households.

Data sources and availability

Cities (Urban Audit)

Eurostat's data collection on cities (the Urban Audit) is undertaken by the national statistical authorities, the Directorate-General for Regional and Urban Policy (DG REGIO) and Eurostat. It provides statistics on a range of socioeconomic aspects relating to urban life in more than 900 cities, each with a population of at least 50 000 inhabitants in the urban centre, spread across the EU Member States, Norway, Switzerland and Turkey; note that there may be considerable differences in relation to the latest reference period available for each city.

Indicator definitions

Population statistics for cities refer to the population at its usual residence, in other words, the place where a person normally lives, regardless of temporary absences; this is generally their place of legal or registered residence. Population numbers are a reference for measuring the general size of an urban entity and are used as a denominator for many derived indicators.

A foreigner is a person who does not have the citizenship of the country of usual residence, regardless of their place of birth. EU foreigners are persons living in the reporting Member State who have the nationality of another EU Member State. Non-EU foreigners are persons living in the reporting Member State with the nationality of a non-member country.

Native-born means a person who was born in the Member State of usual residence regardless of that person's citizenship. Foreign-born means a person who was born outside of the Member State of usual residence regardless of that person's citizenship.

The household-dwelling concept is the preferred household unit. It considers all persons living in a housing unit to be members of the same household, such that there is one household per occupied housing unit.

Annex 1 — Classification of territorial units for statistics, 2010 version

European Union: NUTS 2 regions (capital region is shown in bold)

Belgium

BE10 **Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest**
BE21 Province/Provincie Antwerpen
BE22 Province/Provincie Limburg (BE)
BE23 Province/Provincie Oost-Vlaanderen
BE24 Province/Provincie Vlaams-Brabant
BE25 Province/Provincie West-Vlaanderen
BE31 Province/Provincie Brabant Wallon
BE32 Province/Provincie Hainaut
BE33 Province/Provincie Liège
BE34 Province/Provincie Luxembourg (BE)
BE35 Province/Provincie Namur

Bulgaria

BG31 Северозападен/Severozapaden
BG32 Северен централен/Severen tsentralen
BG33 Североизточен/Severoiztochen
BG34 Югоизточен/Yugoiztochen
BG41 **Югозападен/Yugozapaden**
BG42 Южен централен/Yuzhen tsentralen

Czech Republic

CZ01 **Praha**
CZ02 Střední Čechy
CZ03 Jihozápad
CZ04 Severozápad
CZ05 Severovýchod
CZ06 Jihovýchod
CZ07 Střední Morava
CZ08 Moravskoslezsko

Denmark

DK01 **Hovedstaden**
DK02 Sjælland
DK03 Syddanmark
DK04 Midtjylland
DK05 Nordjylland

Germany

DE11 Stuttgart
DE12 Karlsruhe
DE13 Freiburg
DE14 Tübingen
DE21 Oberbayern
DE22 Niederbayern
DE23 Oberpfalz
DE24 Oberfranken
DE25 Mittelfranken
DE26 Unterfranken
DE27 Schwaben
DE30 **Berlin**
DE40 Brandenburg
DE50 Bremen
DE60 Hamburg
DE71 Darmstadt
DE72 Gießen
DE73 Kassel
DE80 Mecklenburg-Vorpommern
DE91 Braunschweig
DE92 Hannover
DE93 Lüneburg
DE94 Weser-Ems
DEA1 Düsseldorf
DEA2 Köln
DEA3 Münster
DEA4 Detmold
DEA5 Arnsberg
DEB1 Koblenz
DEB2 Trier
DEB3 Rheinhessen-Pfalz
DEC0 Saarland
DED2 Dresden
DED4 Chemnitz
DED5 Leipzig
DEE0 Sachsen-Anhalt
DEF0 Schleswig-Holstein
DEG0 Thüringen

Estonia

EE00 **Eesti**

Ireland

IE01 Border, Midland and Western
IE02 **Southern and Eastern**

Greece

EL11 Ανατολική Μακεδονία, Θράκη/Anatoliki Makedonia, Thraki
EL12 Κεντρική Μακεδονία/Kentriki Makedonia
EL13 Δυτική Μακεδονία/Dytiki Makedonia
EL14 Θεσσαλία/Thessalia
EL21 Ήπειρος/Ipeiros
EL22 Ιόνια Νησιά/Ionia Nisia
EL23 Δυτική Ελλάδα /Dytiki Ellada
EL24 Στερεά Ελλάδα/Sterea Ellada
EL25 Πελοπόννησος/Peloponnisos

EL30   Αττική/Attiki
EL41   Βόρειο Αιγαίο/Voreio Aigaio
EL42   Νότιο Αιγαίο/Notio Aigaio
EL43   Κρήτη/Kriti

Spain

ES11   Galicia
ES12   Principado de Asturias
ES13   Cantabria
ES21   País Vasco
ES22   Comunidad Foral de Navarra
ES23   La Rioja
ES24   Aragón
ES30   Comunidad de Madrid
ES41   Castilla y León
ES42   Castilla-La Mancha
ES43   Extremadura
ES51   Cataluña
ES52   Comunidad Valenciana
ES53   Illes Balears
ES61   Andalucía
ES62   Región de Murcia
ES63   Ciudad Autónoma de Ceuta
ES64   Ciudad Autónoma de Melilla
ES70   Canarias

France

FR10   Île de France
FR21   Champagne-Ardenne
FR22   Picardie
FR23   Haute-Normandie
FR24   Centre
FR25   Basse-Normandie
FR26   Bourgogne
FR30   Nord - Pas-de-Calais
FR41   Lorraine
FR42   Alsace
FR43   Franche-Comté
FR51   Pays de la Loire
FR52   Bretagne
FR53   Poitou-Charentes
FR61   Aquitaine
FR62   Midi-Pyrénées
FR63   Limousin
FR71   Rhône-Alpes
FR72   Auvergne
FR81   Languedoc-Roussillon
FR82   Provence-Alpes-Côte d'Azur
FR83   Corse
FR91   Guadeloupe
FR92   Martinique
FR93   Guyane
FR94   Réunion

Croatia

HR03   Jadranska Hrvatska
HR04   Kontinentalna Hrvatska

Italy

ITC1   Piemonte
ITC2   Valle d'Aosta/Vallée d'Aoste
ITC3   Liguria
ITC4   Lombardia
ITF1   Abruzzo
ITF2   Molise
ITF3   Campania
ITF4   Puglia
ITF5   Basilicata
ITF6   Calabria
ITG1   Sicilia
ITG2   Sardegna
ITH1   Provincia Autonoma di Bolzano/Bozen
ITH2   Provincia Autonoma di Trento
ITH3   Veneto
ITH4   Friuli-Venezia Giulia
ITH5   Emilia-Romagna
ITI1   Toscana
ITI2   Umbria
ITI3   Marche
ITI4   Lazio

Cyprus

CY00   Κύπρος/Kýpros

Latvia

LV00   Latvija

Lithuania

LT00   Lietuva

Luxembourg

LU00   Luxembourg

Hungary

HU10   Közép-Magyarország
HU21   Közép-Dunántúl
HU22   Nyugat-Dunántúl
HU23   Dél-Dunántúl
HU31   Észak-Magyarország
HU32   Észak-Alföld
HU33   Dél-Alföld

Malta

MT00   Malta

Netherlands

NL11   Groningen
NL12   Friesland (NL)
NL13   Drenthe
NL21   Overijssel
NL22   Gelderland
NL23   Flevoland
NL31   Utrecht
NL32   **Noord-Holland**
NL33   Zuid-Holland
NL34   Zeeland
NL41   Noord-Brabant
NL42   Limburg (NL)

Austria

AT11   Burgenland (AT)
AT12   Niederösterreich
AT13   **Wien**
AT21   Kärnten
AT22   Steiermark
AT31   Oberösterreich
AT32   Salzburg
AT33   Tirol
AT34   Vorarlberg

Poland

PL11   Łódzkie
PL12   **Mazowieckie**
PL21   Małopolskie
PL22   Śląskie
PL31   Lubelskie
PL32   Podkarpackie
PL33   Świętokrzyskie
PL34   Podlaskie
PL41   Wielkopolskie
PL42   Zachodniopomorskie
PL43   Lubuskie
PL51   Dolnośląskie
PL52   Opolskie
PL61   Kujawsko-Pomorskie
PL62   Warmińsko-Mazurskie
PL63   Pomorskie

Portugal

PT11   Norte
PT15   Algarve
PT16   Centro (PT)
PT17   **Lisboa**
PT18   Alentejo
PT20   Região Autónoma dos Açores
PT30   Região Autónoma da Madeira

Romania

RO11   Nord-Vest
RO12   Centru
RO21   Nord-Est
RO22   Sud-Est
RO31   Sud - Muntenia
RO32   **Bucureşti - Ilfov**
RO41   Sud-Vest Oltenia
RO42   Vest

Slovenia

SI01   Vzhodna Slovenija
SI02   **Zahodna Slovenija**

Slovakia

SK01   Bratislavský kraj
SK02   **Západné Slovensko**
SK03   Stredné Slovensko
SK04   Východné Slovensko

Finland

FI19   Länsi-Suomi
FI1B   **Helsinki-Uusimaa**
FI1C   Etelä-Suomi
FI1D   Pohjois- ja Itä-Suomi
FI20   Åland

Sweden

SE11   **Stockholm**
SE12   Östra Mellansverige
SE21   Småland med öarna
SE22   Sydsverige
SE23   Västsverige
SE31   Norra Mellansverige
SE32   Mellersta Norrland
SE33   Övre Norrland

United Kingdom

UKC1   Tees Valley and Durham
UKC2   Northumberland and Tyne and Wear
UKD1   Cumbria
UKD3   Greater Manchester
UKD4   Lancashire
UKD6   Cheshire
UKD7   Merseyside
UKE1   East Yorkshire and Northern Lincolnshire
UKE2   North Yorkshire
UKE3   South Yorkshire
UKE4   West Yorkshire
UKF1   Derbyshire and Nottinghamshire
UKF2   Leicestershire, Rutland and Northamptonshire
UKF3   Lincolnshire
UKG1   Herefordshire, Worcestershire and Warwickshire
UKG2   Shropshire and Staffordshire
UKG3   West Midlands

UKH1 East Anglia
UKH2 Bedfordshire and Hertfordshire
UKH3 Essex
UKI1 Inner London
UKI2 Outer London
UKJ1 Berkshire, Buckinghamshire and Oxfordshire
UKJ2 Surrey, East and West Sussex
UKJ3 Hampshire and Isle of Wight
UKJ4 Kent
UKK1 Gloucestershire, Wiltshire and Bristol/Bath area
UKK2 Dorset and Somerset
UKK3 Cornwall and Isles of Scilly
UKK4 Devon
UKL1 West Wales and The Valleys
UKL2 East Wales
UKM2 Eastern Scotland
UKM3 South Western Scotland
UKM5 North Eastern Scotland
UKM6 Highlands and Islands
UKN0 Northern Ireland

EFTA countries: statistical regions at level 2 (capital region is shown in bold)

Iceland

IS00 Ísland

Liechtenstein

LI00 Liechtenstein

Norway

NO01 Oslo og Akershus
NO02 Hedmark og Oppland
NO03 Sør-Østlandet
NO04 Agder og Rogaland
NO05 Vestlandet
NO06 Trøndelag
NO07 Nord-Norge

Switzerland

CH01 Région lémanique
CH02 Espace Mittelland
CH03 Nordwestschweiz
CH04 Zürich
CH05 Ostschweiz
CH06 Zentralschweiz
CH07 Ticino

Candidate countries: statistical regions at level 2 (capital region is shown in bold)

Montenegro

ME00 Црна Гора/Crna Gora

The former Yugoslav Republic of Macedonia

MK00 Поранешна југословенска Република Македонија/Poranešna jugoslovenska Republika Makedonija

Serbia

RS00 Република Србија/Republika Srbija

Albania

AL01 North
AL02 Centre
AL03 South

Turkey

TR10 İstanbul
TR21 Tekirdağ, Edirne, Kırklareli
TR22 Balıkesir, Çanakkale
TR31 İzmir
TR32 Aydın, Denizli, Muğla
TR33 Manisa, Afyonkarahisar, Kütahya, Uşak
TR41 Bursa, Eskişehir, Bilecik
TR42 Kocaeli, Sakarya, Düzce, Bolu, Yalova
TR51 Ankara
TR52 Konya, Karaman
TR61 Antalya, Isparta, Burdur
TR62 Adana, Mersin
TR63 Hatay, Kahramanmaraş, Osmaniye
TR71 Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir
TR72 Kayseri, Sivas, Yozgat
TR81 Zonguldak, Karabük, Bartın
TR82 Kastamonu, Çankırı, Sinop
TR83 Samsun, Tokat, Çorum, Amasya
TR90 Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane
TRA1 Erzurum, Erzincan, Bayburt
TRA2 Ağrı, Kars, Iğdır, Ardahan
TRB1 Malatya, Elazığ, Bingöl, Tunceli
TRB2 Van, Muş, Bitlis, Hakkari
TRC1 Gaziantep, Adıyaman, Kilis
TRC2 Şanlıurfa, Diyarbakır
TRC3 Mardin, Batman, Şırnak, Siirt

Annex 2 — Other classifications used in this publication

International statistical classification of diseases and related health problems: ICD

See: http://apps.who.int/classifications/icd10/browse/2010/en

International standard classification of education: ISCED

See: http://www.uis.unesco.org/Education/Documents/isced-2011-en.pdf

Statistical classification of economic activities in the European Community: NACE

See: http://ec.europa.eu/eurostat/web/nace-rev2/overview

European Union, EFTA and candidate countries: Urban Audit cities

See: http://ec.europa.eu/eurostat/documents/4422005/6840613/RYB-2015-Annex2-Cities-CandK.pdf

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Eurostat regional yearbook 2015

Statistical information is an important tool for understanding and quantifying the impact of political decisions in a specific territory or region. The *Eurostat regional yearbook 2015* gives a detailed picture relating to a broad range of statistical topics across the regions of the Member States of the European Union (EU), as well as the regions of EFTA and candidate countries. Each chapter presents statistical information in maps, figures and tables, accompanied by a description of the policy context, main findings and data sources. These regional indicators are presented for the following 12 subjects: regional policies and Europe 2020, population, health, education, the labour market, the economy, structural business statistics, research and innovation, the information society, tourism, transport, and agriculture. In addition, three special focus chapters are included in this edition: these look at gender issues, the quality of life, and information relating to life in European cities.

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