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Eurostat regional yearbook 2008

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Preface

Dear reader,

I am pleased to present the 2008 edition of the Eurostat regional yearbook, which gives an overview of the most recent developments in the regions of the European Union, with its current 27 Member States, as well as in the candidate countries and EFTA countries.

We have again selected themes that we think will show you the most interesting facets of development in the economic, social and demographic fields in Europe's regions. We are also pleased to include a contribution from our colleagues at the Commission's Directorate-General for Regional Policy for the second year running. This time the chapter is about 'Sectoral productivity' and it examines how productivity in different business sectors differs between the EU's regions.

Regional policy programmes initiated last year under the EU's new cohesion policy are now well under way and we hope that this publication will give some flavour of the progress being made in regional cohesion throughout the EU. We have also included some of the most recent results from the Urban Audit exercise, a data collection that compiles a great deal of statistical information on Europe's cities.

We are progressively developing the range of regional indicators available and will hopefully be able to include these in our choice of topics in future editions, as data availability and quality allow.

I wish you a stimulating read.

Hervé Carré
Director-General, Eurostat

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Contents

Introduction

Regional statistics give more detailed information

Eurostat, the statistical office of the European Communities, collects data on a range of different statistical topics, mainly from the 27 Member States of the European Union, but also from the three candidate countries (Croatia, the former Yugoslav Republic of Macedonia, and Turkey) and from the four EFTA countries (Iceland, Liechtenstein, Norway and Switzerland). The statistical data are often only collected at national level, but very many statistical fields also have statistics at regional level, which gives us a more complete picture.

This aim of this publication, the *Eurostat regional yearbook 2008*, is to give you detailed information on life in the European regions today. Looking at the regions of Europe under the magnifying glass allows the authors of the 13 different chapters to make an in-depth analysis of a large variety of statistical domains. We very much hope you will enjoy reading it!

The first chapter is about population statistics (demography), because population data form the basis for all other statistics. Many other statistical indicators are divided by the population figures, thus resulting in data with the unit expressed in terms of 'per inhabitant'. Therefore, we start the first chapter by presenting some basic facts about how the population is spread over the regions in Europe, providing birth and death rates, migration patterns and age distribution.

The second chapter, on urban statistics, is based on the Urban Audit data collection and it presents data on a range of different topics from all European capitals and from many other large European cities. As a large proportion of EU citizens live in these cities, it should be a topic that is interesting and directly relevant for many people.

The other chapters can be divided into four different themes.

The first concerns economic or financial indicators: gross domestic product (GDP), household accounts and structural business statistics. Economic cohesion is one of the main goals in EU policy and, one might say, the engine for all other policies. In particular the chapter on GDP gives a very good idea of the situation in the European Union today.

Labour market indicators form the second group of themes in this publication, containing a basic chapter on the labour market, and also introducing two totally new subjects for the *Eurostat regional yearbook*; sectoral productivity, written by a subject specialist from the Directorate-General for Regional Policy, and labour costs, where the regional differences in labour costs per hour are analysed.

The theme for the third group of chapters is more general and concerns the everyday life of most European citizens. Transport and tourism both focus on the mobility of people, while science, technology and innovation is often seen as one of the main cornerstones in the new Lisbon strategy for growth and jobs.

Well-being in general is the theme for the last two chapters; statistics on health are a welcome reappearance this year, focusing on the main causes of death and on the density of healthcare staff in the European regions; the chapter on agriculture this year concerns animal-rearing, mainly regarding pigs, sheep and cows.

The NUTS classification

All statistics at regional level within the EU are based on the nomenclature of territorial units for statistics (NUTS). The NUTS classification has been used for regional statistics for many decades, and has always formed the basis for regional funding policy. It was only in 2003, though, that NUTS acquired a legal basis, when the NUTS regulation was adopted by the Parliament and the Council ([1]).

Whenever new Member States join the EU, the NUTS regulation is of course amended to include the regional classification in those countries. This was the case in 2004, when the EU took in 10 new Member States, and in 2007 when it expanded to include Bulgaria and Romania.

The NUTS regulation provides for a review to be conducted every three years whereby the regional classification can be changed and adapted to new administrative boundaries or economic circumstances. In 2006, this exercise took place for the first time, and the results of these changes to the NUTS classification have now been valid since 1 January 2008. Most territorial changes are at NUTS level 3, affecting 11 countries, while four countries had changes made at NUTS level 2 and only one country at NUTS level 1.

The main changes in this latest revision of the NUTS classification are the following: Denmark introduced new NUTS 2 regions and revised the existing NUTS 3 regions following a substantial

([1]) More information on the NUTS classification can be found on the Internet (http://ec.europa.eu/eurostat/ramon/nuts/splash_regions.html).

administrative regional reform. In one German region, Sachsen-Anhalt, three different NUTS 2 regions were merged into just one NUTS 2 region. Slovenia introduced two new NUTS 2 regions where it had only one previously. In the United Kingdom, more specifically in north-eastern Scotland, a boundary shift at both NUTS 2 and 3 levels had the effect of creating new regions. Sweden introduced NUTS 1 regions for the first time due to the size of the country. For more detailed information on the most recent NUTS changes, please consult the Eurostat website.

Since these NUTS changes were introduced only on 1 January 2008 and the statistical data for all the chapters had already been extracted by the beginning of this year, you will find that regional data, especially for Denmark and Slovenia, are missing or have been replaced with national values on many of the statistical maps. The regional data availability for these two countries will have hopefully improved for next year's publication.

As a rule regional data by NUTS 2 regions are displayed and analysed in the *Eurostat regional yearbook 2008*, but there is one exception. Regarding labour costs, Eurostat only collects data at NUTS level 1 and therefore in that chapter the data are based on NUTS 1 regions instead.

Please note that some of the Member States have a relatively small population and they are therefore not divided into more than one NUTS 2 region. Thus, for these countries the NUTS 2 value is exactly the same as the national value. Following the latest revision of the NUTS classification this now applies to six Member States (Estonia, Cyprus, Latvia, Lithuania, Luxembourg and Malta), one candidate country (the former Yugoslav Republic of Macedonia), and two EFTA countries (Iceland and Liechtenstein): in all these cases the whole country consists of one single NUTS 2 region.

A folding map accompanies this publication on the inside of the cover and it shows all the regions at NUTS level 2 in the 27 Member States of the European Union (EU-27) and the corresponding statistical regions at level 2 in the candidate and EFTA countries. In the annex you will find the full list of codes and names of these regions. This will help you to locate a specific region geographically on the map.

Coverage

The *Eurostat regional yearbook 2008* mainly contains statistics from the 27 Member States of the European Union, but when available also from the three candidate countries: Croatia, the former Yugoslav Republic of Macedonia, and Turkey; and from the four EFTA countries: Iceland, Liechtenstein, Norway and Switzerland.

Regions in the candidate countries and the EFTA countries are called statistical regions and they follow the same rules as the NUTS regions in the European Union, except that there is no legal base. Data from the candidate and EFTA countries are not yet available in the Eurostat database for some policy areas, but the data availability situation is constantly improving, and we hope to have even better coverage in the near future.

More regional information

Under the theme 'General and regional statistics' on the Eurostat website you will find tables with statistics on both 'Regions' and the 'Urban Audit' with more detailed time series (some of them going back as far as 1970) and with more detailed statistics than contained in this yearbook. You will also find a number of indicators at NUTS level 3 (such as area, demography, gross domestic product and labour market data). This is important since some of the countries covered are not divided into NUTS 2 regions, as mentioned above.

For more detailed information on the contents of the regional and urban databases please consult the Eurostat publication *European regional and urban statistics — Reference guide — 2008 edition*, which you can download free of charge from the Eurostat website. The specific data used for producing the maps and other illustrations in this publication can also be found as Excel tables on the Eurostat website.

3

Gross domestic product

What is regional gross domestic product?

The economic development of a region is, as a rule, expressed in terms of its gross domestic product (GDP). This indicator is also frequently used as a basis for comparisons between regions. But what exactly does it mean? And how can comparability be established between regions of different sizes and with different currencies?

Regions of different sizes achieve different levels of GDP. However, a real comparison can only be made by comparing the regional GDP with the population of the region in question. This is where the distinction between place of work and place of residence becomes significant: GDP measures the economic performance achieved within national or regional boundaries, regardless of whether this was attributable to resident or non-resident persons. Reference to GDP per inhabitant is therefore only straightforward if all persons engaged in generating GDP are also residents of the region in question.

In areas with a high proportion of commuters, regional GDP per inhabitant can be extremely high, particularly in economic centres such as London, Vienna, Hamburg, Prague or Luxembourg, and relatively low in the surrounding regions, even if primary household income in these regions is very high. Regional GDP per inhabitant should therefore not be equated with regional primary income.

Regional GDP is calculated in the currency of the country in question. In order to make GDP comparable between countries, it is converted into euros using the official average exchange rate for the given calendar year. However, exchange rates do not reflect all the differences in price levels between countries. In order to compensate for this, GDP is converted, using currency conversion rates known as purchasing power parities (PPPs), into an artificial common currency called the purchasing power standard (PPS). This makes it possible to compare the purchasing power of the different national currencies (see Methodological notes).

Regional GDP in 2005

Map 3.1 provides an overview of the regional distribution of per-inhabitant GDP (as a percentage of the average for EU-27 of 22 400 PPS) for the European Union plus Croatia. It ranges from 24 % of the EU-27 average (5 430 PPS) per inhabitant in north-east Romania to 303 % (67 798 PPS) per inhabitant in the UK capital region of Inner London. The difference between the two ends of the range is therefore 12.5 to 1. Luxembourg at 264 % (59 202 PPS) and Brussels at 241 % (53 876 PPS) follow in second and third places, and Hamburg at 202 % (45 271 PPS) and Vienna at 178 % (39 774 PPS) take fourth and fifth places.

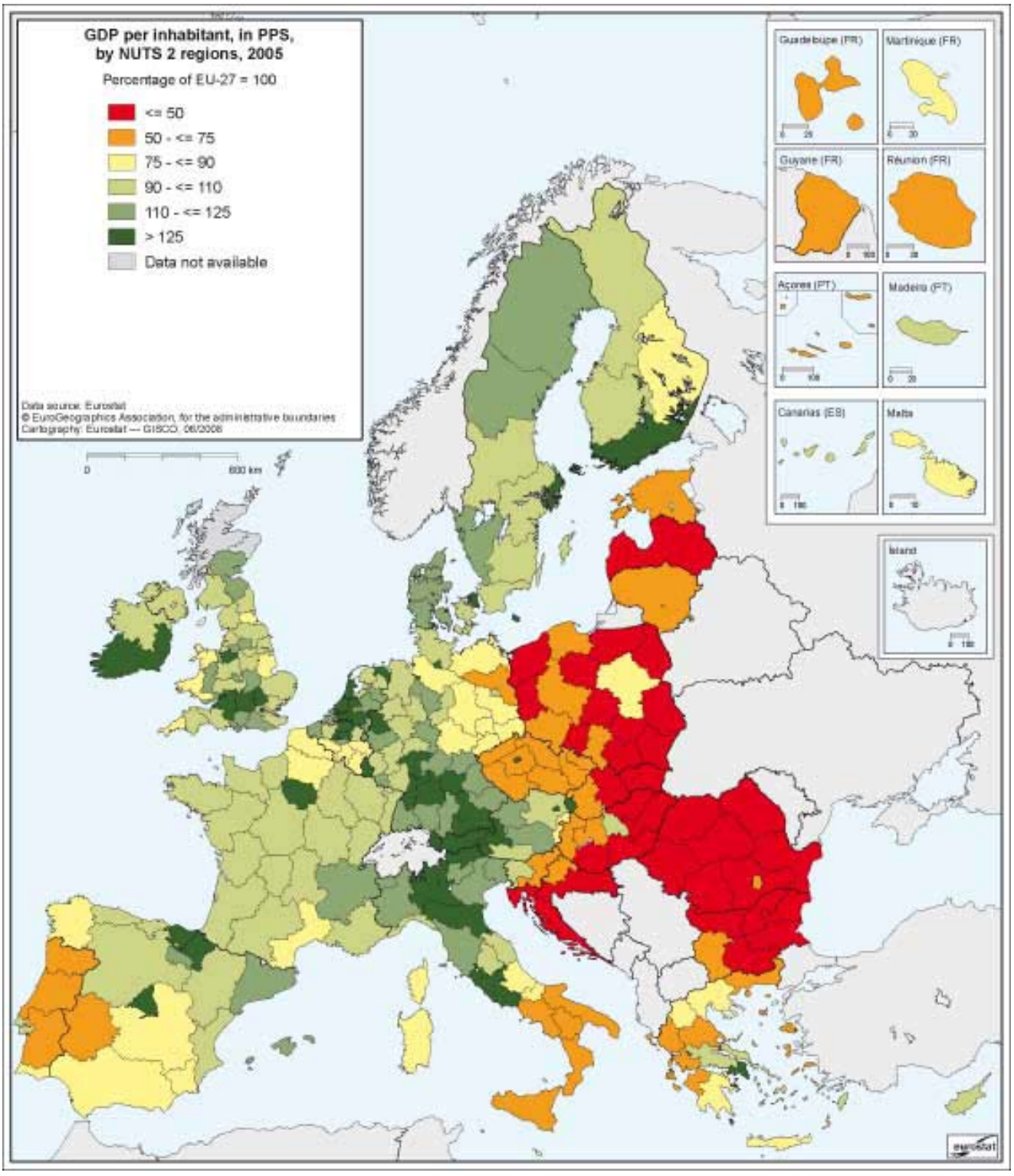
The most prosperous regions are in southern Germany, in the south of the UK, in northern Italy and in Belgium, Luxembourg, the Netherlands, Ireland and Scandinavia. The capital regions of Madrid, Paris and Prague also fall into this category. Most of the economically weaker regions are in the southern and western periphery of the EU and in eastern Germany, the new Member States and Croatia.

Prague (Czech Republic), the region with the highest GDP per inhabitant in the new Member States, has already risen to 12th place with 160 % of the EU average (35 901 PPS), and Bratislavský kraj (Slovakia) with 148 % (33 124 PPS) has reached 18th place out of the 274 level-2 regions considered here (in the EU-27 plus Croatia). However, these two regions are exceptions in the new Member States, as the next ones are lagging far behind: Közép-Magyarország (Hungary) at 105 % (23 489 PPS) in 111th place, Zahodna Slovenija (Slovenia) also at 105 % (23 453 PPS) in 112th place and Cyprus at 93 % (20 753 PPS) in 157th place. With the exception of two regions (Mazowieckie in Poland and Malta), all the other regions of the new Member States and Croatia have a GDP per inhabitant of less than 75 % of the EU-27 average.

If the 274 regions are divided into classes according to their GDP (in PPS) per inhabitant, the following picture emerges. In 2005, GDP in 69 regions was less than 75 % of the EU-27 average. These 69 regions account for 25.6 % of the population (EU-27 and Croatia), of which three quarters are in the new Member States or Croatia, and one quarter in the EU-15.

At the upper end of the spectrum, 43 regions display a GDP per inhabitant of more than 125 % of the EU-27 average. Some 21.4 % of the population live in these regions. A total of 53.0 % of the population, i.e. a slight majority, live in regions with a per-inhabitant GDP between 75 % and 125 % of the EU-27 average. Some 12.1 % of the population live in regions whose per-inhabitant GDP is less than 50 % of the EU-27 average; all of these regions are in the new Member States or Croatia.

Map 3.1: GDP per inhabitant, in PPS, by NUTS 2 regions, 2005
Percentage of EU-27 = 100



Three-year average GDP over the period 2003–05

Map 3.2 gives an overview of average per-inhabitant GDP levels (in PPS) over the period 2003–05. Three-year averages are especially important because they are used in deciding which regions are to receive subsidies from the EU Structural Funds.

The map shows a concentration of less developed regions, i.e. with per-inhabitant GDP of less than 75 % of the average for 2003–05 in the EU-27 (21 560 PPS), in southern Italy, Greece and Portugal, the new Member States and Croatia. In Spain, only Extremadura is still below the 75 % bar, and in France the four overseas departments. The eastern German regions are now all above the 75 % level. Overall, 70 regions had average per-inhabitant GDP over the period 2003–05 of less than 75 % of the EU-27 average; these regions were home to 25.4 % of the population of the 28 countries being considered.

Map 3.2 also shows the particularly prosperous regions, with GDP of more than 125 % of the EU-27 average. These 47 regions are home to 23 % of the population of the EU-27 (plus Croatia). Contrary to what is widely assumed, these regions are by no means all at the geographical heart of the Union, but include examples such as Etelä-Suomi (Finland), Southern and Eastern (Ireland), Madrid (Spain) and Attiki (Greece). However, it is correct to assume that many capital cities are in this group, in particular London, Dublin, Brussels, Paris, Madrid, Stockholm, Prague and Bratislava.

The new Member States fare very differently when it comes to their regions with a GDP of less than 50 % and between 50 % and 75 % of the EU-27 average. Thirty-four regions, accounting for 12.6 % of the population, have less than 50 % of average GDP, most of them in Bulgaria, Romania and Poland. This group also includes two out of the three regions in Croatia.

It must be taken into account, however, that seven regions (three in Greece, two in Italy and one each in Germany and Malta), accounting for 1 % of the population, are above the 75 % bar only because the EU grew in 2007 to 27 members, which means that per-inhabitant GDP in the new EU-27 is some 4 % lower than it was in EU-25. To show this statistical effect, these seven regions are shown on Map 3.2 in yellow.

Major regional differences even within countries

There are also substantial regional differences within countries themselves, as Figure 3.1 shows. In 2005, the highest per-inhabitant GDP was more than twice the lowest in 12 of the 22 countries with more than one NUTS 2 region. This group includes five of the eight new Member States (plus Croatia) but only seven of the 14 EU-15 Member States.

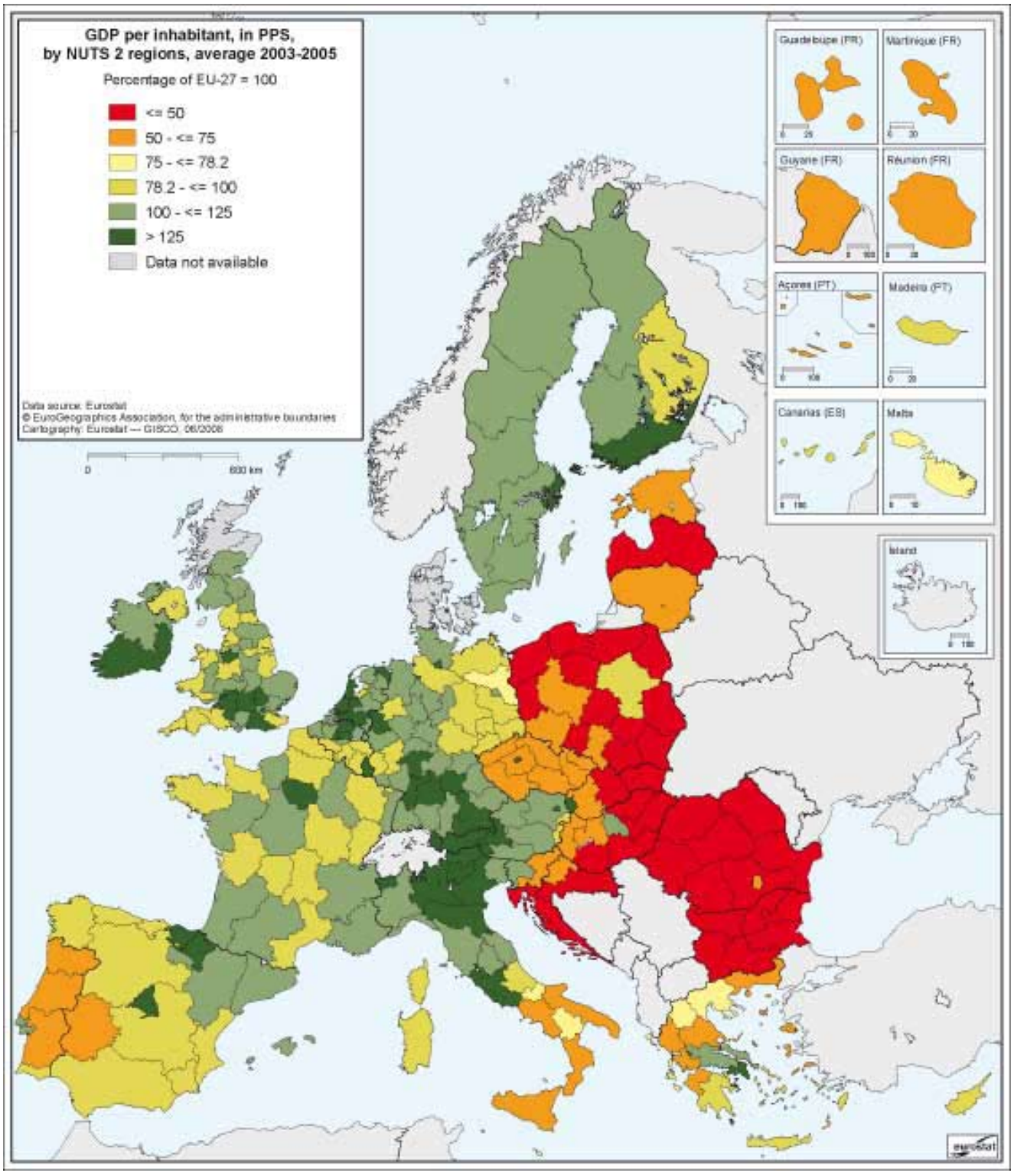
The largest regional differences are in the United Kingdom, where there is a factor of 3.9, and in Slovakia and France, with a factor of 3.4 between the two extreme values. The lowest values are in Ireland and Slovenia, with a corresponding factor of 1.5 in each case. Moderate regional disparities in per-inhabitant GDP (i.e. factors of less than 2 between the highest value and the lowest) are found only in the EU-15 Member States and in Bulgaria, Croatia and Slovenia.

In all the new Member States and Croatia, and in a number of the EU-15 Member States, a substantial share of economic activity is concentrated in the capital regions. As a result, in 18 of the 22 countries included here in which there is more than one NUTS 2 region, the capital regions are also the regions with the highest per-inhabitant GDP. For example, Map 3.1 clearly shows the prominent position of the regions of Brussels, Prague, Sofia, Athens, Madrid, Paris, Lisbon, as well as Budapest, Bratislava, London, Warsaw, Bucharest and Zagreb.

A comparison of the ranges between 2000 and 2005 shows, however, that developments in the EU-15 were significantly different to those in the new Member States. Whilst the ranges between the regional extremes in the new Member States and Croatia tended to increase, they decreased in most of the EU-15 countries.

However, considering the regional extreme values alone cannot give a full picture of reality, as the regions are treated the same regardless of their population. Eurostat has therefore developed a new linear dispersion indicator which, for each region, weights the difference in per-inhabitant GDP compared with the national average on the basis of the population of the region in question (see Methodological notes). In this way, extreme values for regions with a smaller population, e.g. Åland (Finland), are given a smaller weighting, in line with their smaller

Map 3.2: GDP per inhabitant, in PPS, by NUTS 2 regions, average 2003–2005
Percentage of EU-27 = 100



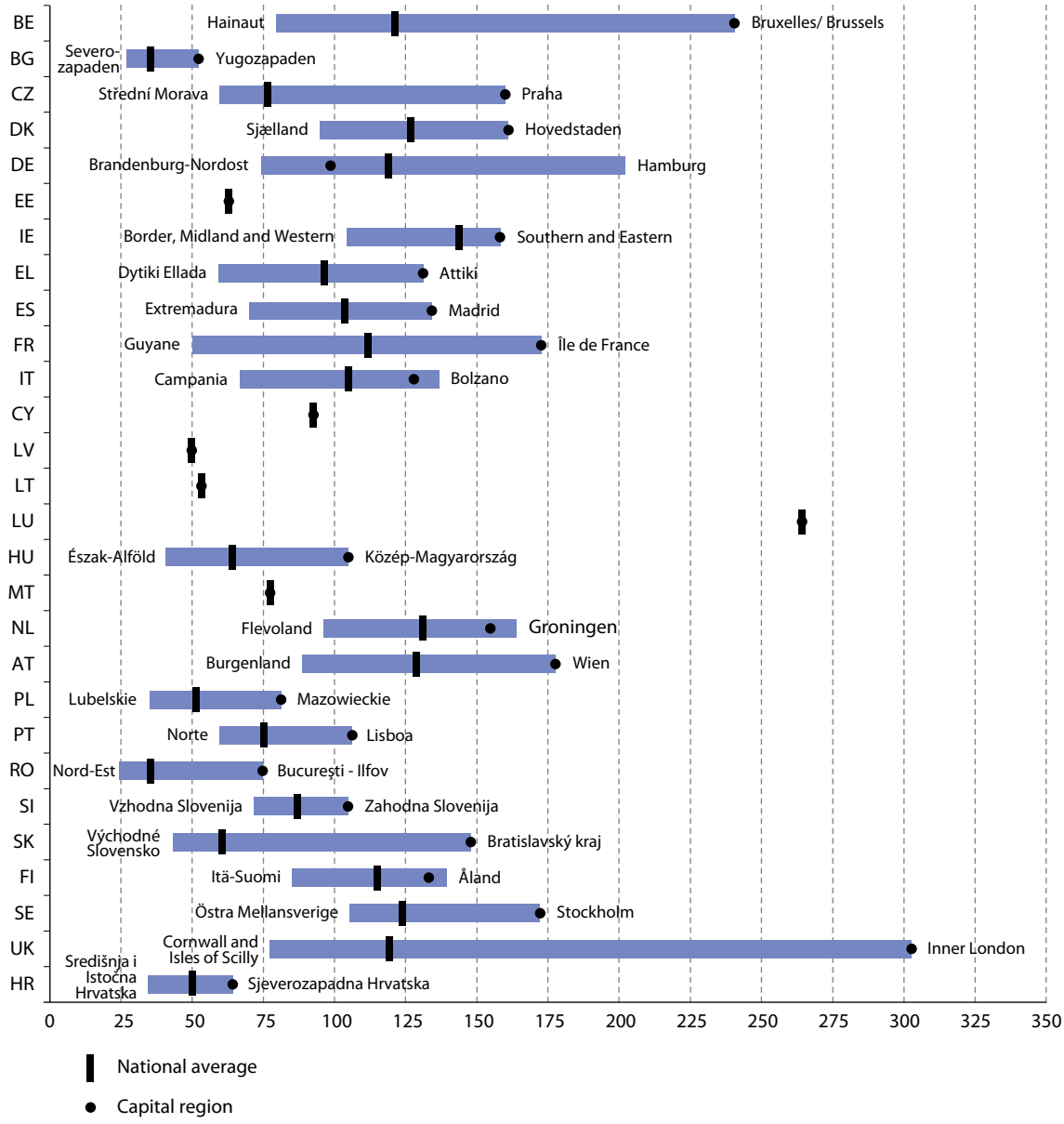
population, and those with a large population, e.g. Île-de-France, are given a correspondingly larger weighting.

Figure 3.2 shows the regional dispersion calculated according to this method for all Member States with more than one NUTS 2 region, plus Croatia. We can see first of all that Hungary and Slovakia, with values of more than 30 %, have the greatest regional dispersion; these values are three times those in the Netherlands which, at 11 %, has the most homogenous spread. Most of the new Member States and Croatia are in the range of 20–30 %; with the exception of Poland and Slovenia, only EU-15 States show values under 20 %.

Dynamic catch-up process in the new Member States

Map 3.3 shows the extent to which per-inhabitant GDP changed between 2000 and 2005 by comparison with the EU-27 average (expressed in percentage points of the EU-27 average). Economically dynamic regions, whose per-inhabitant GDP increased by more than 2 percentage

Figure 3.1: GDP per inhabitant, in PPS, by NUTS 2 regions, 2005
In percentage of the EU-27 average (EU-27 = 100)

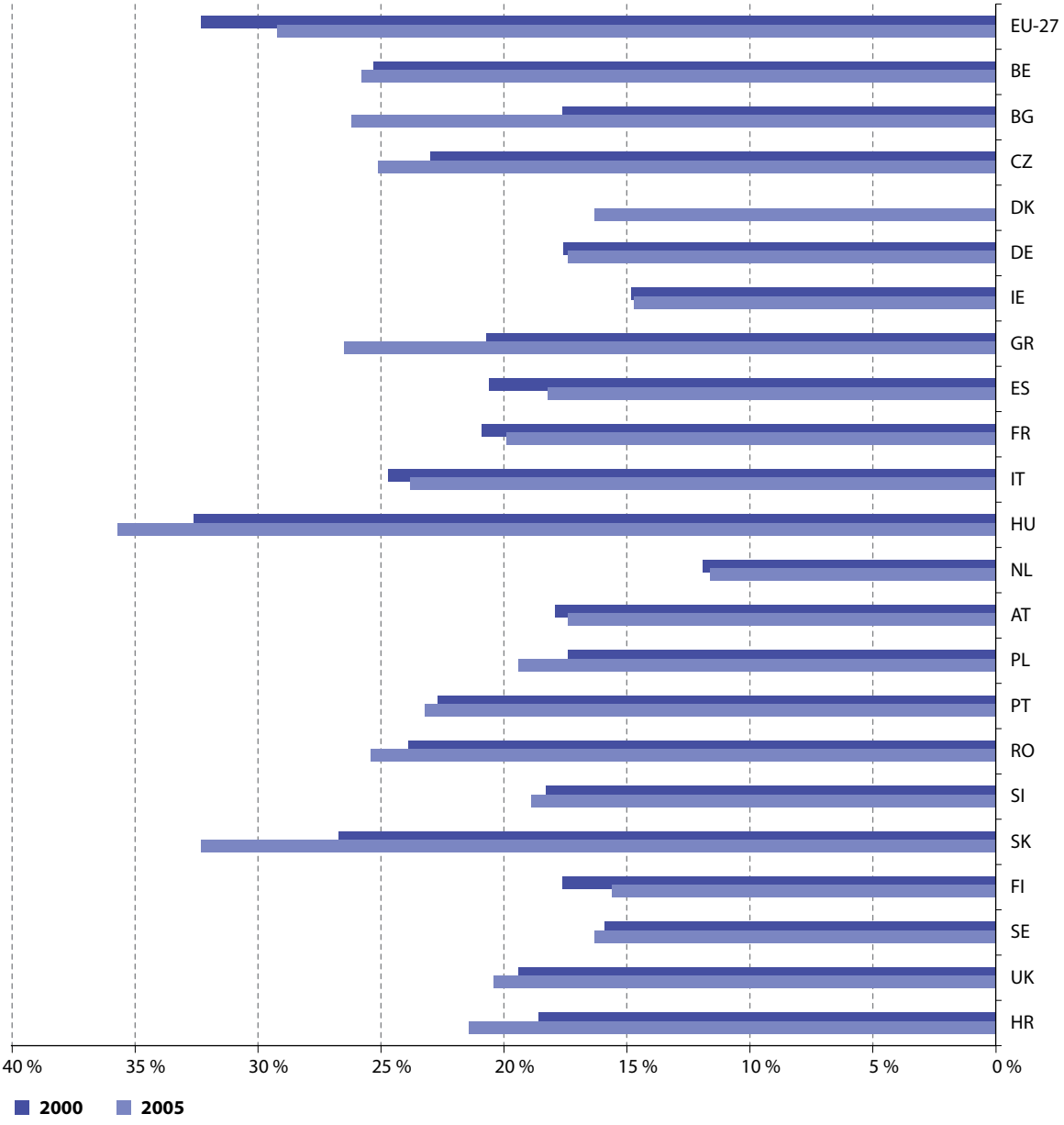


points compared with the EU average, are shown in green. Less dynamic regions (those with a fall of more than 2 percentage points in per-inhabitant GDP compared with the EU-27 average) are shown in orange and red. The values range from + 39 percentage points for Bratislavský kraj (Slovenia) to - 22.5 percentage points for Emilia-Romagna in Italy.

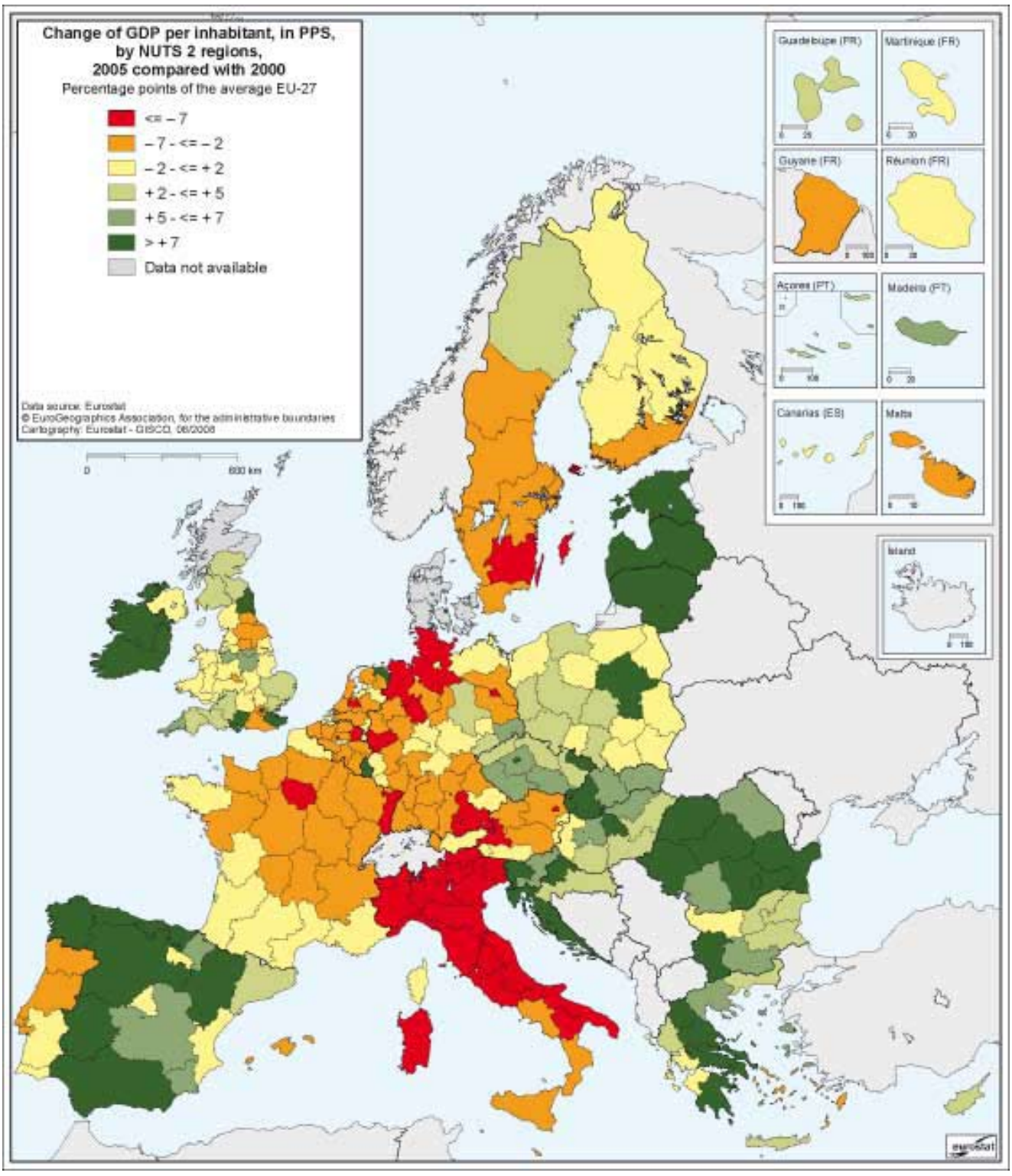
The map shows that economic dynamism is well above average in the western and eastern peripheral areas of the EU, not only in the EU-15 but also in the new Member States and Croatia.

Among the EU-15 Member States, strong growth can be seen in particular in Greece, Spain, Ireland and parts of the United Kingdom. On the other side, a trend which has now been observed for several years is continuing, with persistent low growth in some EU-15 countries. Italy, where not a single region achieved the average growth in the EU-27 between 2000 and 2005, and Portugal, where only Madeira and the Azores were able to make progress vis-à-vis the EU-27, have been hit particularly hard. Most of the regions in Belgium, Germany, France and Austria also fell back compared with the EU average.

Figure 3.2: Dispersion of regional GDP per inhabitant, in PPS, NUTS level 2, 2000 and 2005
Percent



Map 3.3: Change of GDP per inhabitant, in PPS, by NUTS 2 regions, 2005 compared with 2000
Percentage points of the average EU-27



Of the new Member States plus Croatia, with the exception of the capital regions, which are all very dynamic, the Baltic countries, Hungary, Romania, the Czech Republic, Slovakia and Croatia have experienced above-average growth. By contrast, growth in Poland was significantly higher than the EU-27 average in only seven of the 16 regions.

Closer analysis of these very dynamic regions shows that 42 of them grew by more than 7 percentage points compared with the EU average; of these, 19 are in the new Member States or Croatia.

The fastest-growing regions are scattered relatively widely across the countries examined here. However, it can be seen that the capital regions of both the EU-15 and the new Member States, plus Croatia, are particularly dynamic. The non-capital region with the strongest growth among the regions in the new Member States was Vest (Romania), whose per-inhabitant GDP (in PPS) increased by 13 percentage points between 2000 and 2005, from 26.8 % to 39.8 % of the EU-27 average.

A clear regional concentration is apparent, on the other hand, at the lower end of the distribution curve: of the 34 regions which fell by more than 7 percentage points compared with the EU-27 average, 18 are in Italy, 7 in Germany and 2 each in Belgium, France and Austria.

Closer analysis of the new Member States plus Croatia shows that, between 2000 and 2005, only three regions actually fell back compared with the EU-27 average: Nyugat-Dunántúl in Hungary (– 0.4 percentage points), Zachodniopomorskie in Poland (– 1.6) and Malta (– 6.5 percentage points).

The new Member States and Croatia were catching up with the EU-27 average by around 1.4 percentage points per year during the period 2000–05, significantly faster than in the 1990s. Per inhabitant GDP (in PPS) in those 13 countries therefore rose from 45.1 % of the EU-27 average in 2000 to 52.2 % in 2005.

Different trends within the countries

A more detailed analysis of the development within individual countries between 2000 and 2005 shows that economic development can diverge between the regions in one country almost as widely as between regions in different countries.

The greatest differences are in Slovakia and Greece, where the per-inhabitant GDP of the most dynamic region and that of the most slowly growing regions have grown apart by around 34 and 28 percentage points of the EU-27 average respectively. The corresponding figures for the Netherlands and the United Kingdom were 24 and 21 percentage points respectively. At the bottom of the scale are Ireland and Slovenia, with regional disparities of just 5 and 6 percentage points respectively, and Croatia and Finland with 7 and 8 percentage points respectively.

Both in the new Member States and in the EU-15, divergent regional developments can be attributed mainly to the dynamism of the respective capital cities. However, there is no reason to assume, on the basis of the data available, that major differences in the distribution of growth rates are typical of the new Member States or accession countries.

The available data also show that in seven countries even the least economically dynamic regions attained levels of growth above the EU-27 average. In this context it can be considered as encouraging that, besides Ireland, these were five new Member States and Croatia.

A somewhat different picture is obtained when not only the strongest and weakest growing regions, but all regions of a country are considered, as can now be done with the dispersion indicator mentioned above, which weights per-inhabitant GDP according to the population of the region in question. A comparison between the situations in 2005 and in 2000 (see Figure 3.2) shows that the regional dispersion in all the new Member States and Croatia has increased, especially in Bulgaria, Slovakia and Hungary. Decreases are to be found only in EU-15 countries, above all in Spain, Finland, France and Italy.

Convergence makes progress

This section examines the extent to which convergence among the regions of the EU-27 and Croatia made progress over the five-year-period 2000–05. With the help of indicators available from the ESA 95 data transmission programme, the regional convergence of economic activity can be assessed in various ways.

A simple approach is to find the difference between the highest and lowest values. In fact, this difference fell from a factor of 15.8 in 2000 to 12.5 in 2005, mainly as a result of accelerated economic development in Bulgaria and Romania.

However, as this approach examines only the extremes, many of the shifts between regions will clearly not be taken into account.

Methods which take the data for all regions and then apply a weighting to these regions in line with their population sizes yield significantly more accurate results.

The dispersion indicator already mentioned in this chapter (see Methodological notes) shows the regional dispersion for all Member States with more than one NUTS 2 region, plus Croatia. Figure 3.2 shows the results for 2000 and 2005. It is clear that the dispersion is decreasing in most of the EU-15 countries and increasing in the new Member States and Croatia. For the EU as a whole the indicator can only be estimated at the moment, as for certain Member States (Denmark and the UK) regional data are not available for both years. As certain large Member States are seeing clearly decreasing dispersion values, it can be assumed that forthcoming precise values for the EU as a whole will also show a decreasing trend.

The approach currently allowing the most accurate measure of convergence divides the regions into categories on the basis of per-inhabitant GDP (in PPS). It can thus be seen what proportions of the population of the countries being considered (EU-27 plus Croatia) live in more or less prosperous regions, and how these proportions have changed.

Table 3.1 shows that economic convergence between the regions during the five-year period 2000–05 was considerable: the proportion of the population living in regions where per-inhabitant GDP was less than 75 % of the average for the EU-27 fell from 28.3 % to 25.6 %. In the same period, the proportion of the population in regions with values more than 125 % of the EU-27 average fell from 24.4 % to 21.4 %. These shifts at the two ends of the distribution meant that the proportion of the population living in the middle range (per-inhabitant GDP between 75 % and 125 % of the EU-27 average) rose from 47.3 % to 53.0 %, corresponding to an increase of 32 million people.

However, Map 3.4 shows that, despite generally clear progress in convergence between 2000 and 2005, only six regions rose above the 75 % bar. Of these, two are in Greece, and one each in Spain, France, Poland and the UK. These regions are home to 16 million people, or around 3.2 % of the population of the 28 countries under consideration. At the same time, GDP fell back below the 75 % level in four regions: two in Italy and one each in Germany and Greece, corresponding to a total of 6 million people, or around 1.2 % of the population of the 28 countries being considered. If the two developments are offset against each other, we find that economic growth has meant that the population living in regions where GDP is more than 75 % of the average has grown by around 10 million.

These results around the 75 % bar, which is so important for regional policy, suggest that the economically weaker regions have benefited only marginally from the progress towards convergence made between 2000 and 2005.

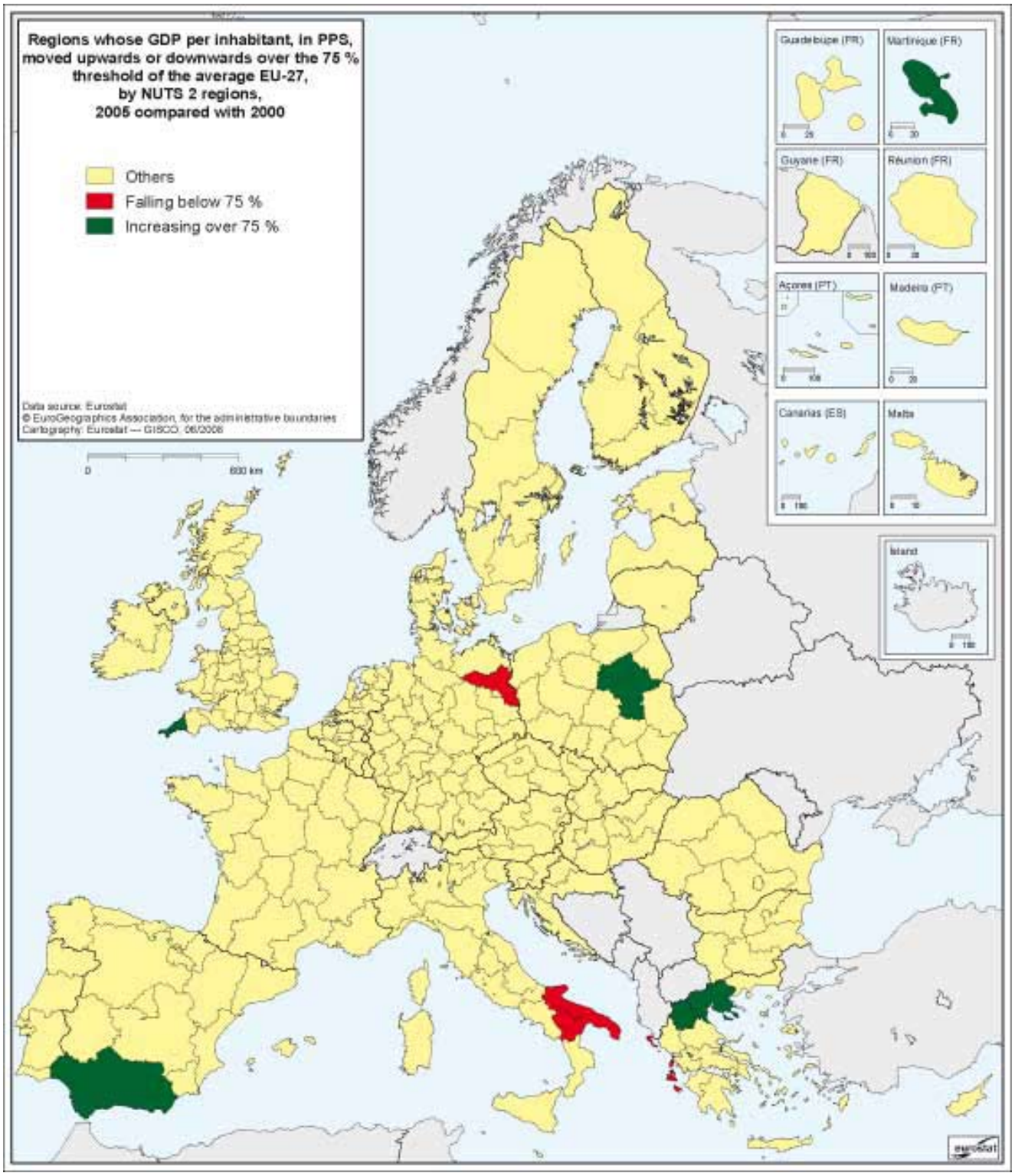
However, on closer examination we see that many regions with per-inhabitant GDP of less than 75 % of the EU-27 average made significant progress. For example, the share of the population living in regions with a GDP of less than 50 % of the average fell from 14.5 % to 12.1 %, i.e. by more than 10 million people.

A look at the 20 economically weakest regions, in which 7.5 % of the population live, shows that these regions have also made progress. Their per-inhabitant GDP rose during these five years from 27.5 % to 32.8 % of the EU-27 average. This is the result, in particular, of the significant progress made in Bulgaria and Romania.

Table 3.1: Proportions of resident population in economically stronger and weaker regions

Percentage of population of EU-27 plus Croatia resident in regions with a GDP per inhabitant of	2000	2005
> 125 % of EU-27=100	24.4	21.4
> 110 % to 125 % of EU-27=100	17.0	15.9
> 90 % to 110 % of EU-27=100	20.5	25.2
> 75 % to 90 % of EU-27=100	9.8	11.9
less than 75 % of EU-27=100	28.3	25.6
less than 50 % of EU-27=100	14.5	12.1

Map 3.4: Regions whose GDP per inhabitant, in PPS, moved upwards or downwards over the 75 % threshold of the average EU-27, by NUTS 2 regions, 2005 compared with 2000



Conclusion

In 2005, per-inhabitant GDP (in PPS) for the 274 NUTS 2 regions examined here differed in the 28 countries (EU-27 plus Croatia) by a factor of 12.5 to 1, which is still very high but shows convergence over the medium term. Within individual countries, there are ranges with a factor of up to 3.9, with regional differences in the new Member States being generally greater than in the EU-15.

In 2005, per-inhabitant GDP (in PPS) in 69 regions was less than 75 % of the EU-27 average. These 69 regions account for 25.6 % of the population, of which three quarters are in the new Member States or Croatia, and one quarter in the EU-15. If the perspective is widened to look at the three-year average for 2003–05, which is important for the EU's structural policy, the results are very similar: 70 regions, accounting for 25.4 % of the population, have less than 75 % of the EU-27 average.

If developments over the five-year period 2000–05 are considered, dynamic growth in the EU-15 was seen in Greece, Spain, Ireland and some regions of the UK. This contrasted with relatively disappointing economic development in most of the Austrian, Belgian, French, German, Italian, and Portuguese regions.

Of the new Member States plus Croatia, in particular the Baltic countries, Hungary, Romania, the Czech Republic, Slovakia and Croatia experienced above-average growth. By contrast, just seven out of 16 Polish regions caught up significantly with the average for EU-27.

The catch-up process in the new Member States and Croatia has accelerated significantly compared with the 1990s and is continuing, with an annual rate of 1.4 percentage points compared with the EU-27 average. However, not all the regions of the new Member States are able to benefit from this to the same extent. This is particularly true of Poland and Malta. All the new Member States plus Croatia, taken together, caught up with the EU-27 average during the period 2000–05 by around 7.1 percentage points, to reach 52.2 %.

Methodological notes

Purchasing power parities and international volume comparisons

International differences in GDP values, even after conversion via exchange rates to a common currency, cannot be attributed solely to differing volumes of goods and services. The 'level of prices' component is also a major contributing factor. Exchange rates reflect many factors relating to supply and demand in the currency markets, like, for example, international trade, inflation forecasts and interest rate differentials. Conversions via exchange rates are therefore of only limited use for international comparisons. To obtain a more accurate comparison, it is essential to use special conversion rates which remove the effect of price-level differences between countries. Purchasing power parities (PPPs) are currency conversion rates of this kind which convert economic data expressed in national currencies into an artificial common currency, called purchasing power standards (PPS). PPPs are therefore used to convert the GDP and other economic aggregates (e.g. consumption expenditure on certain product groups) of various countries into comparable volumes of expenditure, expressed in PPS.

With the introduction of the euro, prices can now, for the first time, be compared directly between countries in the euro area. However, the euro has different purchasing power in the different countries of the euro area, depending on the national price level. PPPs must therefore also continue to be used to calculate pure volume aggregates in PPS for Member States within the euro area.

In their simplest form, PPPs are a set of price ratios, which show the relationship between the prices in national currency of the same good or service in different countries (e.g. a loaf of bread costs EUR 1.87 in France, EUR 1.68 in Germany, GBP 0.95 in the UK, etc.). A basket of comparable goods and services is used for price surveys. These are selected so as to represent the whole range of goods and services, taking account of the consumption structures in the various countries. The simple price ratios at product level are aggregated to PPPs for product groups, then for overall

consumption and finally for GDP. In order to have a reference value for the calculation of the PPPs, a country is usually chosen and used as the reference country, and set to 1. For the European Union the selection of a single country as a base seemed inappropriate. Therefore, the PPS is the artificial common reference currency unit used in the European Union to express the volume of economic aggregates for the purpose of spatial comparisons in real terms.

Unfortunately, for reasons of cost, it will not be possible in the foreseeable future to calculate regional currency conversion rates. If such regional PPPs were available, the GDP in PPS for numerous peripheral or rural regions of the EU would probably be higher than that calculated using the national PPPs.

Calculating in PPS instead of euros can lead to differences in the ranking of regions. For example, in 2005 the Swedish region of Östra Mellansverige was recorded as having a per-inhabitant GDP of EUR 27 806, ranking above the Spanish region of Madrid, with EUR 27 220. However, in PPS, Madrid, at PPS 29 998 per inhabitant, is ahead of Östra Mellansverige, at PPS 23 621.

In terms of distribution, the use of PPS rather than the euro has a levelling effect, as regions with a very high per-inhabitant GDP also generally have relatively high price levels. This reduces the range of per-inhabitant GDP in NUTS 2 regions in the EU-27 plus Croatia from around EUR 73 900 to around PPS 62 400.

Per inhabitant GDP in PPS is the key variable for determining the eligibility of NUTS 2 regions under the European Union's structural policy.

Dispersion of regional per-inhabitant GDP

Since 2007, Eurostat has been calculating a new, derived indicator which records the differences between regional per-inhabitant GDP and the national average and makes them comparable between countries. This dispersion indicator is calculated at NUTS 2 and at NUTS 3 levels. The figures used by Eurostat are based on GDP in purchasing power standards (PPS).

For a given country, the dispersion 'D' of the regional GDP of the level 2 regions is defined as the sum of the absolute differences between regional and national GDP per inhabitant, weighted on the basis of the regional share of population and expressed in percent of the national GDP per inhabitant:

$$D = 100 \frac{1}{Y} \sum_{i=1}^{n} \left| (y_i - Y) \right| (p_i / P)$$

In the above equation:

- y_i is the regional GDP per inhabitant of region i;
- Y is the national average GDP per inhabitant;
- p_i is the population of region i;
- P is the population of the country;
- n is the number of regions in the country.

The value of the dispersion of GDP per inhabitant is zero if the values of regional GDP per inhabitant are identical in all regions of the country or economic area (such as the EU-27 or the euro area), and it will show, all other things being equal, an increase if the differences in per-inhabitant GDP between the regions increase. A value of 30 % therefore means that the GDP of all regions of a given country, weighted on the basis of the regional population, differs from the national value by an average of 30 %.