

# Eurostat regional yearbook 2009



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## Preface

Dear Readers,

Five years ago, 2004, was a momentous year, with 10 new Member States joining the European Union on 1 May. This *Eurostat regional yearbook 2009* is eloquent testimony to the economic and social progress made by these regions since then and highlights those areas where redoubled efforts will be needed to reach our goal of greater cohesion.

The 11 chapters of this yearbook investigate interesting aspects of regional differences and similarities in the 27 Member States and in the candidate and EFTA countries. The aim is to encourage readers to track down the regional data available on the Eurostat website and make their own analyses of economic and social developments.

In addition to the fascinating standard chapters on regional population developments, the regional labour market, regional GDP, etc., this year's edition features a new contribution on the regional development of information society data. As in recent years, the description of regional developments is rounded off by a contribution on the latest findings of the Urban Audit, a data collection containing a multitude of statistical data on European towns and cities.

We are constantly updating the range of regional indicators available and hope to include them as topics in future editions, provided the availability and quality of these data are sufficient.

I wish you an enjoyable reading experience!



Walter Radermacher  
Director-General, Eurostat



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# Introduction





## Statistics on regions and cities

Statistical information is essential for understanding our complex and rapidly changing world. Eurostat, the Statistical Office of the European Communities, is responsible for collecting and disseminating data at European level, not only 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 the four EFTA countries (Iceland, Liechtenstein, Norway and Switzerland).

The aim of this publication, the *Eurostat regional yearbook 2009*, is to give you a flavour of some of the statistics on regions and cities that we collect from these countries. Statistics on regions enable us to identify more detailed statistical patterns and trends than national data, but since we have 271 NUTS 2 regions in the EU-27, 30 statistical regions on level 2 in the candidate countries and 16 statistical regions on level 2 in the EFTA countries, the volume of data is so great that one clearly needs some sorting principles to make it understandable and meaningful.

Statistical maps are probably the easiest way for the human mind to sort and 'absorb' large amounts of statistical data at one time. Hence this year's *Eurostat regional yearbook*, as in previous editions, contains a lot of statistical maps where the data is sorted by different statistical classes represented by colour shades on the maps. Some chapters also make use of graphs and tables to present the statistical data, selected and sorted in some way (different top lists, graphs with regional extreme values within the countries or only giving representative examples) to make it easier to understand.

We are proud to present a great variety of subjects tackled in the 11 chapters in this year's edition of the *Eurostat regional yearbook*. The first chapter on **Population** gives us detailed knowledge of different demographic patterns, such as population density, population change and fertility rates in the countries examined. This chapter can be considered the key to all other chapters, since all other statistics depend on the composition of the population. The second chapter focuses on **European cities** and explains in detail the definitions of the various spatial levels used in the Urban Audit data collection, with some interesting examples on how people travel to work in nine European capitals.

The chapter on the **Labour market** mainly describes the differences in weekly working hours

throughout Europe and offers a couple of explanations for why they vary so much from region to region. The three economic chapters on **Gross domestic product**, **Household accounts** and **Structural business statistics** all give us detailed insight into the general economic situation in regions, private households and different sectors of the business economy.

We are particularly proud to present a new and very interesting chapter on the **Information society**, which describes the use of information and communication technologies (ICT) among private persons and households in European regions. This chapter tells us, for example, how many households use the Internet regularly and how many have broadband access. The next two chapters are on **Science, technology and innovation** and **Education**, three areas of statistics that are often seen as key to monitoring achievement of the goals set in the Lisbon strategy to make Europe the most competitive and dynamic knowledge-based economy in the world.

In the next chapter we learn more about regional statistics on **Tourism**, and which tourist destinations are the most popular. The last chapter focuses on **Agriculture**, this time mainly crop statistics, revealing which kind of crop is grown where in Europe.

## The NUTS classification

The nomenclature of territorial units for statistics (NUTS) provides a single uniform breakdown of territorial units for the production of regional statistics for the European Union. 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 <sup>(1)</sup>.

Whenever new Member States join the EU, the NUTS regulation is 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 Bulgaria and Romania also joined the European Union.

The NUTS regulation states that amendments of the regional classification, to take account of new administrative divisions or boundary changes in the Member States, may not be carried out more frequently than every three years. In 2006, this review took place for the first time, and the re-

<sup>(1)</sup> More information on the NUTS classification can be found at [http://ec.europa.eu/eurostat/ramon/nuts/splash\\_regions.html](http://ec.europa.eu/eurostat/ramon/nuts/splash_regions.html)



sults of these changes to the NUTS classification have been valid since 1 January 2008.

Since these NUTS changes were introduced quite recently, the statistical data are still missing in some cases or have been replaced with national values on some statistical maps, as indicated in the footnotes to each map concerned. This applies in particular to Sweden, which introduced NUTS level 1 regions, to Denmark and Slovenia, which introduced new NUTS level 2 regions, and to the two northernmost Scottish regions, North Eastern Scotland (UKM5) and Highlands and Islands (UKM6), where the border between the two regions has changed. The regional data availability for these countries will hopefully soon be improved.

Please also note that some Member States have a relatively small population and 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 cases the whole country consists of one single NUTS 2 region.

A folding map on the inside of the cover accompanies this publication and it shows all NUTS level 2 regions in the 27 Member States of the European Union (EU-27) and the corresponding level 2 statistical regions 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 locate a specific region on the map.

## Coverage

The *Eurostat regional yearbook 2009* mainly contains statistics on the 27 Member States of the European Union but, when available, data is also

given on the three candidate countries (Croatia, the former Yugoslav Republic of Macedonia and Turkey) and 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 of the policy areas, but the availability of data is constantly improving, and we hope to have even more complete coverage from these countries in the near future.

## More regional information

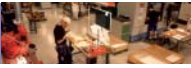
In the subject area 'Regions and cities' under the heading 'General and regional statistics' on the Eurostat website you will find tables with statistics on both 'Regions' and the 'Urban Audit', with more detailed time series (some of them going back as far as 1970) and with more detailed statistics than this yearbook contains. 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 content of the regional and urban databases, please consult the Eurostat publication *European regional and urban statistics — Reference guide — 2009 edition*, which you can download free of charge from the Eurostat website. You can also download Excel tables containing the specific data used to produce the maps and other illustrations for each chapter in this publication on the Eurostat website. We do hope you will find this publication both interesting and useful and we welcome your feedback at the following e-mail address: [estat-regio@ec.europa.eu](mailto:estat-regio@ec.europa.eu)

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# 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 regional GDP. However, a real comparison can be made only 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 output achieved within national or regional boundaries, regardless of whether this was attributable to resident or non-resident employed persons. The use of GDP per inhabitant is therefore only straightforward if all employed persons involved 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 or Wien, Hamburg, Praha or Luxembourg, and relatively low in the surrounding regions, even if households' primary 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. To compensate for this, GDP is converted using conversion factors, known as purchasing power parities (PPPs), to an artificial common currency, called purchasing power standard (PPS). This makes it possible to compare the purchasing power of different national currencies (see methodological notes at the end of the chapter).

## Regional GDP in 2006

Map 4.1 gives an overview of the regional distribution of per inhabitant GDP (as a percentage of the EU-27 average of 23 600 PPS) for the European Union, Croatia and the former Yugoslav Republic of Macedonia, which has, for the first time, pro-

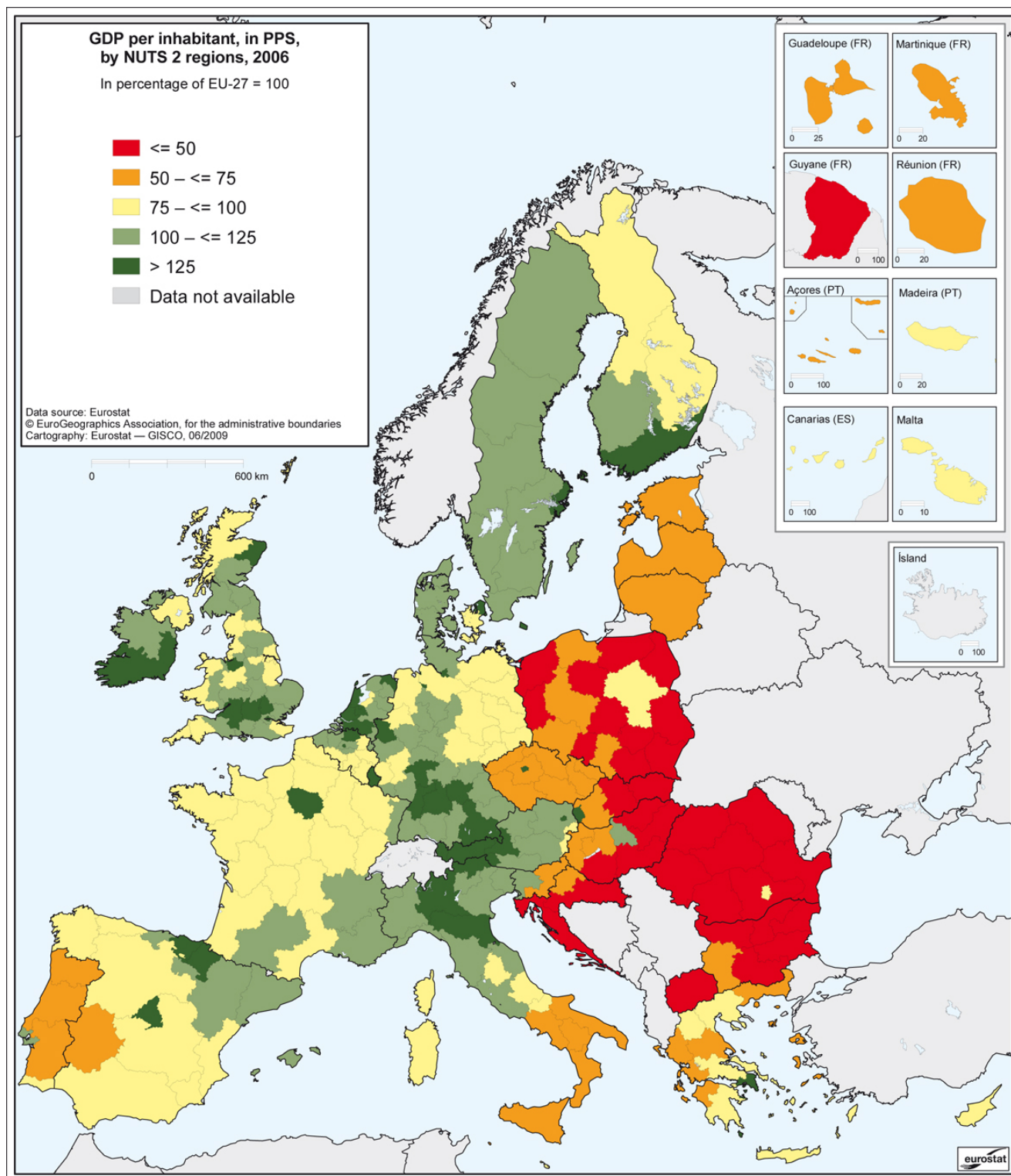
vided data (for reference years 2004–06) in line with the European system of accounts (ESA 95) transmission programme. It ranges from 25 % of the EU-27 average (5 800 PPS) per inhabitant in North-East (Romania) to 336 % (79 400 PPS) in the UK capital region of Inner London. The factor between the two ends of the distribution is therefore 13.6:1. Luxembourg at 267 % (63 100 PPS) and Bruxelles/Brussel at 233 % (55 100 PPS) are in positions 2 and 3, followed by Hamburg at 200 % (47 200 PPS) and Groningen (Netherlands) at 174 % (41 000 PPS) in positions 4 and 5.

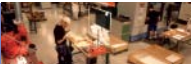
The regions with the highest per inhabitant GDP are in southern Germany, the south of the UK, northern Italy and Belgium, Luxembourg, the Netherlands, Austria, Ireland and Scandinavia. The capital regions of Madrid, Paris and Praha also fall into this category. The economically weaker regions are concentrated at the southern and western periphery of the Union and in eastern Germany, the new Member States, Croatia and the former Yugoslav Republic of Macedonia.

Praha (Czech Republic), the region with the highest GDP per inhabitant in the new Member States, has 162 % of the EU-27 average of 38 400 PPS and is thus in 12th place, whilst Bratislavský kraj (Slovakia) at 149 % (35 100 PPS) is in 19th place among the 275 NUTS 2 regions of the countries examined here (EU-27 plus Croatia and the former Yugoslav Republic of Macedonia). However, these two regions must be regarded as exceptions among the regions in the new Member States which joined in 2004, since the next richest regions in the new Member States are far behind: Közép-Magyarország (Hungary) at 106 % (24 900 PPS) in position 101, Zahodna Slovenija (Slovenia) at 105 % (24 900 PPS) in position 103 and Cyprus at 90 % (21 300 PPS) in position 161. With the exception of three other regions (Mazowieckie in Poland, Malta and București — Ilfov in Romania), all the other regions of the new Member States, Croatia and the former Yugoslav Republic of Macedonia have a per inhabitant GDP in PPS of less than 75 % of the EU-27 average.

If we classify the 275 regions considered here by their per inhabitant GDP (in PPS), the following picture emerges: in 2006, GDP in 72 regions was less than 75 % of the EU-27 average. These 72 regions are home to 25.2 % of the population (EU-27, Croatia and the former Yugoslav Republic of Macedonia), of which three quarters are in the new Member States, Croatia and the former Yugoslav Republic of Macedonia and one quarter are in EU-15 countries.

**Map 4.1:** GDP per inhabitant, in PPS, by NUTS 2 regions, 2006  
*In percentage of EU-27 = 100*





At the upper end of the spectrum, 41 regions have a per inhabitant GDP of more than 125 % of the EU-27 average; these regions are home to 20.1 % of the population. The regions with per inhabitant GDP of between 75 % and 125 % of the EU-27 average are home to 54.7 %, a clear majority of the population of the 29 countries considered here. Some 11.5 % of the population live in regions whose per inhabitant GDP is less than 50 % of the EU-27 average; all these regions are in new Member States, Croatia and the former Yugoslav Republic of Macedonia.

### Average GDP over the three-year period 2004–06

Map 4.2 gives an overview of the average per inhabitant GDP (in PPS) for the years 2004–06. Three-year averages are particularly important because they are used for the decision as to which regions receive support from the Structural Funds of the European Union.

The map shows a concentration of less developed regions, i.e. with per inhabitant GDP of less than 75 % of the 2004–06 average for the EU-27 (22 600 PPS), in southern Italy, Greece and Portugal and in the new Member States, Croatia and the former Yugoslav Republic of Macedonia. In Spain, only Extremadura is still under the 75 % level, and in France only the four overseas departments. All the regions of eastern Germany are now above the 75 % level. Overall, as an average for the period 2004–06, GDP in 72 regions was less than 75 % of the EU-27 average; these regions were home to 25.3 % of the population of the 29 countries considered here.

Map 4.2 also shows the particularly prosperous regions of the EU, where GDP is greater than 125 % of the EU-27 average. There are 43 of these regions, home to 21.7 % of the population of the EU-27 plus Croatia and the former Yugoslav Republic of Macedonia. Contrary to a common misconception, these regions are by no means all in the geographical centre of the Union, but include examples such as Etelä-Suomi (Finland), Southern and Eastern (Ireland), Madrid (Spain) and Attiki (Greece). However, it is true that many capital cities are among the richest regions, in particular London, Dublin, Bruxelles/Brussel, Paris, Madrid, Wien, Stockholm, Praha and Bratislava.

The new Member States show certain differences in terms of regions with less than 50 % and with between 50 % and 75 % of the EU-27 average. Some 33 regions with 12 % of the population have less than 50 %; most of these are in Bulgaria, Ro-

mania and Poland. This group also includes two out of the three Croatian regions and the former Yugoslav Republic of Macedonia. On the other hand, all the Czech regions now have GDP of more than 50 % of the EU-27 average.

### Major regional differences even within the countries themselves

There are also substantial regional differences even within the countries themselves, as Figure 4.1 shows. In 2006, the highest per inhabitant GDP was more than twice the lowest in 13 of the 22 countries examined here with several NUTS 2 regions. This group includes six 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 4.3 between the highest and lowest values, and in France and Romania, with a factor of 3.5 and 3.4 respectively. The lowest values are in Slovenia, with a factor of 1.5, and in Ireland and Sweden, with a factor of 1.6 in each case. Moderate regional disparities in per inhabitant GDP (i.e. factors of less than 2 between the highest and lowest values) are found only in EU-15 Member States, plus Slovenia and Croatia.

In all the new Member States, Croatia and a number of EU-15 Member States, a substantial proportion of economic activity is concentrated in the capital regions. Consequently, in 19 of the 22 countries included here in which there are several NUTS 2 regions, the capital regions are also the regions with the highest per inhabitant GDP. For example, Map 4.1 clearly shows the prominent position of the regions around Bruxelles/Brussel, Sofia, Praha, Athens, Madrid, Paris, Lisboa as well as Budapest, Bratislava, London, Warszawa and Zagreb.

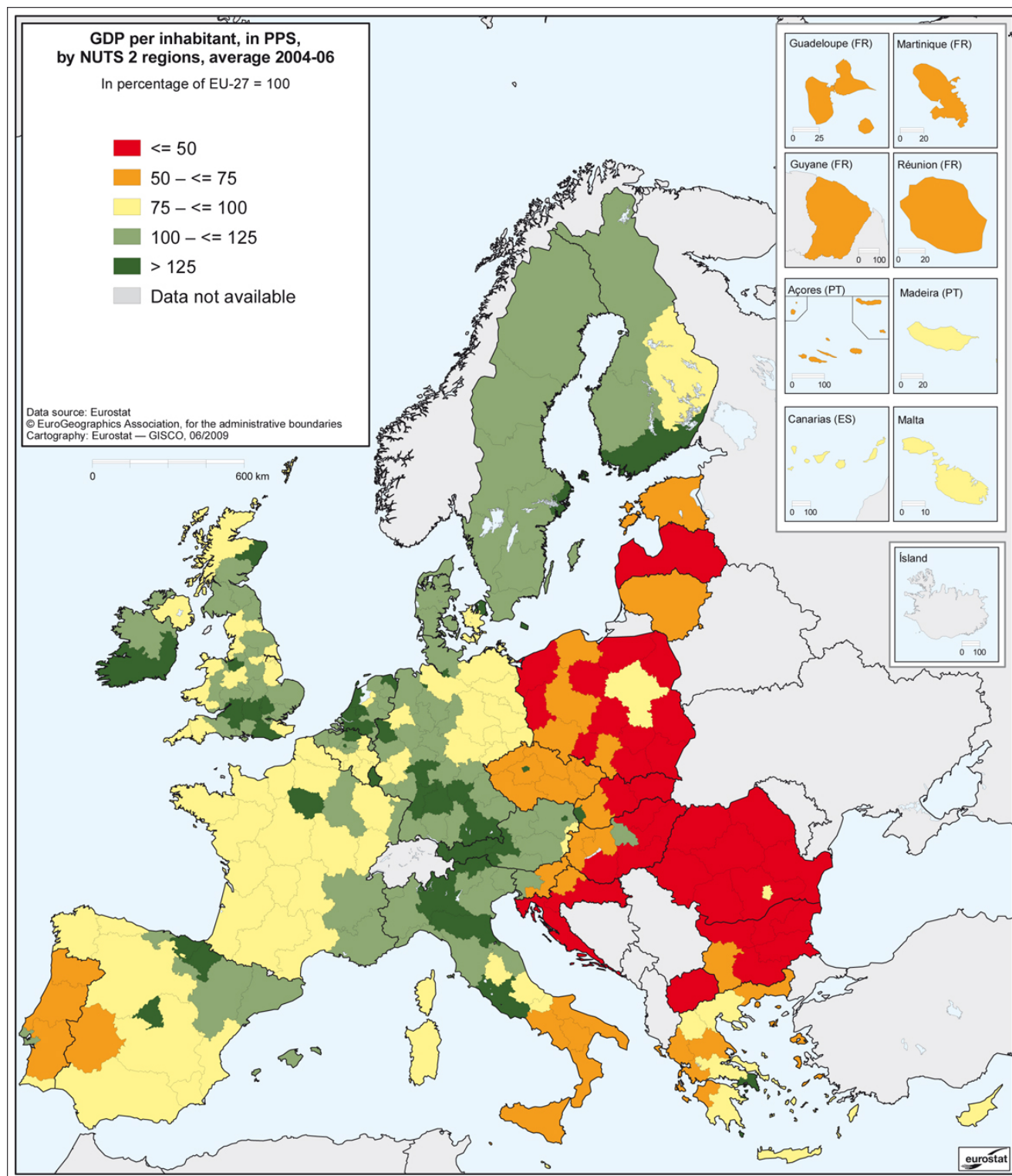
A comparison of the extreme values between 2001 and 2006, however, shows that trends in the EU-15 have been very different from those in the new Member States. Whilst the gap between the regional extreme values in the new Member States and Croatia is clearly increasing in some cases, it is falling in one out of every two EU-15 countries.

### Dynamic catch-up process in the new Member States

Map 4.3 shows the extent to which per inhabitant GDP changed between 2001 and 2006 compared with the EU-27 average (expressed in percentage points of the EU-27 average). Economically



**Map 4.2:** GDP per inhabitant, in PPS, by NUTS 2 regions, average 2004-06  
 In percentage of EU-27 = 100





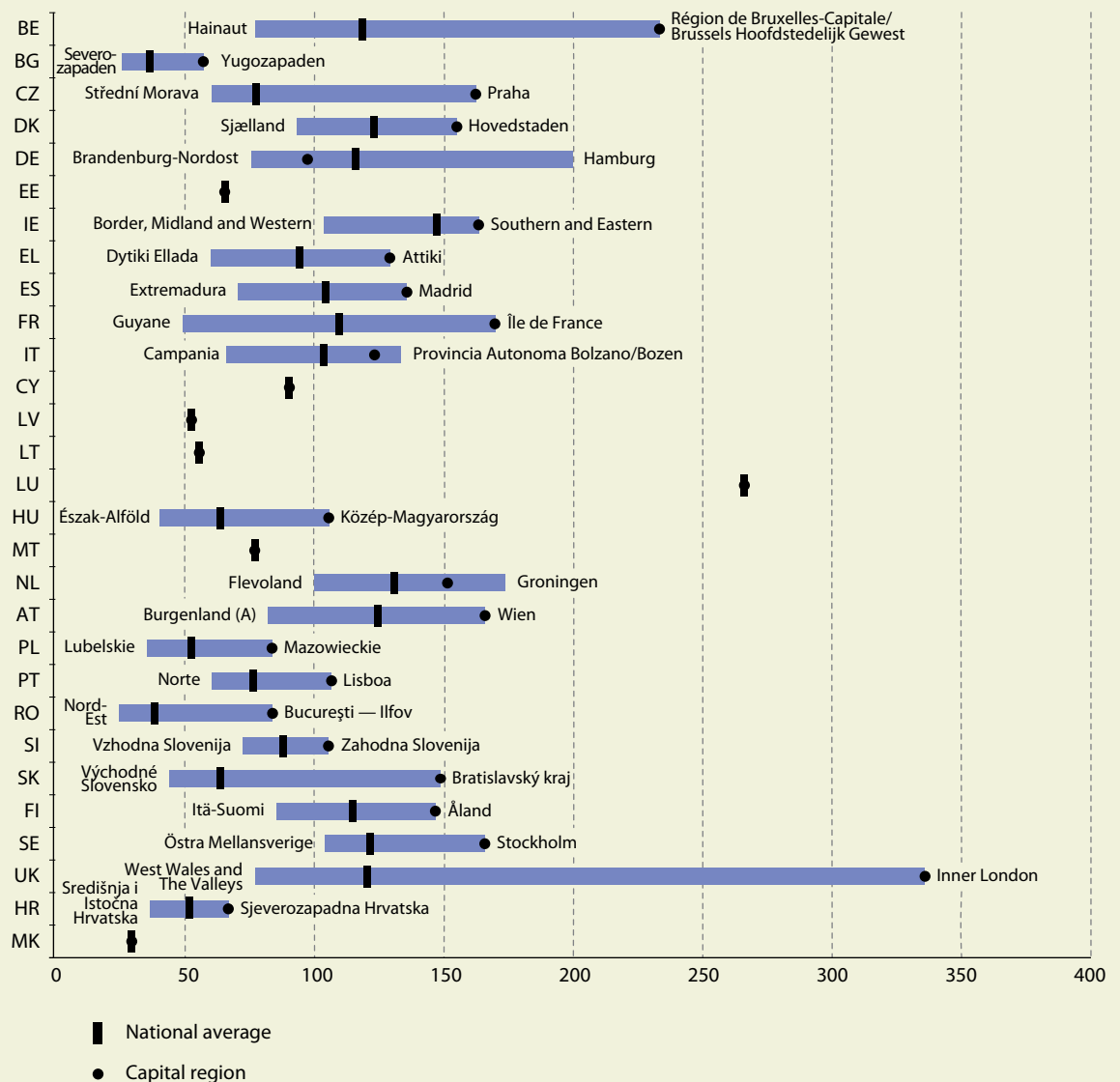
dynamic regions, whose per inhabitant GDP increased by more than 2 percentage points compared with the EU average, are shown in green. Less dynamic regions (those with a fall of more than 2 percentage points in per inhabitant GDP compared with the EU-27 average) are shown in orange and red. The range is from +33 percentage points for Bratislavský kraj (Slovakia) to -23 percentage points for Emilia-Romagna in Italy.

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

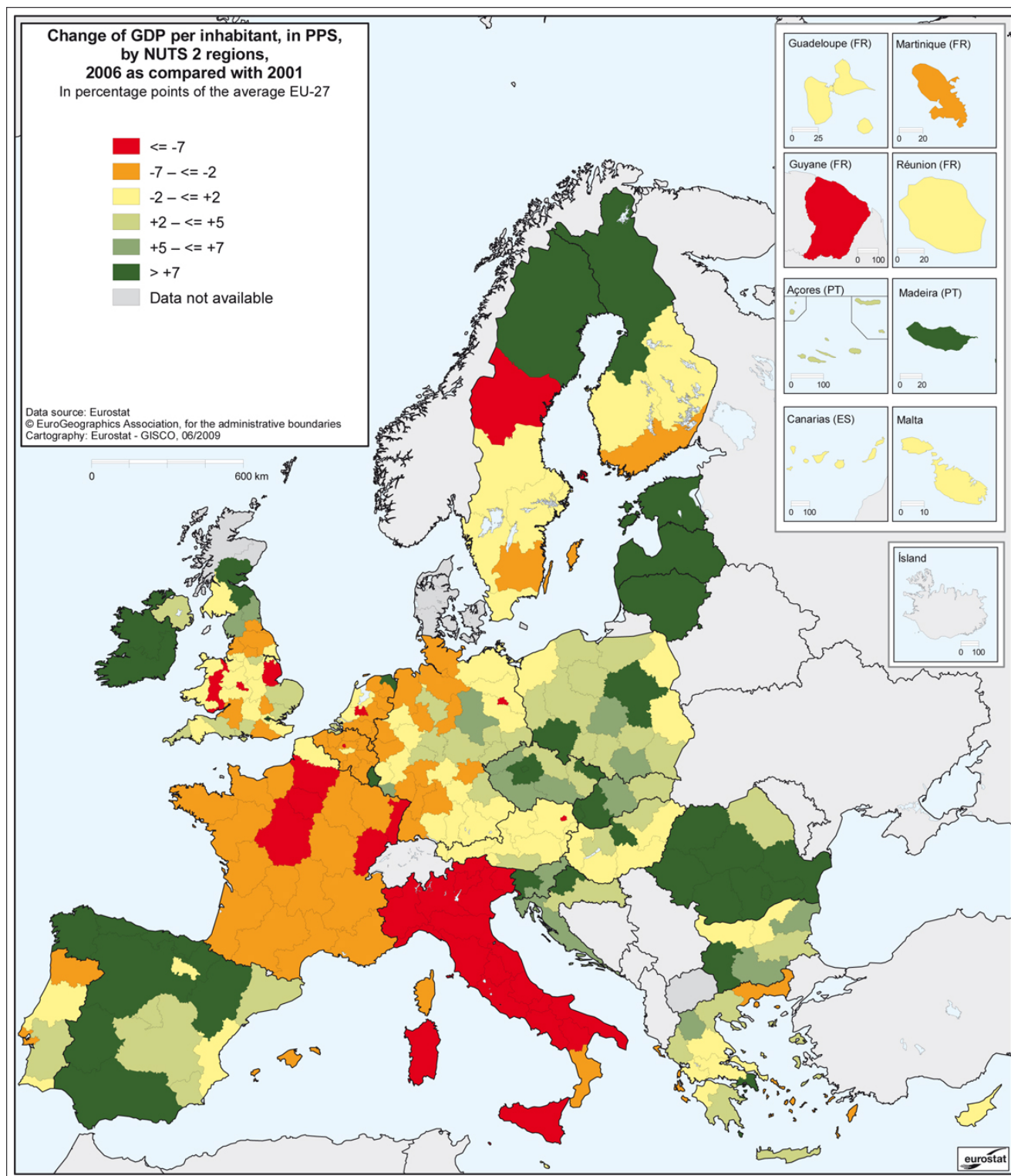
Among the EU-15 Member States, strong growth can be seen in Greece, Spain, Ireland and parts of the United Kingdom, Finland and Sweden in particular. On the other hand, a trend which started several years ago is continuing: sustained weak growth in certain EU-15 countries. Particularly badly hit have been Italy, Belgium and France, where no region achieved the average growth of the EU-27 during the five-year period 2001–06; half the regions in Germany and Portugal also fell back compared to the EU average.

Of the new Member States and Croatia, where all of the capital regions are very dynamic, the Baltic States, Romania, the Czech Republic, Slovakia,

**Figure 4.1:** GDP per inhabitant, in PPS, by NUTS 2 regions, 2006  
In percentage of the EU-27 average (EU-27 = 100)



**Map 4.3:** Change of GDP per inhabitant, in PPS, by NUTS 2 regions, 2006 as compared with 2001  
*In percentage points of the average EU-27*



Croatia and most regions of Poland have experienced above-average growth.

Closer analysis of the most dynamic regions shows that 42 of them have growth of more than 7 percentage points above the EU average; of these, 21 are in the new Member States or Croatia.

The fastest-growing regions are scattered relatively widely across the 29 countries examined here. It is striking, however, that the capital regions continue to have an above-average rate of growth not only in the EU-15 countries but also in the new Member States and in Croatia. The non-capital region with the strongest growth in the new Member States was Vest (Romania), where per inhabitant GDP (in PPS) increased by 15.3 percentage points between 2001 and 2006, from 29.4 % to 44.7 % of the EU-27 average.

A clear concentration in certain Member States is, however, apparent at the lower end of the distribution curve: of the 35 regions which fell by more than 7 percentage points compared to the EU-27 average, 20 are in Italy, six in France and three in the UK.

Closer examination of the new Member States and Croatia yields the pleasing result that only four regions fell compared to the EU-27 average between 2001 and 2006: Dél-Dunántúl in Hungary (-1.1 percentage points), Malta (-1.0), Severozapaden in Bulgaria (-0.7) and Kypros/Kıbrıs (-0.6).

The catch-up process in the new Member States and Croatia was of the order of 1.5 percentage points compared with the EU average per year between 2001 and 2006 and was therefore considerably faster than in the 1990s. Per inhabitant GDP (in PPS) in these 13 countries thus rose from 46.0 % of the EU-27 average in 2001 to 53.7 % in 2006. It is feared, however, that the financial crisis which started in mid-2008 may mean that this rate of growth cannot be maintained throughout the first decade of the new century.

## Different trends even within the countries themselves

A more detailed analysis of trends within the countries between 2001 and 2006 shows that the economic development of regions within a country can be almost as divergent as between regions in different countries.

The largest differences were in the Netherlands, Slovakia and the United Kingdom, where there was a difference of some 30 percentage points relative to the EU-27 average for the per inhabitant GDP of the fastest- and slowest-growing regions. The countries with the smallest differences between regions were Ireland and Slovenia, with regional ranges of 0.2 and 4 percentage points respectively, and Croatia and Poland, where the values were around 6 and 9 percentage points respectively.

In both new Member States and EU-15 countries, this significantly diverging regional development was the result mainly of dynamic growth in capital regions. However, as the values for Poland and Croatia in particular show, the data available do not confirm the assumption that such regional growth disparities are a typical feature of new Member States or accession countries.

The data also show that the least economically dynamic regions in seven countries attained levels of growth above the EU-27 average. It is pleasing to note that, with the exception of Ireland, all of these were in five new Member States or Croatia.

## Convergence makes progress

This section addresses the question of the extent to which convergence between the regions of the EU-27, Croatia and the former Yugoslav Republic of Macedonia made progress over the five-year period 2001–06. Regional convergence of per inhabitant GDP (in PPS) can be assessed in various

**Table 4.1:** Proportions of resident population in economically stronger and weaker regions

Percentage of population of EU-27, Croatia and the former Yugoslav Republic of Macedonia resident in regions with a GDP per inhabitant of	2001	2006
> 125 % of EU-27 = 100	23.0	20.1
> 110–125 % of EU-27 = 100	16.0	16.5
> 90–110 % of EU-27 = 100	22.7	24.9
> 75–90 % of EU-27 = 100	9.8	13.3
less than 75 % of EU-27 = 100	28.5	25.2
less than 50 % of EU-27 = 100	15.3	11.5

ways on the basis of indicators supplied to Eurostat by the national statistical institutes.

A simple approach is to measure the gap between the highest and the lowest values. By this method, the gap closed from a factor of 16.0 in 2001 to 13.6 in 2006. The main reason for this clear convergence was the faster economic growth in Bulgaria and Romania. However, as this approach looks at only the extreme values, it is clear that the majority of shifts between regions are not taken into account.

Another, much more precise, assessment of convergence consists of classifying the regions according to their per inhabitant GDP in PPS. In this way, the proportion of the population of the countries being considered (the EU-27 plus Croatia and the former Yugoslav Republic of Macedonia) living in richer or poorer regions, and how this proportion has changed, can be ascertained.

Table 4.1 shows that economic convergence between the regions over the five-year period 2001–06 did indeed make clear progress. The proportion of the population living in regions where per inhabitant GDP is less than 75 % of the EU-27 average fell from 28.5 % to 25.2 %. At the same time, the proportion of the population living in regions where this value is greater than 125 % fell from 23.0 % to 20.1 %. These shifts at the top and bottom ends of the distribution meant that the proportion of the population in the mid-range (per inhabitant GDP of 75–125 %) increased significantly from 48.5 % to 54.7 %, i.e. by more than 35 million persons.

Map 4.4 shows, however, that despite the clear progress made towards convergence overall a comparison between the three-year periods 1999–2001 and 2004–06 shows that just five regions managed to exceed the 75 % threshold. These were one region each in Greece, Spain, Poland, Romania and the UK. These regions are home to almost 16 million people, or around 3.2 % of the population of the 29 countries considered here. At the same time, however, per inhabitant GDP in four regions fell again below the 75 % threshold in two Italian, one French and one Greek region, with a total population of more than 5 million people, or about 1.1 % of the population of the 29 countries considered here. If both developments are juxtaposed it is found that, as a result of economic development between 1999 and 2006, the population living in regions with a GDP of more than 75 % of the average grew by around 10.6 million people.

These results close to the 75 % threshold, which is important for regional policy, suggest that

poorer regions benefited only marginally during the first half of the decade from increased convergence in the EU.

However, a more detailed analysis shows that many regions with a GDP of less than 75 % of the EU-27 average have made considerable progress. The population living in regions with a GDP of less than 50 % of the average fell between 2001 and 2006 by almost a quarter, from 15.3 % to 11.5 %, or 17 million people.

Moreover, examination of the 20 economically weakest regions, where 7.5 % of the population live, shows that this group has progressed as well: per inhabitant GDP in these regions rose between 2001 and 2006 from 28.2 % to 33.2 % of the EU-27 average, as a result in particular of the strong catch-up process in Bulgaria and Romania.

## Conclusion

In 2006, the highest and lowest values of per inhabitant GDP (in PPS) for the 275 NUTS 2 regions in 29 countries (EU-27 plus Croatia and the former Yugoslav Republic of Macedonia) examined here differed by a factor of 13.6:1, a figure which is still very high but decreasing over the medium term. Within the individual countries the differences are as much as a factor of 4.3; regional differences in new Member States tend to be greater than in the EU-15.

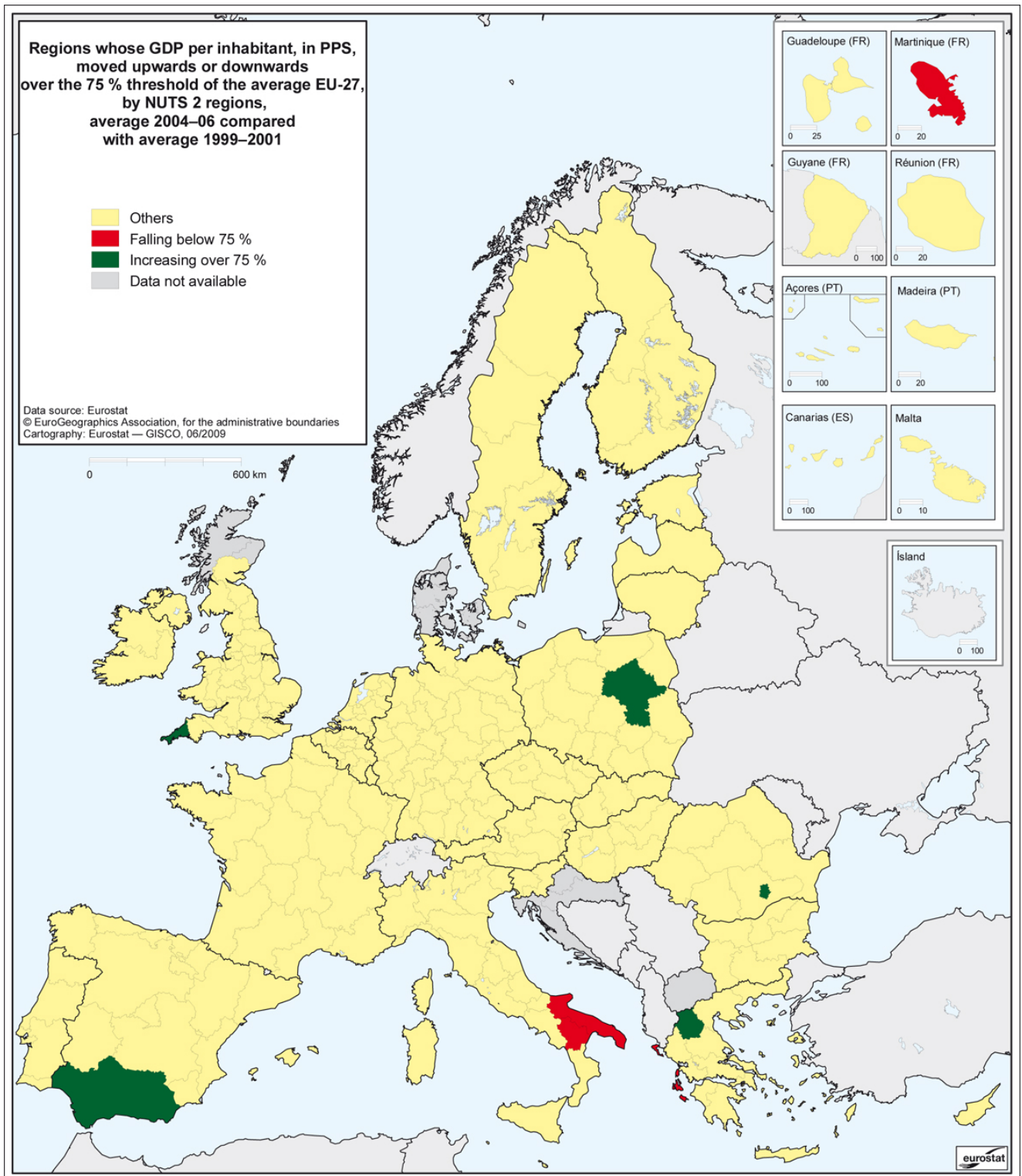
In 2006, per inhabitant GDP (in PPS) in 72 regions was less than 75 % of the EU-27 average. Some 25.2 % of the population live in these 72 regions, three quarters of them in new Member States, Croatia and the former Yugoslav Republic of Macedonia and one quarter in EU-15 countries. If consideration is broadened to include the three-year average for 2004–06, an important period for EU structural policy, very similar values are found: 72 regions with 25.3 % of the population achieved less than 75 % of the EU-27 average.

If the trends over the five-year period 2001–06 are considered, dynamic growth can be seen in certain EU-15 countries, particularly in Greece, Spain, Ireland and certain regions of the UK, Finland and Sweden. However, this must be seen against rather disappointing growth in most regions of Belgium, Germany, France, Italy and Portugal.

In the new Member States plus Croatia, significantly above-average growth can be seen primarily in the Baltic countries, Romania, the Czech Republic, Slovakia, Croatia and most regions of Poland.



**Map 4.4:** Regions whose GDP per inhabitant, in PPS, moved upwards or downwards over the 75 % threshold of the average EU-27, by NUTS 2 regions, average 2004–06 compared with average 1999–2001



The catch-up process which has started in the new Member States and Croatia has accelerated significantly compared to the 1990s and continued until 2006 with an annual rate of around 1.5 percentage points compared to the EU-27 average. However, not all the regions of the new Member States are yet able to benefit from this to the same extent. This is particularly true of Hungary,

Malta and Poland. All the new Member States and Croatia, considered together, caught up by around 7.7 percentage points to reach 53.7 % of the EU-27 average between 2001 and 2006. It is feared, however, that the financial crisis which started in mid-2008 may mean that this rate of growth will not be maintained throughout the first decade of the new century.

## Methodological notes

### Purchasing power parities and international volume comparisons

The differences in GDP values between countries, even after conversion by means of 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 contributory factor. Exchange rates are determined by many factors related to demand and supply in the currency markets, such as international trade, inflation forecasts and interest rate differentials. Conversions using exchange rates are therefore of only limited relevance for international comparisons. To obtain a more precise comparison, it is essential to use special conversion rates which eliminate the effect of price-level differences between countries. Purchasing power parities (PPPs) are conversion factors of this kind which convert economic indicators from national currencies into an artificial common currency, called purchasing power standard (PPS). PPPs are therefore used to convert GDP and other economic aggregates (e.g. consumption expenditure on certain product groups) of various countries into comparable volumes of expenditure, expressed in purchasing power standards.

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 the Member States within the euro area.

In their simplest form, PPPs are a set of price ratios between the prices in national currency of the same good or service in different countries (e.g. a loaf of bread costs EUR 2.25 in France, EUR 1.98 in Germany, GBP 1.40 in the United Kingdom). 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, one 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, 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 conversion factors. If such regional PPPs were available, the GDP in PPS for numerous peripheral or rural regions of the EU would be higher than that calculated using national PPPs.

The regions may be ranked differently when calculating in PPS instead of euros. For example, in 2006 the Swedish region of Östra Mellansverige had a per inhabitant GDP of EUR 29 600, putting it ahead of Madrid at EUR 29 100. However, in PPS, Madrid at 32 100 PPS per inhabitant is ahead of Östra Mellansverige, at 24 600 PPS per inhabitant.

In terms of distribution, the use of PPS rather than the euro has a levelling effect, as countries with a very high per inhabitant GDP also generally have relatively high price levels. The range of per inhabitant GDP in NUTS 2 regions in the EU-27 plus Croatia and the former Yugoslav Republic of Macedonia thus falls from 86 500 in euro to 73 600 in PPS.

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