

Narrowing spread in regional Gross Domestic Product

Regional Gross Domestic Product (GDP) per inhabitant (in purchasing power standards) in 2006 differed widely across the 275 regions of the EU, Croatia and the Former Yugoslav Republic of Macedonia. In Inner London (United Kingdom) it

was 336% of the EU-27 average, while in Nord-Est (Romania) it was only 25% of the EU-27 average. However, many of the less prosperous regions have caught up significantly during the first half of this decade.

Figure 1: GDP per inhabitant, in PPS, by NUTS 2 regions, 2006

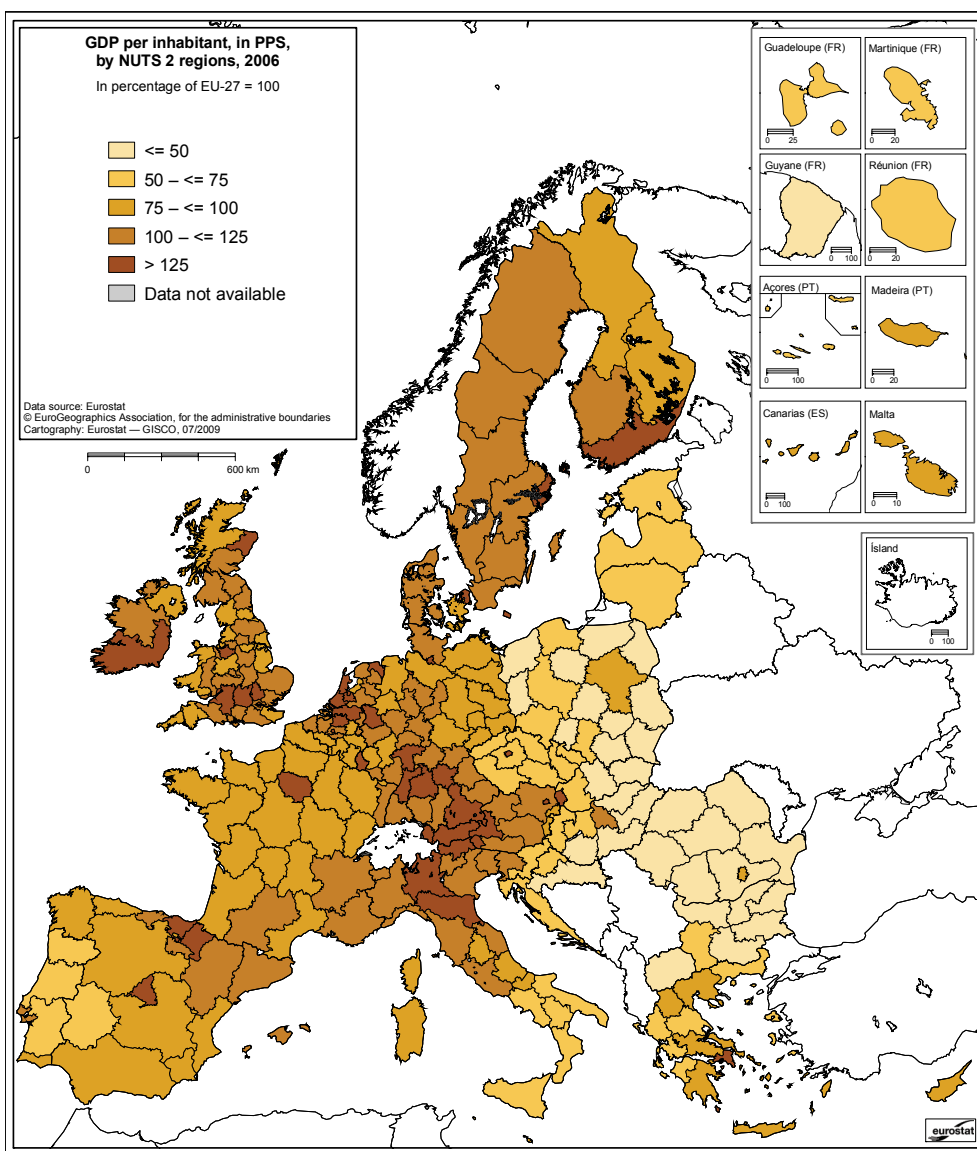


Figure 1 shows that the most prosperous regions are in the south of Germany and the United Kingdom, northern Italy, Belgium, Luxembourg, the Netherlands, Austria, Ireland and Scandinavia. The capital regions of Madrid, Paris and Prague also fall into this category. The examples of Southern and Eastern (Ireland), and the

capital regions of Sweden, Finland and Greece show also that there are several wealthy areas outside the centrally located regions. The economically weaker areas are concentrated in the southern and south-western periphery of the Union, in eastern Germany, the new Member States, Croatia and the Former Yugoslav Republic of Macedonia.

Major regional differences between countries persist

In the ranking of GDP per inhabitant, Inner London (79 400 PPS) is first, followed by Luxembourg (63 100 PPS), Brussels (55 100 PPS) and Hamburg (47 200 PPS). These four regions also led the ranking in 2005. Groningen (NL, 41 000 PPS) moved up to 5th place during 2006 thanks to a very high value added in natural gas production, overtaking Ile de France (FR, 40 100 PPS) which was 5th in 2005. At the bottom end of the ranking there is a clear geographical concentration: Nord-Est (RO, 5 800 PPS) remains the least prosperous of the 275 regions covered by this publication, followed by three Bulgarian regions (between 6 000 and 6 600 PPS) and the Former Yugoslav Republic of Macedonia (6 900 PPS).

Table 1: Regions with the lowest/highest GDP per inhabitant (in PPS) (EU-27=100)

| Region | GDP per inhabitant (in PPS) in % of the EU-27 average (2006) |
|---|--|
| Inner London (UK) | 336 |
| Luxembourg (LU) | 267 |
| Région de Bruxelles-Capitale (BE) | 233 |
| Hamburg (DE) | 200 |
| Groningen (NL) | 174 |
| Île de France (FR) | 170 |
| Oberbayern (DE) | 168 |
| Wien (AT) | 166 |
| Stockholm (SE) | 166 |
| Berkshire, Buckinghamshire and Oxfordshire (UK) | 164 |
| Southern and Eastern (IE) | 163 |
| Praha (CZ) | 162 |
| Darmstadt (DE) | 158 |
| Bremen (DE) | 157 |
| Utrecht (NL) | 156 |
| | |
| Centru (RO) | 38 |
| Središnja i Istočna (Panonska) Hrvatska (HR) | 37 |
| Nord-Vest (RO) | 36 |
| Podkarpackie (PL) | 36 |
| Lubelskie (PL) | 35 |
| Sud-Est (RO) | 33 |
| Sud-Muntenia (RO) | 32 |
| Severozitochen (BG) | 32 |
| Yugoiztochen (BG) | 31 |
| Sud-Vest Oltenia (RO) | 30 |
| The Former Yugoslav Republic of Macedonia | 29 |
| Yuzhen tsentralen (BG) | 28 |
| Severen tsentralen (BG) | 27 |
| Severozapaden (BG) | 25 |
| Nord-Est (RO) | 25 |

Source: Eurostat ([reg_e2gdp](#))

Table 1 provides a more detailed overview of both the top and bottom of the ranking, with the GDP of the top 15 and bottom 15 regions expressed in percent of the EU-27 average. The 15 most prosperous regions are spread over 10 different countries, with a certain concentration in Germany, the United Kingdom and the Netherlands; the Czech capital region of Prague moved up two places and now occupies 12th place with 162% of the EU average.

The lower end of the range, on the other hand, is much more concentrated. Among the 15 weakest regions are five out of the six Bulgarian and six out of the eight Romanian regions as well as two regions in Poland. Compared to the situation a year earlier there have been a few alterations in the ranking in favour of Romanian regions and to the disadvantage of Bulgarian regions. If we classify all 275 regions by classes of GDP per inhabitant (in PPS), the following picture emerges: In 2006 there were 41 regions which have a GDP of more than 125% of the EU-27 average; 20.1% of the population live in these regions. The regions with a GDP between 75% and 125% are home to 54.7%, i.e. a significant majority, of the population of the 29 countries covered here. In 72 regions GDP 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 live in the new Member States, Croatia and the Former Yugoslav Republic of Macedonia and one quarter in EU-15 countries. If we further analyse the lower end of the distribution and focus on the regions where GDP per inhabitant is less than half of the EU-27 average, we find 32 regions with 56.3 million people, corresponding to 11.3% of the population; all these regions are in the new Member States, Croatia and the Former Yugoslav Republic of Macedonia.

There are four regions in the new Member States whose GDP exceeds the EU-27 average of 23 600 PPS per inhabitant: Prague (Czech Republic) with 162% (38 400 PPS), Bratislavský kraj (Slovakia) with 149% (35 100 PPS), Közép-Magyarország (Hungary) with 106% (24 900 PPS) and Zahodna Slovenija (Slovenia) with 105% (24 900 PPS). With the exception of four other regions (Cyprus, Mazowieckie in Poland, Malta and București-Ilfov in Romania), all 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; this means that 87 million people, i.e. seven out of eight inhabitants in these 14 countries, still live in areas that are eligible for assistance from the Structural Funds.

Greatest discrepancies within countries in the United Kingdom, Romania and France

There are substantial regional differences even within the countries themselves. In 2006, the highest GDP per inhabitant was more than twice the lowest in 13 of the 22 countries examined here which have at least two NUTS 2 regions. This group includes 6 of the 8 new Member States/Croatia, but only 7 of the 14 EU-15 Member States; we can therefore conclude that regional discrepancies are higher in new Member States than in EU-15 countries.

We find the largest regional differences in the United Kingdom, where there is a factor of 4.3 between the highest and lowest values, and in France and Romania with factors 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 some 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 at least two NUTS 2 regions, the capital regions are also the regions with the highest GDP per inhabitant. For example, Figure 1 clearly shows the prominent position of the regions around Brussels, Sofia, Prague, Athens, Madrid, Paris and Lisbon, as well as Budapest, Bratislava, London, Warsaw and Zagreb.

The 5-year perspective: Convergence continues to make progress

This section addresses the extent to which convergence among the 275 regions treated here has progressed in the 5-year period from 2001 to 2006.

With the help of indicators which are available from the ESA95 data transmission programme, regional convergence of economic activity can be assessed in three different ways. The simplest approach is to measure the absolute discrepancy between the highest and the lowest values at regional level NUTS 2. The second approach is to estimate the share of the EU population living in regions that show certain levels of GDP per inhabitant in comparison with the EU-27 average. The third method is to calculate the dispersion of regional GDP at regional level NUTS 2, which is a derived indicator that Eurostat has been calculating since 2007.

Between 2001 and 2006 the absolute discrepancy between the highest and the lowest GDP per inhabitant in the Union (at regional level NUTS 2) narrowed from a factor of 16.0 to 13.6, i.e. there was a considerable convergence. The main reason for this favourable development was the accelerated economic development in Romania. It is remarkable that this decrease took place despite the dynamic development for Inner London (United Kingdom), Brussels (Belgium) and Luxembourg. Without taking into account these three outliers, the discrepancy shows a similar improvement from 10.2 in 2001 to 8.1 in 2006.

Looking at the discrepancies at country level, it appears that already in 2001 the new Member States were showing higher values of regional discrepancy than EU-15 countries. Since then regional discrepancy has increased further in all new Member States, and also in Croatia; the greatest increase was in Romania and Slovakia (up from 2.9 to 3.4 in both cases). On the other hand, discrepancy levels decreased slightly in most EU-

15 countries, in particular in Ireland, Spain, Italy and Austria.

Table 2: Shares of resident population in economically stronger and weaker regions

| Percentage of population of EU-27+Croatia+The Former Yugoslav Republic of Macedonia resident in regions with a per inhabitant GDP of | 2001 | 2006 |
|--|------|------|
| > 125% of EU-27=100 | 23.0 | 20.1 |
| > 110% to 125% of EU-27=100 | 16.0 | 16.5 |
| > 90% to 110% of EU-27=100 | 22.7 | 24.9 |
| > 75% to 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 | 11.3 |

Source: Eurostat ([reg_e2gdp](#))

The second approach for measuring convergence is frequently used in regional policy evaluation (see table 2). In this context the focus is usually on the percentage of the EU population that lives in NUTS 2 regions with a GDP per inhabitant of less than 75% of the EU average. Between 2001 and 2006 this share decreased from 28.5% to 25.2%. This means that in 2006 there were 14 million fewer people who lived in areas below the structural funds assistance threshold than five years earlier.

Convergence becomes even more visible if we focus on the regions with a GDP per inhabitant below 50% of the EU average. This share fell from 15.3% in 2001 to 11.3% in 2006, i.e. by 18.7 million people or one quarter. Eight regions crossed the 50% threshold during this 5-year period, including the Baltic States and the capital region of Bulgaria. On the other hand, there was one French overseas department (Guyane) which lost more than 10 percentage points in relation to the EU-27 average; at 49.0% of the average it is now the least prosperous region of the EU-15 countries, and the only

EU region between 2001 and 2006 whose GDP per inhabitant fell below the 50% threshold.

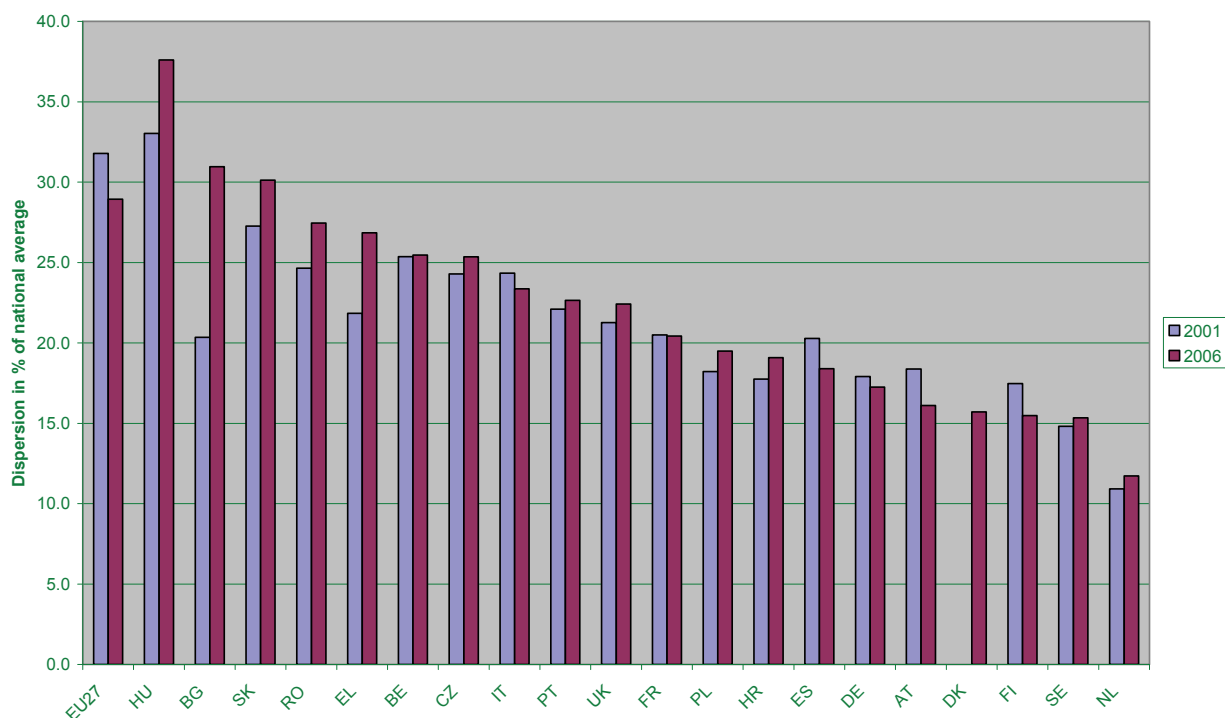
Convergence was also recorded in the regions with a GDP per inhabitant of between 90% and 110% of the EU average. The population in this class increased from 22.7% of the EU total in 2001 to 24.9% in 2006, which corresponds to an increase of 13 million inhabitants. This finding is confirmed by the data for regions with per inhabitant values between 75% and 125% of the EU-27, whose share increased from 48.5% to 54.7%, i.e. by around 14 million people. We can therefore draw the conclusion that, since the middle of the decade, a considerable majority of the population of the 275 regions covered here are living in areas whose GDP per inhabitant differs by less than 25% from the EU-27 average.

The third method of assessing regional convergence measures the dispersion of regional GDP at level NUTS

2. Although initially it was only defined at regional level NUTS 3, it is now available also at level NUTS 2, because this is the most relevant level for the evaluation of the EU's regional policies. For details on the methodology, please refer to the methodological notes.

In order to calculate the dispersion indicator, the difference between the GDP per inhabitant of a given region and the national average of the corresponding Member State is weighted by the share of the population. The weighted differences of all regions are then added up, divided by the national average and expressed as a percentage of the national average. The dispersion can be calculated both for individual Member States and for the EU as a whole. The advantages of this method are that all regional values are weighted, and that a limited number of outliers does not give misleading results.

Figure 2: Dispersion of Regional GDP at NUTS 2



Source: Eurostat ([reg_e2gdp](#))

Figure 2 presents an overview of results for 2001 and 2006 for 19 Member States with at least three NUTS 2 regions, as well as Croatia. Ireland and Slovenia are not included, because they have only two NUTS 2 regions. The chart shows that new Member States had the highest dispersion both in 2001 and in 2006; in addition, dispersion levels increased in all of them during this 5-year period. Particularly strong increases are found in Bulgaria, Hungary, Romania and Slovakia. On the other hand, EU-15 countries tend to have lower dispersion levels, in particular the Netherlands and Scandinavia. In addition, only very few EU-15 countries show increasing regional dispersion (mainly Greece, Portugal

and the United Kingdom), while convergence at country level can be seen in Germany, Spain, Italy, Austria and Finland.

The EU-27 figure is estimated by treating all 271 regions as if they were part of one country; this means that the EU-27 value is not calculated by aggregating national dispersion values. For example, the value of 28.9% for 2006 means that during that year the GDP per inhabitant of all the regions of the EU deviated by 28.9% from the EU average of 23 600 PPS. It appears that dispersion decreased at EU level too, from 31.8% in 2001 to 28.9% in 2006.

New Member States continue to catch up, but some EU-15 countries are falling behind

Figure 3 shows the extent to which the per inhabitant GDP of the regions changed between 2001 and 2006 compared 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 two percentage points compared with the EU average, are shown as dark, and less dynamic regions (i.e. those with a fall of more than two percentage points in per inhabitant GDP compared with the EU-27 average) are shown as light. The range is from +33 percentage points for Bratislavský kraj (Slovakia) to -23 percentage points for Emilia-Romagna in Italy.

Economic dynamism is well above average in the western, eastern and northern peripheral areas of the EU, not just in EU-15 countries but particularly in new Member States and Croatia.

Among the EU-15 Member States, Greece, Spain, Ireland and parts of the United Kingdom, Finland and Sweden recorded strong growth. On the other hand, an opposite trend which started several years ago – namely sustained weak growth in certain EU-15 countries – is continuing. The countries that have been particularly badly hit are Italy, Belgium and France, where no region achieved the average growth of the EU-27 during the five-year period from 2001 to 2006; half of the regions in Germany and Portugal also fell back compared to the EU average. Among the new Member States and Croatia, it is the Baltic States, Romania, the Czech Republic, Slovakia, Croatia and most regions of Poland that 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 many of the 29 countries examined here. What is striking, however, is that the capital regions continue to have an above-average rate of growth, not only in the new Member States and in Croatia, but also in the EU-15 countries. The non-capital region with the strongest growth in the new Member States was Vest (Romania), where per capita GDP (in PPS) increased by 15.3 percentage points between 2001 and 2006, from 29.4% to 44.7% of the EU-27 average.

However, a clear concentration is apparent in certain Member States 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 United Kingdom. Closer examination of the new Member States and Croatia yields the encouraging result that only four regions fell behind 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 Cyprus (-0.6).

The catching-up process in the new Member States and Croatia amounted to about 1.5 percentage points per year compared to the EU average between 2001 and 2006 and therefore was considerably faster than in the 1990s. Per capita GDP (in PPS) in these 13 countries thus rose from 46.0% of the EU-27 average in 2001 to 53.7% in 2006. However, there are fears that the financial crisis which started in mid-2008 may mean that this rate of growth cannot be maintained; it is difficult to anticipate the impact of the current economic downturn at the regional level in particular.

Summary

In 2006, the highest and lowest values of per inhabitant GDP (in PPS) for the 275 NUTS 2 regions in the 29 countries dealt with here (EU-27 plus Croatia and the Former Yugoslav Republic of Macedonia) 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 high as a factor of 4.3; regional differences in new Member States tend to be greater than in EU-15 countries.

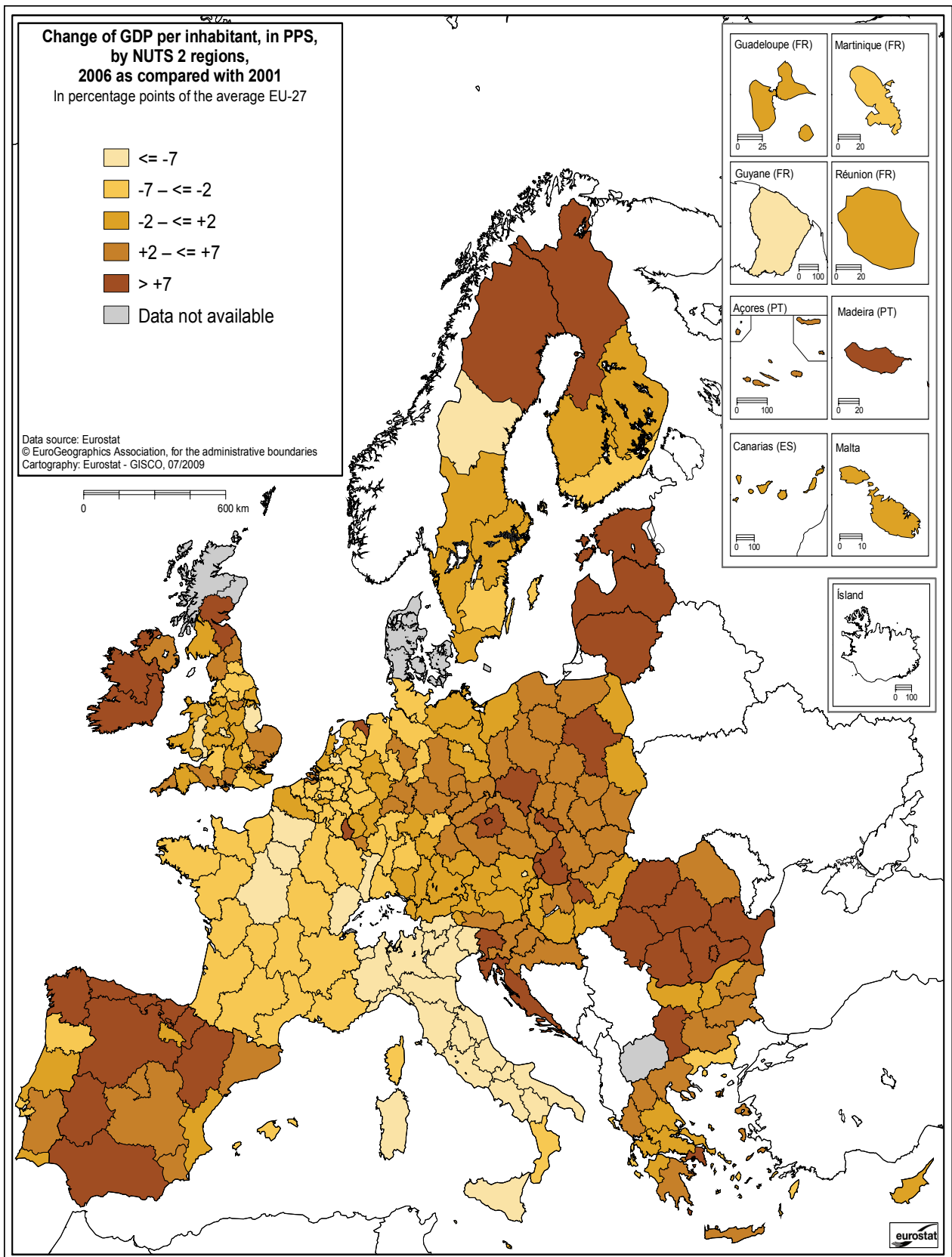
In 2006, per capita GDP (in PPS) in 72 regions was less than 75% of the EU-27 average. 25.2% of the population live in these 72 regions, three quarters of them in the new Member States, Croatia and the Former Yugoslav Republic of Macedonia and one quarter in EU-15 countries.

During the five-year period from 2001 to 2006, dynamic growth can be seen in certain EU-15 countries, particularly in Greece, Spain, Ireland and certain regions of the United Kingdom, Finland and Sweden. However, this must be set against a somewhat disappointing trend in most regions of Belgium, Germany, France, Italy and Portugal. In the new Member States plus Croatia, significantly above-average growth can be observed, primarily in the Baltic countries,

Romania, the Czech Republic, Slovakia, Croatia and most regions of Poland. Between 2001 and 2006 the absolute discrepancy between the highest and the lowest GDP per inhabitant in the Union (at regional level NUTS 2) narrowed from a factor of 16.0 to 13.6. At the same time the percentage of the population living in areas with a per inhabitant GDP of 75 to 125% rose from 48.5% to 54.7%.

These findings are underpinned by decreasing GDP dispersion, which (for the EU-27) fell from 31.8% in 2001 to 28.9% in 2006. 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 development to the same extent. All the new Member States and Croatia, considered together, made up around 7.7 percentage points to reach 53.7% of the EU-27 average between 2001 and 2006. However, there are fears that the financial crisis which started in mid-2008 may mean that this rate of growth cannot be maintained; in particular it is difficult to anticipate the impact of the current economic downturn at the regional level.

Figure 3: Change of GDP per inhabitant, in PPS, by NUTS 2 regions, 2006 as compared with 2001



Source: Eurostat ([reg_e2gdp](#))

METHODOLOGICAL NOTES

1. Regional data collection: Based on [Regulation 2223/1996](#) Eurostat has been collecting gross value added data from national statistical institutes as from reference year 1995. The deadline for data transmission is T + 24 months, i.e. the data for 2006 was due for transmission to Eurostat on 31 December 2008. Once per year Eurostat estimates and publishes an official set of regional GDP data for all EU Member States.

2. Data revisions: Data as from 1995 have been revised since the Eurostat [news release 19/2008](#) of 12 February 2008. They are the same data used for the Eurostat [news release 23/2009](#) of 19 February 2009 and cover all regions of the EU-27, Croatia and the Former Yugoslav Republic of Macedonia. Data for Croatia correspond to the revised figures transmitted to Eurostat in May 2009. All data are available online on Eurostat's website (cf. page 8 for link).

3. Nomenclature of territorial units (NUTS): the Nomenclature of Territorial Units for Statistics (NUTS) has been used since 1988 in EU legislation. The data presented in this publication is based on NUTS2006 (Regulation No 105/2007 of 1 February 2007, [OJ L 39, 10 February 2007](#) and Regulation No 176/2008, [OJ L 61, 5 March 2008](#)). The regions of the Member States are available on Eurostat's website. The aggregate 'new Member States' includes the following 12 countries: Bulgaria, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia and Slovakia.

EU-27: European Union of 27 Member States from 1 January 2007: Belgium (BE), Bulgaria (BG), the Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), the Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK).

4. Harmonized estimation procedure: At NUTS level 2 there are 271 regions in EU-27, three regions in Croatia and one region in the Former Yugoslav Republic of Macedonia. Data at NUTS levels 2 and 3 for the years 1995 to 2006 are available on Eurostat's website (for link, cf. page 8). National GDP data are compiled by the national statistical offices in accordance with the rules of the European System of Economic Accounts (ESA95). These national figures are then distributed across the regions on the basis of the regional structure of gross value added. Extra-Regio value added is distributed in proportion to the regions of the country in question. Gross value added is recorded at basic prices. Conversion to Purchasing Power Standards is done on the basis of national Purchasing Power Parities.

5. Interpreting the figures: GDP and, therefore, GDP per inhabitant, are indicators of a country or region's economic activity and are thus suited to measuring and comparing the degree of economic development of countries or regions. It should be borne in mind that GDP is not equivalent to the income ultimately available to private households in a given country or region. Commuter flows make the comparison among countries, and in particular among regions, on the basis of per-inhabitant values of GDP more difficult. Well known examples are Inner London, Luxembourg and Hamburg. The net daily commuter inflow of persons in such regions increases the production to a level that the resident economically active population alone could not achieve.

6. 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:

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

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 zone), 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%.

Further information

Data: [Eurostat Website: http://ec.europa.eu/eurostat](http://ec.europa.eu/eurostat)

Data on "Regional Statistics":

http://epp.eurostat.ec.europa.eu/portal/page/portal/region_cities/regional_statistics/data/database

Select "Regional Economic Accounts – ESA95"

More information about "Regional Statistics"

http://epp.eurostat.ec.europa.eu/portal/page/portal/region_cities/introduction

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