

# Regional Gross Domestic Product in the European Union 2004

## Statistics in focus

GENERAL AND  
REGIONAL STATISTICS  
ECONOMY AND FINANCE

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Regions

Author

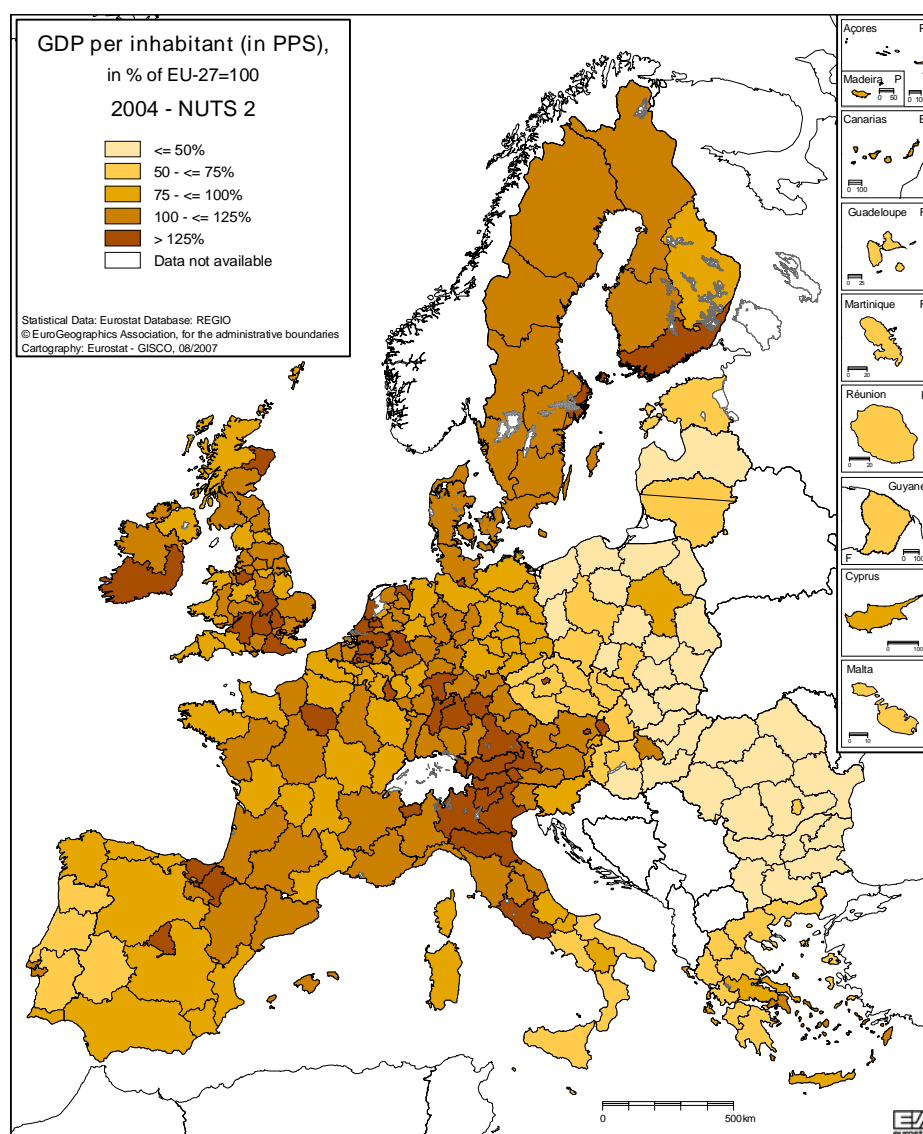
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Latest estimates for 2004 show that 70 of the 268 NUTS 2 regions of the European Union had GDPs per inhabitant in purchasing power standards (PPS) that were less than 75% of the EU-27 average of 21 503 PPS. Regional GDP per inhabitant ranged from 5 070 PPS (24% of the EU average) for the region of Nord-Est in Romania to 65 138 PPS (303% of the EU average) for the Inner London region of the United Kingdom.

Figure 1: GDP per inhabitant



## 1. Major regional discrepancies persist between and within countries

In the ranking of GDP per inhabitant, Luxembourg (53 978 PPS) and Brussels (53 381 PPS) are second and third after Inner London, with Hamburg (41 972) and Wien (38 632) in fourth and fifth place respectively. The Czech capital region Praha (33 784 PPS) now occupies the twelfth place among the 15 most affluent regions of the European Union.

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 (2004)
Inner London (UK)	302.9
Luxembourg (LU)	251.0
Région de Bruxelles-Capitale (BE)	248.3
Hamburg (DE)	195.2
Wien (AT)	179.7
Île de France (FR)	174.5
Berkshire, Buckinghamshire and Oxfordshire (UK)	173.8
Oberbayern (DE)	169.3
Stockholm (SE)	165.7
Utrecht (NL)	157.7
Darmstadt (DE)	157.3
Praha (CZ)	157.1
Southern and Eastern (IE)	156.5
Bremen (DE)	155.8
North Eastern Scotland (UK)	153.9
....	
Vest (RO)	39.0
Podlaskie (PL)	37.9
Centru (RO)	35.5
Podkarpackie (PL)	35.4
Lubelskie (PL)	35.2
Nord-Vest (RO)	33.0
Sud-Est (RO)	30.7
Yugoiztochen (BG)	29.9
Severoiztochen (BG)	29.3
Sud-Vest Oltenia (RO)	28.8
Sud-Muntenia (RO)	28.4
Severen tsentralen (BG)	26.4
Yuzhen tsentralen (BG)	25.6
Severozapaden (BG)	25.6
Nord-Est (RO)	23.6

Table 1 shows the NUTS 2 regions with the highest and lowest GDPs per inhabitant. The 15 top-ranking regions include four West German and three UK regions, as well as capitals and economic centres from another 8 Member States. The most affluent regions are thus spread quite widely across the territory of the Union. In comparison with 2003 there have been only a few minor changes in the ranking in this group.

Due to the accession of Bulgaria and Romania to the EU the discrepancy between affluent and economically weak areas of the Union has widened: The GDP per inhabitant of Inner London is about 12.8 times as high as that of Nord-Est in Romania. This factor has slightly decreased compared to 2003, when it stood at 13.2.

The lower end of the table, by contrast, features only three countries. Here we find all of Romania's and

Bulgaria's regions other than the capital regions, together with three regions in eastern Poland. Though the composition has remained unchanged since 2003, there have been a few alterations in ranking in favour of Romania's regions and to the disadvantage of Bulgarian and Polish regions.

Figure 1 gives an overview of the regional economic activity in the entire Union. It shows clear centres of above-average economic activity in Scandinavia, the United Kingdom, the Benelux countries, southern Germany, Austria and northern Italy, and around many of the capital cities. Of the 46 regions posting over 125% of the EU-27 average, eight each are to be found in the United Kingdom and Germany, seven in Italy, five in the Netherlands, four in Austria, three each in Belgium and Spain, two in Finland and one each in the Czech Republic, France, Ireland, Luxembourg, Slovakia and Sweden. With Praha (Czech Republic) and Bratislavsky kraj (Slovakia) there are now two regions of the new Member States with a GDP per inhabitant of more than 125% of the EU average.

By contrast, the southern fringe of the pre-enlargement 15-EU Member States, eastern Germany and all new Member States other than Cyprus and Slovenia clearly show below-average economic activity. Of the 268 regions in total, GDP per inhabitant in 70 regions in 2004 (69 regions in 2003) was less than 75% of the EU average. These regions are home to 123 million people, or 25.2% of the 490 million people living in the Union. This group includes 21 regions in EU-15 and 49 in the 12 new Member States, among which are all the regions of Bulgaria and Romania. Only six regions in the new Member States have a GDP per inhabitant of more than 75% of the EU average.

There are still 32 regions which remain below 50% of the EU-27 GDP per inhabitant. The regions of this group are to be found exclusively in new Member States, in particular in Romania, Bulgaria and Poland. It is worth noting that there is no Czech region any more with a GDP per inhabitant of less than 50% of the EU-27 average.

There are considerable differences between regions within individual countries. In 12 of the 19 countries with more than one NUTS 2 regions, the highest GDP per inhabitant in 2004 was more than double the lowest value. This group includes five of six countries in the case of the new Member States, but only seven of the 13 multi-region EU-15 Member States. The greatest regional differences are in the United Kingdom, where the extreme values differ by a factor of 3.8, and in France with 3.2, followed by Slovakia (3.1) and Belgium (3.0). The lowest values, with factors of 1.6, are in Ireland, the Netherlands and Sweden. Relatively moderate regional discrepancies in GDP per inhabitant (i.e. highest and lowest values differing by a factor of less than two) are, with the exception of Bulgaria, found only in the EU-15 Member States.

## 2. Convergence makes progress

This section addresses the question to what extent progress has been made in convergence among the regions of the EU-27 over the 5-year-period 1999 to 2004.

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 to the EU-27 average. The third method is to calculate the dispersion of regional GDP at regional level NUTS 3, a derived indicator that will be added in the near future to the EU's Sustainable development indicators. For details on these indicators refer to the Eurostat Website / Tables / Sustainable development indicators.

The absolute discrepancy between the highest and the lowest GDP per inhabitant in the Union (at regional level NUTS 2) narrowed between 1999 and 2004 from a factor of 13.5 to 12.8, i.e. there was a moderate but measurable convergence. The main reason for this favourable development was accelerated economic development in Romania. It is remarkable that this decrease took place despite the dynamic development for Inner London (UK); without taking into account Inner London discrepancy shows a considerable improvement from 11.9 in 1999 to 10.6 in 2004.

Looking at the discrepancies at country level it appears that in 1999 new Member States already showed higher values of regional discrepancy than EU-15 countries. Since then discrepancy increased further in all new Member States except Poland; in Romania (from 2.1 to 2.7) this increase was strongest. On the other hand discrepancy levels decreased slightly in most EU-15 countries, in particular in Germany, Italy and the United Kingdom.

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

Percentage of population of EU-27 resident in regions with a per inhabitant GDP of	1999	2004
> 125% of EU-27=100	24.6	22.4
from 110% to 125% of EU-27=100	17.7	17.7
from 90 to 110% of EU-27=100	19.9	23.4
from 75% to 90% of EU-27=100	12.8	11.3
under 75% of EU27=100	25	25.2
under 50% of EU27=100	14.6	12.2

The second approach for measuring convergence is used frequently 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 1999 and 2004 this share increased slightly from 25.0% to 25.2%, essentially because Malta and the Portuguese region Alentejo dropped below the 75% threshold.

While this development could be characterised as disappointing, it does however not mean that there was no convergence. The population of regions that can be considered as poor, i.e. showing a GDP per inhabitant of less than 50% of the EU average, decreased from 14.6% in 1999 to 12.2% in 2004. In absolute figures this means that four regions with almost 9 million inhabitants passed over the 50% threshold during this 5-year period; these are Estonia, Lithuania, the Romanian capital region of Bucuresti-Ilfov and Západne Slovensko (Slovakia). At the same time there was no region which fell under the 50% threshold.

Convergence also made progress in the regions with GDP per inhabitant between 90% and 110% of the EU average. The population in this class increased from 19.9% of the EU total in 1999 to 23.4% in 2004, which corresponds to an increase of 8 regions with 18 million inhabitants. The share of the population living in areas between 75% and 125% of the EU-27 average amounted to 52.4% in 2004.

The third method to assess regional convergence measures the dispersion of regional GDP at level NUTS 3. This derived indicator was introduced recently as one of the sustainable development indicators of the EU. It was decided to define it at regional level NUTS 3, because several Member States consist of only one NUTS 2 region, although they show significant regional disparities between the capital region and other areas. In such Member States these disparities can only be measured with NUTS 3 data.

In order to arrive at the dispersion indicator, the difference between the GDP per inhabitant of a given region and the national values of the corresponding Member State is weighted by the share of the population. Then the weighted differences of all regions are summed up, divided by the national average and expressed in percent of the national average. The dispersion can be calculated for individual Member States as well as for the entire EU (for details see methodological notes on page 7 of this publication). The advantages of this method are that all regional values are weighted, and that a limited number of outliers does not provoke misleading results.

Table 3: Dispersion of regional GDP at NUTS level 3 (%)

	1999	2004
EU-27	35.3	33.7
Latvia	46.1	52.9
Estonia	36.1	43.5
Hungary	37.6	37.6
Poland	.	29.7
Bulgaria	26.4	29.4
Germany	29.3	29.1
Slovakia	27.3	29.1
Belgium	28.7	28.1
Romania	23.0	27.4
Portugal	26.2	27.3
United Kingdom	25.8	27.3
Ireland	23.7	27.0
Greece	.	26.9
Austria	26.1	25.4
Italy	24.9	25.1
Czech Republic	22.1	24.9
France	23.9	23.1
Lithuania	17.3	22.2
Slovenia	20.0	21.6
Spain	20.0	19.2
Denmark	17.8	19.1
Finland	21.6	18.8
Netherlands	17.2	17.4
Sweden	16.0	15.7

Table 3 shows the dispersion of regional GDP for the 24 Member States which have at least five NUTS 3 regions and for which data are available. The Member States are ranked on the values for 2004. The five countries with the highest values are all new Member States, while the five with the lowest dispersion are all EU-15 countries. The highest levels of dispersion can be observed in relatively small new Member States with an economically dominant capital region, like Latvia (52.9%) and Estonia (43.5%). They have a dispersion which is roughly three times as high as Sweden (15.7%) and the Netherlands (17.4%), which show the lowest values in the EU. Half of the Member States are in a relatively narrow range between 25% and 30%; in this group EU-15 countries and new Member States are equally represented. For the EU-27 as a whole dispersion of regional GDP stands at 33.7%.

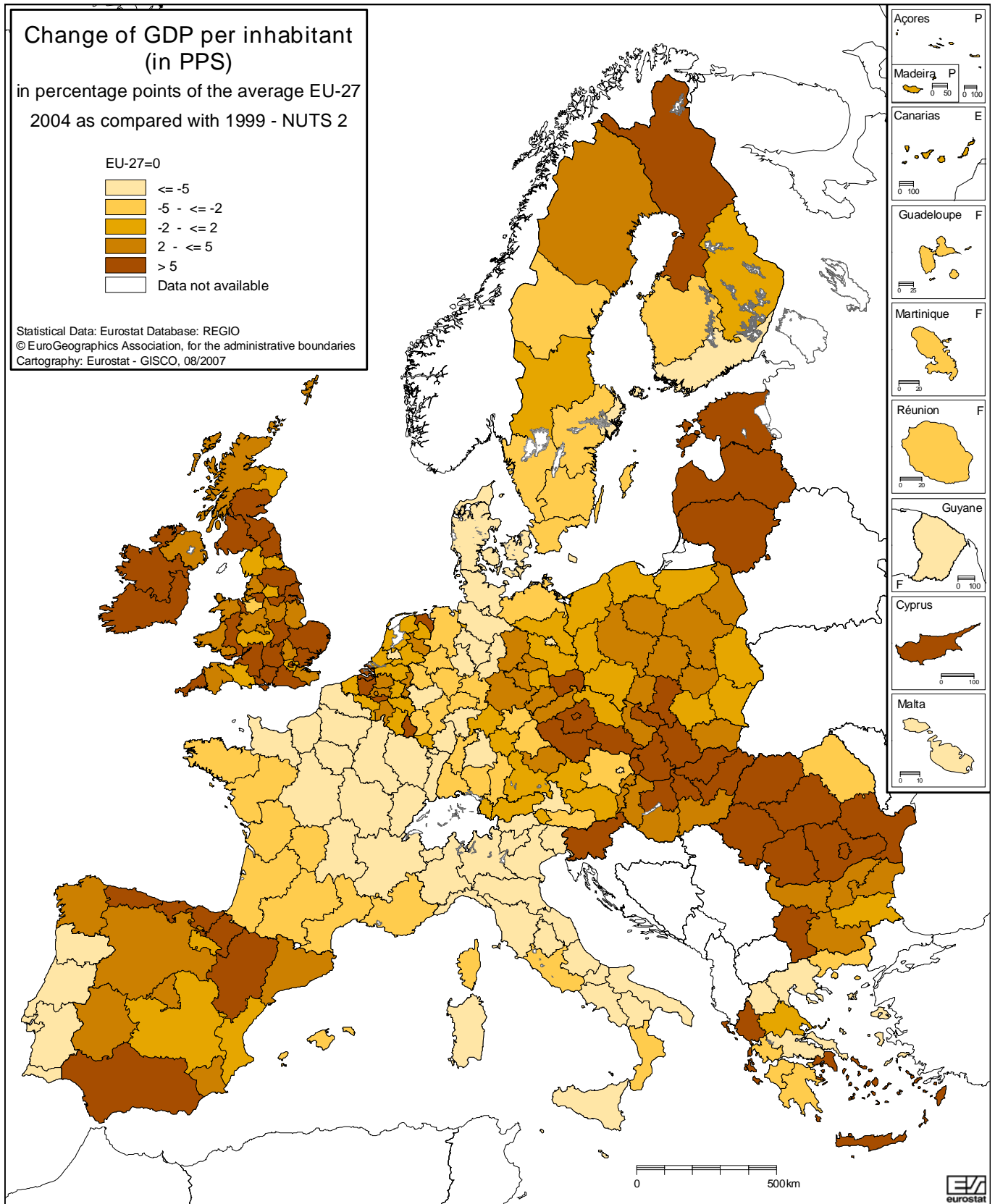
As regards the development between 1999 and 2004, the dispersion of regional GDP increased significantly in all new Member States except Hungary. On the other hand, decreasing dispersion occurred exclusively in EU-15 Member States, in particular in Finland, Spain, France and Austria. The relatively slow growth in East German regions can be seen in the data insofar as Germany shows at the same time the highest dispersion of all EU-15 countries (29.1%) together with a very low decrease of 0.2 percentage points. For the EU as a whole dispersion decreased from 35.3% to 33.7%, i.e. by 1.6 percentage points; this can be considered as a significantly albeit not a strongly converging trend.

Summing up the results of convergence assessment it can be concluded that all three approaches show decreasing regional disparities. Absolute discrepancy between the regions with highest and the lowest GDP per inhabitant shows a relatively small improvement (from a factor from 13.5 in 1999 to 12.8 in 2004). The dynamic development of the top three regions of the ranking (Inner London, Bruxelles-Brussels and Luxembourg) prevents a stronger decrease.

On the other hand, the methods that use a population based weighting of the regions reveal that in fact there has been significant progress: The share of the EU population living in areas with less than half of the average GDP per inhabitant decreased by 9 million people to 12.2% of the total. At the same time the population living in areas with 90 to 110% of the EU average jumped from 19.9% to 23.4% of the total EU population; in absolute figures this corresponds to an increase of 18 million inhabitants.

These findings are confirmed by the dispersion of regional GDP at the level of the entire EU which decreased from 35.3% to 33.7%. However, looking at individual Member States it appears that dispersion increased significantly in new Member States, while it decreased in EU-15 countries.

Figure 2: Change of GDP per inhabitant



### 3. Catching-up process accelerates in new Member States

Fig. 2 shows how much GDP per inhabitant changed between 1999 and 2004 in relation to the EU-27 average (expressed in percentage points of the EU-27 average). There is a concentration of dynamic areas at the periphery of the Union, in particular in Spain, Ireland, parts of the United Kingdom, the Baltic States, Slovakia, Hungary and Romania. On the other hand economic activity has developed less dynamically than the EU average in Austria, Germany, France and in particular in Portugal and Italy.

Table 4: Regions with the greatest positive/negative relative change in GDP per inhabitant (in PPS) in 2004 compared with 1999 (EU-27 = 0)

Region	Relative change in GDP per inhabitant (in PPS) 2004 in comparison to 1999 (EU-27 = 0)
Inner London (UK)	25.1
Bratislavský kraj (SK)	24.4
Luxembourg (LU)	22.5
Praha (CZ)	21.8
Bucuresti-Ilfov (RO)	20.7
Közép-Magyarország (HU)	19.5
Groningen (NL)	17.0
Eesti (EE)	15.0
Southern and Eastern (IE)	14.1
Border, Midland and Western (IE)	12.4
Gloucestershire, Wiltshire and North Somerset (UK)	12.4
Prov. Brabant Wallon (BE)	11.9
Yugozapaden (BG)	11.9
Lietuva (LT)	11.8
Berkshire, Buckinghamshire and Oxfordshire (UK)	11.5
...	
Braunschweig (DE)	-12.6
Abruzzo (IT)	-13.4
Alsace (FR)	-14.3
Toscana (IT)	-14.7
Lombardia (IT)	-14.7
Molise (IT)	-14.9
Åland (FI)	-15.8
Friuli-Venezia Giulia (IT)	-17.4
Umbria (IT)	-17.5
Liguria (IT)	-18.2
Emilia-Romagna (IT)	-20.1
Piemonte (IT)	-20.3
Provincia Autonoma Trento (IT)	-21.6
Valle d'Aosta (IT)	-22.9
Provincia Autonoma Bolzano/Bozen (IT)	-29.1

Table 4 gives a more detailed picture of the NUTS 2 regions with the greatest positive and negative changes of GDP per inhabitant in relation to the EU-27 average. Changes range from +25.1 percentage points for Inner London (UK) to -29.1 percentage points for Provincia Autonoma Bolzano/Bozen (IT).

Amongst the 15 leading regions there are three in the United Kingdom and two in Ireland. The remaining ten regions are spread over ten further Member States, and seven of them are situated in a new Member State. With Bratislavský kraj (SK), Praha (CZ) and Bucuresti-Ilfov (RO) three capital regions of new Member States are to be found among the five most dynamic regions of the Union.

The lower end of the distribution clearly reflects the sluggish growth of some EU-15 countries: Here we find 12 Italian regions, as well as one each in Germany, France and Finland. The development in Italy is particularly disappointing, because two of the least dynamic areas (Abruzzo and Molise) are situated in the South of the country where GDP levels were already below the EU average.

The good performance of the new Member States also becomes visible when we look at the 60 regions that have posted increases of more than five percentage points in comparison with the EU-27 average: 27 of these regions are situated in new Member States; this means that half of the 55 regions making up the new Member States made substantial headway in catching up between 1999 and 2004. This finding is confirmed when we look at the 122 regions which fell behind the EU-27 average between 1999 and 2004: Only three of them, Malta, Nord-Est (RO) and Zachodniopomorskie (PL), are situated in the new Member States.

As regards the EU-15 countries, it appears in particular than not a single region in Italy, Portugal or France managed to keep up with the development of the EU-27 average over the 5-year period 1999-2004. The same applies to 31 out of 41 NUTS 2 regions in Germany, although there were some encouraging developments in the east of the country, in particular in Sachsen, Sachsen-Anhalt and Thüringen. On the other hand, the majority of the regions in Belgium and the Netherlands showed above-average development.

### 4. Summary

GDP per inhabitant (in PPS) for 2004 in the 268 regions of the EU-27 varied by a factor of 12.8, which, whilst still very considerable, is less than in 2003. For the first time there is a region of a new Member State (Praha) among the top 15 regions. The share of the EU population living in areas with a GDP per inhabitant between 75% and 125% of the EU-27 average amounted to 52.4%, as compared to 50.3% in 1999.

Between 2003 and 2004, the number of regions with a GDP of less than 75% of the EU-27 average slightly increased from 69 to 70. Nevertheless, all three methods used for assessing convergence show that there was considerable progress over the 5-year period

1999 to 2004: The absolute discrepancy between both ends of the regional ranking narrowed; the EU population living in areas below 50% of the average fell by 9 million, and that living in areas between 90% and 110% of the average grew by 18 million people; in addition the dispersion of regional GDP which introduces a weighting by population into the discrepancy measuring decreased as well. When looking at individual countries discrepancies are still increasing in the new Member States, while they are unchanged or slightly narrowing in EU-15 countries.

As regards the development between 1999 and 2004, trends in the EU-15 countries show dynamic growth in

the United Kingdom, Ireland and Spain. On the other hand the development was much less dynamic in Germany (with some progress in the east of the country), France and particularly in Italy and Portugal.

Turning to the new Member States, the catching up process accelerated in most of the regions. There are only three out of the 55 regions of the new Member States where the development fell behind the EU-27 average. Particularly dynamic developments were noted in the Baltic States, Romania, Slovakia and Bulgaria.

The level of GDP per inhabitant in the 12 new Member States increased between 1999 and 2004 from 44.9% to 50.9% of the EU-27 average. This means that the process of catching up, which is now underway in virtually all regions of the new Member States, caused an average annual increase of around 1.2 percentage points compared with the EU-27 average; since 2002 it has accelerated to more than 1.5 percentage points per year.

## ➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

1. Data revisions: Data as from 1995 have been revised since the Eurostat press release 63/2006 of 18 May 2006. They are the same data used for the Eurostat news release 23/2007 of 19 February 2007 and cover all regions of the EU-27, i.e. also the 12 new Member States (Bulgaria, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia and Slovakia). All data are available online on Eurostat's website (cf. page 8 for link).

2. Nomenclature of territorial units (NUTS): the Nomenclature of Territorial Units for Statistics (NUTS) has been used since 1988 in EU legislation. 2003 saw the adoption of the relevant Regulation of the European Parliament and the Council (OJ L 154, 21/06/2003).

In the meantime the NUTS system has been extended to cover the twelve new Member States. The regions of the Member States are available on Eurostat's website at: Methodology/Eurostat's classification server (RAMON)/Classifications/Nomenclature of Territorial Units for Statistics, 2003.

3. Harmonized estimation procedure: at NUTS level 2 there are 268 regions in EU-27. Data at NUTS levels 2 and 3 for the years 1995 to 2004 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 regional contributions to gross value added. Gross value added is recorded at basic prices. Extra-Regio value added is distributed in proportion to the regions of the country in question. Conversion to Purchasing Power Standards is done on the basis of national Purchasing Power Parities. All data reflect the situation after completion of the major revisions of the System of Economic Accounts in 2005.

4. Dispersion of regional GDP: The dispersion of regional GDP – measured at current market prices – is calculated at NUTS level 3. For a given country the dispersion of regional GDP is defined as the sum of the absolute differences between regional and national GDP

per inhabitant, weighted with the regional share of population and expressed in percent of the national GDP per inhabitant. The value of the dispersion of GDP per inhabitant is zero, if the values of regional GDP are identical in all regions of the country or economic area (such as EU-27), and it will show, *ceteris paribus*, an increase, if the differences between the values of regional GDP per inhabitant among regions are rising. More details are available on Eurostat's website from the SDDS metadata files at: Data / General and regional statistics / Regions / Economic Accounts – ESA95 / Gross domestic product indicators - ESA95 / Dispersion of regional GDP at Nuts level 3. For the reference year 1999 dispersion could not be calculated for Greece and Poland; for Greece because of breaks of the data series between 1999 and 2000, and for Poland because of modifications of several regions at level NUTS 3.

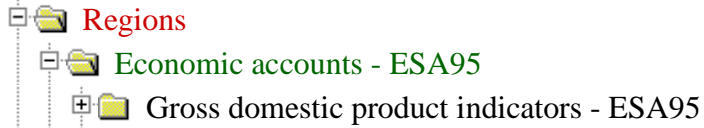
5. Interpreting the figures: GDP and, therefore, GDP per inhabitant, are indicators of a country or region's production and are thus suited to measuring and comparing the degree of economic development of countries or regions. It should be borne in mind that GDP is not equivalent to the income ultimately 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. GDP data for Greece, which has been used to benchmark the regional data, does not incorporate the recent major national accounts revisions. However, the relation between the GDP levels of the regions of Greece is based on revised gross value added data. Eurostat is carrying out a complete verification of the revised national accounts data. Therefore data for Greece are not presented in detail in this publication and have to be regarded as provisional until this verification is completed.

## Further information:

Data: [EUROSTAT Website/Data/Regions/Economic accounts – ESA 95/Gross domestic product indicators – ESA 95](#)

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